

June 14, 2023



Management Audit of Avangrid's Connecticut Companies

United Illuminating Company
Southern Connecticut Gas Company
Connecticut Natural Gas Corporation

RFP #2022-01

Table of Contents

Chapter 1: Executive Management	1-1
1.1. Corporate Ownership and Structure.....	1-4
1.1.1. Iberdrola, S.A. (U.S. History)	1-4
1.1.2. Avangrid, Inc.	1-6
1.1.3. Avangrid Networks, Inc.....	1-8
1.1.4. UIL Holdings Corporation and UIL Group.....	1-8
1.1.5. Post-2015 Organizational Change.....	1-9
1.2. Personnel Organizational Structure.....	1-10
1.2.1. Matrix Structure with a Jurisdictional Focus.....	1-10
1.2.2. Avangrid Networks-level Management	1-11
1.2.3. Connecticut-level Management.....	1-12
1.2.4. Meetings for the UIL President and Chief Executive Officer	1-18
1.2.5. Groups With Decision-Making Influence or Authority	1-19
1.3. Governance.....	1-26
1.3.1. Grants of Authority	1-27
1.3.2. Executive Leadership	1-29
1.4. Shared Services	1-31
1.4.1. Within Avangrid	1-32
1.4.2. Within Avangrid Networks.....	1-32
1.4.3. Within UIL Holdings.....	1-33
1.5. Regulatory Compliance	1-33
1.5.1. Liaising With the Public Utilities Regulatory Authority.....	1-34
1.5.2. Communications to Ensure Regulatory Compliance.....	1-35
1.5.3. Internal Regulatory Communications	1-36
1.6. Strategic Planning	1-36
1.6.1. Planning Processes.....	1-36
1.6.2. Strategic Planning Overview	1-36
1.6.3. Key Participants.....	1-37
1.6.4. Timeline and Process Flow.....	1-38
1.6.5. Outputs	1-45
1.6.6. Tracking Process.....	1-49
1.6.7. Updates	1-50
1.7. Investment Planning	1-51
1.7.1. Key Participants.....	1-51
1.7.2. Timeline and Process Flow.....	1-51
1.7.3. Outputs	1-52
1.7.4. Updates	1-53
1.8. Annual Budget Process	1-53
1.8.1. Key Participants.....	1-54
1.8.2. Timeline and Process Flow.....	1-54

1.8.3.	Outputs	1-55
1.8.4.	Updates	1-56
1.9.	Long-Term Outlook	1-56
1.9.1.	Key Participants.....	1-57
1.9.2.	Timeline and Process Flow.....	1-57
1.9.3.	Outputs	1-57
1.9.4.	Updates	1-58
1.9.5.	Alignment of Planning Processes	1-58
1.10.	Impact of COVID-19 on Planning Processes.....	1-59
1.11.	Internal Audit	1-59
1.11.1.	Internal Audit Organization	1-59
1.11.2.	Internal Audit Plan	1-60
1.11.3.	Internal Audit Reports.....	1-61
1.11.4.	Benchmarking	1-63

Chapter 2: System Operations

2.	Introduction and Overview	2-1
2.1.	Organization and Structure.....	2-5
2.2.	Distribution Asset Management.....	2-7
2.2.1.	Procedures and Documentation	2-7
2.2.2.	Tools used for Asset Management	2-9
2.2.3.	Asset Age.....	2-10
2.2.4.	Asset Management Performance	2-10
2.3.	System Planning	2-14
2.3.1.	UI System Planning.....	2-14
2.3.2.	SCG and CNG System Planning	2-16
2.3.3.	Records Management.....	2-17
2.4.	System Design	2-17
2.4.1.	UI System Design.....	2-17
2.4.2.	SCG and CNG System Design.....	2-20
2.5.	Project Management	2-21
2.5.1.	Project Prioritization	2-22
2.5.2.	Project Development and Management.....	2-24
2.5.3.	Impacts Due to COVID-19	2-28
2.6.	Operations and Maintenance	2-28
2.6.1.	Maintenance and Inspection Work Management	2-29
2.6.2.	Call Before You Dig Program (CBYD).....	2-30
2.6.3.	Operator Qualification Program	2-32
2.6.4.	Maintenance and Operations Impacts Due to COVID-19	2-33
2.7.	Electric Distribution.....	2-33
2.7.1.	Vegetation Management Program	2-33
2.7.2.	Management of System Integrity	2-36
2.7.3.	Electric Supply Management	2-37

2.7.4.	Electric System Tools.....	2-38
2.7.5.	Electric Distribution Impacts Due to COVID-19	2-39
2.8.	Gas Distribution	2-39
2.8.1.	Current Organization Structure	2-39
2.8.2.	Operational Planning	2-40
2.8.3.	Gas Purchasing	2-44
2.8.4.	Lost and Unaccounted for Gas (LAUF)	2-44
2.9.	Emergency Response Plan	2-45
2.9.1.	Emergency Response Plans.....	2-45
2.9.2.	Incident Command System (ICS).....	2-47
2.9.3.	Emergency Response Processes	2-49
2.9.4.	Training	2-51
2.9.5.	Drills and After Action Reviews.....	2-51
2.9.6.	Regulatory Compliance	2-52
Chapter 3:	Finance	3-1
3.1.	Organization and Structure.....	3-6
3.1.1.	Finance Governance Overview	3-6
3.1.2.	Finance Group Overview.....	3-7
3.1.3.	Interaction with Parent Company.....	3-9
3.2.	Accounting	3-10
3.2.1.	Organization.....	3-10
3.2.2.	Performance.....	3-12
3.2.3.	Other Measures of Performance Related to CT Company Accounting	3-16
3.2.4.	Benchmarking	3-23
3.2.5.	Budgeting	3-24
3.2.6.	Income Taxes	3-24
3.3.	Treasury	3-26
3.3.1.	Organization.....	3-26
3.3.2.	Performance.....	3-27
3.3.3.	Benchmarking	3-31
3.3.4.	Long-Term Financing.....	3-31
3.3.5.	Short-Term Liquidity	3-36
3.3.6.	Impairments.....	3-45
3.4.	Rate Cases and Credit Ratings.....	3-45
3.4.1.	Rate Case and Regulatory Finance Overview	3-45
3.4.2.	Recent Rate Cases	3-46
3.4.3.	Capital Structure Alignment.....	3-47
3.4.4.	Credit Ratings Overview.....	3-47
3.5.	Affiliate Transactions	3-49
3.5.1.	Affiliate Corporate Organization and Shared Services Overview	3-49
3.5.2.	Effect of the Merger on Affiliate Relations	3-50
3.5.3.	Centralized Services Transactions.....	3-51

3.5.4.	AMC.....	3-53
3.5.5.	ASC	3-58
3.5.6.	UIL	3-62
3.5.7.	Networks Centralized Service Cost Distributions to Avangrid’s Utilities	3-64
3.5.8.	Corporate Cost Budgeting and Approval	3-66
Chapter 4: Human Resources		4-1
4.1.	Organization and Structure.....	4-4
4.2.	Compensation and Benefits.....	4-5
4.2.1.	Salaries and Wages	4-5
4.2.2.	Job Descriptions, Benchmarking and Alignment	4-9
4.2.3.	Performance Incentive Plans	4-11
4.2.4.	Internal Audits Relating to Incentive Compensation Plans.....	4-15
4.2.5.	Employee Benefits	4-16
4.3.	Labor Relations	4-18
4.3.1.	Labor Contracts	4-18
4.3.2.	Recent History of Labor Relations.....	4-19
4.3.3.	Union Wage Increases and Benefit Changes	4-19
4.3.4.	Changes in Union Benefits	4-20
4.3.5.	Labor Relations Metrics – Grievances.....	4-20
4.4.	Workforce Planning	4-22
4.4.1.	Current Workforce Status	4-22
4.4.2.	Planning and Demand Forecasting	4-23
4.4.3.	Contractor Workforce	4-24
4.4.4.	Connecticut Company Overtime.....	4-25
4.4.5.	Aging Workforce	4-27
4.4.6.	Succession Planning	4-30
4.5.	Training and Development.....	4-30
4.5.1.	Training Organization.....	4-30
4.5.2.	Training Course Content	4-31
4.5.3.	Training Software and Reporting	4-32
4.5.4.	Training Hours.....	4-32
Chapter 5: Customer Operations.....		5-1
5.1.	Management and Organization	5-5
5.1.1.	Organizational Changes Since Acquisition	5-5
5.1.2.	Customer Service Staffing	5-8
5.2.	Customer Relations Centers Operations.....	5-10
5.2.1.	Employee Customer Service Representatives	5-10
5.2.2.	Contracted Customer Service Representatives	5-11
5.2.3.	Customer Relations Centers Performance Metrics	5-11
5.2.4.	Progress in Moving Billing, Payments and Communications to Digital Channels.....	5-14

5.2.5.	Customer Service Representatives Employee Training	5-15
5.3.	Metering and Billing.....	5-15
5.3.1.	Energy Usage Measurement.....	5-15
5.3.2.	Billing.....	5-16
5.4.	Customer Complaint Management	5-18
5.4.1.	Customer Complaint Process Management	5-19
5.4.2.	Complaint Rate Priority Target	5-20
5.4.3.	Complaint Comparisons Among Avangrid’s Utilities	5-21
5.5.	Hardship and Medical Protection Programs.....	5-22
5.5.1.	Hardship Program Processes	5-22
5.6.	Account Dunning and Collection.....	5-24
5.6.1.	Notice of Violation and Assessment of Civil Penalty	5-25
Chapter 6:	External Relations	6-1
6.1.	Introduction to External Relations.....	6-1
6.1.1.	Organization Overview.....	6-2
6.1.2.	Organization Design and Coordination.....	6-3
6.1.3.	Charitable Giving.....	6-5
Chapter 7:	Support Services.....	7-1
7.1.	Risk Management	7-4
7.1.1.	Risk Management Organization.....	7-4
7.1.2.	Networks Risk Committee.....	7-5
7.1.3.	Risk Policies	7-6
7.1.4.	Risk Identification and Assessment.....	7-6
7.1.5.	Performance Metrics	7-10
7.2.	Legal	7-12
7.2.1.	Resourcing Strategy	7-13
7.2.2.	Cost Management.....	7-13
7.2.3.	Budget Management	7-14
7.3.	Asset Management.....	7-14
7.3.1.	Real Estate.....	7-14
7.3.2.	Fleet	7-16
7.3.3.	Inventory Management	7-21
7.4.	Information Technology and Cybersecurity.....	7-24
7.4.1.	Organization Overview.....	7-24
7.4.2.	IT Budget Process and results	7-25
7.4.3.	IT Program and Project Management.....	7-28
7.4.4.	Cybersecurity	7-31
7.5.	Regulatory Compliance	7-37

Appendix 1: Rates Handbook	A1-1
United Illuminating	A1-1
Southern Connecticut Gas and Connecticut Natural Gas	A1-3
Appendix 2: Merger Order Conditions	A2-1
Settlement Agreement	A2-1
Orders	A2-11
Appendix 3: 2021 and 2022 Networks Strategic Plan Objectives	A3-1
2021 Strategic Plan	A3-1
2022 Strategic Plan	A3-2
Appendix 4: Avangrid's Impact and Probability Criteria Matrix	A4-1
Grading of Findings: Global Internal Methodology	A4-1
Grading of Findings: Impact and Probability Criteria Matrix	A4-2

Table of Figures

Chapter 1: Executive Management

Figure 1-1 Organizational Structure of the Connecticut Operating Companies'	1-5
Figure 1-2 Organizational Structure of the Avangrid Subsidiaries'	1-7
Figure 1-3 Organization Chart, Networks CEO.....	1-12
Figure 1-4 The UIL CEO's Direct (Solid-line) and Indirect (Dotted-line) Reports	1-13
Figure 1-5 A List of Standing Meetings for the UIL CEO.....	1-19
Figure 1-6 Avangrid Grants of Authority.....	1-28
Figure 1-7 UIL Grants of Authority Matrix (Excerpt).....	1-29
Figure 1-8 Avangrid Shared Service Organizational Structure.....	1-32
Figure 1-9 Avangrid PURA-facing Organizational Structure	1-34
Figure 1-10 Avangrid's Top-Down Approach to Strategic Planning during the Strategic Plan 2022 Process.....	1-38
Figure 1-11 Timeline of Strategic Planning Process (2020, 2021, and 2022 Plans)	1-39
Figure 1-12 Draft of the ANLC's Four Strategic Objectives from Phase 1 (2020, 2021, and 2022 Plans)	1-40
Figure 1-13 Connecticut-specific SWOT Analysis from the 2022 Strategic Plan.....	1-41
Figure 1-14 Connecticut-specific Gap Analysis, from Phase 1 of Strategic Planning of the 2022 Strategic Plan.....	1-42
Figure 1-15 Example 2021 Plan Long-Term Goal with Objectives, Preliminary Initiatives.....	1-43
Figure 1-16 Regulatory Function Objectives and Initiatives, Strategic Plan 2022 Process	1-44
Figure 1-17 Connecticut/Massachusetts Objectives and Outcomes, 2022 Strategic Plan.....	1-46
Figure 1-18 Comparison of 2020 (top), 2021 (middle), and 2022 (bottom) Networks Business Objectives.....	1-48
Figure 1-19 Connecticut-Specific CEO' Scorecard Tracking 2021 Strategic Plan Achievement	1-50
Figure 1-20 Investment Plan Outputs "P22" (2022 and Beyond) for Connecticut and Massachusetts ..	1-53
Figure 1-21 Avangrid Operating Budget Approval Process.....	1-55
Figure 1-22 The Financial Goals of the Strategic Plan.....	1-58
Figure 1-23 Internal Audit Organizational Chart.....	1-59
Figure 1-24 Internal Audit Rating Heat Map.....	1-61
Figure 1-25 Internal Audit Findings by Year, 2019-2021	1-62
Figure 1-26 Open Internal Audit Findings as of September 30, 2022.....	1-62

Chapter 2: System Operations

Chapter 2: System Operations

Figure 2-1 Organization Responsible for System Operations.....	2-6
Figure 2-2 Current Headcount and Vacancies for UI, SCG, and CNG.....	2-7
Figure 2-3 UI Average and Oldest Assets by Class	2-10
Figure 2-4 SCG and CNG Average and Oldest Assets by Class	2-10
Figure 2-5 UI Five-year Reliability Compared to U.S. Industry Average,	2-11

Figure 2-6 UI Five-year Outage Causes by Interruptions,	2-12
Figure 2-7 SCG and CNG Five-Year Gas Leaks,	2-14
Figure 2-8 Cost Management Targets by Project Phase	2-20
Figure 2-9 Capital Project Category Prioritization	2-23
Figure 2-10 Capital Project Planning and Approval Process	2-24
Figure 2-11 Avangrid Productivity Heat Map (Electric Utilities Companies Only)	2-27
Figure 2-12 Capital Plan Versus Actuals – Five Years	2-28
Figure 2-13 Capital 10-Year LTO, 2022-2031	2-29
Figure 2-14 O&M Five-year Plan Versus Actuals	2-30
Figure 2-15 O&M 10-year LTO	2-30
Figure 2-16 CBYD Program Budget	2-32
Figure 2-17 CBYD Program Metrics.....	2-33
Figure 2-18 Vegetation Management Program Metrics.....	2-36
Figure 2-19 Vegetation Management Five-year Budget Versus Actuals	2-37
Figure 2-20 2023-2024 RFP Tranches	2-38
Figure 2-21 Grants of Authority Review Process	2-42
Figure 2-22 LNG Utilization for the Past Five Years	2-43

Chapter 3: Finance

Figure 3-1 Abridged Organizational Chart of Finance Organizations	3-7
Figure 3-2 Avangrid Accounting Organization Chart	3-11
Figure 3-3 Avangrid Accounting-Related KPIs, 2019.....	3-13
Figure 3-4 Avangrid Accounting-Related KPIs, 2020.....	3-14
Figure 3-5 Avangrid Accounting-Related KPIs, 2021.....	3-15
Figure 3-6 Avangrid Internal Audit Report Concerning UI, CNG, or SCG Accounting Matters, 2019 – 2022 (A).....	3-18
Figure 3-7 The CT Companies’ SOX Failures and Control Universe	3-22
Figure 3-8 UI, CNG, and SCG Proposed but Passed Audit Adjustments	3-23
Figure 3-9 Avangrid Treasury Organization Chart	3-27
Figure 3-10 Avangrid Treasury-Related Key Performance Indicators, 2019.....	3-28
Figure 3-11 Avangrid Treasury-Related Key Performance Indicators, 2020.....	3-29
Figure 3-12 Avangrid Treasury-Related Key Performance Indicators, 2021.....	3-30
Figure 3-13 CT Companies’ Long-Term Debt Outstanding as of December 31, 2021 (in thousands)	3-32
Figure 3-14 CT Companies Scheduled Debt Maturities (in thousands)	3-33
Figure 3-15 CT Companies Selected Equity Transactions (in thousands)	3-34
Figure 3-16 Other Significant Networks Utilities Selected Equity Transactions (in thousands)	3-35
Figure 3-17 UI Summary of Virtual Money Pool Activity (in thousands)	3-37
Figure 3-18 CNG Summary of Virtual Money Pool Activity (in thousands)	3-38
Figure 3-19 SCG Summary of Virtual Money Pool Activity (in thousands)	3-39
Figure 3-20 Non-CT Company Participants in the Virtual Money Pool Credit Ratings (Outlooks)	3-40
Figure 3-21 UI Summary of Bilateral Intercompany Credit Agreement Activity	3-42
Figure 3-22 CNG Summary of Bilateral Intercompany Credit Agreement Activity (in thousands).....	3-43
Figure 3-23 SCG Bilateral Intercompany Credit Agreement Activity (in thousands)	3-44

Figure 3-24 Recent CT Company Rate Cases vs. State and National Average	3-46
Figure 3-25 Past Four Years of Credit Ratings issued to CT Companies by Agencies S&P and Moody's	3-48
Figure 3-26 Avangrid Centralized Services Cost Flow	3-52
Figure 3-27 Centralized Service Cost Incurred by Entity.....	3-53
Figure 3-28 AMC U.S. Staffing Levels	3-54
Figure 3-29 Iberdrola and AMC Corporate Cost Allocations to Subsidiaries by Function 2019, 2020, & 2021 Combined.....	3-55
Figure 3-30 AMC Cost Distributions by Year	3-56
Figure 3-31 AMC - Expense Items Often Excluded by Regulations from Rate Recovery	3-57
Figure 3-32 AMC Cost Distributions by Allocation Method, 2019, 2020, & 2021 Combined.....	3-57
Figure 3-33 AMC Cost Distributions Relative to Subsidiary Size	3-58
Figure 3-34 ASC Functions and Staffing Levels	3-59
Figure 3-35 ASC Cost Distribution by Function 2019, 2020, & 2021 Combined	3-60
Figure 3-36 ASC Cost Distributions by Year	3-60
Figure 3-37 ASC Cost Distributions by Allocation Method 2019, 2020 & 2021 Combined	3-61
Figure 3-38 ASC Direct Charges to Connecticut Subsidiaries, 2019-2021	3-62
Figure 3-39 UIL Functions and Staffing Levels	3-63
Figure 3-40 Costs Incurred by UIL	3-64
Figure 3-41 Networks (ASC & UIL) Service Company Cost Allocations Compared with Utility Financial Size and Customers	3-64
Figure 3-42 Distribution of UIL-Incurred Costs Among CT Companies.....	3-66

Chapter 4: Human Resources

Figure 4-1 Organization and Personnel, HR Function.....	4-4
Figure 4-2 Salary Range Compared to Actuals, Grade G'	4-6
Figure 4-3 Avangrid Merit Increase Matrix, 2022	4-7
Figure 4-4 Avangrid Non-Union Compensation Percentage Increases.....	4-8
Figure 4-5 General Wage Increase Details by CT Company Union	4-8
Figure 4-6 Avangrid Non-Officer Position Evaluations, 2022.....	4-10
Figure 4-7 APA Achievement Weighting Scheme	4-11
Figure 4-8 APA Employee, Budget, and Award Statistics, 2019 – 2021'	4-12
Figure 4-9 EVP Employee, Budget, and Award Statistics 2019-2021.....	4-13
Figure 4-10 EVP Total Achievement Weighting Scheme	4-14
Figure 4-11 PSU Performance Objectives and Metrics, 2022.....	4-15
Figure 4-12 Salaried Employee Benefit Benchmark, 2022'	4-17
Figure 4-13 Avangrid Paid Time Off Benchmark, 2022	4-18
Figure 4-14 Summary of Unions, Company Organizations, and Number of Employees''	4-19
Figure 4-15 CT Companies' Grievance Cases, 2020-2022	4-21
Figure 4-16 ASC, UIL, and CT Companies' Open Positions Analysis, 2019-2022 YTD	4-23
Figure 4-17 Contractor Expenditures, 2020-2022 YTD	4-24
Figure 4-18 UI Overtime Hours, 2020-2021, Budget vs. Actual	4-25
Figure 4-19 Overtime Hours by Networks Gas Company	4-26

Figure 4-20 SCG Overtime Hours, 2020-2021, Budget vs. Actual 4-26

Figure 4-21 CNG Overtime Hours, 2020-2021, Budget vs. Actual 4-27

Figure 4-22 Average Age of CT Company Employees, 2019-2022 YTD..... 4-29

Figure 4-23 Technical Trainers Assigned to CT Companies 4-31

Figure 4-24 CT Companies' Required Training Courses 4-32

Figure 4-25 Training Hours by CT Company, 2020-2022 YTD 4-33

Figure 4-26 Networks Employee Training per FTE, 2019-2022 YTD..... 4-34

Chapter 5: Customer Operations

Figure 5-1 Customer Service Organizational Chart..... 5-7

Figure 5-2 Customer Service Staffing by Utility 5-8

Figure 5-3 Customer Service Staffing by Organization and Function 5-9

Figure 5-4 CT Companies' CRCs..... 5-11

Figure 5-5 CT Companies' Customer Service Center Performance Metrics, 1/1/2019 – 9/30/2022 5-12

Figure 5-6 Networks Utilities CRC Performance Metrics, 2019 vs. 2022..... 5-13

Figure 5-7 Connecticut Averages for Automation and Online Channels, 2019-2022..... 5-14

Figure 5-8 CT Company Meter Status, 2019-2022..... 5-15

Figure 5-9 CT Company Bill Metrics, 2019-2022..... 5-17

Figure 5-10 Connecticut Customer Complaint Summary, 2019-2021..... 5-19

Figure 5-11 Priority Target Reports, 2021..... 5-21

Figure 5-12 Regulatory Complaints by Networks Utility, 2021 and 2022..... 5-21

Figure 5-13 CT Companies' key account dunning and collection metrics, 2019-2022 5-25

Chapter 6: External Relations

Figure 6-1 External Relations Organizational Structure..... 6-2

Chapter 7: Support Services

Figure 7-1 Avangrid Risk Management Organization Chart 7-4

Figure 7-2 Risk Rating Scales 7-7

Figure 7-3 Enterprise Short-Term Risk Heat Maps (as of 1Q 2022) 7-8

Figure 7-4 Enterprise Long-Term Risk Heat Maps (as of 1Q 2022) 7-9

Figure 7-5 Key Performance Indicators for the CT Companies, 2020-2022 7-11

Figure 7-6 Legal Group Organizational Structure 7-12

Figure 7-7 Legal Group, 5-year Budget vs. Actuals, 2017-2021 7-14

Figure 7-8 Real Estate Group Organizational Structure 7-15

Figure 7-9 Real Estate 5-year OpEx and CapEx Budget vs. Actuals, 2017-2021 7-16

Figure 7-10 Organization Responsible for Fleet Management 7-17

Figure 7-11 Organization Responsible for Fleet Management 7-19

Figure 7-12 Fleet 5-year CapEx Budget, 2018-2022 7-20

Figure 7-13 Fleet 5-year Maintenance Budget vs. Actuals, 2018-2022 7-21

Figure 7-14 Organizations Responsible for Inventory Management 7-22

Figure 7-15 IT Group Organizational Structure	7-25
Figure 7-16 Annual Demand and Budget Development Schedule	7-26
Figure 7-17 CapEx IT Budget vs. Actuals (5 years), 2017-2021	7-27
Figure 7-18 OpEx IT Budget vs. Actuals (5 years), 2017-2021	7-28
Figure 7-19 Capital Project Category Prioritization	7-29
Figure 7-20 Capital Project Planning and Approval Process	7-30
Figure 7-21 Cybersecurity Group Organizational Structure	7-32
Figure 7-22 Cybersecurity IT Budget vs. Actuals (5 years), 2017-2021	7-34

Appendix 1: Rates Handbook

Figure A1-1 Rate Component Adjustments, UI	A1-3
Figure A1-2 Rate Component Adjustments, SCG and CNG	A1-4

Appendix 2: Merger Order Conditions

Figure A2-1 Ring-Fencing Conditions Tracked by the Treasury Group	A2-1
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Appendix 3: 2021 and 2022 Networks Strategic Plan Objectives

Figure A3-1 Long-Term Goals 1 and 2, 2021 Networks Strategic Plan	A3-1
Figure A3-2 Long-Term Goals 3 and 4, 2021 Networks Strategic Plan	A3-1
Figure A3-3 Long-Term Goals 5 and 6, 2021 Networks Strategic Plan	A3-2
Figure A3-4 Long-Term Goals 7 and 8, 2021 Networks Strategic Plan	A3-2
Figure A3-5 Customer Service Objectives, 2022 Networks Strategic Plan	A3-3
Figure A3-6 Sustainability Objectives, 2022 Networks Strategic Plan	A3-3
Figure A3-7 Employee Engagement Objectives, 2022 Networks Strategic Plan	A3-3

Appendix 4: Avangrid's Impact and Probability Criteria Matrix

Figure A4-1 Methodology for Grading Audit Recommendations, Avangrid	A4-1
Figure A4-2 Methodology for Grading Audit Recommendations, Avangrid, cotd	A4-2

Introduction

Procedural Matters

In accordance with the General Statutes of Connecticut (Conn. Gen. Stat.) §§ 16- 8(b) and 16-8c(b), the Connecticut Public Utilities Regulatory Authority (“PURA”) requires audits of certain public service companies to be performed by independent management consulting firms under the supervision of the PURA staff. These management audits generally consist of a diagnostic review of all company functions, including documentation of the operations of the company, assessment of the company’s system of internal controls, affiliate transactions, and identification of any areas of the company that may require focused attention.

After receiving and reviewing submitted proposals, the PURA selected FTI Consulting in partnership with Overland Consulting, collectively “FTI” to jointly conduct the management audit of three regulated utility subsidiaries of Avangrid, Inc. (“Avangrid”) doing business in Connecticut: the United Illuminating Company (“UI”), Southern Connecticut Gas Corporation (“SCG”), and the Connecticut Natural Gas Corporation (“CNG”). The PURA approved the selection of FTI on March 25, 2022.

FTI’s Approach

This audit examined seven focus areas of special interest to the PURA. The seven focus areas addressed in this management audit are:

Chapter 1: Executive Management

Chapter 2: System Operations

Chapter 3: Finance

Chapter 4: Human Resources

Chapter 5: Customer Service

Chapter 6: External Communications

Chapter 7: Support Services

Project Communications

An audit kickoff meeting was held on May 3, 2022 and included FTI audit team members and executives from Avangrid and its subsidiaries. The parties discussed the expectations of the audit, including the overall timeline, the process for issuing discovery requests (“DRs”), and the process for interviewing Avangrid (and subsidiary) employees (“Avangrid personnel”).

FTI provided a mid-point update to the PURA in the form of a written report and a presentation on December 28, 2022. The mid-point report highlighted FTI initial findings and recommendations by focus area.

Discovery Requests

Over the course of the audit, FTI issued 734 DRs through 26 individual request sets. FTI indexed and tracked the issuance of all requests and the receipt of responses in an effort to ensure the timely receipt of information.

Conducted Interviews

Over the course of the audit, FTI completed 73 interviews of Avangrid personnel. FTI worked with Avangrid’s audit team to schedule interviews and prior to each interview, FTI informed Avangrid interviewees about the topics to be discussed. Each employee interviewed was prompt, courteous, and responsive to FTI questions. Interviews were later used as source material in the audit report.

Analysis and Benchmarking

The FTI audit team leveraged its industry and past audit experience to evaluate Avangrid and its three subsidiary Connecticut utilities to support the analysis and the recommendations contained within this report. All analysis performed by the FTI team references DRs, workpapers, interviews, or other sources, such that the audit report contents are traceable. In certain instances, FTI made findings and/or recommendations based on benchmarking data either prepared by or acquired through in-house research.

Consolidated Findings and Recommendations

This section provides the consolidated list of all the Recommendations and Findings organized by Chapters.

Chapter 1: Executive Management

Findings

Corporate Ownership and Structure

1. Avangrid has two main lines of business, Avangrid Networks (“Networks”) and Avangrid Renewables (“Renewables”). Networks is the parent company for Avangrid’s regulated utilities in New York, Maine, Massachusetts, and Connecticut.

Personnel Organizational Structure

2. The three Connecticut operating companies (“CT Companies”) are managed through a complex matrix structure with a state jurisdictional focus.
3. Matrix organizations are more common in large, geographically diversified utilities, but they are complex due to multiple reporting lines both solid and dotted.
4. Within the Avangrid matrix organization, the President and Chief Executive Officer (“CEO”) of the CT Companies (“UIL CEO”) is designated as the major decision-maker on Connecticut matters, with guidance and input from the Networks and Avangrid management levels.
5. The UIL CEO serves as the primary face of the CT Companies for local leadership, customers, state legislators, and regulators.
6. The UIL CEO receives updates from all major operational, administrative, Human Resources (“HR”), Customer Service, financial, regulatory, Energy Supply, and Legal business functions at a monthly cabinet meeting (“RPOCC-CT”) attended by his direct/solid-line and indirect/dotted-line reports.

Governance

7. Spending/contract signing authority for the CT Companies aligns with decision-making authority and is governed by the UIL Grants of Authority approved in the Order of the PURA following the merger between Iberdrola, S.A. (“Iberdrola”) and UIL Holdings Corporation (“UIL”) (“2015 Merger”).
8. The UIL Grants of Authority are higher than the Networks and Avangrid Grants of Authority. The UIL CEO has \$10 million of authority, which is higher than the Networks and Avangrid CEO’s. The UIL Board of Directors (“UIL Board”) has unlimited authority.
9. The Avangrid and Iberdrola Boards of Directors do not participate formally in the CT Companies’ decision-making processes, but review and comment on draft strategic and financial plans, and the annual budgets and other major Connecticut issues.

Regulatory Compliance

10. Based on our initial review, Avangrid, UIL and the CT Companies continue to be compliant with the PURA’s Order permitting the 2015 Merger (“2015 Merger Order”). The CT Companies perform a quarterly internal checklist process for the remaining, ongoing merger conditions, and file a formal status update with the PURA annually in February.
11. Avangrid, UIL, and the CT Companies maintain a compliance tracker for the ring-fencing provisions under the 2015 Merger Order, which, based on our review, shows compliance with all provisions specified.
12. There is a Connecticut-specific Regulatory Affairs team led by a Vice President that tracks all the CT Companies’ regulatory dockets with the PURA and Connecticut Department of Energy and Environmental Protection (“DEEP”). This team tracks regulatory progress and activity daily and maintains a detailed calendar of upcoming filings. The Regulatory Affairs team updates the Networks Regulatory Leadership, the UIL CEO’s office, and UIL senior leadership on material regulatory updates in Connecticut.
13. Since the 2015 Merger, Networks has maintained jurisdictional (state-level) governance and decision-making. Multiple business functions have reorganized such that subject matter experts exclusively serve their state.

Strategic, Investment and Long-term Planning

14. The CT Companies produce three separate forward-looking Plans: Strategic Plan, Investment Plan, and Long-Term Outlook (“LTO”). These state-specific Plans are then consolidated into the Networks and finally the Avangrid Plans.
15. The Strategic Plan for Networks is an annual 12-14 month-long process run at the Networks level with input from Networks- and state-level executives. State CEOs and their leadership teams prepare state-specific Strategic Plans to be consolidated into the Networks Plan with guidance from Networks, a new feature of the Strategic Planning process.
16. The Strategic Planning process is performed within a complex matrix structure. It is overseen by the Networks Regulatory and Planning group with input from all Networks and state executives. The

Avangrid and Networks Control groups oversee the annual LTO financial planning process, informed by assumptions from the Treasury and Regulatory and Planning groups and with additional input from the Investment Planning group within Regulatory and Planning who oversee the annual 10-year Investment Plan process.

17. The current Networks Strategic Plan's approach to creating initiatives to accomplish the short- and long-term objectives results in a large number of initiatives, with up to 78 in a single year. Many of these initiatives are day-to-day actions to run the business successfully rather than actions that are strategic in nature. Removing these actions, there still is a significant number of initiatives and we question whether there are too many to be successfully completed and implemented. The people who would implement these initiatives have day jobs so without increases in staffing accomplishing them all would seem difficult.

Internal Audit

18. Avangrid's Internal Audit function is segmented into four functional areas: Financial, Information Technology ("IT"/Corporate, Networks, and Renewables. The Networks audit team performs operational and performance audits of utility subsidiaries including UI, CNG and SCG.
19. Annual internal audit plan development involves interviews with Avangrid and Networks Senior Leadership to identify their key risks and priorities, and consideration of the Key Risk Register maintained by the Risk Management group. Although some projects requested by Iberdrola are included, the vast majority of the audit plan is tailored to the risk assessment and governance needs of Avangrid.
20. Board oversight of the Internal Audit function is delegated to the Audit and Compliance Committees of Avangrid and its subsidiary companies. The Networks Audit and Compliance Committee, comprised mostly of Independent Directors, oversees the Networks internal audit function. Internal Audit reports to this committee quarterly, as well as in December for the subsequent year internal audit plan and budget approval.
21. Internal Audit findings require remediation plans and implementation dates. Findings assessed as "Critical" and "High" are regularly reported to the Audit and Compliance Committee, as are "Medium" findings with delayed remediation plans if the finding is greater than 30 days past due and less than 90% complete.
22. The leader of the information technology audit team does not formally report directly to the Vice President of Internal Audit, which is not consistent with best practice.
23. A recent external quality assessment found Avangrid's Internal Audit function in compliance with international standards and code of ethics.

Recommendations

Personnel Organizational Structure

1. We encourage Networks and Avangrid executives to continue supporting the state-specific focus of their current matrix structure and the decision-making authority of the UIL Board and CEO and the UIL Grants of Authority. We recommend the PURA meet annually with the appropriate CT Companies'

leadership to understand any changes to the matrix organizational structure affecting the CT Companies, and any executive changes that impact the CT Companies directly.

Strategic, Investment and Long-term Planning

2. We question whether the Networks Strategic Plan results in too many objectives and initiatives to allow them all to be successfully completed and implemented. In addition, a number of these initiatives appear to be day-to-day business. The large quantity of initiatives dilutes the value of truly strategic initiatives aimed at long-term business improvement. We recommend paring down the number of objectives and initiatives in the Strategic Plan to a realistic, manageable number, to allow more attention, focus and resources on the truly strategic ones, which would result in a higher probability of success. This should include but not be limited to the elimination of all non-strategic, day-to-day actions to run the business.
3. We observe modest changes in the Strategic Plan's Vision and key objectives from year to year and question the value of a Strategic Planning process that occurs annually; a Strategic Planning process occurring every few years may allow for leadership to gain a fresh perspective on the business.
4. State-specific, long-term planning is a recent feature of the Strategic Plan, starting in 2021. Connecticut-specific planning is a positive development, but we recommend the PURA review the final Avangrid-approved, state-specific Strategic Plans for the CT Companies to ensure alignment with Connecticut's regulatory policies and objectives.
5. Given the separate oversight of the three planning processes, we also recommend the PURA receive a copy of the final, approved Connecticut portions of the Strategic Plan, Investment Plan and LTO so that the PURA may review the final Avangrid-approved results for the CT Companies to ensure consistency with the Strategic Plan and monitor alignment with Connecticut's regulatory policies and objectives.

Internal Audit

6. The leader of the IT Audit function should have a position within the Internal Audit organization that reports directly to the Vice President of Internal Audit.

Chapter 2: System Operations

Findings

Organization and Structure

1. The senior leaders for both gas and electric are either responsible for Connecticut only or share their responsibility for one other state. However, there are still certain instances where system operations activities are managed centrally.

Distribution Asset Management

2. UI's average asset age indicates older system assets in use which is typical of utilities in the Northeast.

3. CNG and SCG have average asset ages of 33.8 years which is typical of the industry.
4. UI stated they were unable to supply benchmarking data, so the United States' ("U.S.") industry reliability averages were used to compare with UI results, which are significantly better than the industry average.
5. The five-year leak history data indicates a reasonably stable performance with SCG maintaining a low average monthly balance.
6. CNG leak data began the five-year period high, but CNG made significant progress to reduce the number of leaks.

System Planning

7. UI has experienced flat to declining load growth which has been a common trend across the U.S. for the past 20 years.
8. In 2021, the Gas Engineering group took the responsibility for SCG and CNG's system planning with a centralized Director who leads all planning activities at the Networks utilities.
9. CNG and SCG have a newly created Enhanced QA-QC program which effectively performs audits of various functions. These audits are conducted through a field-based inspection individual who observes work being performed to ensure compliance to the CT Companies' standards.

System Design

10. Electric Distribution does not use the same robust practices as Electric Transmission and Substation for cost estimation.
11. Gas Distribution does not consider alternatives for new designs, and while much of the CT Companies' work is replacement in kind, there is an opportunity for Gate Stations and District Regulators.
12. Similar to Electric Distribution, Gas Distribution does not use the same robust practices as Electric Transmission and Substation for cost estimation.

Project Management

13. All SCG and CNG projects are managed through the Projects group while Electric Distribution projects are managed by the Electric Operations group. UI noted that work remains to "redevelop" the procedures used for Electric Distribution project management but gave no action plan or timeline to do so.
14. Lead times for material and equipment have grown significantly due to COVID-19-related supply chain challenges.
15. UI's inventory system of record is SAP Global which manages materials based on a min/max system structure. All work is processed through the SAP work order system which drives inventory requirements down to SAP MRP. Logistics utilizes MRP in SAP to reorder stock for project demand and normal usage. UI's project material is sourced from normal stock where it may be used for any work. While no system can guarantee zero stock outs, utilizing MRP provides visibility to all loaded requirements both project and otherwise.

16. Most Gas and Electric Transmission and Substation projects use contracted resources, while Electric Distribution projects are resourced using in-house or UI-employed crews.

Operations and Maintenance

17. Historical operations and maintenance (“O&M”) spend over the past five years had periods of little variation coupled with a significant variation for all three CT Companies in 2021. The CT Companies explained the variances were due to the transition to SAP, which made “P&L line item” comparisons to other years impossible.¹

Electric Distribution

18. UI is currently finalizing the process of moving from time and material to lump sum and unit-based pricing for all their Vegetation Management programs, which can drive costs lower. Previously the Utility Protection Zone program (UPZ) used lump sum pricing for approximately 75 percent of the work performed.

Gas Distribution

19. Over the 2019/2020 winter period, the estimated usage for CNG for the coldest five days was 97.9 percent of actual load for Hartford, Connecticut and 100.5 percent for Greenwich, Connecticut with a similar analysis at SCG resulting in 100.2 percent of actuals, which indicates the accuracy of the CT Companies’ regression model.
20. CNG and SCG (the “Gas Utilities”) do not perform hedging, rather, they lock in pricing prior to the monthly and daily index settlements due to the “80/20 rule,” where the majority of benefits go to ratepayers and the majority of costs go to shareholders.

Emergency Response Plan

21. Emergency Response Plan implementation is led by an incident response organization that is structured around the Incident Command System (“ICS”), which is aligned to the National Incident Management System (“NIMS”) maintained by the Federal Emergency Management Agency (“FEMA”).
22. The role of the Incident Commander (“IC”) is typically served by individuals in a leadership role with experience in system operations and understands the Incident Command System structure and principles needed to manage an event.
23. UI works with each of their municipalities annually to update a list of 10 individual priorities, which then become UI’s priorities for each emergency response event.

Recommendations

Distribution Asset Management

1. The CT Companies should consider all potential unique causes to equipment failures including the effect of salt corrosion due to the CT Companies’ coastal location. This factor should be considered

¹ P&L is a common abbreviation for “Profit and Loss.”

when analyzing failures and should be a key consideration for new equipment purchases and standards updates.

System Planning

2. The CT Companies should consider the locationally specific influences of Heavy-Duty Electric Vehicles (“HDEVs”) and other influences such as marijuana growing facilities into their long-term system forecasts.

System Design

3. SCG and CNG should implement a robust design alternatives analysis process to ensure that a broad set of design considerations are made prior to finalizing design. This process should take lessons learned from the electric process and implement them as necessary, including the governance used for review. This process should also include methods and approaches that are repeatable through the use of standardized templates and documentation.
4. The CT Companies should develop an estimating tool for Gas and Electric Distribution projects that applies similar approaches, methodologies, and tools used for Transmission and Substation projects. Appropriate training should be developed and deployed to applicable users.

Project Management

5. UI Electric Distribution should implement a robust Project Management Playbook with all project management processes, policies, tools, and templates for Electric Distribution projects. Applicable training should be deployed to all project team members. Implementation of this playbook will ultimately support the consistent application of best practices necessary to successfully run a project within scope, schedule, and budget.
6. The Gas Utilities should implement a Responsibility Matrix similar to UI’s. The CT Companies can use similar format and content, but the matrix should be customized for gas purposes.
7. The CT Companies need to provide a comprehensive set of productivity trackers on a regular cadence to Operations leaders. The CT Companies should also perform regular productivity tracking to assist with decisions on when to use and not to use contracted resources, and to also assist with the benchmarking of internal crew productivity. The CT Companies should also conduct time tracking studies for field-facing supervisors so they can determine if time is focused on the most valuable activities. The outcome of this recommendation should be monitored and understood by all relevant operational leaders.

Operations and Maintenance

8. The CT Companies should develop more formal productivity and work exception management practices. This should include time trackers and metrics for performing routine maintenance tasks. Also, exception management should track when planned work is not performed with the reasons why noted so that root cause and improvement actions can be implemented. Performance trackers should be created to monitor the health of the O&M work management process.

9. The CT Companies should implement a performance improvement initiative to drive improvement in at-fault dig-ins. The initiative should identify root causes through analysis that considers software, records management, human factors, contractor versus internal employee performance, process, training, and others as necessary.

Electric Distribution

10. There is an opportunity to improve the budget development process to reflect actual spend of vegetation management more accurately. This includes more accurate budgets for the Utility Protection Zone (“UPZ”) program since there is more certainty with the amount of work to be accomplished on an annual basis.

Emergency Response Plan

11. The “Avangrid Networks Unified Gas Emergency Plan” should be updated to include “Event/Emergency-level” specific references that define emergency response activities, for example, activation and communication requirements for each level. Additionally, checklists should be created for each ICS role and other major operational roles as necessary, which can be modeled by those included in the UI Plan.
12. UI should designate primary and secondary emergency roles for employees, which consider need based on a variety of activation scenarios and through the process mapping analysis. This recommendation also includes the development of a process for activation that ensures employees are not activated for both their primary and secondary role at the same time. UI should also develop a database that indicates assigned and available resources.
13. The CT Companies need to develop process maps and associated documentation for the critical emergency response processes. Process mapping sessions should be used to evaluate event scale (number of employees required), and to evaluate the tools used to support the process and develop the metrics that will be used to monitor performance. Mapping activities should include “as-is” and “to-be” states and the appropriate initiatives supporting moving towards a to-be state. Finalized process maps will not have to be included in the response plans, but each plan should be reviewed to determine if updates are needed to align to these new processes.

Chapter 3: Finance

Findings

Organization and Structure

1. Financial governance for CT Companies occurs at multiple levels of the Avangrid matrix structure. The specific functions involved within Avangrid collect, manage, monitor, and report financial accounting, tax, audit and treasury information. Financial services directly report to the Avangrid level to the Chief Financial Officer (“CFO”) or CEO, but they are also located at the Networks (overseen by a Networks Controller) and Connecticut levels within UIL. Certain Networks-level financial employees serve in roles specific to the CT Companies.

Accounting

2. Accounting is located within the Control group overseen by the Avangrid Controller who reports to the Executive Vice President and CFO. Reporting to the Avangrid Controller is the Networks Controller, who manages the accounting group performing day-to-day general ledger accounting for all the Networks utility operating companies. In addition, there is another accounting group reporting to the Avangrid Controller that handles the accounting for depreciation, pensions, and other items for all Avangrid subsidiaries, including the CT Companies.
3. Performance of the Accounting group as well as the Treasury group is internally monitored as part of senior management incentive compensation. While there were some instances of lagging performance, recent achieved results indicate that there are no systemic issues that require immediate management intervention, especially pertaining to UI, CNG, and SCG.
4. Internal audit testing, Sarbanes-Oxley (“SOX”) testing, and a review of proposed but passed audit adjustments also revealed some concerns with controls related to accounting and financial reporting. None of these concerns were particularly alarming, but in one instance a medium-rated finding related to Business Area accountability within the Budgeting function which was identified by Internal Audit during their 2019 audit of the Budget/REV Process went un-remediated for over two-and-a-half years, and still was an open matter when we were last updated on its status in August 2022.²
5. Neither Accounting nor Treasury participates in or relies upon external benchmarking studies.

Treasury

6. Budgets are developed at each of the CT Companies independently from their domestic (Avangrid) parent company and Avangrid’s international, majority shareholder Iberdrola S.A. (“Iberdrola”). Like most utilities, one way the CT Companies manage costs is to monitor actual-to-budget variances throughout the year.³
7. Since the beginning of 2019, Avangrid has outsourced a portion of its income tax department to a nationally recognized accounting firm. As initially implemented, most (if not all) of the tax personnel originally performing this work for Avangrid were rebadged and became employees of the contracted accounting firm. According to management, Avangrid has reduced its income tax costs by \$3.2 million per year by entering into this fixed price contract.
8. Treasury services provided to the CT Companies are performed by a group that has responsibilities for all Avangrid subsidiaries, including Avangrid Renewables (“Renewables”).
9. UI, CNG, and SCG primarily fund their operations from cash flows generated by their operations and the periodic issuance of privately placed, fixed rate long-term debt. In our experience, the latter is a cost-effective method to finance operations and minimizes uncertainty regarding future cash flow needs.

² On a scale of Low, Medium, High, and Critical.

³ Networks updates its budget throughout the year, so actual comparisons are made to original budget and revised budget amounts.

10. To the extent that UI, CNG, or SCG use their equity to distribute or receive affiliate funds, they do so within constraints imposed by management to comply with regulator-approved capital structures. In recent years, the outflows of funds from the CT Companies (e.g., dividends and other capital distributions) might have been used by its parent to infuse money into a New York utility affiliate and Renewables, who were both net recipients of equity contributions.⁴
11. The CT Companies have several different sources of short-term liquidity. In recent years, they have borrowed exclusively from a virtual money pool, whose other participants are limited to investment-grade Networks utilities, and from their parent Avangrid pursuant to terms of an intercompany credit agreement.
12. Neither the CT Companies nor their affiliates have recorded any significant long-term asset impairments during the time period 2019 to 2021.

Rates

13. The 2015 Merger Order ring-fencing provisions allow certain financial protections for Connecticut ratepayers and are viewed favorably by the credit rating agencies.
14. The Avangrid Treasury organization monitors both actuals and forecasts of the CT Companies capital structures to target allowed capital structure ratios per current rate case decisions.
15. Despite the PURA and Connecticut being rated “Below Average”,⁵ the CT Companies continue to maintain attractive credit ratings.
16. Credit ratings for the CT Companies have not undergone drastic changes in recent years, however, CNG has increased from A3 Stable to A2 Stable since 2019, and UI was upgraded to a Baa1 with a Positive outlook in February 2022.

Affiliate Transactions and Service Company Allocations

17. Avangrid’s centralized service costs flow to benefiting subsidiaries in a cascading process, For Connecticut, this includes Iberdrola charging international corporate costs to the Avangrid Management Company (“AMC”), AMC charging its own corporate costs plus its allocations from Iberdrola to Avangrid Service Company (“ASC”), and so on down to UIL Holding Co and then to the individual operating companies.
18. Beginning in 2021, UIL and its subsidiaries adopted the SAP accounting system version used by Avangrid’s other regulated utility subsidiaries. Prior to 2021, there were effectively two accounting systems to distribute costs to the utilities in Connecticut.
19. Iberdrola charges corporate management and administrative services to each of its country-level companies based on specific intercompany service agreements. For Avangrid these costs are charged to AMC, from which they are charged to ASC and Renewables, and ultimately to the Networks utility subsidiaries. Iberdrola charged an average of approximately \$36 million annually to AMC during the

⁴ To a much lesser extent, Central Maine Power also was a net recipient of equity funding from 2019 to 2021.

⁵ Based on quarterly ratings from S&P Regulatory Research Associates.

years 2019 through 2021, of which approximately \$7 million annually was charged to the CT Companies.

20. The costs allocated by Iberdrola to Avangrid include SAP licensing and platform support costs. In addition to these cost allocations, during the years 2019 through 2021, Iberdrola directly charged UIL (and ultimately the CT Companies) approximately \$2.6 million for UIL's upgrade to Avangrid's version of the SAP accounting system.⁶
21. AMC provides centralized corporate management and administrative services which are distributed to Networks, Avangrid's utility line of business, and to Renewables, the holding company for the Avangrid's non-regulated line of business, based on specific intercompany service agreements. AMC directly incurred approximately \$119 million annually during the years 2019 through 2021.⁷ Of this an average of about \$34 million annually was allocated to UIL and the CT Companies.
22. AMC's cost distributions between Avangrid's regulated Networks and its unregulated Renewables lines of business appear reasonable based on a comparison with the relative financial size of the two lines of business.
23. ASC provides centralized services to the Networks group of subsidiaries, consisting primarily of Avangrid's regulated distribution utilities in New York, Maine, Connecticut and Massachusetts. ASC's services are subdivided into corporate (Information Technology ("IT"), Human Resources ("HR"), Corporate Communications, Legal, General Services, and others) and technical categories (Asset Management, Electric and Gas Operations, Operations Technology, Executive and Governance, and others). ASC's costs increased from \$105 million in 2019 to \$144 million in 2021, primarily due to the transfer of employees to ASC from other subsidiaries, some of whom were transferred from UIL and the CT Companies. Charges from ASC to the CT Companies increased from \$18.3 million in 2019 to \$34 million in 2021.
24. Avangrid relies on a size-based Massachusetts formula to allocate nearly half the costs incurred by AMC and ASC. The formula is described as being based on fixed assets, gross margin and personnel costs.⁸ Although we did not conduct a detailed review of allocation processes or factor calculations, a high-level review suggests that the formula produced reasonable allocation results during our review period. However, it is likely that more direct charging or attributable allocation methods could be used for some services, including ASC's customer services, which might have been more attributable allocated using customers instead of an average of assets, gross margin, and personnel costs.
25. Avangrid applies what appears to be a different Massachusetts formula to allocate costs from UIL to the CT Companies. The formula uses gross plant plus construction work in progress instead of fixed assets, net sales revenue instead of gross margin, and salaries instead of personnel costs. The formula is used to distribute costs from the UIL-level among the three CT Companies. Costs distributed from AMC and ASC to UIL using allocation methods other than the Massachusetts formula, such as employees, are further allocated within Connecticut using the Massachusetts formula. As noted in the finding above, it is possible that more direct charging or attributable allocation methods could be used

⁶ Response to FTI-0311, Att. 1.

⁷ Response to FTI-0622, Att. 1. Costs are incurred in the United States AMC, excluding costs allocated from Iberdrola and also further allocated by AMC.

⁸ Response to FTI-0523, Att. 1 (confidential).

to distribute some UIL services, including customer services, which could be distributed on a more attributable basis such as customers.

26. Similar to ASC, UIL provides corporate and technical services primarily to the CT Companies. According to data provided by Avangrid, UIL incurred approximately \$87 million in centralized services in 2019, which declined to approximately \$40 million in 2021. During this period, UIL allocated approximately \$3 million annually for services provided to Berkshire Gas. UIL did not provide significant services to the New York or Maine utilities.
27. Avangrid has been integrating the CT Companies into its Networks organization since the former Iberdrola U.S.A. merged with UIL in 2015 under a new parent entity Avangrid (the “2015 Merger”). Organizational data shows that Avangrid transferred approximately 160 Connecticut-based positions into AMC and ASC between the end of 2019 and September 30, 2022.⁹ UIL Holdings had 130 employees providing services to the CT Companies in eight functional areas at the end of September 2022. Avangrid stated that UIL functions and activities have “essentially all been integrated into ASC and AMC where appropriate at this time,”¹⁰ which we interpret to mean it is unlikely UIL will transfer additional employees to ASC or AMC in the near future.
28. UIL provides corporate and technical services similar to those provided by ASC. The primary difference is that the costs incurred by ASC are allocated to all Networks utilities, whereas costs incurred by UIL are allocated mostly to the CT Companies.¹¹ The New York and Maine utilities also have their own holding companies, but they do not operate as service companies as UIL does in Connecticut. Because UIL is an additional centralized service provider limited primarily to serving the CT Companies, these utilities had a higher centralized services cost burden during the review period than other Networks utilities, both on a relative financial size basis and a per customer basis. For example, in 2021 the CT Companies accounted for 28% of the total Avangrid utility financial size but were responsible for approximately 40% of the combined Networks costs of ASC and UIL.¹² This does not necessarily mean the CT Companies are “double-charged” for centralized services,¹³ however, it does suggest that Avangrid should ensure that UIL, which primarily serves Connecticut, and ASC, which serves all Networks utilities including Connecticut, are integrated to the maximum extent practicable.
29. Although high compared with other Avangrid’s other utilities, Networks service company costs allocated to Connecticut declined from approximately \$148 per customer in 2019 to \$100 per customer in 2021, whereas the cost for the combined New York, Maine and Massachusetts utilities rose slightly, from \$34 to \$43 per customer, indicating additional progress integrating Avangrid’s Connecticut operations into Networks. However, it remains unclear to what extent further progress will be made, given Avangrid’s statement that the integration of Connecticut operations is essentially complete.

⁹ Response to FTI-0480, Att. 1.

¹⁰ Response to FTI-0610-A.

¹¹ With the exception of an allocation to Berkshire Gas of about \$3 million annually.

¹² Based on analysis of service company cost data from Response to FTI-0622, Att. 1 and financial data from Avangrid’s SEC Form 10-K.

¹³ For example, in order to serve the CT Companies, UIL contains certain Customer Service employees and functions that in New York and Maine are contained within the individual utilities.

30. Avangrid's corporate services costs are budgeted and managed on a combined basis for all subsidiaries by AMC. Corporate services budgets are prepared, reviewed internally, and notated by a Management Committee and are reviewed and revised quarterly during the year. Budget variance reporting tracks actual costs at a functional level for corporate services as a whole (but not at the operating company level) and compares actual and budgeted costs on a quarterly basis.
31. Prior to 2021, corporate services budgets did not show the distribution of costs to individual Avangrid subsidiaries. The addition of total allocated costs at the operating company level is a management control improvement which should be extended from providing summarized total cost information to providing cost information at the corporate functional level.
32. Avangrid does not maintain management reporting which shows charges by individual service company to operating companies, for technical function-level or by cost allocation method. The only information visible to utilities from corporate services budgets and variance reporting is the total amount of corporate services charged from all service company levels. Apart from querying and analyzing accounting system data as performed in response to audit requests for data, Avangrid does not have a process to identify and track functional or allocation method costs through its multilayered service company allocation process. The data provided to the audit team, which allowed us to quantify the costs allocated to Connecticut from the various service companies, required significant time and analytical effort from Avangrid to produce. It should not be so cumbersome to provide utility management or regulators with a breakdown of service company costs by provider company showing what functions they include and how they are distributed to utilities and other affiliated companies.

Recommendations

Accounting

1. We recommend that any Internal Audit finding that is graded Medium, High, or Critical that is not remediated within a timely manner (as determined by Internal Audit and management at or prior to the internal audit report release date) be considered in future incentive compensation determinations for applicable management. This could be accomplished in several different ways. Remediation of an internal audit finding could be added as a future objective with a weighting that would encourage prompt action. However, it seems counterintuitive to reward management in a future year for remediating a finding that was not corrected in a timely manner. Alternatively, until the finding is remediated, the incentive compensation of applicable management could be reduced or capped. In any case, if internal audit findings are to be taken seriously (especially those that are not assigned the least critical designation) then management should hold its employees responsible for their prompt improvement.
2. We recommend that Avangrid participate in benchmarking studies and obtain such information in the future as a tool to be used in identifying processes that could be improved and performed more cost-effectively. The acquisition of this type of information should be coordinated with the group responsible for identifying best practices throughout the Avangrid organization.

Affiliate Transactions and Service Company allocations

3. We recommend that Avangrid develop management reporting that identifies amounts charged by each Avangrid centralized service provider entity (AMC, ASC, etc.) to Avangrid operating subsidiaries for each significant corporate and technical function and each allocation method used. This information is available in SAP and it has been shared with the businesses and is currently being enhanced for more consistent monthly reporting.
4. With UIL's adoption of Avangrid's version of the SAP accounting system, Avangrid now has a better ability to maintain cost identity through the process from higher-level services companies AMC and ASC down to the CT Company level. We recommend Avangrid adapt its corporate and technical service company budgets and budget variance reports to show costs at the operating company level by function so that operating company executives can at least see what Iberdrola and Avangrid corporate management is planning to charge them for specific functions. Note: Some utility industry service companies provide budgeted charges to operating companies at the service level (i.e., they provide budgeted amounts for the individual services within each centralized group or function).
5. We recommend service company customer service costs currently allocated by ASC and UILH using the Massachusetts formula be allocated using a more attributable customer-based allocation factor. We recognize this may require several cost pools and customer-based factors, depending on the services being provided.
6. We recommend Avangrid review UILH costs other than customer service distributed to the Connecticut utilities using the Massachusetts formula to determine that costs are directly assigned to the cost-causing utility when possible, and that allocations from UILH are made using attributable allocation methods (methods other than the non-attributable Massachusetts formula) whenever practical.

Chapter 4: Human Resources

Findings

Compensation and Benefits

1. Avangrid's salary structure provides an objective, systematic means on which to base employee compensation. It appears flexible enough to handle variables related to compensation such as: location, current labor market (supply and demand), and cost of labor trends.
2. Upon reviewing the ranges for the salary structure for Region 1 in 2022, we found that the base salary range within individual pay grades were wide. For example, there is a 77% spread between the minimum and maximum salary for 2022 Region 1, grade G (\$83,578 to \$148,192).
3. Avangrid's current repository of job descriptions contains inconsistent information and formatting as well as obsolete and missing job descriptions. Avangrid acknowledges these shortcomings and will launch a project to address them in 2023. Avangrid has completed the first step by purchasing a Job

Description Manager through PayFactors (d/b/a PayScale), the company Avangrid uses to benchmark jobs.

4. In Avangrid's Annual Performance Award ("APA") incentive compensation plan, the 2021 calculation of the "% of Target Earned" appears to be inconsistently computed among the metrics for that year as well as compared to metric calculations in 2020 and 2019. Also, the corporate metric Health and Safety targets for 2021 for which a "% of Target Earned" was calculated had no documented 2021 results.
5. Avangrid provides employees with a menu of employee benefits that includes retirement income, retirement health and welfare, active employee health and welfare, paid time off ("PTO"), and various other cash-based benefits. Avangrid's employee benefits were found to be in line with industry standards when reviewing benchmarking reports that covered the 2019-2021 audit period. Avangrid's 401(k) employer match is considered a differentiator in attracting and retaining talent. The current match formulas were implemented in exchange for freezing legacy pension plans and are expected to generate significant savings for customers over the long-term. Most of our peers still have pension plans actively accruing benefits. Avangrid's PTO policy could be enhanced to align more with its peers.
6. As of January 1, 2019, all non-union Avangrid employees were integrated into the same medical, dental, vision, disability, and life insurance vendors and plan offerings. As of January 1, 2021, all non-union Avangrid 401(k) match formulae were standardized.

Labor Relations

7. Avangrid has entered into collective bargaining agreements with five labor union organizations. Avangrid has a strong relationship with its labor unions that have agreements with the CT Companies.
8. The general wage increase was 3% for each Connecticut union contract, except Utility Workers Local 470-2, which had a 3.25% general wage increase in 2022. For comparison, according to the Bureau of Labor Statistics, the Consumer Price Index for All Urban Consumers ("CPI-U") in the Northeast Region increased by 6.9% for the rolling 12 months ending October 31, 2022. This comparison shows a significant gap between inflation and the general wage increases negotiated in the most recent collective bargaining agreements.
9. Avangrid has implemented a pension plan freeze for all of its recently negotiated union contracts. To mitigate volatility around future retirement plan expenses, reduce overall costs, and limit the impact of the transition for employees, Avangrid enhanced the 401(k) match and implemented a system of targeted payments over a period of several years, which is based on the amount of future projected pension benefit loss.
10. Between January 2020 and October 2022, Avangrid settled 96% of filed grievance cases before they reached arbitration. Being able to settle almost all grievances before reaching the arbitration stage evidences a good working relationship between Avangrid and union leadership at the CT Companies. Avangrid also had a sharp decline in grievance cases filed in the first 10 months in 2022 when compared to the yearly totals from 2020 and 2021.
11. The information that Avangrid provided from iSight, its system of record for labor grievances since 2020, lacks consistent and comprehensive information for each grievance case logged. Furthermore,

it is difficult to determine, from the information provided, the outcome of each grievance case without tracing it back to the physical case files. Finally, the Director of Labor Relations does not have access to grievance data before 2020, as it was logged in a system (Neocase) that was decommissioned before he was hired by Avangrid in 2021.

Workforce Planning

12. Vacancy rates at the CT Companies remained generally stable between 2019 to 2021. The utilities did not implement policies to restrict hiring during the pandemic. However, all CT Companies have experienced sharp increases in vacancies in 2022. Open positions at the UI are highest in the Electric Transmission and Distribution (“T&D”) Operations and Projects groups while CNG and SCG vacancies are concentrated in the Gas Operations group.¹⁴ Management attributed the increases to higher attrition rates and retirements.¹⁵ The trends impacting the CT Companies’ workforce mirror those seen across the nation. Despite these increases, the vacancy rates at CNG and UI remained below the average of all Networks utility companies.
13. Day-to-day crew assignments are controlled and managed locally at each CT Company using commercial off-the-shelf workforce management software systems. Workforce planning for capital projects is centrally managed based on the construction planning schedule. Additionally, in April 2022, the Resource Management function was established under the Networks Chief Operating Officer that is responsible for the estimation, planning and control of resources in the medium- and long-term.
14. Open positions have increased substantially in 2022 (through April) due to increased resignations since the end of the pandemic. Headcount at UI was also lower in 2022 due to a reorganization that shifted personnel to the ASC.
15. In 2020 and 2021, CNG and SCG each had accumulated more overtime hours than any other Networks gas utility, including the larger gas utilities of New York State Electric and Gas (“NYSEG”) and Rochester Gas and Electric Corporation (“RG&E”). Avangrid began tracking their overtime usage using a dashboard tool in 2020. The tool has been refined in the subsequent years for the CT Companies to better track and manage overtime usage.
16. In our analysis of CT Company overtime, we were unable to obtain any evidence that the information from the overtime dashboards, particularly the variances between budgeted and actual overtime, was being actively managed in a meaningful way.
17. As noted above, increasing retirements are contributing to the higher vacancy rates in 2022. The CT Companies use succession planning, knowledge transfer, and talent development for critical roles with retirement-eligible incumbents but does not have formal coordinated plan that directly addresses aging workforce risk mitigation.
18. Succession planning is performed by HR in collaboration with business functions for critical and key roles in Avangrid. HR has extended succession planning in 2022 to Avangrid’s important roles (entry-level manager roles other than key or critical), by developing the managers on the responsibility for succession planning to the groups or business functions that contain those roles.

¹⁴ Response to FTI-0510.

¹⁵ Response to FTI-0515.

Training and Development

19. Employee training is managed by three groups within the HR group: global training (corporate policies), technical training, and environmental health and safety (“EHS”). Technical training is predominantly conducted on-site by 17 trainers, 4 of whom are based in Connecticut. Technical training is customized to meet the requirements of each utility.
20. The HR group tracks mandatory technical and EHS training hours by company, group, and employee through the GPI Learn software platform and GEP. Monthly dashboards are used to monitor progress during the year.

Recommendations

Compensation and Benefits

1. Avangrid should implement its project goals in 2023 concerning the creation and maintenance of a complete, internally consistent repository of job descriptions using PayFactors (d/b/a PayScale).
2. Avangrid should investigate revising its PTO policy to provide increases in PTO every five years so that the PTO available to employees in the second half of each decade of service time would be more aligned with benefits survey participants.

Labor Relations

3. Avangrid should implement a more robust and consistent method of electronically tracking and recording grievance data as well as filing hard copies of grievance documentation. This would allow Avangrid to more effectively and efficiently manage and settle grievance cases with its unions.

Workforce Planning

4. SCG and CNG should implement a formal workforce resource planning process that utilizes best practices from UI.
5. Avangrid should build a formal long-term workforce strategy that evaluates the continued risk posed by its workforce aging profile, specifically employees with retirement eligibility, and determine whether existing policies and procedures are sufficient to mitigate potential staffing shortages in critical positions. Pending the outcome of this evaluation, Avangrid should consider the implementation of programs such as expanding partnerships with colleges, trade schools, and high schools to build a pipeline of trade employees. The Company should also consider strategies for attracting mid-career employees who can develop into and fill future leadership roles including expanding searches to other complimentary industries.

Findings

Management and Organization

1. Shortly after merging with UIL in 2015, the new parent entity Avangrid created a centralized organizational model with five functional Directors reporting to one Vice President of Customer Service for Networks, who supervises customer service operations for all of Avangrid's regulated utilities. In 2019, Avangrid's customer service function began a transition back to a more geographically focused organization when it hired a new state-level Vice President of Customer Service for Maine. Currently, New York, Maine, and Connecticut all have state-level Vice Presidents reporting to the Vice President of Customer Service for Networks. Three Directors (Customer Care, Customer Programs and Products, and Customer Experience and Digital Transformation) work on a functional level for all Networks utilities and also report to the Vice President of Customer Service for Networks.
2. The overall cost efficiency of Connecticut's customer service organization as a function of customers per employee has improved slightly in the last three years. However, it appears this is primarily due to higher employee attrition in the three Customer Relations Centers ("CRCs"), all of which have fallen below targeted staffing levels in the last two years.
3. Apart from external and internal customer satisfaction and customer perception surveys, Avangrid does not benchmark quantitative customer service performance metrics among its own utilities or against utilities outside of Avangrid.
4. UIL's three regulated gas and electric utilities in Connecticut, the United Illuminating Company ("UI"), the Southern Connecticut Gas Company ("SCG"), and the Connecticut Natural Gas Corporation ("CNG") (collectively the "CT Companies"), maintain metrics to measure various facets of customer service operations, including telephone billing, metering, accounts receivables and collections, customer satisfaction, and customer experience. In Connecticut, Avangrid maintains only three metrics, known as Priority Targets, which are used in customer service employee performance reviews. These include the customer complaints rate, the contact satisfaction rate, and the telephone average speed of answer ("ASA").
5. A high-level organizational analysis shows that the CT Companies have approximately half the number of customers per employee in certain customer and technical support, marketing, and sales organizations compared with Avangrid's New York and Maine utilities. In Connecticut, these employees work for UIL, whereas in New York and Maine, they work for the individual utilities. In commenting on our draft report Avangrid stated that this metric does not take into account that employees of the CT companies also perform customer work for other utilities outside Connecticut and code their time as such. It was beyond the scope of this audit to perform a detailed analysis of Avangrid customer service employee time attributable to individual utilities, however we acknowledge it could mitigate the relative efficiency levels suggested by a comparison of customers per employee based solely on the utilities employees work for.

Customer Contact Operations

6. The CT Companies use a mix of employee and contracted Customer Service Representatives (“CSRs” or “agents”) to operate its CRCs. In recent years the CRCs have operated using a ratio of approximately 1/3 Avangrid employees and 2/3 contracted CSRs.
7. Each CT Company has its own CRC. Employee CSRs work only for the utility employing them. However, CNG’s and SCG’s CRCs are integrated to the extent that customer traffic for both utilities is merged into a single call queue for contracted CSRs.
8. Based on our experience, the CT Companies’ telephone performance in the live agent communications channel appears below average. The ASA, average call hold times, and call abandonment rates all appear higher (poorer) than they should be for a utility of Avangrid’s size and sophistication.
9. Only one Priority Target metric, the ASA, applies for performance evaluation purposes in the Connecticut CRCs. In our view, the current ASA target of 90 seconds does not represent a high or even necessarily adequate level of performance.
10. Avangrid stated it has experienced high employee attrition in its Connecticut CRCs and had difficulty maintaining adequate staffing in 2022. CRC staffing declined by 20 employees (15%) between the end of 2019 and September 2022. CNG experienced an annual CRC employee attrition rate of 63% in the nine months ending September 2022, compared with 11% attrition in 2020 and 16% in 2021. Authorized CRC staffing levels for the CT Companies were 20% higher than actual staffing at the end of September 2022. An inadequate employee force with an insufficient level of experience due to high attrition may be partly responsible for below average phone metrics noted above. It may also be that the experience level among contracted CSRs is currently below what it should be.
11. The CT Companies have made progress in eliminating paper bills, moving payments into an online, paperless system, and moving customer voice communication to digital channels. Between 2018 and 2022, the percentage of electronic bills increased from 32% to 45%, online payments increased from 61% to 78%, and the percentage of automatic debit and credit payments doubled, from 7% to 14%. From 2019 through 2022 the percentage of inbound customer calls completed (contained) in the digital channel increased from 56% to 62%.
12. The CT Companies appear to have adequate programs in place to ensure that customer contact employees are properly trained. There are separate training programs for UI and for SCG and CNG. Both sets of programs include two progression levels and contain modules covering the important aspects of customer service and customer interaction.

Metering and Billing

13. CT Company meters are nearly all automated. At the end of 2022, approximately 70% were smart meters using Advanced Metering Infrastructure (“AMI”) and the remaining 30% were Automated Meter Read (“AMR”) meters, which have radio devices that transmit energy usage data to a data collection device passing within range of the meter.
14. SCG’s meters are nearly all AMI meters. A majority of Avangrid’s AMR meters in Connecticut belong to CNG. Avangrid plans to replace these with AMI meters and stated that approval by the PURA will

be addressed in an upcoming rate case. Notwithstanding plans to convert CNG's meters to AMI, during the years 2019 through 2022, Avangrid replaced approximately 27,000 of UI's AMR meters with AMI meters and, at the end of 2022, UI had fewer than 50,000 AMR meters awaiting conversion to AMI.

15. Avangrid's Connecticut meter read rates (meters read as a percentage of meters scheduled for reading) averaged approximately 98.5% for AMI meters and approximately 97.5% for AMR meters between 2019 and 2022.
16. Billing exceptions are bills flagged by the Customer Information System ("CIS") due to either meter readings or billed amounts that fall outside of tolerance levels. Connecticut's billing exceptions rates are declining, but appear relatively high (e.g., between 8% and 9% in 2020 and 2021) considering that meters are virtually all either smart meters that communicate usage and demand information directly to the utility, or automated meters not subject to human read errors.
17. Billing exceptions do not necessarily translate to billing reversals or adjustments. Avangrid's Connecticut billing reversal/rebill rate is low and consistent with the high level of automation in the CT Companies' metering systems.

Customer Complaint Management

18. Networks managed customer complaints on a centralized basis for a number of years. At the time of our audit, the employee in charge of the complaint process in Connecticut was an employee of Central Maine Power ("CMP"). Avangrid is moving the complaint management process to Connecticut state-level control beginning in 2023. A UIL employee recently assumed the newly created position of Manager of Customer Escalations and will manage complaints for the three CT Companies.
19. Connecticut maintains a complaint database, referred to internally as the SAP Complaint Module. The database tracks complaints by source and type and contains various other information including the dates complaints are received and closed, case notes, information about the complaint's cause, whether it was preventable, and the Review Officer responsible for complaint handling. However, other relevant information, such as communication about the complaint between Avangrid and its customers or with the PURA, and other documentation relevant to the complaint is not linked to the database.
20. The number of customer complaints recorded by the CT Companies dropped significantly during 2020 and 2021 as collection activity decreased due to the COVID-19 pandemic. Information for the first nine months of 2022 indicates that complaints in Connecticut began to increase with the resumption of normal collection activities, however, the CT Companies have seen more modest increases than the Networks utilities in New York and Maine.
21. Based on available data, the CT Companies' complaint rate per 1,000 customers appears favorable by comparison with Networks utilities in New York and Maine.

Hardship and Medical Protection Programs

22. Avangrid's key Connecticut programs for low-income customers, known as hardship programs, include the Matching Payment Program ("MPP"), Bill Forgiveness Program ("BFP") available to UI customers only, and the Winter Protection Program ("WPP"). Avangrid also maintains a Medical Protection Program for customers with serious or life-threatening injuries.

23. Avangrid expects to launch a Low-Income Discount Program in December 2023. This program will offer billing discounts between 10% and 50% based on financial need.
24. Hardship and Medical Protection Programs are managed through the CT Companies' Revenue Recovery, Credit, and Collections Department. Day-to-day activities include training, education, and co-administration of programs with Community Action Agencies ("CAAs"), which assist with customer enrollment. Administration of the programs within Avangrid includes customer file management and outreach activities, including community education events.
25. Avangrid currently has only one employee fully dedicated to hardship program administration and customer outreach: the Lead Analyst of Hardship Programs. Avangrid is considering adding a second position due to current workload, and the workload increase expected when the Low-Income Discount Program is launched in the fall/winter of 2023.

Recommendations

Management and Organization

1. We recommend Avangrid develop a uniform set of metrics to compare customer service operational performance and establish performance targets across all of its major utilities. Avangrid provided a spreadsheet with Priority Targets metrics used internally for performance evaluation purposes. However, the CT Companies have only three Priority Targets metrics, two of which are not used by Networks utilities outside Connecticut, and therefore cannot be compared with them. To the extent Avangrid chooses not to benchmark its customer service performance (other than JD Power customer satisfaction) with utilities outside of Networks, it should develop a comprehensive set of internal metrics that can be used for comparison and performance targeting within its own seven utilities. It should be noted that this data is already being collected, but it is not currently set up in a way that can be compared across the Networks group of utilities.) Among the CRC metrics that should be included for Connecticut for comparison with other Networks utilities is agent service level.¹⁶

Customer Contact Operations

2. We recommend the CT Companies lower their ASA target from 90 to 60 seconds.

Customer Complaint Management

3. We recommend Avangrid develop an index to centralize all relevant information connected with individual customer complaints. Much of the factual information about complaints is maintained in the SAP Complaint Module. Most communication specific to complaints occurs through emails. Avangrid should link all information associated with individual complaints, including communications and relevant documents (customer bills, contracts, payment agreements, letters to the Better Business Bureau, etc.) with data in the Complaint Module, either directly if possible, or by adding a

¹⁶In addition, for benchmarking purposes, a 30-second service level should be measured in Massachusetts, given that the current service level is measured based on calls answered in 20 seconds, most likely due to regulatory requirements.

referential (locator) field to the database for information such as emails and documents that exist outside the Complaint Module and its database.

Hardship and Medical Protection Programs

4. We recommend the CT Companies add a metric measuring the “success” rate for the MPP to the Customer Experience Strategy section of its operating metrics. The PURA requested Avangrid meet a 65% success rate with customers enrolled in its MPP, which we recommend be established as a target for this metric.
5. We recommend Avangrid add a second Analyst position to administer its medical, winter, and other hardship protection programs. During our interview on December 6th, 2022, the Manager of Billing and Revenue Recovery noted that the Lead Analyst of Hardship Programs was spread thin, particularly with respect to keeping up with customer outreach responsibilities, and that a second Analyst position had been requested but not yet approved. Given the current Lead Analyst’s responsibilities and the additional workload that may come with the new Low Income Discount Plan scheduled for implementation in December 2023, we recommend Avangrid approve and seek to fill the second Analyst position if it has not already done so.
6. We recommend Avangrid resume in-person hardship program outreach events as public health conditions permit. Shortly after beginning hardship program outreach events early in 2020, the COVID-19 pandemic compelled Avangrid to convert its in-person events to remote Zoom events. Information provided during our hardship programs interview indicated that attendance for the remote events was about one-tenth that of the live events and it is unclear whether any were held in 2022. Based on much better expected attendance, a move back to live events appears advisable.

Chapter 6: External Relations

Findings

Organization Design

1. Corporate Communications is the responsibility of the Senior Vice President of Corporate Communications and State Government Affairs, Kim Harriman.
2. Franklyn Reynolds, the UIL CEO, is ultimately responsible for all activities and interactions between the CT Companies and the state, regulator, and communities the CT Companies serve.
3. The Director of Government and Community Relations is responsible for coordinating the activities necessary to deliver programs and corporate communications for each community and state entity. This allows for a single point of coordination to align company messaging and programs with the strategy of Mr. Reynolds’ office.
4. The Government and Community Relations group also manages the interactions with their communities during Emergency Response Events; however, these interactions are coordinated through an IC.

Charitable Giving

5. The CT Companies maintain a Connecticut-specific charitable giving program that is responsive to local needs. The 2015 Merger Order Condition required UIL and the UIL Utilities to maintain “charitable giving and corporate philanthropy programs for at least four years (based upon historical annual contribution levels of between \$500,000 to \$800,000).” The current charitable giving budget is \$120,000.

Recommendations

Charitable Giving

1. The Corporate Communications group should measure and monitor the effectiveness of External Relations messaging to assist with future improvements. This should take the form of measuring click rates and click-through rates for emails, monitoring number of clicks for press releases, the use of social media impressions and engagement, and others. The data obtained should help inform future messaging decisions and appropriate channel selection and usage.

Chapter 7: Support Services

Findings

ERM

1. Avangrid’s ERM function is led by the Vice President and Chief Risk Officer, who reports to the Avangrid Chief Financial Officer. Enterprise risks for Networks and Renewables are tracked and managed separately by individual groups, each led by a Director of Risk Management.
2. Networks uses a Key Risk Register to document, assess, and mitigate enterprise risks. Approximately 30 key risks are tracked in a risk management software solution, GRC-Archer, that is used by all of the Iberdrola S.A. (“Iberdrola”) companies.
3. At least quarterly, enterprise risks are reviewed by the Networks Risk Committee, comprised of senior executives including the Networks Vice Presidents of Electric Operations, Gas Operations, and Customer Service, as well as the UIL CEO. Top risks are also reported on a semiannual basis to the Networks Audit and Compliance Committee.
4. Because enterprise risks are evaluated at the Networks level, most of the top risks relate to larger utility subsidiaries outside of Connecticut.
5. The Risk Management Department is responsible for collecting and reporting on key performance indicators to senior management and the Networks Audit and Compliance Committee.

Legal

6. The legal group uses a combination of internal employees and outside counsel to support the CT Companies' legal workload. The decision to outsource versus use internal counsel is driven primarily by skillset and the frequency of the subject area being considered.
7. FTI requested the CT Companies to provide the hours worked for both internal and external counsel to determine the split of resources, however, Avangrid does not track internal counsel's hours.
8. The CT Companies had not performed any formal cost studies to determine if their resourcing model is the most cost effective, however, they noted that Avangrid performs regular performance evaluations through benchmarking.
9. The CT Companies recently implemented a competitive bid process to source law firms' responses.
10. The five-year budget review indicates a high degree of variation between budget and actuals for most years.

Asset Management

11. The Real Estate group's five-year historical budget versus actuals indicates challenges with developing and managing a budget that aligns to annual spending needs.
12. The CT Companies currently source their vehicles through a purchase rather than leasing strategy, which allows for extending the useful life of a vehicle beyond a typical lease duration. Purchases, however, have slowed down because of COVID-19-driven supply chain shortages.
13. Each CT Company's vehicle and equipment expenses varied significantly over the past five years, which was primarily caused by extending the service life of existing vehicles to manage supply chain shortages.
14. The CT Companies are making cautious progress on utilizing alternatively fueled vehicles.
15. Current Preventable motor vehicle incident ("PMVI") key performance indicators ("KPIs") highlighted recent increases in incidents for UI and SCG.

Inventory Management

16. The CT Companies manage inventory levels through a Material Requirement Planning ("MRP") approach that defines a minimum and maximum level which is optimized based on actual usage.
17. UI has continued issues with sourcing poles and transformers.

Information Technology and Cybersecurity

18. IT demand is created by the business who identifies the projects necessary to solve business problems which are identified through the CT Companies' Business Strategy Framework.
19. The proposed IT budget is reviewed and projects are prioritized to ensure that the CT Companies operate within rate cases approvals.

20. The CT Companies' IT group has generally demonstrated good budget management performance over the last five years.
21. FTI noted a high level of priority placed on local, state, and regulatory-driven IT projects based on the CT Companies' project scoring criteria.
22. A key benefit to the CT Companies' Cybersecurity's organizational design is the close alignment of physical security and cybersecurity which allows for efficient information sharing.
23. The intelligence gained through various sources are used to inform key cybersecurity risk areas, which is managed through Avangrid Group's Enterprise Risk Management System.
24. Once risk is identified the Corporate Security group develops the initiatives necessary to support mitigation through the deployment of strategic security programs.
25. The CT Companies track training results, including completion rates at the employee level. This assists with identifying employees who have not completed required training within a designated timeframe so their supervisor can be notified for follow up.

Recommendations

Legal

1. The CT Companies should implement a more robust budget development process that considers both bottom-to-top and top-to-bottom approaches to arrive at an annual budget. The CT Companies should also consider implementing a budget management process that prioritizes work and can either stop lower priority work or receive additional allocations from other budgets to continue to fund overruns. This should also include appropriate governance to monitor and manage the process.

Asset Management

2. The Real Estate group should not include current year unplanned expenses in future year budgets without conducting the necessary analysis/inspections to determine the likelihood of a reoccurrence. Instead, the group should only consider expenses that are based on known and demonstrable data, i.e., asset condition inspections for facilities.
3. The CT Companies should conduct a study to determine current vehicle and equipment utilization to identify opportunities to right-size the fleet. They should also implement tracking systems for rentals to ensure that utilization is maximized and within the guidelines of the study.
4. The CT Companies should conduct an evaluation to develop a warehousing/supply chain strategy that considers implementing a consolidated centralized warehouse, or a consolidation of geographically co-located warehouses in an effort to promote efficiency and cost control/containment.

Information Technology and Cybersecurity

5. The CT Companies should implement a robust IT project alternatives analysis methodology that considers a wide range of solutions that balance cost and benefit and opens the business to alternative approaches. This approach should include the development of new analysis templates, an activity

within the Software Development Process (“SDP”) likely at Gate 1, and appropriate governance and sign offs to support this analysis.

6. There is an opportunity to improve the structure and usability of the Cybersecurity Unified Incident Response Plan to serve as an effective reference document. This includes the use of process flows and decision trees to help the user make appropriate decisions regarding classification and activation. Checklists should also be included to ensure that appropriate steps are taken and completed.
7. The CT Companies should conduct regular training for the Avangrid Board that is consistent with the latest policies, threats and relevant materials. This should be conducted at least annually and should reinforce the role of the Avangrid Board before, during and after any event.

Chapter 1: Executive Management

Introduction

The Executive Management Chapter will provide an overview of how leadership within Avangrid, Inc. (“Avangrid”) is structured and interacts to operate the three regulated electric/gas utilities covered in this audit: the United Illuminating Company (“UI”), the Southern Connecticut Gas Company (“SCG”), and the Connecticut Natural Gas Corporation (“CNG”) (collectively the “CT Companies”). Topics covered in this chapter include:

- Corporate and personnel organizational structure, including the division of shared services at different corporate levels
- Governance processes
- Regulatory compliance personnel, structure, and processes
- Key financial, investment, and Strategic Planning processes
- Internal Audit organization and processes

Findings

Corporate Ownership and Structure

1. Avangrid has two main lines of business, Avangrid Networks (“Networks”) and Avangrid Renewables (“Renewables”). Networks is the parent company for Avangrid’s regulated utilities in New York, Maine, Massachusetts, and Connecticut.

Personnel Organizational Structure

2. The three Connecticut operating companies (“CT Companies”) are managed through a complex matrix structure with a state jurisdictional focus.
3. Matrix organizations are more common in large, geographically diversified utilities, but they are complex due to multiple reporting lines both solid and dotted.
4. Within the Avangrid matrix organization, the President and Chief Executive Officer (“CEO”) of the CT Companies (“UIL CEO”) is designated as the major decision-maker on Connecticut matters, with guidance and input from the Networks and Avangrid management levels.
5. The UIL CEO serves as the primary face of the CT Companies for local leadership, customers, state legislators, and regulators.
6. The UIL CEO receives updates from all major operational, administrative, Human Resources (“HR”), Customer Service, financial, regulatory, Energy Supply, and Legal business functions at a monthly cabinet meeting (“RPOCC-CT”) attended by his direct/solid-line and indirect/dotted-line reports.

Governance

7. Spending/contract signing authority for the CT Companies aligns with decision-making authority and is governed by the UIL Grants of Authority approved in the Order of the Connecticut Public Utilities Regulatory

Authority (“PURA”) following the merger between Iberdrola, S.A. (“Iberdrola”) and UIL Holdings Corporation (“UIL”) (“2015 Merger”).

8. The UIL Grants of Authority are higher than the Networks and Avangrid Grants of Authority. The UIL CEO has \$10 million of authority, which is higher than the Networks and Avangrid CEO’s. The UIL Board of Directors (“UIL Board”) has unlimited authority.
9. The Avangrid and Iberdrola Boards of Directors do not participate formally in the CT Companies’ decision-making processes, but review and comment on draft strategic and financial plans, and the annual budgets and other major Connecticut issues.

Regulatory Compliance

10. Based on our initial review, Avangrid, UIL and the CT Companies continue to be compliant with the PURA’s Order permitting the 2015 Merger (“2015 Merger Order”). The CT Companies perform a quarterly internal checklist process for the remaining, ongoing merger conditions, and file a formal status update with the PURA annually in February.
11. Avangrid, UIL, and the CT Companies maintain a compliance tracker for the ring-fencing provisions under the 2015 Merger Order, which, based on our review, shows compliance with all provisions specified.
12. There is a Connecticut-specific Regulatory Affairs team led by a Vice President that tracks all the CT Companies’ regulatory dockets with the PURA and Connecticut Department of Energy and Environmental Protection (“DEEP”). This team tracks regulatory progress and activity daily and maintains a detailed calendar of upcoming filings. The Regulatory Affairs team updates the Networks Regulatory Leadership, the UIL CEO’s office, and UIL senior leadership on material regulatory updates in Connecticut.
13. Since the 2015 Merger, Networks has maintained jurisdictional (state-level) governance and decision-making. Multiple business functions have reorganized such that subject matter experts exclusively serve their state.

Strategic, Investment and Long-term Planning

14. The CT Companies produce three separate forward-looking Plans: Strategic Plan, Investment Plan, and Long-Term Outlook (“LTO”). These state-specific Plans are then consolidated into the Networks and finally the Avangrid Plans.
15. The Strategic Plan for Networks is an annual 12-14 month-long process run at the Networks level with input from Networks- and state-level executives. State CEOs and their leadership teams prepare state-specific Strategic Plans to be consolidated into the Networks Plan with guidance from Networks, a new feature of the Strategic Planning process.
16. The Strategic Planning process is performed within a complex matrix structure. It is overseen by the Networks Regulatory and Planning group with input from all Networks and state executives. The Avangrid and Networks Control groups oversee the annual LTO financial planning process, informed by assumptions from the Treasury and Regulatory and Planning groups and with additional input from the Investment Planning group within Regulatory and Planning who oversee the annual 10-year Investment Plan process.
17. The current Networks Strategic Plan’s approach to creating initiatives to accomplish the short- and long-term objectives results in a large number of initiatives, with up to 78 in a single year. Many of these initiatives are

day-to-day actions to run the business successfully rather than actions that are strategic in nature. Removing these actions, there still is a significant number of initiatives and we question whether there are too many to be successfully completed and implemented. The people who would implement these initiatives have day jobs so without increases in staffing accomplishing them all would seem difficult.

Internal Audit

18. Avangrid's Internal Audit function is segmented into four functional areas: Financial, IT/Corporate, Networks and Renewables. The Networks audit team performs operational and performance audits of utility subsidiaries including UI, CNG and SCG.
19. Annual internal audit plan development involves interviews with Avangrid and Networks Senior Leadership to identify their key risks and priorities, and consideration of the Key Risk Register maintained by the Risk Management group. Although some projects requested by Iberdrola are included, the vast majority of the audit plan is tailored to the risk assessment and governance needs of Avangrid.
20. Board oversight of the Internal Audit function is delegated to the Audit and Compliance Committees of Avangrid and its subsidiary companies. The Networks Audit and Compliance Committee, comprised mostly of Independent Directors, oversees the Networks internal audit function. Internal Audit reports to this committee quarterly, as well as in December for the subsequent year internal audit plan and budget approval.
21. Internal Audit findings require remediation plans and implementation dates. Findings assessed as "Critical" and "High" are regularly reported to the Audit and Compliance Committee, as are "Medium" findings with delayed remediation plans that are greater than 30 days past due and less than 90% complete.
22. The leader of the information technology audit team does not formally report directly to the Vice President of Internal Audit, which is not consistent with best practice.
23. A recent external quality assessment found Avangrid's Internal Audit function in compliance with international standards and code of ethics.

Recommendations

Personnel Organizational Structure

1. We encourage Networks and Avangrid executives to continue supporting the state-specific focus of their current matrix structure and the decision-making authority of the UIL Board and CEO and the UIL Grants of Authority. We recommend the PURA meet annually with the appropriate CT Companies' leadership to understand any changes to the matrix organizational structure affecting the CT Companies, and any executive changes that impact the CT Companies directly.

Strategic, Investment and Long-term Planning

2. We question whether the Networks Strategic Plan results in too many objectives and initiatives to allow them all to be successfully completed and implemented. In addition, a number of these initiatives appear to be day-to-day business. The large quantity of initiatives dilutes the value of truly strategic initiatives aimed at long-term business improvement. We recommend paring down the number of objectives and initiatives in the Strategic Plan to a realistic, manageable number, to allow more attention, focus and resources on the truly

strategic ones, which would result in a higher probability of success. This should include but not be limited to the elimination of all non-strategic, day-to-day actions to run the business.

3. We observe modest changes in the Strategic Plan's Vision and key objectives from year to year and question the value of a Strategic Planning process that occurs annually; a Strategic Planning process occurring every few years may allow for leadership to gain a fresh perspective on the business.
4. State-specific, long-term planning is a recent feature of the Strategic Plan, starting in 2021. Connecticut-specific planning is a positive development, but we recommend the PURA review the final Avangrid-approved, state-specific Strategic Plans for the CT Companies to ensure alignment with Connecticut's regulatory policies and objectives.
5. Given the separate oversight of the three planning processes, we also recommend the PURA receive a copy of the final, approved Connecticut portions of the Strategic Plan, Investment Plan and LTO so that the PURA may review the final Avangrid-approved results for the CT Companies to ensure consistency with the Strategic Plan and monitor alignment with Connecticut's regulatory policies and objectives.

Internal Audit

6. The leader of the IT Audit function should have a position within the Internal Audit organization that reports directly to the Vice President of Internal Audit.

1.1. Corporate Ownership and Structure

This management audit covers three regulated electric/gas utilities: UI, SCG, and CNG. All of these are indirect subsidiaries of Avangrid which is 81.5% owned by Iberdrola. To understand the corporate structure that governs these utilities, this report will briefly explain the Avangrid corporate structure from the parent company down to the three CT Companies, including a description of the 2015 Merger with UIL that resulted in the formation of Avangrid.

1.1.1. Iberdrola, S.A. (U.S. History)

Iberdrola is an international energy company headquartered in Bilbao, Spain. Iberdrola entered the U.S. utilities market in 2008, when it acquired the Energy East Corp. ("Energy East"). Through the Energy East acquisition, Iberdrola assumed ownership of Energy East's seven electric and natural gas utilities, as well as non-regulated energy services companies in the Northeast United States under the corporate umbrella of "Iberdrola U.S.A." All utilities, including SCG and CNG, retained their original names to maintain local brand recognition.¹

Between 2010 and 2012, Iberdrola U.S.A. sold its gas distribution companies, including SCG, CNG and Berkshire Gas Company ("BGC"), to UIL, a Connecticut-based utility holding company with a small geographic territory. During this time, Iberdrola U.S.A. also shed its non-regulated energy service offerings. UIL's primary business is in regulated utilities consisting of the electric distribution and transmission operations of UI and the natural gas transportation, distribution, and sales operations of SCG, CNG, and BGC.^{2,3}

¹ Rochester Business Journal: <https://web.archive.org/web/20110717232803/http://www.rbj.net/article.asp?aID=182269>

² Iberdrola, U.S.A. Form S-4 (July 17, 2015).

³ UI also held 50% of membership interests in GCE Holding LLC, whose wholly owned subsidiary, GenConn Energy LLC, operates peaking generation plants in Connecticut.

1.1.1.1. 2015 Merger

In 2015, Iberdrola acquired UIL through a new U.S. holding company publicly traded on the New York Stock Exchange as Avangrid, Inc. (“Avangrid”), which replaced Iberdrola U.S.A.⁴ Avangrid is regulated by the SEC and has an independent Board of Directors.⁵ Iberdrola and UIL shareholders owned 81.5% and 18.5% of stock at the time of the merger, respectively, through a share exchange executed pursuant to their merger agreement.^{6,7} The merger was approved by the PURA in December 2015.⁸ Figure 1-1 depicts the corporate structure of Iberdrola as it pertains to the CT Companies after the merger, and as it operates today.

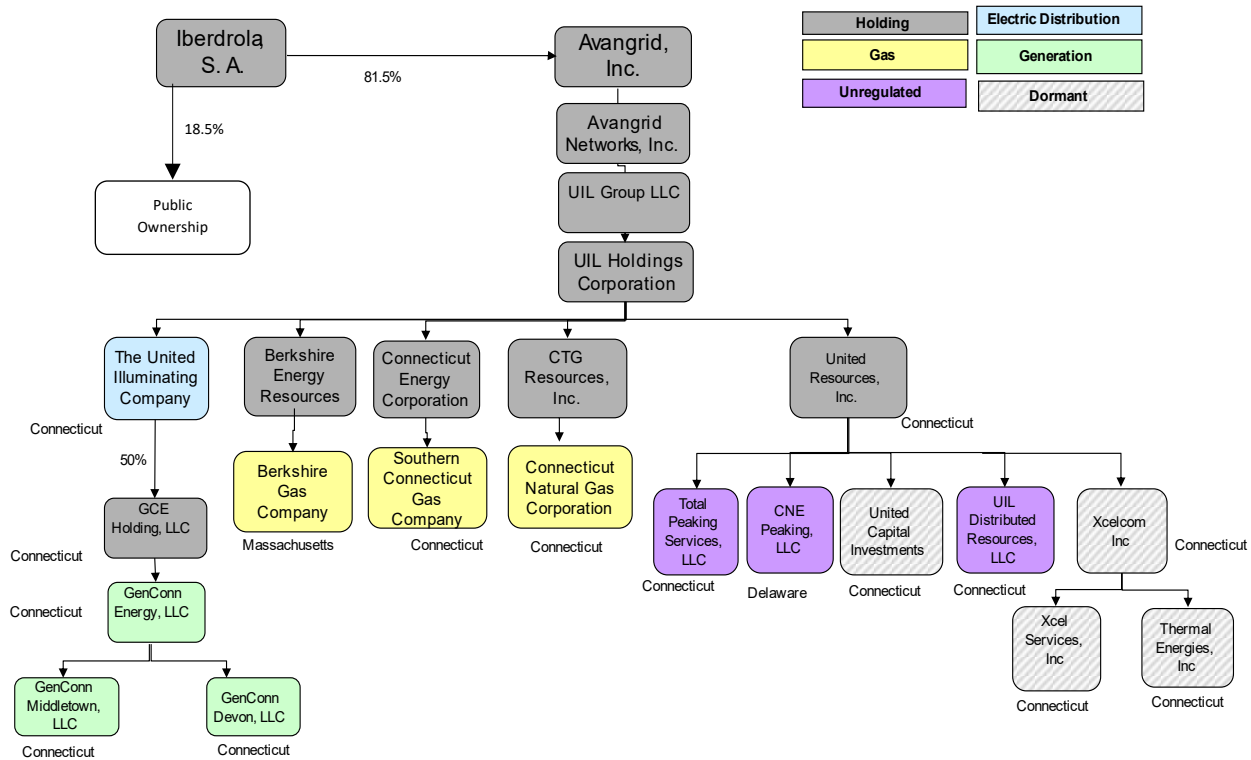


Figure 1-1 Organizational Structure of the Connecticut Operating Companies^{9,10}

As part of Avangrid’s merger with UIL, the parties agreed to a settlement with PURA that addressed a number of concerns PURA had about the CT Companies retaining local management capabilities and financial autonomy from its multinational parent. Avangrid was required to comply with over 50 conditions which are presented in Chapter 1, Appendix 2: Merger Order Conditions. There are only a few conditions that are still ongoing, and compliance

⁴ Businesswire: <https://www.businesswire.com/news/home/20150225006689/en/Iberdrola-USA-to-Combine-with-UIL-to-Create-a-Leading-Diversified-Publicly-Traded-Company-Based-in-the-Northeast>

⁵ Avangrid, Inc. 2021 10-K.

⁶ Iberdrola’s ownership share may occasionally increase slightly due to stock repurchase activity. As of December 2021, Iberdrola owned 81.6% of Avangrid’s shares outstanding.

⁷ Amendment No. 1 to FORM S-4 REGISTRATION STATEMENT, Iberdrola U.S.A., Inc., Registration No. 333-205727, filed September 9, 2015.

⁸ Docket No. 15-07-38.

⁹ Response to FTI-0240, Att. 1, Att. 1.

¹⁰ The name Iberdrola U.S.A. was superseded by Avangrid, Inc. following the 2015 Merger.

with those is reported annually to the PURA. For more information on tracking compliance with the 2015 Merger Order, and compliance status, see Section 1.5.

1.1.2. Avangrid, Inc.

Avangrid is the U.S. holding company owning all of Iberdrola’s U.S. businesses, formed in December 2015 pursuant to the merger agreement between Iberdrola U.S.A. and UIL. Avangrid has two separate and distinct lines of business which are operated under two direct, wholly owned subsidiaries: Networks and Avangrid Renewables Holdings, Inc. (“ARHI”). A third subsidiary alongside Networks and Renewables is the Avangrid Management Company (“AMC”), which provides shared services to these two lines of business. Networks owns the regulated utilities businesses, while ARHI owns Renewables which in turn owns all of Avangrid’s generation projects and other non-utility investments in the US. Networks owns and operates eight regulated utility businesses through its subsidiaries in New York, Maine, Connecticut, and Massachusetts, who in turn own electric transmission and distribution, and natural gas distribution assets. Renewables operates a portfolio of energy generation facilities, including onshore and offshore wind, solar, biomass, and thermal power in the U.S.¹¹

Figure 1-2 depicts the entire corporate structure of the U.S. parent company Avangrid, and subsidiaries.

¹¹ Avangrid, Inc. 2021 10-K.

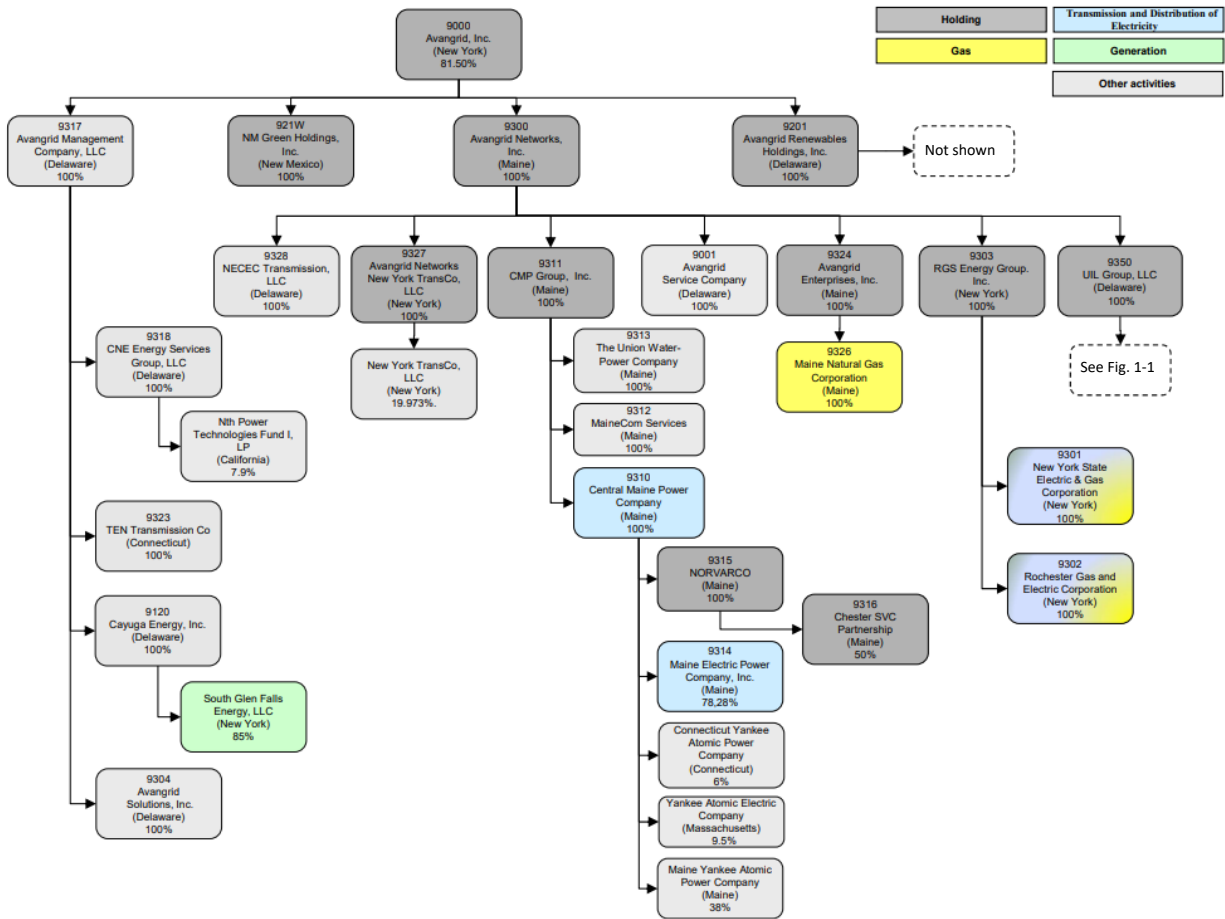


Figure 1-2 Organizational Structure of the Avangrid Subsidiaries^{12,13}

For the purposes of this management audit, we will focus on the CT Companies in the Networks line of business, which are regulated by the PURA. We will not discuss Renewables or the non-Connecticut regulated utilities, except to the extent they impact the CT Companies.

1.1.2.1. Separation of Networks and Renewables

The separation of Renewables and Networks carried over from Iberdrola U.S.A., the predecessor of Avangrid. The Networks and Renewables businesses are managed independently of each other with separate organizations, management, Boards of Directors, employees, and locations, with the exception of employees in the AMC who serve both Networks and Renewables (see Section 1.4 for more information about shared services). Structural and decision-making separation of the Renewables and regulated utility businesses is typical for regulated utilities and usually mandated by state regulatory authorities.¹⁴

¹² The fourth subsidiary of Avangrid is NM Green Holdings, a New Mexico corporation formed solely for the purpose of a potential merger with PNM Resources, Inc.

¹³ Response to FTI-0240.

¹⁴ Bloomberg: <https://www.bloomberg.com/news/articles/2022-08-04/duke-energy-eyes-sale-of-commercial-wind-and-solar-business>

1.1.3. Avangrid Networks, Inc.

Through Networks, Avangrid owns electric distribution, transmission, and generation companies and natural gas distribution, transportation, and sales companies in New York, Maine, Connecticut, and Massachusetts. Networks' utilities deliver electricity to approximately 2.3 million electric utility customers and deliver natural gas to approximately 1.0 million natural gas utility customers as of December 31, 2021.¹⁵

Networks serves as a super-regional energy delivery company through the eight regulated utilities it owns, listed below; bolded utilities are regulated by the PURA and have service territories in Connecticut.

- New York State Electric & Gas Corporation ("NYSEG") serves electric and natural gas customers throughout New York;
- Rochester Gas and Electric Corporation ("RG&E") serves electric and natural gas customers in western New York;
- **The United Illuminating Company ("UI") serves electric customers in southwestern Connecticut;**
- Central Maine Power Company ("CMP") serves electric customers in central and southern Maine;
- **Southern Connecticut Gas Company ("SCG") serves natural gas customers in Connecticut;**
- **Connecticut Natural Gas Corp. ("CNG") serves natural gas customers in Connecticut;**
- Berkshire Gas Company ("BGC") serves natural gas customers in western Massachusetts; and
- Maine Natural Gas Corporation ("MNG") serves natural gas customers in central and southern Maine.

Avangrid has two service companies: the AMC and the Avangrid Service Company ("ASC"). As discussed above, the AMC services both Renewables and Networks and includes the corporate functions such as HR, Benefits, Compensation and Labor, Information Technology ("IT"), Treasury and Accounting, Internal Audit, Investor Relations, General Services and Facilities, Physical and Cyber Security, Health and Safety, Tax, Purchasing and Insurance, Legal, Communications, and Government and Community Relations.¹⁶

Utility-specific services shared among the Networks companies are under ASC. Such functions include Regulatory Strategy, Process and Technology, Asset Management and Planning, Projects and Engineering, Electrical Engineering and Gas Engineering, HR specific to the Networks Group, Legal Services specific to Networks, Internal Audit specific to Networks, Operations (Gas and Electric), Customer Service and Business/Investment Planning.¹⁷ Many key Connecticut-facing employees we interviewed for this management audit work for and charge their time to ASC which in turn allocates this time and cost to the CT Company that the employee served.¹⁸

1.1.4. UIL Holdings Corporation and UIL Group

The CT Companies are directly owned by UIL, an indirect subsidiary of Networks, which also owns BGC in Massachusetts. Per the ring-fencing conditions of the 2015 Merger Order, there is a separate holding company above UIL called the UIL Group, whose sole purpose is to insulate the CT Companies from the actions of their other affiliates within Avangrid, as mandated by the 2015 Merger Order.¹⁹

The UIL Group is not involved in day-to-day decision-making.²⁰ The UIL Group holds a golden share, whose vote is required for approval in a merger, acquisition, or bankruptcy of UIL or any of the CT Companies. UIL holds regular

¹⁵ Response to FTI-0240.

¹⁶ Response to FTI-0242.

¹⁷ Ibid.

¹⁸ Interview with Vice President of General Counsel, Networks (Noelle Kinsch), August 17, 2022.

¹⁹ Interview with Vice President, Treasury (Howard Coon), October 27, 2022.

²⁰ Interview with Vice President of General Counsel, Networks (Noelle Kinsch), August 17, 2022.

meetings of the Board, described in Section 1.2.5.3.²¹ The UIL Board authorizes all decisions involving spending authorizations in excess of \$10 million per the 2015 Merger Order.

1.1.4.1. Description of Regulated Utilities

The three CT Companies discussed in this audit cover a large area of Connecticut, including the state's major metropolitan areas. A description of each CT Company's basic service statistics is provided below.

UI is an electric utility in Southwestern Connecticut which provided 4,943,000 MWh to 342,928 customers in 2021. With a rate base of approximately \$1.9 billion, UI maintains 138 miles of transmission and nearly 3,600 miles of overhead and underground distribution.

SCG is a natural gas utility that serves approximately 208,000 customers in Connecticut and delivered over 35 million dekatherms ("Dth") of natural gas in 2021. SCG's rate base is over \$0.6 billion and contains over 2,500 miles of distribution pipeline.

CNG is a natural gas utility that serves approximately 185,000 customers in Central/Northern Connecticut and provided over 36 million Dth of natural gas in 2021. With a rate base of \$0.5 billion, it owns and maintains over 2,200 miles of distribution pipeline. Neither of the Connecticut gas utilities own transmission pipelines.²²

1.1.5. Post-2015 Organizational Change

The corporate organization and governance/decision-making structure for the CT Companies immediately following the merger with Avangrid in December 2015 is similar to the current one in place: a Board of Directors and executive officers at UIL and at each operating company. The UIL Grants of Authority (see Section 1.3.1), per the 2015 Merger Order, remained the same as they were in 2015. The UIL CEO served, and still serves, as the President and CEO of each CT Company.

One key change in corporate structure was that pre-merger under UIL, all Connecticut-specific employees reported to a Connecticut-specific executive. Post-merger, Connecticut-specific employees report to a Connecticut-specific executive reporting directly to either the UIL CEO, or, more commonly, to a Networks or Avangrid executive (and indirectly reporting to the UIL CEO) who oversees similar reports in other states. This maintained Iberdrola U.S.A.'s matrix-style corporate structure. This model has generally remained the same over the past seven years, although certain positions have been centralized up to the Networks level within ASC, such as Customer Service, Electric and Gas Operations, but the roles are fully dedicated to specifically serve Connecticut.²³

Immediately following the 2015 Merger, James P. Torgerson, former UIL CEO, became the CEO of Avangrid until his retirement in 2020. Many Connecticut-facing UIL employees were elevated to senior positions at Avangrid and Networks, but UIL headquarters remained in New Haven, Connecticut until relocation to nearby Orange, Connecticut in 2017.²⁴ Top executives at both the Avangrid- and Networks-level continue to sit in Orange, as does the UIL CEO and other CT executives. The close proximity of these senior leaders ensures that Connecticut's needs are front of mind.²⁵

²¹ Ibid.

²² Avangrid, Inc. 2021 10-K.

²³ Response to FTI-0520.

²⁴ Ibid.

²⁵ Interview with Independent Director, Networks Board, October 28, 2022.

1.2. Personnel Organizational Structure

1.2.1. Matrix Structure with a Jurisdictional Focus

After the 2015 Merger Order, UIL and the CT Companies transformed from a single-state organization to a matrix organization, having a continued jurisdictional focus within the larger Avangrid and Networks organizations. In a matrix organization, there are typically multiple employee reporting lines, both solid- and dotted-line.²⁶ The Avangrid, Networks, and CT Companies' matrix structure involves multiple solid and dotted reporting lines, but final decision-making resides with the CT Companies' CEO. This structure is similar in all of Avangrid's four states. The CEO of the CT Companies reports directly to the CEO of Networks, who reports to the Avangrid CEO. As discussed below in Section 1.3.2, some decisions made by the UIL CEO are also socialized with higher levels of management at the Networks and Avangrid level.

Matrix structures grew in popularity for organizations with complex or diverse tasks, functions, and environments, or those with frequent interaction with external agencies.²⁷ Matrix organizations are more common in large, geographically diversified utilities, but they are complex and can be difficult to run and manage. The commonly cited benefits of the Avangrid matrix structure are:

- Sharing of efficiencies, best practices, and lessons learned from other states²⁸
- Communication across business segments for a unified Connecticut strategy²⁹
- Local execution and accountability to ratepayers, but centralized expertise³⁰
- Objectives, goals, and priorities tailored to each state's unique needs³¹
- The President and CEO of the jurisdiction serving as the face of the Company in a state³²

For a matrix structure to work in Connecticut, all solid and dotted line reports must be aligned to the UIL CEO's desired direction and decision-making authority. They must communicate frequently with the UIL CEO as well as the rest of the Connecticut leadership team. This communication is accomplished through monthly formal meetings run by the UIL CEO but also through continuous, regular formal and informal interaction amongst the Connecticut leadership team and the UIL CEO, as well as the broader Networks and Avangrid leadership teams.

1.2.1.1. Organizational Structure

In the Avangrid matrix corporate structure, business and corporate function leaders are accountable to both a Networks or Avangrid executive and to a state-level leader. Multiple, high-ranking positions have been created at the state-level such that there are subject matter experts exclusively serving and dedicated to a state, but still reporting to a cross-cutting functional lead. One example is the Vice President of Regulatory Affairs: there is one for Maine, one for New York, and one for both Connecticut and Massachusetts.³³ In Connecticut, this individual

²⁶ A solid line is a direct reporting line to a manager, as depicted on a typical organizational chart. A dotted-line report is also known as an indirect report, or someone who shares the results of their operations to a manager but does not actually have a direct reporting relationship with said manager.

²⁷ Britannica, Matrix Organization: <https://www.britannica.com/topic/matrix-organization>

²⁸ Interview with Vice President of Regulatory Strategy, Networks (Charlotte Ancel), August 4, 2022.

²⁹ Interview with Vice President of General Counsel, Networks (Noelle Kinsch), August 17, 2022.

³⁰ Interview with CEO, Networks (Catherine Stempien), September 15, 2022.

³¹ Interview with Senior Director of ETD Business Services, September 9, 2022.

³² Interview with Senior Vice President, Government Relations and Communications (Kimberly Harriman), October 19, 2022.

³³ UIL's subsidiaries includes BGC, a gas utility in Massachusetts.

deals almost exclusively with the PURA and DEEP but reports to a Networks executive who oversees all three states.³⁴

Gas and Electric Operations and Customer Service are examples of functions which recently transitioned to a specific, dedicated state focus after a period where the business function spanned across states with one leader making all the decisions. In 2018, Charles Eves became the Vice President of Electric Operations for all three Networks states (BGC in Massachusetts is included in Connecticut oversight). Senior Directors from New York, Connecticut, and Maine, reported directly to him but also to state-level management. This structure forced major decisions in all three states to Mr. Eves, and concerns with this model became apparent during major storm and outage events. During Hurricane Isaias, it became difficult for Mr. Eves to be informed at the level necessary to answer questions coming directly from regulators and customers in all three states. Networks realized that a higher-ranking position with a more specific level of focus and clear decision-making authority for each state made sense. Beginning in 2022, Networks created state-specific Vice Presidents of Electric Operations, including one solely responsible for Connecticut and its needs, reporting directly to a Senior Vice President in Networks and indirectly to the CEOs in their states.³⁵ Mr. Eves became the Vice President of Electric Operations in Connecticut.

Gas Operations was also reorganized to promote local control within the CT Companies. Connecticut Gas Operations (SCG and CNG) are currently led by a Senior Director reporting to the Networks Vice President of Gas Operations, and the Senior Director of Energy Supply, who is a direct report to the UIL CEO (see org chart in Figure 1-4), in large part because gas supply issues are unique to Connecticut.³⁶ Therefore, in the Operations business functions, there are two gas-related Senior Directors (Energy Supply and Operations), and one Electric Operations Vice President, who each exclusively serve Connecticut.³⁷

Customer Service also has a high-ranking executive that exclusively serves the state of Connecticut. Tracey Pelella, Vice President of Customer Service, serves Connecticut and is the liaison between and directly reports to Scott Baker, Senior Vice President of Customer Service at the Networks level, and through a dotted line to the UIL CEO.^{38,39} Ms. Pelella and Mr. Baker discuss their customer strategy, policies, proposals, rationales, and decisions with each other and with the UIL CEO, emphasizing the importance of state-specific Customer Service operations.⁴⁰

1.2.2. Avangrid Networks-level Management

Networks-level management is a crucial component of decision-making in Connecticut under the Avangrid matrix structure. Six of the UIL CEO's dotted-line reports answer directly to a Networks-level executive. Though the UIL CEO is the primary decision-maker, the overall process for the CT Companies' operational, customer, regulatory, legal, and financial decisions is a collaboration between the Networks-level executive, the UIL CEO, and UIL's dotted-line business function leader directly supporting the CT Companies.

³⁴ Interview with Vice President of Regulatory Affairs, Connecticut (Daniel Canavan), August 29, 2022.

³⁵ Interview with Vice President of Electric Operations, Connecticut (Charles Eves), August 4, 2022.

³⁶ Interview with Senior Director of Director Energy Supply, Connecticut, August 9, 2022.

³⁷ Response to FTI-0001.

³⁸ Interview with Vice President of Customer Service, Connecticut (Tracey Pelella), September 14, 2022.

³⁹ Interview with Senior Vice President of Customer Service, Networks (Scott Baker), August 23, 2022.

⁴⁰ Ibid.

The following Networks-level executives ensure strategic, financial, and operational alignment across all Networks businesses, including Connecticut:⁴¹

- **Networks CEO:** Oversight of Networks business across all jurisdictions
- **Vice President – Customer Service:** Oversight for Networks-wide policy and standards
- **Senior Vice President – Operations:** Oversight for Networks-wide operational policy and standards, and major projects
- **Senior Vice President – Regulatory and Planning:** Oversight for Networks-wide regulatory compliance, investment planning and related activity
- **Vice President – Gas Operations:** Oversight for Networks-wide operational policy and standards
- **Networks Controller:** Oversight for Networks-wide Financial Planning (reports to the Avangrid Controller; not shown in Figure 1-3)
- **Vice President – Projects:** Responsible for oversight of major capital programs for Electric and Gas Operations (reports to the Networks Senior Vice President – Operations; not shown in Figure 1-3)⁴²
- **Vice President – General Counsel:** Oversight of Networks legal matters

Figure 1-3 shows the organizational chart for the Networks CEO, to whom the UIL CEO reports. The UIL CEO is shown in a green box, with key dotted-line reports to the Networks CEO discussed in this report shown in the upper right. Office locations are denoted in parentheses.

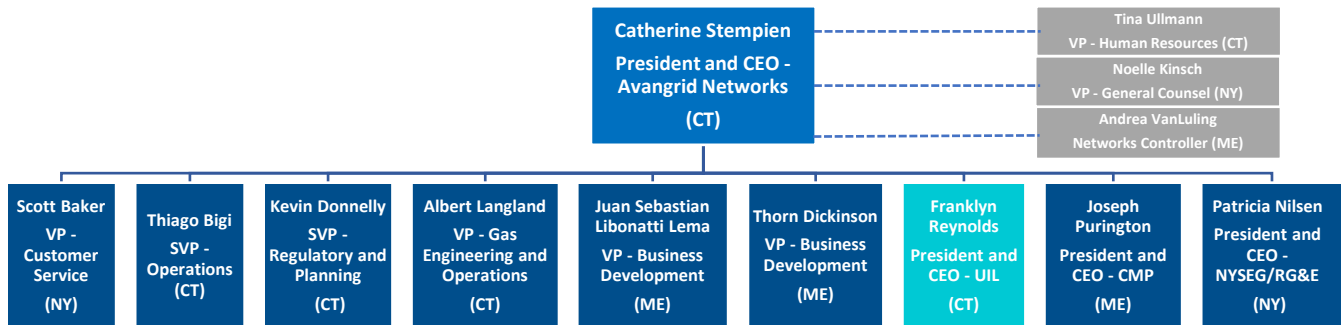


Figure 1-3 Organization Chart, Networks CEO

All Networks business functions shown in the above figure, plus the three state CEOs (UIL, CMP, and NYSEG/RG&E), are under the same umbrella reporting to the CEO of Networks. According to the Networks CEO, this organizational structure provides better visibility into the balance between local control and execution (represented by state CEOs) and subject matter experts’ knowledge of best practices (represented by Networks-wide business function leaders.)⁴³ The Networks CEO also has an “Expanded Leadership” Team: solid-line reports plus key corporate function service members (Legal, HR, and Control) dedicated to Networks (see Section 1.2.5.2.4 for more information on the Expanded Leadership team).⁴⁴

1.2.3. Connecticut-level Management

Within the Avangrid matrix organization, the UIL CEO is designated as the primary decision-maker on all Connecticut matters. The CEO receives updates on all top operational, administrative, HR, customer service, financial, regulatory, energy supply, and legal areas at a monthly cabinet meeting called the Connecticut

⁴¹ Response to FTI-0214.

⁴² James Cole, Vice President of Projects, attends all three state-level RPOCC meetings.

⁴³ Interview with CEO, Networks (Catherine Stempien), September 15, 2022.

⁴⁴ Ibid.

Regulatory, Planning, Operations and Customer Council (“RPOCC-CT”), attended by two direct reports and 15 indirect/dotted line reports as shown in Figure 1-4 and discussed further in Section 1.2.5.3.1 below.⁴⁵ In addition, the UIL CEO holds regular weekly, major in depth updates and ad hoc meetings with these Connecticut-serving employees to discuss specialized, time-sensitive or topics that require more detailed discussion outside of regularly scheduled meetings.

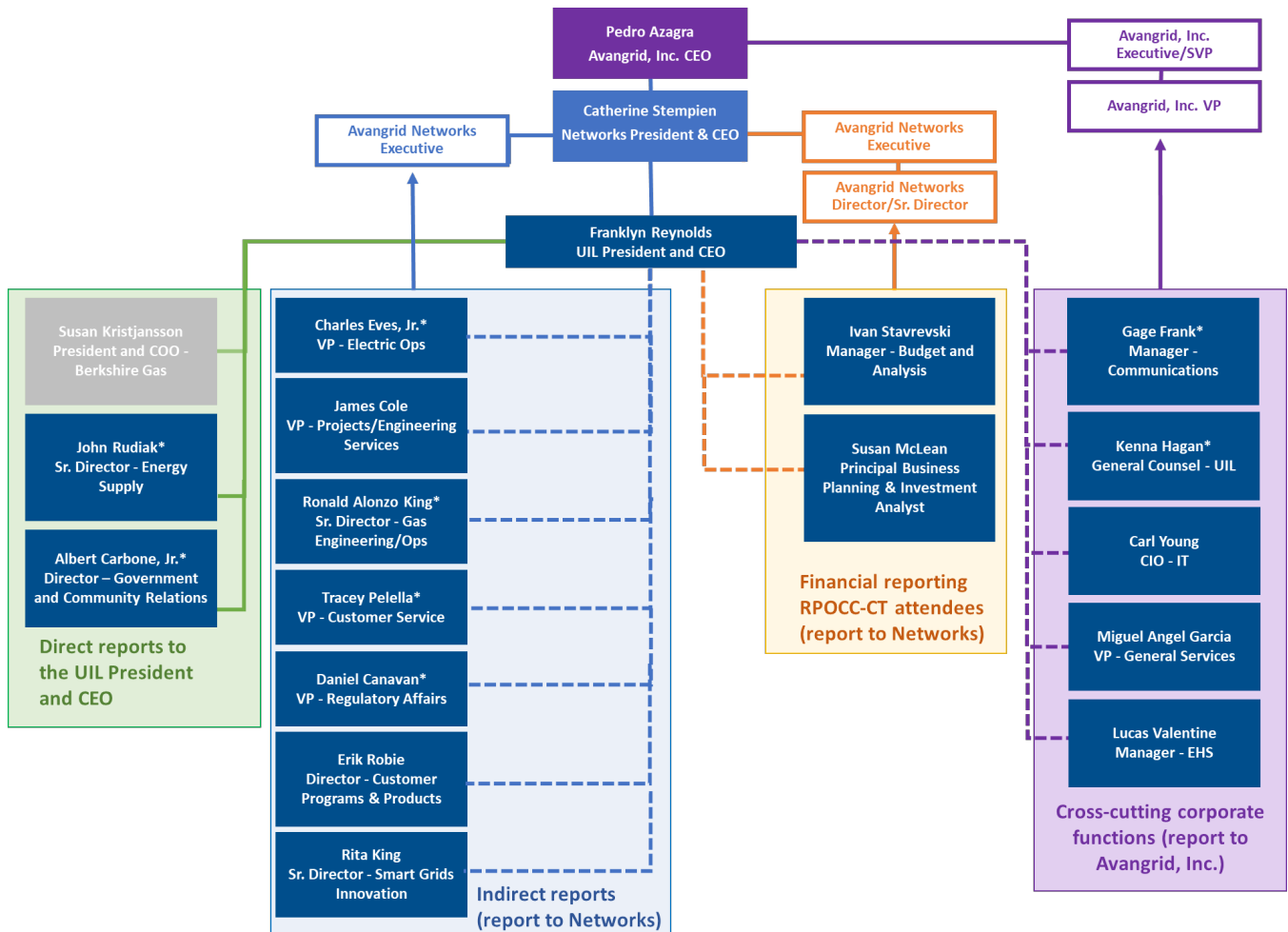


Figure 1-4 The UIL CEO's Direct (Solid-line) and Indirect (Dotted-line) Reports

Figure 1-4 shows the UIL CEO’s upper-level reporting structure to the Avangrid CEO, and the four main reporting sequences to the UIL CEO, described below. Individuals denoted with an asterisk (*) are dedicated to the state of Connecticut.

- A direct, solid-line report;
- A dotted-line report to the UIL CEO; a solid-line report to a Networks executive who in turn reports to the Networks CEO;⁴⁶

⁴⁵ The President and CEO of BGC is not included in this count, as they do not serve the state of Connecticut.

⁴⁶ James Cole, Erik Robie and Rita King serve all states, including CT.

- Financial, strategic, and Investment Planning Networks employees who report monthly on financial, capital investment and performance metrics but report to a Networks executive;
- A dotted-line report to the UIL CEO; a solid-line report directly to an Avangrid executive or through multiple levels of Avangrid personnel leading to an Avangrid executive

Note that five dotted-line reports represent “corporate” functions who report directly to or through multiple levels to an Avangrid executive who work for both Networks and Renewables. For example, the Legal representative reports to the Networks General Counsel, who in turn has a dotted reporting line to the Networks CEO, but a solid reporting line to the Avangrid General Counsel who oversees legal matter for all of Avangrid. The other corporate functions have dotted reporting lines to the CEOs of all three states as well as the Networks CEO. They serve the three state leaders and Networks CEO as ‘business partners,’ as if the state CEOs were their clients.^{47, 48}

In the following section, we expand on the job description of each key solid- and dotted-line report to the UIL CEO.

1.2.3.1. Direct Reports

The UIL CEO has two direct reports in Connecticut who exclusively report to him.

Energy (Gas) Supply

The Connecticut energy supply group, led by Senior Director of Energy Supply John Rudiak, reports directly to the UIL CEO because of unique gas issues in Connecticut. This is a contrast to the electric supply group, which resides in the Regulatory Affairs group for Connecticut, and reports directly to an executive in the Networks Regulatory and Planning group.⁴⁹ The gas supply group works closely with Gas Operations for 24/7/365 scheduling throughout the day. The Connecticut-level gas supply group also works frequently with the Networks-level Gas Engineering and Operations group.⁵⁰

Government and Community Relations

The UIL CEO’s other direct report is the Director of Government and Community Relations, Albert Carbone, who is responsible for developing political strategy and positions for the state and building and maintaining strong community relations.⁵¹ This position also works frequently with the Corporate Communications team (see Chapter 6).

1.2.3.2. Indirect Reports - Direct Report to an Avangrid Networks Executive

The UIL CEO has several dotted line reports who are solid line reports to a Networks Executive, who in turn reports to the Networks CEO (Catherine Stempien). These Networks executives are responsible for their functions across all four states.

⁴⁷ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022.

⁴⁸ Interview with Senior Vice President, Government Relations and Communications (Kimberly Harriman), October 19, 2022.

⁴⁹ Electric supply for standard and last resort service is overseen and approved by the PURA and is shared with the Regulatory functional segment. The Regulatory group’s role is a bidding and administrative function operating on behalf of the state, as opposed to a bidding and operational function such as gas supply.

⁵⁰ Interview with Senior Director of Director Energy Supply, Connecticut, August 9, 2022.

⁵¹ Interview with Director of Government and Community Relations, Connecticut, August 24, 2022.

Electric Operations

The Vice President of Electric Operations for Connecticut, Charles Eves, reports to the Networks Senior Vice President of Operations (Thiago Bigi). The Networks Senior Vice President of Operations works with the Vice Presidents of all the states to implement business improvements, share best practices and lessons learned, implement standardization where efficiencies can be achieved and improve overall communication across all Electric Operations functional groups.⁵²

Projects / Engineering Services

The Vice President of the Projects / Engineering Services group, James Cole, also reports to the Networks Senior Vice President of Operations (Thiago Bigi). Mr. Cole is responsible for all electric and gas operating companies in Connecticut, Massachusetts, New York, and Maine. He is also an indirect report to the CEO for each of these states. Mr. Cole attends the monthly Presidents' Regulatory, Planning, Operations and Customer Council ("RPOCC") meetings in all three states. There, Mr. Cole reports on projects specific to that state with updates on timelines, budgets, and any other relevant information on project deliverables.⁵³ The construction projects Mr. Cole is responsible for are typically large, complex, and costly, requiring coordination of both internal construction resources and outside subcontractors.⁵⁴

Gas Operations

The Connecticut Gas Operations group is led by a Senior Director, Ronald King, who reports to a Networks-level Vice President in charge of all state Gas Operations (Albert Langland), who in turn reports to the Networks CEO. The Connecticut Director for Gas Operations oversees the day-to-day operations of the two Connecticut natural gas companies. Per a directive from the UIL CEO, Mr. King is also trying to identify and implement potential synergies between all three CT Companies, both electric and gas.⁵⁵ SCG and CNG operations have evolved to become more centralized. Managers and Directors of issues such as compliance, system planning and standards, and design and delivery work across the natural gas operating companies in all states to encourage standardization.^{56,57}

Customer Service

The Connecticut Vice President of Customer Service, Tracey Pelella, is the primary liaison coordinating all major Connecticut Customer Service functions. Ms. Pelella is a dotted-line report to the UIL CEO and is a solid-line report to the Networks Senior Vice President of Customer Service (Scott Baker), who in turn reports to the Networks CEO. The Director of Customer Programs and Products, Erik Robie, who also reports directly to Mr. Baker, is an indirect report to the UIL CEO with responsibility for Connecticut and New York.⁵⁸ This function focuses on high-demand customer products and services such as energy efficiency and electric vehicles.

⁵² Interview with Vice President of Electric Operations, Connecticut (Charles Eves), August 4, 2022; Interview with Senior Vice President of Operations, Networks (Thiago Bigi), August 18, 2022.

⁵³ Interview with Vice President of the Projects / Engineering Services (James Cole), August 11, 2022.

⁵⁴ Interview with Senior Vice President of Operations, Networks (Thiago Bigi), August 18, 2022.

⁵⁵ Interview with Senior Director of Gas Operations, Connecticut (Ronald King), August 3, 2022.

⁵⁶ Interview with Director, Gas Engineering, November 3, 2022.

⁵⁷ Interview with Vice President of Gas Engineering and Operations, Networks (Albert Langland), October 18, 2022.

⁵⁸ Ibid.

Regulatory Affairs

The Vice President of Regulatory Affairs for Connecticut, Daniel Canavan, reports directly to a Networks-level Vice President (Charlotte Ancel), who in turn has direct oversight of the regulatory affairs functions for all eight Networks utilities. Ms. Ancel manages three state-specific regulatory leads and reports directly to the Networks Senior Vice President of Regulatory and Planning (Kevin Donnelly), who in turn reports directly to the Networks CEO.⁵⁹ The Networks Regulatory and Planning group oversees regulatory affairs and strategy as well as the Investment and Strategic Planning processes.

The Regulatory and Planning group hosts “centers of excellence” that serve all eight Networks utilities. Experts in rate design, revenue forecasting, revenue requirements, and transmission policy work in these centers of excellence, which are led by Directors or Senior Directors that report directly to the Networks-level Vice President. They have teams organized at the state level. They report in a dotted-line fashion to a state regulatory affairs Vice President. These specific subject matter leads in each state, all reporting to the same Networks Vice President, allow for focus on state-specific needs and enable the sharing of best practices across all operating companies.⁶⁰

Strategic and Investment Planning

The Networks Regulatory and Planning function contains the Strategic and Investment Planning groups. The Networks Manager of Investment Planning, Daniel McGrade, reports to the Networks Senior Director of Investment Planning (Adam O'Laughlin), who in turn reports to the Networks Senior Vice President of Regulatory and Planning (Kevin Donnelly). The Networks Investment Planning group works with the states to determine and prioritize capital projects and develop long and short-term capital/investment budgets. The Business Planning group within Regulatory and Planning runs the annual state and Networks Strategic Planning process. Their Connecticut representative, Susan McLean, attends the RPOCC-CT meetings. Daniel McGrade’s team also ensures the Investment Planning process for all the state companies adheres to budget allocations determined by their most recent rate cases⁶¹ and works closely with the Control group to create short-term and long-term capital expenditure budgets for the Annual Budget and LTO processes described in Sections 1.7 and 1.9.⁶²

Smart Grids Innovation

The Senior Director of Smart Grids Innovation, Rita King, reports directly to the Networks Senior Vice President of Regulatory and Planning (Kevin Donnelly) and attends the RPOCC-CT. This group prospects new technologies and informs the Regulatory and Planning team and UIL CEO of cutting-edge smart grid technologies.⁶³ Note that this group is not the same as the Operational Smart Grids group, which works on implementation of smart grid initiatives such as advanced metering infrastructure (“AMI”).⁶⁴

1.2.3.3. Indirect Reports - Direct Reports to Avangrid, Inc.

The UIL CEO has several dotted-line reports who either report directly to an Avangrid executive who in turn reports to the Avangrid CEO, or report indirectly through other Avangrid executives. These teams serve both Renewables and Networks but have Connecticut-specific representatives described below.

⁵⁹ Interview with Vice President of Regulatory Strategy, Networks (Charlotte Ancel), August 4, 2022.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Interview with Senior Vice President of Regulatory and Planning, Networks (Kevin Donnelly), August 22, 2022.

⁶³ Ibid.

⁶⁴ Interview with Senior Vice President of Operations, Networks (Thiago Bigi), August 18, 2022.

Control

The Networks Manager of Budget and Analysis for Connecticut, Ivan Stavrevski, reports to the Networks Vice President of Control (Andrea VanLuling) via two Directors and serves as a dedicated liaison between the UIL CEO and the Control group. Although Control is an Avangrid corporate function, there is a Networks Vice President of Control (Andrea VanLuling) who acts as a business partner to Networks with a dotted line to the Networks CEO (Catherine Stempien), but reports directly to the Avangrid Controller (Scott Tremble).⁶⁵ The Control group is responsible for accounting services, annual financial and operating expenditures (“OpEx”) budgets, detailed monthly reporting including variances explanations, forecast revisions and the annual LTO.⁶⁶ Mr. Stavrevski provides monthly financial updates to the RPOCC-CT attendees and informs the UIL CEO on the monthly financial performance of the CT Companies compared to the current budget and forecast.⁶⁷

Corporate Communications

The Manager of Communications for Connecticut, Gage Frank, exclusively serves Connecticut and reports directly to the Avangrid Director of Communications (Craig Gilvarg), who in turn serves four states encompassing both Networks and Renewables. Corporate Communications circulates internal informational updates to employees as well as external media communications. The Connecticut Communications Manager works with the UIL CEO on messaging to employees and customers, and company positions on state issues.⁶⁸

General Counsel

The CT Companies’ General Counsel, the recently appointed Kenna Hagan, reports to the Networks General Counsel (Noelle Kinsch), who in turn reports indirectly to the Networks CEO (Catherine Stempien) and directly to the Avangrid General Counsel (Scott Mahoney). The Connecticut General Counsel works closely with the UIL CEO and the Regulatory Affairs team on all PURA matters.⁶⁹ The Connecticut Legal team also covers FERC matters related to Connecticut, as well as claims and Connecticut litigation issues related to the CT Companies. The Connecticut General Counsel has the second-highest grant of authority in the CT Companies at \$5 million, after the UIL CEO’s \$10 million.⁷⁰

IT

The Connecticut Chief Information Officer (“CIO”), Carl Young, reports directly to the Avangrid CEO’s Chief of Staff (Manuel Gonzalez) and oversees IT systems for both Networks and Renewables.⁷¹ The choice to have the CIO report directly to the Chief of Staff was a decision by Avangrid to elevate IT to a high-priority business function.⁷² The CIO attends all three state-level RPOCC meetings in order to understand the needs of each state and determine which projects to prioritize, factoring in budget constraints. At RPOCC-CT, all business and functional segment representatives vocalize their IT needs to the CIO. The CIO is also a member of the Investment Planning

⁶⁵ Interview with Senior Vice President of Regulatory and Planning, Networks (Kevin Donnelly), August 22, 2022.

⁶⁶ Interview with Vice President of Control, Networks (Andrea VanLuling), September 12, 2022.

⁶⁷ Interview with Director of Business Analysis, Networks, September 1, 2022.

⁶⁸ Interview with Manager of Communications, Connecticut, September 21, 2022.

⁶⁹ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), October 18, 2022.

⁷⁰ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022.

⁷¹ Interview with Senior Vice President of Customer Service, Networks (Scott Baker), August 23, 2022.

⁷² Interview with Chief Information Officer/Vice President of Information Technology (Sergio Merchan), August 10, 2022.

Group at the Networks level where all capital projects for the states are reviewed, scored, and prioritized factoring in budgetary constraints (see Section 1.7 for more information about this process).⁷³

General Services

The Vice President of General Services, Miguel Angel Garcia, reports directly to the Avangrid CEO (Pedro Azagra). Mr. Garcia attends all state RPOCC meetings and prioritizes spending based on existing needs of the operating companies and any additional needs subject to budgetary constraints. General Services encompasses real estate, fleet, land management, environmental remediation, and workplace services.⁷⁴

Environmental Health and Safety

The Connecticut Environmental Health and Safety group (“EHS”) Manager, Lucas Valentine, directly reports to the Sr. Director for Avangrid Networks – EHS (Jayson Evans) who sits in Orange, CT who in turn reports to the Avangrid Vice President of Health and Safety (Raquel Mercado). CT EHS Manager, Sean Shanely is focused internally on the health and safety of employees. Avangrid also monitors contractor EHS performance via ISNetworld. This metric is monitored by EHS Manager Lucas Valentine. The EHS Connecticut representatives works closely with the functions and the UIL CEO to achieve all safety, health, and environmental objectives.

1.2.4. Meetings for the UIL President and Chief Executive Officer

1.2.4.1. *Scheduled Meetings*

The UIL CEO attends numerous weekly, monthly, and quarterly meetings. These meetings include audiences with Networks and Avangrid executives as well as a normal cadence of meetings in Connecticut with dotted- and solid-line reports. At the beginning of each week, the UIL CEO holds a weekly focus meeting for all business functions to discuss and highlight current and upcoming high-profile issues affecting the CT Companies, and to ensure they have the resources they need.⁷⁵ Figure 1-5 depicts a calendar of the UIL CEO’s recurring meetings. Meetings with more senior management in attendance are discussed in Section 1.2.5 and are highlighted yellow in Figure 1-5.

⁷³ Ibid.

⁷⁴ Interview with Vice President of General Services (Miguel Angel Garcia Tamargo), September 1, 2022.

⁷⁵ Interview with UIL CEO (Franklyn Reynolds), August 19, 2022; Interview with Vice President of Electric Operations, Connecticut (Charles Eves), August 4, 2022.

Frequency	Meeting	Lead	Purpose
Weekly	CT / MA Weekly Focus Meeting	Frank Reynolds	Facilitate the sharing of information and create visibility across functional areas to support one another in serving our employees, customers and achieving our objectives.
Weekly	UIL Regulatory Briefing Weekly	Dan Canavan	Regulatory Update
Weekly	Management Committee Meetings	Pedro Azagra	Avangrid Executive Leader Meeting
Bi-Weekly	CT Government Relations / Public Affairs Call	Al Carbone	Govt Relations/Public Affairs Update
Monthly	CT MA Lead Team Monthly Meetings	Frank Reynolds	UIL Leadership Meeting: Facilitate the sharing of information and create visibility across functional areas to support one another in serving our employees, customers and achieving our objectives.
Monthly	Innovation Score Card Results Meeting	Rita King	Overview status of Innovation Projects
Monthly	President's Monthly Update Meeting	Frank Reynolds	OpCo President's check in
Monthly	UI ABB Upgrade Project - Steering Committee	Jo-Ellen Burt	Overall Status of the ABB Project implementation
Monthly	UIL Financial Review Meetings	Allison Novak	Summary of monthly financial results review & analysis
Monthly	AGR Networks Leadership Committee Meeting (ANLC)	Catherine Stempien	Networks Executive Leadership Meeting
Monthly	Regulatory, Planning, Operations & Customer Council (RPOCC)	Catherine Stempien	Networks Executive Leadership Meeting
Monthly	Avangrid Networks Team Meeting (Expanded Meeting)	Catherine Stempien	Networks Executive Leadership Meeting
Monthly	CT MA Monthly Operations Results Meeting	Thiago Bigi	Gas & Electric Operations Update meetings
Quarterly	Avangrid Networks Risk Committee Meeting	Ann Breslawski	Review of Risks across the business
Quarterly	UI NERC Reliability Meetings	John Allen	Review NERC Reliability
Quarterly	Networks Ethic & Compliance Committee Meeting	Andrew Jacobs	Review Ethic & Compliance matters
Quarterly	Power Procurement Bid Day - Executive Review for Wholesale Power Contracts	Danielle Shtab	Review & Approve Energy Contracts
Quarterly	UIL Litigation Meetings	Kelley Scott	Status of legal matters
	Steering Committee - Operational Excellence & Strategic Projects	Thiago Bigi	Review of Operations Initiatives

Figure 1-5 A List of Standing Meetings for the UIL CEO⁷⁶

1.2.5. Groups With Decision-Making Influence or Authority

The Boards of the CT Companies and their parent companies described herein have varying levels of decision-making authority. There are also multiple committees at the Connecticut and Networks levels, which meet for specialized or general purposes. Below, we describe committees with relevance to the CT Companies' decision-making. Most Committees described below are not the primary decision-makers for the CT Companies, however, they do provide valuable input into decisions affecting the CT Companies and are important platforms for alignment of different business functions. Figure 1-6 below shows the key Boards and Committees discussed in this section. Certain decisions affecting the CT Companies, per the UIL Grants of Authority, must be approved by a UIL-level or CT Company-level Board, while the Avangrid and Networks Boards have minimal authority on Connecticut-specific decisions. The Iberdrola Board of Directors is not a decision-making entity for the CT Companies and is not discussed below.

⁷⁶ Response to FTI-0417, Att. 1.

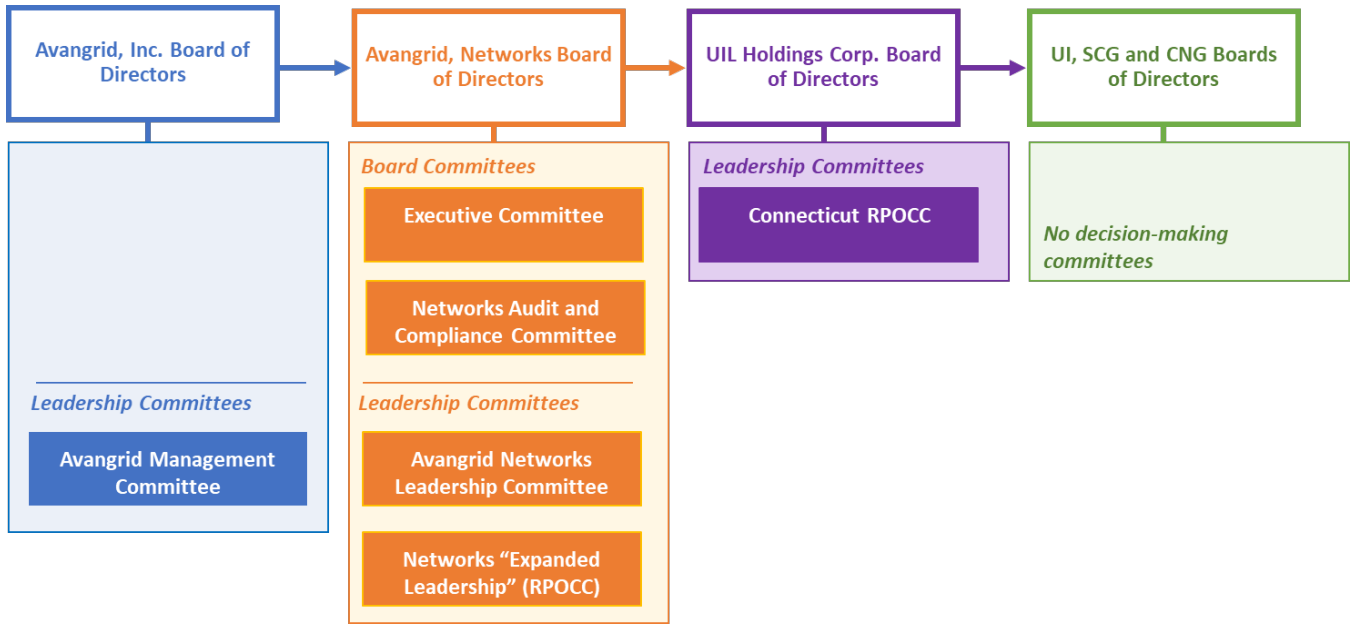


Figure 1-6 Groups with Decision-making Authority for the CT Companies

While the Boards, Board and Leadership Committees described below allow for frequent, cross-function communications, they are not the only avenues for information sharing. Various leaders at the Networks and Connecticut level described above in Section 1.2.3 hold frequent communications outside of these meetings. In a matrix-style corporate structure, business function leaders with similar titles work across groups.

1.2.5.1. Avangrid, Inc. Board of Directors

The Avangrid Board of Directors ("Avangrid Board") has visibility into and provides input on decisions made by the CT Companies, especially as they pertain to strategy, but formal decisions for the CT Companies are made in accordance with the UIL Grants of Authority (discussed in Section 1.3.1 below). Neither the Avangrid Board nor the Iberdrola Board of Directors is responsible for formal day-to-day decision-making for the CT Companies.⁷⁷

The Avangrid Board decides the overall strategy of Avangrid's subsidiary companies and ensures the development and implementation of Avangrid policies and guidelines. Board members, known as "Directors," review and approve consolidated (combined Networks and Renewables) financial, operational, and capital budgets, along with financial and operational results. Avangrid maintains a system of corporate governance with strengthened autonomy to protect minority shareholders.⁷⁸ Ultimately, the Avangrid Board oversees the management of Avangrid and its businesses with a view to enhance the long-term value of Avangrid for its shareholders. For example, the Networks CEO's strategic goals must be approved by the Avangrid Board each spring.⁷⁹ Additionally, the Avangrid Board approves Avangrid's strategic plan and investor-facing consolidated LTO but does not approve the budgets of individual entities (see Section 1.8 below), only the consolidated view.

The Avangrid Board has 12 Directors plus the Avangrid CEO. Of these, per the 2015 Merger Order, two members of UIL's former Board of Directors were selected by Iberdrola U.S.A. (now called Avangrid, Inc. post-merger) to serve as Directors, one of which was the former UIL CEO. Directors are elected by a simple majority each year by

⁷⁷ Response to FTI-0212.

⁷⁸ Response to FTI-0228.

⁷⁹ Interview with CEO, Networks (Catherine Stempien), September 15, 2022.

shareholders at their Annual Meeting. There are no term limits for Directors. From 2015 – 2020, the Avangrid Board was required to have five Independent Directors with no material or working relationship with Avangrid. After 2020, the Independent Director requirement decreased to four,⁸⁰ now with one Independent Director for each major state Avangrid has business in.

1.2.5.1.1. Avangrid, Inc. Management Committee

After the 2015 Merger, Avangrid established the MC as an advisory council to provide technical, financial, and management support to the Avangrid CEO and assist in coordinating the activities of Avangrid and its subsidiaries. Under the current Avangrid CEO, this meeting occurs on a weekly basis.⁸¹ Networks is represented by the Networks CEO and by each of the three state-level CEOs. Notably, the state CEOs were recent additions to the MC, which allows the states direct representation before the Avangrid CEO. The MC is an important conduit to bring Connecticut's needs to the attention of the Avangrid CEO and the wider circle of senior Avangrid executives. In a process called "notation," the MC can comment on the Networks Annual Budget, Strategic Plan, Investment Plan, LTO and any other major topics raised by Networks or the state CEO's.⁸² In addition to providing overall guidance and direction to Networks, operating companies, and Renewables, the MC does notate contracts/commitments greater than \$1 million. The MC also reviews most materials that will be presented to the Avangrid Board.

Members of the MC include:⁸³

- Avangrid CEO
- Avangrid Deputy CEO and President
- Senior Vice President – Chief Financial Officer
- Senior Vice President – Contoller
- Senior Vice President – Corporate Development
- Senior Vice President – HR and Corporate Administration
- Senior Vice President – General Counsel and Secretary
- Networks CEO
- Renewables CEO
- Senior Vice President – Chief of Staff
- CMP CEO
- UIL CEO
- NYSEG and RG&E CEO

The MC agenda includes discussion of issues at the Avangrid, Networks, Renewables, and state levels. Example meeting topics are overall financial results, strategic planning, Avangrid-wide strategic initiatives, operating company-level health and safety performance reporting, service quality metrics, Networks and Renewables operating performance, state and regulatory policies and proceedings, mergers, cybersecurity, and investor relations.⁸⁴

⁸⁰ Avangrid, Inc. Form 8-K, December 14, 2015.

⁸¹ Interview with UIL CEO (Franklyn Reynolds), August 19, 2022; Interview with Vice President of Electric Operations, Connecticut (Charles Eves), August 4, 2022.

⁸² Response to FTI-0031.

⁸³ Response to FTI-0228.

⁸⁴ Response to FTI-0228, Att. 8 (confidential).

Separate from the MC, the Avangrid CEO, the Networks CEO, and the UIL CEO convene for a deep dive on the CT Companies for 30 minutes when needed. If a particular issue arises that requires more dedicated attention, such as a rate case or regulatory result, the Avangrid CEO will schedule additional meetings with state and Networks leadership to review and discuss the issue.⁸⁵

1.2.5.2. *Avangrid Networks Board*

The Networks Board oversees Avangrid’s regulated utility businesses. This Board consists of up to 11 members, known as “Directors,” who formally approve strategic Networks decisions such as the consolidated Networks budget and financial results, financing and dividends, and review proposed rate case filings, strategy, and proposed state policies.^{86,87} In a process referred to as “notation,” the Networks Board can also provide feedback and commentary on decisions made at the UIL level.⁸⁸

The Networks Board reviews and comments on all the Networks utilities’ operating budgets, but formally only approves the consolidated Networks budget. With unlimited spending authority, UIL formally approves the CT Companies’ consolidated budget.⁸⁹

The Networks Board is required to have at least three Independent Directors with no material or working relationship with Avangrid, as outlined in the 2015 Merger Order.⁹⁰ The Networks Board elects a Lead Independent Director among its independent members, and this position rotates every one to three years.⁹¹ The Independent Directors are typically affiliated with a specific state; the 2015 Merger Order requires at least one Independent Director be a Connecticut resident.⁹² Below, the current Networks Board members are listed.⁹³

- **Joanne Mahoney** – Lead Independent Director
- **Betsy Henley-Cohn** – Independent Director (Connecticut resident)⁹⁴
- **Ignacio Sánchez-Galán Tabernero** – Iberdrola executive
- **R. Scott Mahoney** – Avangrid executive
- **Eva Maria Mancera Flores** – Iberdrola executive
- **Elena Leon Muñoz** – Chairman, Iberdrola executive
- **Catherine S. Stempien** – Networks CEO
- **Harvey G. Stenger** – Independent Director
- **Scott Tremble** – Avangrid executive
- **Donna Watson** – Independent Director

⁸⁵ Interview with CEO, Networks (Catherine Stempien), September 15, 2022.

⁸⁶ Response to FTI-0228; Response to FTI-0412.

⁸⁷ Interview with Vice President, Treasury (Howard Coon), October 27, 2022.

⁸⁸ Interview with Senior Vice President of Operations, Networks (Thiago Bigi), August 18, 2022.

⁸⁹ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022.

⁹⁰ Avangrid, Inc. Form 8-K, December 14, 2015.

⁹¹ Response to FTI-0228, Att. 1 (confidential).

⁹² Response to FTI-0412.

⁹³ Response to FTI-0228.

⁹⁴ Ms. Henley-Cohn was a Director on the UIL Board prior to the 2015 Merger. We interviewed Ms. Henley-Cohn and aside from her overall Networks fiduciary responsibilities, she maintains a clear focus on Connecticut matters.

Directors are elected by a simple majority each year by shareholders at their Annual Meeting. There are no term limits for Directors, and they may be continually reelected.⁹⁵

1.2.5.2.1. Executive Committee of the Avangrid Networks Board

While the Networks Board meets five times per year, streamlined decision-making for urgent matters can be made by the “Executive Committee,” a subset of the Networks Board. The Executive Committee has full voting and decision-making power. It was formed as a way to share information on a more regular basis, with meetings every two weeks. The Executive Committee may approve management proposals in between regular Board meetings if required. This Committee consists of the Chair of the Networks Board, the lead Independent Director, and three additional Directors.⁹⁶

1.2.5.2.2. Avangrid Networks Board Audit and Compliance Committee

The Audit and Compliance committee oversees Networks’ Internal Audit function, ensures the independence and effectiveness of each internal audit, monitors all financial and compliance issues, and approves external audited financial statements and other financial information.⁹⁷ The Committee consists of three members: one Independent Chair, one Independent Director, and one Director from Avangrid itself (at present, the Avangrid Controller). This committee receives reports on financials from the Networks Controller and an external auditor, KPMG. They hold both regular meetings and special executive sessions with KPMG, during which the Controller is excused to discuss any concerns regarding financial and control issues. They also approve the audited financial statements.⁹⁸

1.2.5.2.3. Avangrid Networks Leadership Committee

The ANLC is composed of the direct and indirect reports to the Networks CEO and meets biweekly to discuss Networks-level matters.⁹⁹ The ANLC is the primary decision-making entity for the development and review of the Networks Strategic Plan (see Section 1.6 below) as well as all other Networks matters. The ANLC reviews and agrees upon the Networks Vision and Mission and associated state-level strategies, reviews and agrees upon the annual budgets as well as Quarterly Performance Review forecasts, financial and operational performance presented by the Control group and reviews and agrees upon state-specific operational and staffing resource plans and all other major utility activities in the four states.¹⁰⁰ Members include the Networks CEO and all direct reports including the state CEOs.

1.2.5.2.4. Avangrid Networks “Expanded Leadership”

The Networks “Expanded Leadership” team consists of the ANLC plus all state-level Vice Presidents and additional corporate representatives from several shared services (IT, General Services, Risk Management, Government Affairs, among others) from both AMC and ASC. The Expanded Leadership team meets monthly to discuss state-specific issues and ensure financial alignment in a meeting called the RPOCC-Networks.¹⁰¹ There is a standing agenda each month, and each state is allowed a “deep dive” to cover specialty topics such as corporate services

⁹⁵ Response to FTI-0228, Att. 1 (confidential).

⁹⁶ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022.

⁹⁷ FTI-0228, Att. 1 (confidential).

⁹⁸ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), December 5, 2022.

⁹⁹ Response to FTI-0406, Att. 1.

¹⁰⁰ Response to FTI-0237.

¹⁰¹ Response to FTI-0434.

and special projects.¹⁰² The Expanded Leadership team is heavily involved in the planning process for the Networks Strategic Plan, as described in Section 1.6.

The additional state attendees at RPOCC-Networks meetings represent their respective business functions and serve as a liaison to the centralized Networks functions. The RPOCC-Networks meeting is a further opportunity, in addition to the ANLC, to bring Connecticut-specific issues to Networks-level attention and is an important conduit for standardization across Networks business functions. The RPOCC-Networks state level representatives report back guidance, objectives, and best practices to their state-level business functions.

1.2.5.3. UIL Board of Directors

Pursuant to the 2015 Merger Order, formal decisions related to the CT Companies are made at the UIL level or below. The UIL CEO has \$10 million worth of delegated authority, and the UIL Board has unlimited decision-making authority for the CT Companies. Typically, in the Avangrid matrix structure, major decisions are socialized at the Networks and Avangrid levels of management for comment and feedback, but the final formal decision-making follows the UIL Grants of Authority.

The UIL Board approves the following types of decisions:¹⁰³

- Annual Budget
- Annual Operational Plans for each of the three CT Companies
- Dividends and debt financings
- Annual review of the Connecticut subsets of the Networks Strategic Plan
- Regulatory strategy, such as the decision to file a rate case
- Major administrative decisions, such as moving the UIL headquarters from New Haven, Connecticut to Orange, Connecticut

All decisions pertaining to Connecticut are approved by the UIL Board or below pursuant to the UIL Grants of Authority. Unlike Avangrid and Networks, there is no special provision requiring Independent Directors for the UIL Board of Directors.¹⁰⁴ The members of the UIL Board are listed below.¹⁰⁵

- **Charles Eves, Jr.** – Connecticut Vice President of Operations
- **Noelle M. Kinsch** – Networks General Counsel
- **Catherine Stempien** – Networks CEO
- **Franklyn Reynolds** – UIL CEO
- **Scott Tremble** – Avangrid Controller

1.2.5.3.1. Connecticut Regulatory, Planning, Operations and Customer Council

The UIL CEO holds a monthly staff meeting with the heads of the various business segments, called the RPOCC-CT. RPOCC-CT drives accountability across business functions and allows the UIL CEO to engage with the CT Companies'

¹⁰² Interview with Senior Director of ETD Business Services, September 9, 2022.

¹⁰³ Interviews with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022 and December 5, 2022; Interview with UIL CEO (Franklyn Reynolds), August 19, 2022; Interview with Vice President of Regulatory Strategy, Networks (Charlotte Ancel), August 4, 2022; Interview with Independent Director, Networks Board, October 28, 2022; Interview with Senior Director of ETD Business Services, September 9, 2022.

¹⁰⁴ Response to FTI-0228, Att. 1 (confidential).

¹⁰⁵ Response to FTI-0228.

representatives from various centralized or functional areas,¹⁰⁶ a practice that has been in place since the 2015 Merger.¹⁰⁷ Attendees are employees of UIL, the CT Companies, ASC, or AMC. The attendees either serve Connecticut only or as part of their overall jobs if employed by ASC or AMC. Representatives from these cross-cutting corporate functions such as HR, General Services, and IT attend all three state-level RPOCC equivalents in Connecticut, New York, and Maine. By doing so, centralized functions can learn and disseminate best practices and common business needs across the operating companies. Most attendees are dotted-line reports, rather than solid, to the UIL CEO. See Figure 1-4 for a diagram of the UIL CEO's solid- and dotted-line reports, all of whom attend RPOCC-CT.

The RPOCC-CT meeting is an important governance tool in the matrix organization. All different business function leaders must be aware of issues outside their group as well as in, and they must make sure the UIL CEO and other attendees have the information they need and are aware of all the important issues to make day-to-day decisions.

RPOCC-CT is not a formal decision-making meeting. It serves as a "cabinet meeting" for the UIL CEO, where each business function leader serves an advisory and informative role. RPOCC-CT is also a forum for general alignment with the UIL CEO's objectives and with the other business functions.¹⁰⁸ Attendees are encouraged to collaborate and iterate ideas with each other at a "roundtable." There is a standing agenda that includes specific financial updates and variance analysis compared to the existing budget from the Control group (see Section 1.8 for more information) and operational updates including review of specific KPI performance,¹⁰⁹ and special topics such as rate case filings and state policy updates. Updates on forward-looking planning processes such as Strategic Planning, Investment Planning, and the LTO are also discussed at RPOCC-CT, in addition to the regular tracking of those plans' performance objectives for the current year.

1.2.5.3.2. Non-Meeting (ad hoc) Communications

In addition to regularly scheduled meetings, the UIL CEO meets frequently with direct and indirect reports on an ad hoc basis.¹¹⁰ RPOCC-CT is a large group of senior executives, designed to keep attendees informed of high-profile issues affecting Connecticut. Additional ad hoc meetings allow the UIL CEO a deeper dive into specific Connecticut functional issues that are raised or not covered in greater detail at the RPOCC-CT meeting. These meetings allow for a more detailed look into the ongoing business of the functional groups, their progress against plans, and any other issues. During major outage events, ad hoc meetings increase in frequency. For example, the Communications team increases its contact with the UIL CEO to disseminate messaging to customers and state and local officials regarding the status and restoration times for outages.¹¹¹

Several RPOCC-CT members we interviewed spoke frequently with the UIL CEO outside of RPOCC-CT, from multiple times daily to several times a week, depending on the issues. These more frequent interactions typically involve Regulatory Affairs, Electric and Gas Operations, Customer Service, Legal, and Communications. Most RPOCC-CT members are Connecticut-based, an advantage in facilitating regular communication.

¹⁰⁶ Response to FTI-0228; response to FTI-0228, Att. 7 (confidential).

¹⁰⁷ Interview with General Counsel, Connecticut (Leonard Rodriguez), August 31, 2022.

¹⁰⁸ Ibid.

¹⁰⁹ Response to FTI-0218.

¹¹⁰ Interview with Senior Vice President of Customer Service, Networks (Scott Baker), August 23, 2022.

¹¹¹ Interview with Manager of Public Affairs, Connecticut, August 24, 2022.

In addition to RPOCC-CT members, many Networks and Avangrid executives, including the CEOs of Avangrid and Networks as well as the Avangrid General Counsel, are also Connecticut-based. This facilitates more frequent communication on Connecticut issues.

1.2.5.4. *United Illuminating, Southern Connecticut Gas, and Connecticut Natural Gas Boards*

The UI, SCG, and CNG Boards of Directors (“UI Board,” “SCG Board,” and “CNG Board,” respectively) have limited responsibility for the day-to-day management of the electric and gas distribution business. The three Boards are separate but are comprised of the same four Directors. Members of the Boards include the UIL CEO, and Networks-level executives listed below.¹¹² Like the UIL Board, there is no special provision requiring Independent Directors for the CT Companies’ Boards of Directors.¹¹³

- **Noelle M. Kinsch** – Networks General Counsel
- **Catherine Stempien** – Networks CEO
- **Franklyn Reynolds** – UIL CEO
- **Andrea VanLuling** – Networks Controller

The UI, SCG, and CNG Boards are the final levels of approval for each operating company’s annual capital and operating budgets, dividends, and debt financings. The UIL Board also approves the individual and consolidated CT Companies’ annual capital and operating budgets, dividends, and debt financings. These approvals take place after the UIL CEO’s review. The Networks Board approves the consolidated Networks annual budget which includes the CT Companies. The MC reviews the consolidated Networks budgets and provides feedback and commentary, but not formal approval. The budget process culminates in final approval by each respective CT Company Board. The consolidated Avangrid Budget, however, is approved by the Avangrid Board.¹¹⁴

1.3. Governance

The governance structure for the CT Companies aligns with its decentralized, jurisdiction-focused business model. The UIL CEO, UIL Board and other CT executives have the decision-making authority needed to operate the CT Companies’ day-to-day business. This authority is embedded in the UIL Grants of Authority approved by the PURA as part of the 2015 Merger Order (see Settlement Agreement #39 in Appendix 2: Merger Order Conditions). However, within the matrix structure, the UIL CEO socializes major issues, positions, and decisions on a regular basis at the Networks and Avangrid levels. The UIL CEO attends the scheduled ANLC and RPOCC-Networks meetings with Networks leadership during the month, but also holds ad hoc and one-on-one meetings and attends regular weekly meetings of the MC presided by the Avangrid CEO. Thus, the UIL CEO receives vital feedback for decisions affecting the CT Companies. All these interfaces ensure that important Connecticut issues are discussed at the highest levels. However, when it comes to specific formal Connecticut decision-making, Connecticut leadership and the Board have the authority they need for day-to-day administration and effective management of the CT Companies.¹¹⁵

Iberdrola executives in Spain recognize that regulation by the SEC and an independent Avangrid Board necessitates independent fiduciary actions.¹¹⁶ Iberdrola executives, through their participation on the Avangrid

¹¹² Response to FTI-0228.

¹¹³ Response to FTI-0228, Att. 1 (confidential).

¹¹⁴ Response to FTI-0031.

¹¹⁵ Response to FTI-0212.

¹¹⁶ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022.

Board or informally, may provide feedback and offer overarching strategic goals via the notation process, but ultimate decision-making lies within Avangrid's corporate governance structure.

Recommendation: We encourage Networks and Avangrid executives to continue supporting the state-specific focus of their current matrix structure and the decision-making authority of the UIL Board and CEO and the UIL Grants of Authority. We recommend the PURA meet annually with the appropriate CT Companies' leadership to understand any changes to the matrix organizational structure affecting the CT Companies, and any executive changes that impact the CT Companies directly.

1.3.1. Grants of Authority

Grants of Authority provide the governance framework for all financial commitments or contractual obligations. They provide specific dollar levels of authority for Boards of Directors and employees. The specific dollar levels are aligned with the appropriate employee levels, so they increase with title. The Boards of Directors have the highest authorities.

Within Avangrid, Networks, and UIL, there are three separate Grants of Authority. The Avangrid and Networks Grants are identical to each other, as well as with New York and Maine's, but their Boards have unlimited authority. The UIL Grants provide significantly higher spending authority to the CEO (\$10 million) and General Counsel (\$5 million) and unlimited authority to the UIL Board, which was a specific condition of the 2015 Merger Order.¹¹⁷ The PURA sought to maintain the spending and contractual authorities that UIL operated within pre-2015. Avangrid agreed to that stipulation, and those Grants have been in place ever since.¹¹⁸

In Figure 1-6 below are the specific Grant amounts by title for Avangrid. The 'X' marks designate the specific authority level for the appropriate title. As shown in Figure 1-6, the maximum spending level authority for the Avangrid CEO and his Executive management team is \$1 million and lower. These authority levels are the same for the Networks CEO and her Executive management team. The Boards of Directors have unlimited authority.

¹¹⁷ Response to FTI-0412, Att. 1.

¹¹⁸ Response to FTI-0211, Att. 3.

General Grants

Business Representatives

	Board of Directors	CEO	CFO	CCO	Pres.	SVP	VP	Dir.	Mgr.	Supervisor	Requisitioner	VP of Purchasing	Director of Purchasing	Regional Mgr. of Purchasing	Mgr. or Lead Analyst of Purchasing	Analyst of Purchasing or Analyst of Material Planning
Financial Commitment or Contractual Obligations																
>\$1 million ¹	x															
≤\$1 million ³	x	x	x	x	x	x						x	x	x		
≤\$500,000	x	x	x	x	x	x	x					x	x	x		
≤\$250,000 ⁴	x	x	x	x	x	x	x	x				x	x	x	x	
≤\$100,000	x	x	x	x	x	x	x	x	x			x	x	x	x	
≤\$50,000	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Control Representatives

	Controller	Asst. Controller	Treasurer	Dir, Admin	Mgr. Admin
Financial Commitment or Contractual Obligations					
>\$1 million	x	x	x	x	
≤\$1 million	x	x	x	x	x

Figure 1-6 Avangrid Grants of Authority¹¹⁹

In comparison, final decisions for the CT Companies are made by the CT Companies’ management and Boards pursuant to the UIL Grants of Authority. The Avangrid and Networks Boards of Directors and CEOs have visibility into, review and provide input and guidance on major policy and financial decisions made by the CT Companies, but they do not formally approve the final decision.¹²⁰ The UIL Grants of Authority are shown below in Figure 1-7.

¹¹⁹ Response to FTI-0211, Att. 4.

¹²⁰ Response to FTI-0216.

MATRIX	UIL Board of Directors	UIL CEO	UIL PRES UIL CFO,** UIL GC, UIL COO	Operating Company President	SVP	VP of Purchasing/ Director of Purchasing/ Regional Mgr. of Purchasing®	VP/GM Deputy GC/ Treasurer	Director or Manager/ Lead Analyst of Purchasing#
Business Strategy								
Annual Review of strategic plan	X							
Approval of annual operating & financial plan	X							
Implementation per plan		X	X	X				
Monitoring		X	X	X				
Financial Commitment or Contractual Obligations								
>\$10 million+	X							
>\$5 million ≤\$10 million	X	X						
>\$2.5 million ≤\$5 million	X	X	X					
>\$1 million ≤2.5 million	X	X	X	X	X			
≤\$1 million	X	X	X	X	X	X	X	
≤\$0.5 million	X	X	X	X	X	X	X	
≤\$0.25 million	X	X	X	X	X	X	X	X
Lease/Buy Decisions								
>\$10 million	X							
>\$5 million ≤\$10 million	X	X						
>\$2.5 million ≤\$5 million	X	X	X					
>\$1 million ≤2.5 million	X	X	X	X				
Up to \$1 million	X	X	X	X	X	X	X	
Hedging and Derivative Agreements								
Aggregate exposure >\$75 million	X							
Aggregate exposure ≤\$75 million		X	& UIL CFO					
Regulatory Commitments/ Filings to Governmental Agencies								
PURA/DEEP/FERC Rate Case		X	X					
PURA/DEEP/MASS DPU		X	X	X	X		VP-Reg	
FERC		X	X	X	X		X	
Other Agencies		X	X	X	X		X	

Figure 1-7 UIL Grants of Authority Matrix (Excerpt)¹²¹

1.3.2. Executive Leadership

Within the Avangrid matrix organization, the UIL CEO is the major decision-maker on Connecticut matters along with the UIL Board. Specifically, as shown in Figure 1-7, the UIL CEO has up to \$10 million of approval authority under the UIL Grants of Authority and the UIL Board of Directors have unlimited authority. In order to make well-informed decisions, the UIL CEO receives updates on all major business functions at a monthly cabinet meeting, the RPOCC-CT (discussed above in Section 1.2.5.3.1), in addition to regular meetings with these same reports throughout the month.

Networks-level executives, Avangrid-level executives, and even Iberdrola-level executives have varying degrees of influence on decisions made by the CT Companies. In the following sections, we describe the executive leadership structure at each level and detail their involvement in the CT Companies' decision-making processes.

1.3.2.1. Iberdrola, S.A.

Iberdrola reviews and provides input to the LTO through their participation on the Avangrid Board,¹²² but management of Avangrid and its subsidiaries is vested in each company's Board of Directors.¹²³ In addition,

¹²¹ Response to FTI-0211, Att. 3.

¹²² Interview with Vice President of Control, Networks (Andrea VanLuling), September 12, 2022.

¹²³ Response to FTI-0399, Att. 1.

Avangrid is subject to SEC regulation and the Avangrid Board has an independent fiduciary responsibility to its shareholders.¹²⁴ The CEO of Avangrid, Pedro Azagra, has responsibilities set by the Avangrid Board.¹²⁵

Avangrid executives generally do not make decisions for the CT Companies. However, Avangrid's CEO (Pedro Azagra) frequently meets with the state CEOs face-to-face. The UIL CEO is a member of Mr. Azagra's weekly MC, described above, so the needs and current issues of Connecticut are elevated to the Avangrid corporate level. The UIL CEO, as needed, socializes any major decisions and presents a 30-minute "deep dive" of Connecticut-specific issues to the CEO.¹²⁶

The direct reports of Avangrid-level senior executives solicit input, guidance, and advisory support from these executives on decisions affecting the CT Companies.¹²⁷ Ultimately, the final decision resides with the UIL CEO who also seeks input from the MC, and specifically, the CEO.¹²⁸ For example, in the IT group, an IT Vice President will first collect the needs from the functional areas across all states in Networks. The Vice President will propose specific projects and capital investments to the UIL CEO first, then the Networks CEO, then the Networks Investment Planning Group, and finally, the Avangrid CEO at the MC, ensuring company-wide socialization.¹²⁹

Avangrid also initiates the Networks Strategic Planning, LTO/Financial Planning, Annual Budget, and Investment Planning processes and is the final audience for the end results of these processes. The final consolidated plans are all reviewed by the Board of Directors and formally approved. For the Strategic Plan, Avangrid provides companywide Purpose and Values statements for Networks and its subsidiaries. For the financial LTO and Annual Budget processes, Avangrid provides financial assumptions such as inflation and interest rates as well as input into financing plans. However, Avangrid does not issue the final approval for the CT Companies or the Networks-specific Strategic and Financial Plans, only the consolidated Avangrid plans.

1.3.2.2. Avangrid Networks

Networks is a subsidiary of the parent company, Avangrid, and the parent company for all the regulated utilities. As such, the Networks entity oversees the strategy, coordination, and performance of the eight regulated utilities, honoring local management but sharing best practices, lessons learned, and economies of scale, where possible. Networks leadership works to generally align all the operating companies to the Networks Vision and Mission, which is also the Avangrid Vision and Mission. The current Networks CEO emphasizes and encourages state CEOs to maintain a "customer first" philosophy as a top priority across all eight operating companies.¹³⁰

Hiring the right CEOs to lead each state is an important part of the Networks CEO's job, given they are the face of the company with customers, regulators, and state and local officials. Networks seeks to support the state CEOs and provide guidance and resources to be an effective leader.¹³¹

¹²⁴ Response to FTI-0228, Att. 12 (confidential).

¹²⁵ The by-laws of Avangrid specify "The CEO shall be appointed by the Board and shall have general organizational duties as shall be determined by the Board." See Avangrid, Inc. Form 8-K, December 14, 2015.

¹²⁶ Interview with UIL CEO (Franklyn Reynolds), August 19, 2022.

¹²⁷ Interview with Senior Vice President, Government Relations and Communications (Kimberly Harriman), October 19, 2022.

¹²⁸ Interview with Manager of Communications, Connecticut, October 25, 2022.

¹²⁹ Interview with Chief Information Officer/Vice President of Information Technology (Sergio Merchan), August 10, 2022.

¹³⁰ Interview with CEO, Networks (Catherine Stempien), September 15, 2022.

¹³¹ *Ibid.*

1.3.2.3. United Illuminating, Southern Connecticut Gas, and Connecticut Natural Gas

The 2015 Merger Order ensures local management and decision-making for the CT Companies.¹³² The UIL CEO and the UIL Board are the ultimate decision-makers and provide the primary guidance and oversight of the CT Companies, which are subsidiaries of UIL. The state's CEO operates as both a CEO and a Chief Operating Officer ("COO"). Though the UIL CEO has few direct reports, the UIL CEO has many indirect reports that keep him updated on all the CT Companies' performance, and who *de facto* report to him as if they had two solid reporting lines.¹³³

Decisions tend to be socialized in a triangle among direct and indirect reports. For example, a UIL-specific Vice President for certain decisions above their Grant of Authority will socialize that decision with both the UIL CEO and their solid-line manager at the Networks level, but final decisions are made by the UIL CEO.¹³⁴

The UIL CEO approves and/or reviews all major decisions that pertain to the CT Companies.¹³⁵ The state-specific structure headed by a CEO allows best practices to disseminate across functions; for instance, safety issues in both Electric and Gas Operations, and faster decision-making on Connecticut issues.¹³⁶

The UIL CEO's performance is overseen at the Networks and Avangrid levels. The UIL CEO receives a monthly scorecard tracking achievement of Connecticut-specific objectives from the Networks Strategic and Financial Plans (see Figure 1-19 for this scorecard.) The UIL CEO receives a Monthly Report ("PMR") from the Control group, which details any deviations from the annual budget.¹³⁷ To the extent actual or forecasted results are out of line with the approved budget, the UIL CEO typically takes specific actions to rectify any deviations or request additional budget authority due to special circumstances through the quarterly update process ("REV"), which is discussed in Section 1.8 Annual Budget Process. These monthly reports are also reviewed monthly at the MC, RPOCC-CT, the ANLC, and at meetings of the Networks, UIL, and UI/SCG/CNG Boards.

1.3.2.3.1. Local Leadership

In Connecticut, the Avangrid matrix allows for state-level leadership by grouping many functions at the state level while using the UI, CNG, and SCG brands when liaising with customers and stakeholders.¹³⁸ The jurisdictionally focused governance model allows for local leadership both within and outside the CT Companies. Many Vice President positions have been created at the UIL level since the 2015 Merger, such as Operations, Regulatory, and Customer Service, to establish strong leadership and clear focus on Connecticut.

1.4. Shared Services

Avangrid has two service companies: the AMC serves affiliates within Avangrid, while ASC serves operating companies within Networks. Additionally, UIL allocates services to the CT Companies, a legacy structure from pre-merger UIL.

¹³² Interview with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022.

¹³³ Interview with UIL CEO (Franklyn Reynolds), August 19, 2022.

¹³⁴ Interview with Senior Vice President of Customer Service, Networks (Scott Baker), August 23, 2022.

¹³⁵ Interview with UIL CEO (Franklyn Reynolds), August 19, 2022.

¹³⁶ Interview with Vice President of Gas Engineering and Operations, Networks (Albert Langland), October 18, 2022.

¹³⁷ Response to FTI-0264.

¹³⁸ Interview with Director of Government and Community Relations, Connecticut, August 24, 2022.

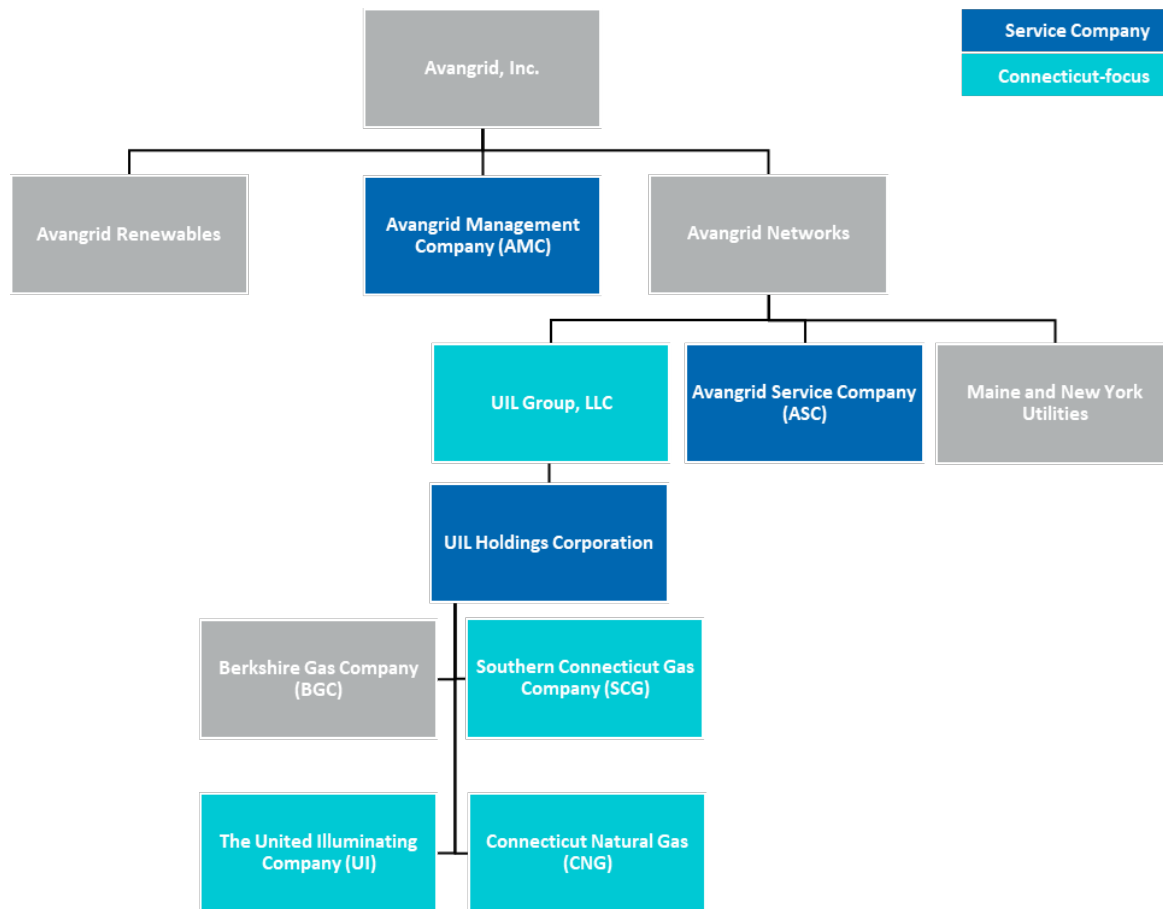


Figure 1-8 Avangrid Shared Service Organizational Structure¹³⁹

1.4.1. Within Avangrid

Corporate services provided by AMC that serve both Renewables and Networks (e.g., General Services, IT, Legal, Treasury, Accounting and others) are allocated to the CT Companies and other Avangrid subsidiaries through the Massachusetts Formula, which will be discussed further in Chapter 3, or specific “cost causation drivers.”¹⁴⁰ For example, in General Services, telephone line costs are allocated to a specific operating company via ASC based on a cost causation driver of employee headcount.¹⁴¹ Many cost causation drivers are determined by the Massachusetts Formula. All cost causation drivers are approved by the state CEO and the Avangrid CEO.¹⁴²

1.4.2. Within Avangrid Networks

ASC provides utility-specific services exclusively to the Networks companies. Shared service costs from AMC are charged to ASC, which in turn charges the CT Companies via UIL. A contract, including a set budget for the year, is signed between ASC and each of the three CT Companies annually after review by the Legal group and approval

¹³⁹ Response to FTI-0240, Att. 1.

¹⁴⁰ Interview with Vice President of Control, Networks (Andrea VanLuling), September 12, 2022.

¹⁴¹ Response to FTI-0145, Att. 1 (confidential).

¹⁴² Interview with Senior Director of Control (Guillermo Fernandez Ruiz de Asua), September 21, 2022.

by the UIL CEO.^{143,144} There are no adverse implications if actuals exceed the predetermined budget. Functions under ASC include Regulatory Strategy, Process and Technology, Asset Management and Planning, Projects and Engineering, Electrical Engineering and Gas Engineering, HR specific to Networks, Legal Services specific to Networks, Internal Audit specific to Networks, Operations (Gas and Electric), Customer Service, and Business Planning.¹⁴⁵ Many key Connecticut-facing employees we interviewed worked for and charged their time to the ASC, which in turn allocates time to the CT Company that the employee served.¹⁴⁶

ASC costs are not the only shared services. The Networks management structure allows the operating companies to share resources amongst each other. For example, the Vice President of Electric Operations in Connecticut can ask counterparts in Maine or New York for equipment if needed. This typically occurs on major capital projects where one company has expertise that can be provided, and in situations of mutual assistance during adverse weather.¹⁴⁷

1.4.3. Within UIL Holdings

UIL allocates costs exclusively to the CT Companies as a legacy service company from before the 2015 Merger. Today, most UIL functions and/or employees have been integrated into either ASC or AMC where possible to gain the efficiencies of shared services. Certain functions, however, such as the UIL CEO and Vice Presidents for Regulatory Affairs, Government Affairs, and Customer Service, remain within UIL.¹⁴⁸

1.5. Regulatory Compliance

The personnel tasked with tracking regulatory compliance for the CT Companies span three main groups: Legal, Regulatory, and UIL leadership. A diverse set of employees performs regulatory issue tracking and assesses new and existing policy mandates. Figure 1-9 below shows the organizational structure of Avangrid's Regulatory group, including the interaction between Avangrid-level, Networks-level, and Connecticut-level regulatory leadership.

¹⁴³ Response to FTI-0142, Atts. 1-5 (confidential); response to FTI-0249.

¹⁴⁴ This budget for that particular year includes costs that are not subject to a hard cap.

¹⁴⁵ Response to FTI-0242.

¹⁴⁶ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022.

¹⁴⁷ Interview with CEO, Networks (Catherine Stempien), September 15, 2022.

¹⁴⁸ Response to FTI-0610; response to FTI-0242.

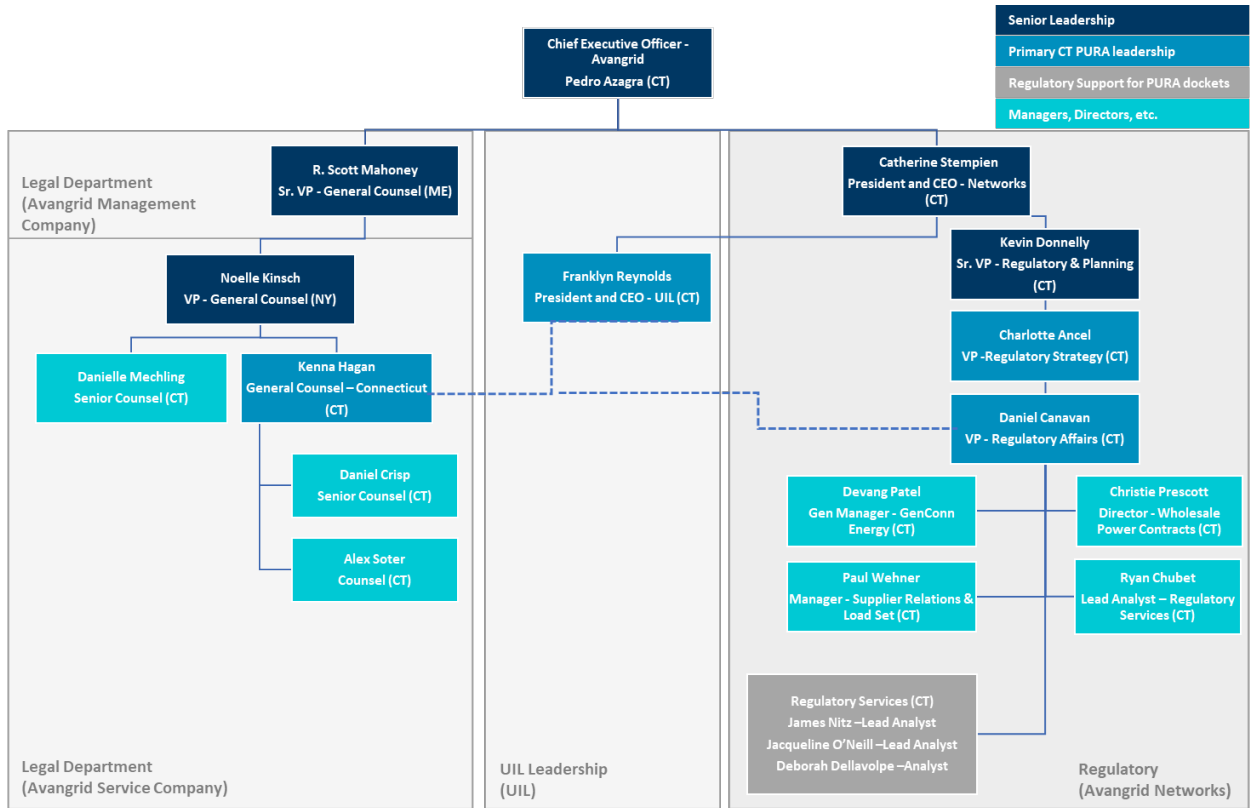


Figure 1-9 Avangrid PURA-facing Organizational Structure¹⁴⁹

1.5.1. Liaising With the Public Utilities Regulatory Authority

There is a Connecticut-specific Regulatory Affairs team led by a Vice President, Daniel Canavan (see Section 1.2.3.2 above for commentary on Mr. Canavan’s organization). The leadership team that interacts with the PURA is listed below and includes both Connecticut-specific and cross-cutting employees:¹⁵⁰

- **Charlotte Ancel**, Vice President of Regulatory Strategy, Networks (covers all Networks states)
- **Franklyn Reynolds**, President and CEO – UIL (Connecticut and Massachusetts)
- **Daniel Canavan**, Vice President of Regulatory Affairs (Connecticut and Massachusetts)
- **Kenna Hagan**, General Counsel, Legal (Connecticut and Massachusetts)
- **Alex Soter**, Counsel, Legal (Connecticut and Massachusetts)

Though Mr. Canavan is the lead member of the Connecticut Regulatory Affairs team, the UIL CEO (Franklyn Reynolds) serves as the face of the CT Companies and is briefed frequently by Mr. Canavan’s team. Mr. Reynolds receives and responds to calls from the state governor, the state attorney general, the chair of PURA, and the Energy and Technology Committee in the legislature.¹⁵¹

¹⁴⁹ Response to FTI-0001; interview with UIL CEO (Franklyn Reynolds), August 19, 2022.

¹⁵⁰ Response to FTI-0227.

¹⁵¹ Interview with Director of Government and Community Relations, Connecticut, August 24, 2022.

The Regulatory support team at the Networks level that interacts regularly with the PURA is listed below. These employees act as docket coordinators and process all filings for the CT Companies to provide docket control services.¹⁵²

- **James Nitz**, Lead Analyst – Regulatory and Tariffs, Regulatory Affairs
- **Jacqueline O’Neill**, Lead Analyst – Regulatory and Tariffs, Regulatory Affairs
- **Deborah DellaVolpe**, Analyst – Regulatory and Tariffs, Regulatory Affairs

The Companies present numerous witnesses from the Electric and Gas Operations groups at hearings, technical meetings, and working group meetings. Currently, there are 50+ open dockets with the PURA across the CT Companies.¹⁵³

1.5.2. Communications to Ensure Regulatory Compliance

Below is a list of internal tools that the Regulatory Affairs team uses to track compliance with all PURA-mandated orders and provisions.¹⁵⁴

- The CT Companies maintain a quarterly checklist for ongoing Merger Order conditions. They file a formal status update with the PURA annually in February. See Appendix 2: Merger Order Conditions for details on reported conditions.
- UIL maintains a merger-related ring-fencing compliance tracker and reports to PURA on this ongoing compliance.
- The Connecticut Regulatory Affairs team maintains a dedicated Outlook mailbox to receive all documents submitted in a docket by PURA and/or docket participants. PURA’s final decisions are sent to this mailbox, and Regulatory distributes that decision, including compliance requirements, via email to key internal stakeholders. The Regulatory Affairs team works with key internal stakeholders to determine the responsible persons for each of the orders.
- The Regulatory Affairs team maintains three separate matrices for each of the CT Companies for any order, PURA regulation, or CT statute that requires a filing. These matrices identify the docket number, order number, language of the order, responsible person, and any special filing instructions.
- Regulatory uses an Outlook calendar to send invites to all responsible persons for the various compliance orders, PURA regulations, and Connecticut statutes. These calendar invites include the details of the filing requirement and have built-in reminders to help ensure timely submissions to the PURA.
- The Regulatory Affairs team also maintains a calendar in SharePoint which all employees can access. Entries include the details of the filing requirement and links to the document requiring the filing. This site also allows the Regulatory Affairs team to track the status of compliance orders and run reports to help assure timely submissions to the PURA.
- The Regulatory Affairs team records the daily docket activity and posts the document at the end of the day on an internal SharePoint site. All employees have access to the site and can view daily activity. The daily log includes links to the Companies’ document database management system where they access documents filed in the docket. Employees can also set up a daily alert for the daily log.

¹⁵² Response to FTI-0227.

¹⁵³ Ibid.

¹⁵⁴ Response to FTI-0412, Att. 1; response to FTI-0423; response to FTI-0254; response to FTI-0107, tab “2021” (confidential).

- The Internal Audit Group maintains an index of all audit reports, one of which is a third-party regulatory review Process. Internal Audit tracks all audits, resulting recommendations, if any, and their remediation in the Archer-GRC application (i-audit).

Based on our review, the CT Companies continue to be compliant with all mandated provisions and orders, including those mandated in PURA’s 2015 Merger Order. For a full list of Merger Order provisions, see Appendix 2: Merger Order Conditions. For a summary guide of all the different rate mechanisms the CT Companies operate under per PURA regulations, see Appendix 1: Rates Handbook.

1.5.3. Internal Regulatory Communications

The Connecticut Regulatory Affairs team regularly updates Networks’ regulatory leadership and the CT Companies’ senior leadership. Specifically, the Connecticut Regulatory Affairs team reports to Networks regulatory leadership on a biweekly basis, to the UIL CEO on a weekly basis, and the Networks executive team on an “as needed” basis. The Connecticut Regulatory Affairs team leadership also briefs the UIL senior leadership team on material Connecticut regulatory matters monthly.¹⁵⁵

1.6. Strategic Planning

1.6.1. Planning Processes

The CT Companies participate in three separate multi-year, forward-looking Planning processes: the Networks Strategic Plan (“Strategic Plan”), the Networks Investment Plan, and the Networks LTO. All these planning processes are performed annually and are interrelated. The Networks LTO, Investment Plan, and Strategic Plan serve as inputs to the various consolidated Avangrid Plans, which also includes Avangrid’s Renewables line of business. The Strategic Plan sets long-term goals and the general direction of the Networks Companies’ ambitions; it also includes financial summaries from the annual capital and operational budgets. The Investment Plan allows the CT Companies to propose, rank, and prioritize capital expenditures (“CapEx”) over a 10-year period based on the strategic objectives and priorities determined. The LTO forecasts financial results for the Networks utilities based on the capital spending forecasts provided by the Investment Plan. Additionally, the Networks utilities perform an Annual Budgeting process for Operations and Maintenance (“O&M”) spending, financial results, and CapEx that results in Budgets for the following year; these finalized Annual Budgets serve as the first year of the LTO, in tandem with the Investment Plan.

Each of these Plans are produced through separate processes. The CT Companies create their own Plans, and those Plans are consolidated into Networks Plans, and finally a consolidated Avangrid Plan.¹⁵⁶ To evaluate the end-to-end process, FTI reviewed all documentation related to the Strategic Planning, Investment Planning, and LTO processes, including governance documents and meeting minutes. In this audit, we focus on the Connecticut-specific inputs to these plans to illustrate how local leaders influence the planning processes.

1.6.2. Strategic Planning Overview

The Strategic Plan sets near-term and long-term goals, priorities, and aspirations to chart the direction of the CT Companies and includes the development of state-specific strategic Business Objectives and plans to support the

¹⁵⁵ Response to FTI-0251.

¹⁵⁶ Interview with CEO, Networks (Catherine Stempien), September 15, 2022; interview with Manager of Networks Planning Investments, September 19, 2022.

Networks Vision and Mission, in addition to Avangrid’s Purpose and Values. The Networks Strategic Plan is further integrated into an Avangrid Strategic Plan that includes Renewables.¹⁵⁷

The Strategic Planning process considers each operating company’s unique environment to reflect the needs of customers, state policy directives, compliance with regulatory commitments, and to plan for the financial resources needed for sustainable operations. The Strategic Plan specifically includes (1) objectives and initiatives to achieve them, (2) resources needed via expense and capital investment forecasts, and (3) measurements of progress against goals and KPIs.¹⁵⁸

1.6.3. Key Participants

The Strategic Planning process is overseen by the Networks CEO but managed through the Networks Regulatory and Planning group. A Senior Director in the Regulatory and Planning group, who reports to the Senior Vice President of this group, coordinates all aspects of the process on behalf of the Networks CEO.¹⁵⁹ Participation, direction, key approvals, and decisions in the Networks Strategic Planning process are made by the ANLC (see Section 1.2.5.2.3 above).¹⁶⁰ The Networks Strategic Plan is crafted from the “top down” with initial guidance and input originating from Avangrid.

The ANLC consists of the following individuals. Notably, the three state CEOs are included on the executive team.¹⁶¹

- Networks CEO
- CMP CEO
- UIL CEO
- NYSEG and RG&E CEO
- Senior Vice President – Operations
- Senior Vice President – Regulatory and Planning
- Vice President – Customer Service
- Vice President – Gas Operations
- Vice President – Business Development
- Vice President – Networks General Counsel
- Vice President – Networks Controller
- Vice President – Networks HR

The state-level operating company leaders and members of the RPOCC-CT at the Vice President level, or members of the “Expanded Leadership” team that meets during the monthly RPOCC-Networks (see Section 1.2.5 above for more discussion of these groups), are responsible for developing state-specific strategies and metrics for each business function that feed into the Strategic Plan. Plans related to specific areas such as operational and resource plans are reviewed and agreed upon by the ANLC, leadership within that business function, and the CEOs of each state.¹⁶² Figure 1-10, captured from the Strategic Planning process conducted in 2021, shows the top-down inputs

¹⁵⁷ Response to FTI-0234, Att. 3 (confidential).

¹⁵⁸ Response to FTI-0213.

¹⁵⁹ Interview with Senior Director of ETD Business Services, September 9, 2022.

¹⁶⁰ Response to FTI-0237.

¹⁶¹ Response to FTI-0235.

¹⁶² Response to FTI-0237.

from Avangrid on the left, Networks planning elements in the center, and state-specific planning elements on the right.

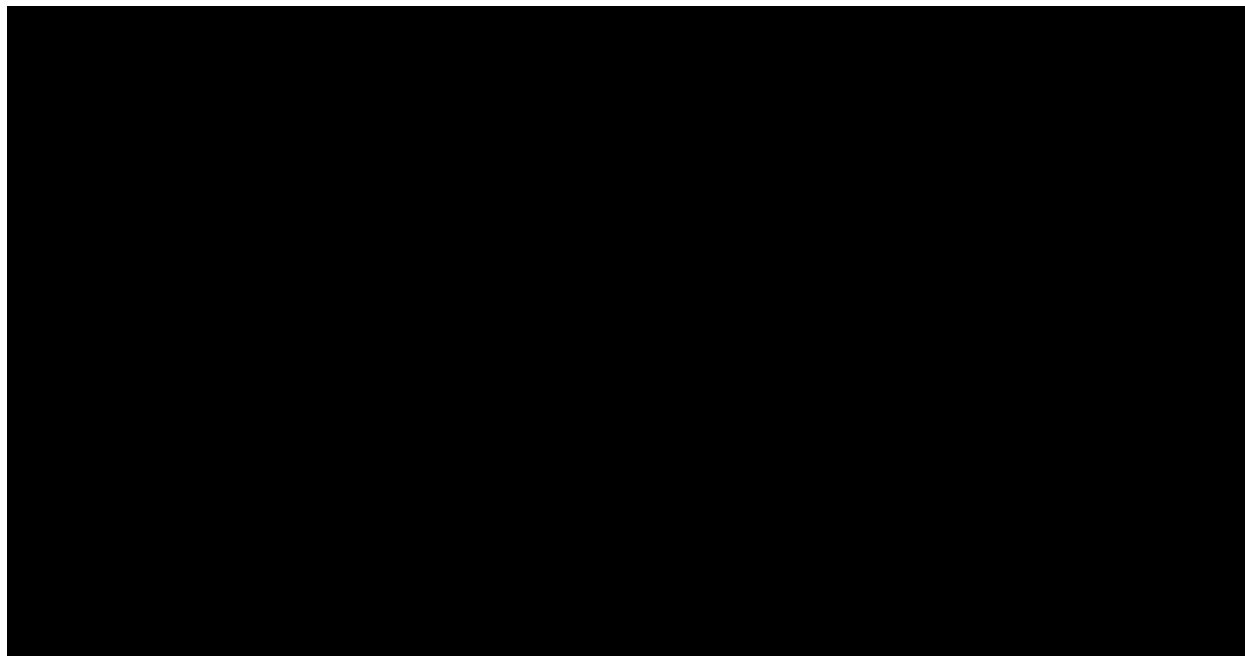


Figure 1-10 Avangrid's Top-Down Approach to Strategic Planning during the Strategic Plan 2022 Process¹⁶³

1.6.4. Timeline and Process Flow

1.6.4.1. Overview

Creating the Strategic Plan is an annual, 12-14 month-long process run by Networks-level executives that typically begins after the previous year's LTO is finalized and the annual investor day has been held.¹⁶⁴ The process for the upcoming year is divided into three phases,¹⁶⁵ shown in Figure 1-11 as seen in the 2020, 2021, and 2022 Strategic Plans.

¹⁶³ Response to FTI-0231, Att. 1 (confidential).

¹⁶⁴ Response to FTI-0234, Att. 3 (confidential); response to FTI-0734, Att. 1 (confidential).

¹⁶⁵ For example, the process to develop the 2021 Strategic Plan takes place during 2020 and early 2021.

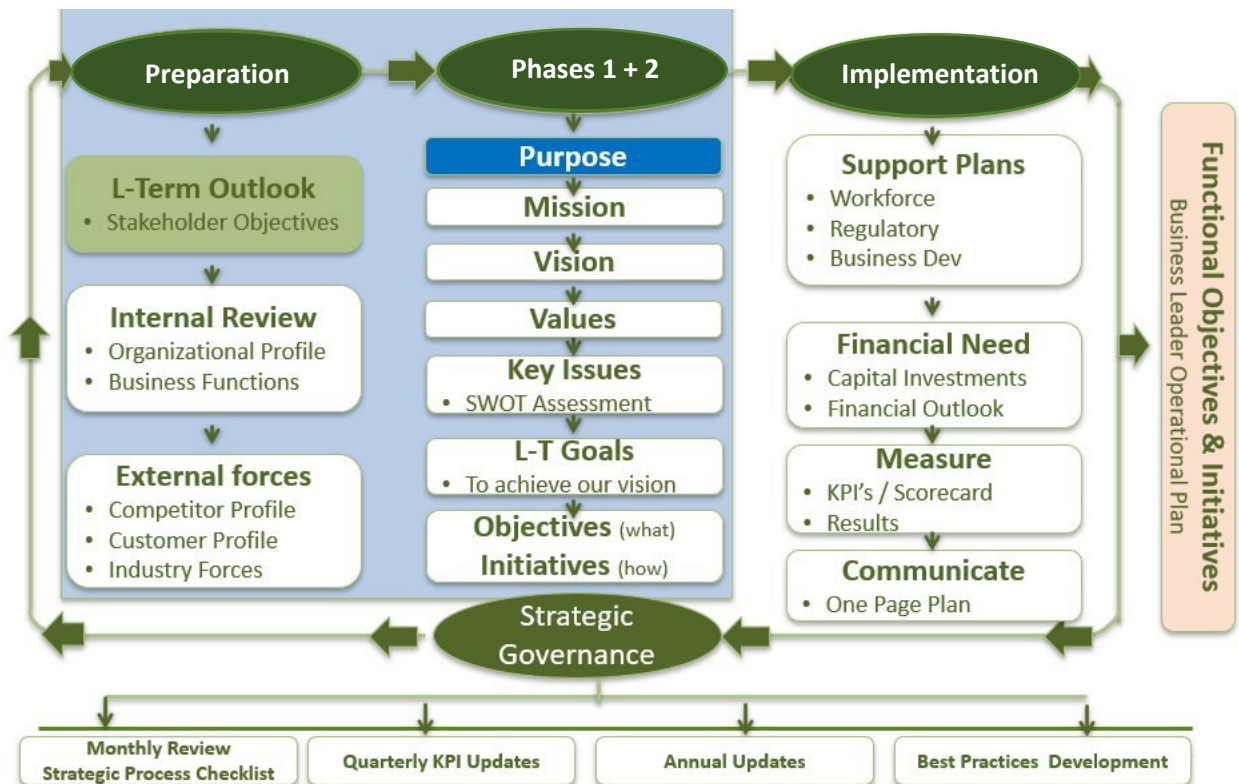


Figure 1-11 Timeline of Strategic Planning Process (2020, 2021, and 2022 Plans)¹⁶⁶

During the process, the Networks Executive Leaders and Expanded Leadership may discuss the Strategic Plan at their regularly scheduled monthly meetings and at meetings held specifically for Strategic Planning.¹⁶⁷

1.6.4.2. Phase 1

The process begins at the parent-company-level when Avangrid-level executives set the company’s Purpose and Values. This is the only material involvement the parent company has with the Networks and Connecticut Companies’ Strategic Planning process. From the Purpose and Values, the Networks-level executives will craft a long-term strategic Vision with four key objectives vetted by the Avangrid CEO’s office and serving as “pillars” of the Vision.¹⁶⁸

During Phase 1 from January to June, the Networks-level executive team (the ANLC described in Section 1.2.5.2.3 above), with guidance from Avangrid, assesses their internal profile as well as external factors such as the landscape of competitors, customers, and stakeholders, as shown in Column 1 of Figure 1-11. From there, the team drafts three to four overarching strategic objectives (also called “areas of focus,” “priority themes” or “guiding principles”)¹⁶⁹ shown in Figure 1-12, in order to achieve Networks’ Vision, Mission, and Purpose. For 2030, Avangrid’s Vision, Mission, and Purpose are: reshape the customer and stakeholder experience, operational excellence, sustainability, and employee engagement. Contained in those ideas are four to five near-term and long-term goals, aspirations, and objectives. The objectives are “inspired and built on” Avangrid’s three core

¹⁶⁶ Response to FTI-0229.

¹⁶⁷ Response to FTI-0223.

¹⁶⁸ Response to FTI-0235; response to FTI-0276, Atts. 4-5 (confidential).

¹⁶⁹ Interview with Senior Director of ETD Business Services, September 9, 2022; response to FTI-0234, Att. 3 (confidential).

values: Sustainable, Agile, Collaborative. Other corporate-level missions such as the company’s “behavioral model” and business growth commitments are considered.¹⁷⁰

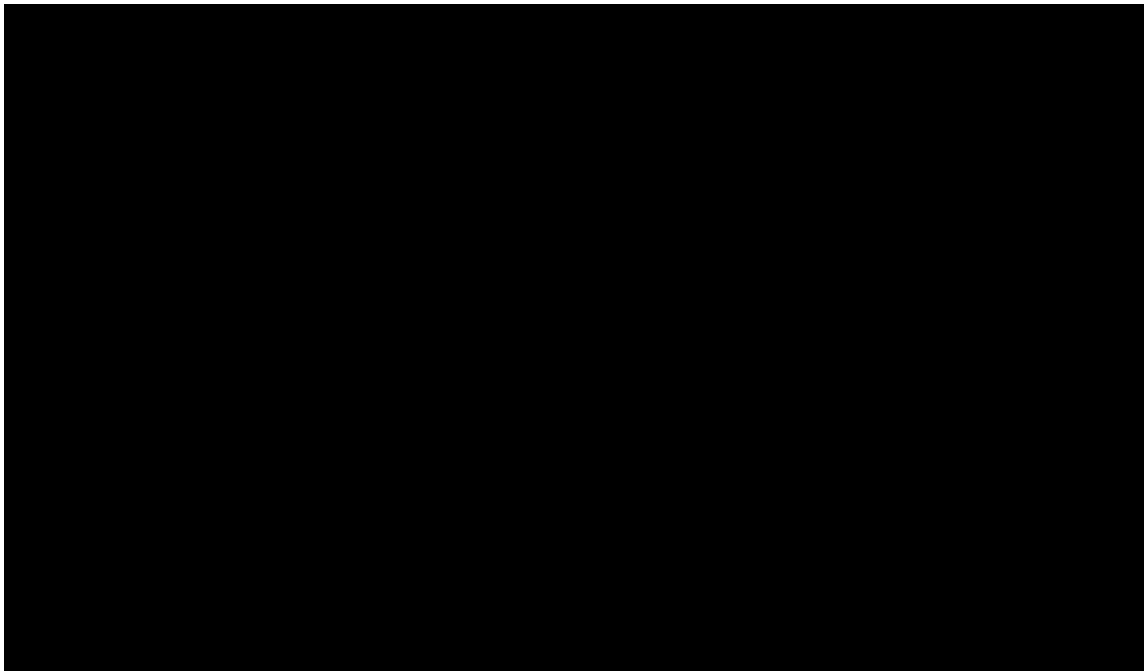


Figure 1-12 Draft of the ANLC's Four Strategic Objectives from Phase 1 (2020, 2021, and 2022 Plans)¹⁷¹

Phase 1 continues with the Networks Expanded Leadership team returning to their respective states to prepare state-specific plans using the above input from Networks-level executives.¹⁷² This starts with an “Environmental Assessment” of resources, regulatory strategy, and the financial plans for the following year(s) that are already captured in the LTO.¹⁷³ During this process, cross-cutting corporate functions also assess their resources to provide input into the plan.¹⁷⁴ Networks provides each state with a template to complete a Strengths, Weaknesses, Opportunities, and Threats (“SWOT”) analysis based on their initial environmental assessments.

State-specific planning is a recent feature of the Strategic Plan. In prior years, the SWOT analysis was completed at the Networks level. Starting in 2020, during the planning process for the 2021 Strategic Plan, SWOT analyses at the state level were used to account for subtle differences in each state. For example, reliability metrics may be weak in one state and strong in another.¹⁷⁵ The 2022 Strategic Plan was the first to show full state-level plans directly in the final Plan document in addition to the SWOTs analyses that started in 2021.¹⁷⁶ Connecticut’s SWOT analysis, presented at the June 2022 ANLC meeting, is depicted in Figure 1-13. The previous Networks SWOT was

¹⁷⁰ Response to FTI-0234, Att. 3 (confidential).

¹⁷¹ Response to FTI-0231, Att. 1 (confidential).

¹⁷² For Connecticut, this leadership team consists of RPOCC-CT participants: UIL-level Vice Presidents, the Chief Information Officer, and the Director of Environmental Health & Safety.

¹⁷³ Response to FTI-0231, Att. 1 (confidential).

¹⁷⁴ Response to FTI-0234, Att. 3 (confidential).

¹⁷⁵ Interview with Senior Director of ETD Business Services, September 9, 2022.

¹⁷⁶ Response to FTI-0734, Att. 1 (confidential).

used as a template for the states;¹⁷⁷ note that Networks-level SWOT analyses are still used for Networks-level planning.

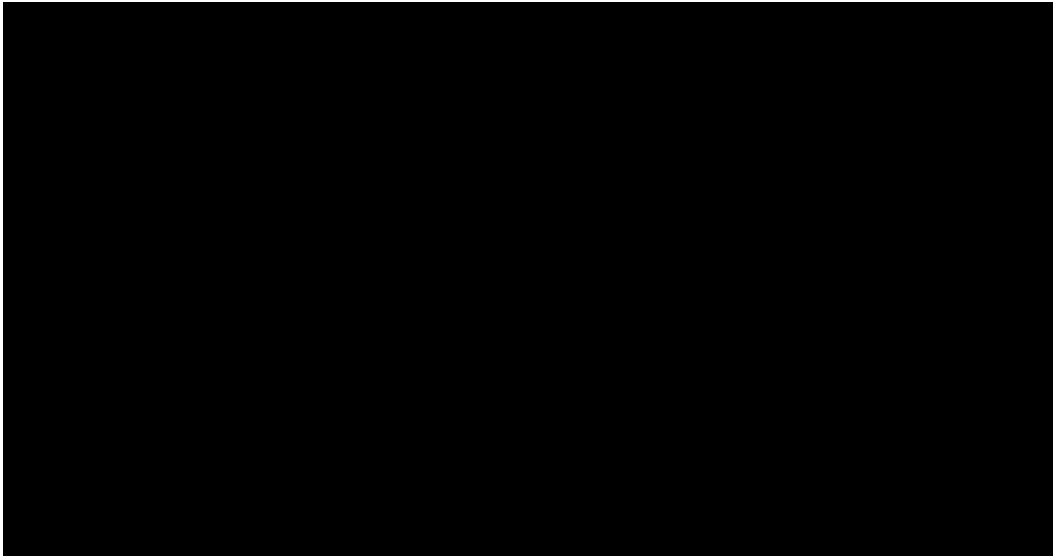


Figure 1-13 Connecticut-specific SWOT Analysis from the 2022 Strategic Plan¹⁷⁸

After the state-specific SWOT analyses are completed, the Networks executive leadership team sorts the SWOT items into one of the four “Areas of Focus” shown above in Figure 1-12 (also called “strategic objectives”).¹⁷⁹ Next, they issue a survey to the Expanded Leadership team asking them to grade the importance, impact, or significance of the SWOT item and the state companies’ perceived performance on a scale from 1-10. The results are compiled and averaged, and highest-priority items are ranked in a gap analysis performed by the Regulatory and Planning group. The gap analysis compares the perceived importance or significance to the current case for each topic to identify where additional focus should go. Figure 1-14 shows the gap analysis results for Connecticut for the 2022 Strategic Plan. The Networks-level SWOTs are also analyzed in a gap analysis similar to Figure 1-14. Notably, the SWOT analysis templates were identical between 2020 and 2021, with similar topics ranking highest over consecutive years. Gap analysis results in the 2021 and 2022 Plans were identical, showing the exact same rankings and numbers for the Networks-level gap analyses. FTI was not given state-level gap analysis results for multiple years, so no comparison was done for state gap analyses between 2020, 2021, and 2022.

¹⁷⁷ Interview with Senior Director of ETD Business Services, September 9, 2022.

¹⁷⁸ Response to FTI-0231, Att. 4 (confidential).

¹⁷⁹ In the 2020 Strategic Plan, these were called “areas for focus,” of which there were 5, see Response to FTI-0234, Att. 3 (confidential).

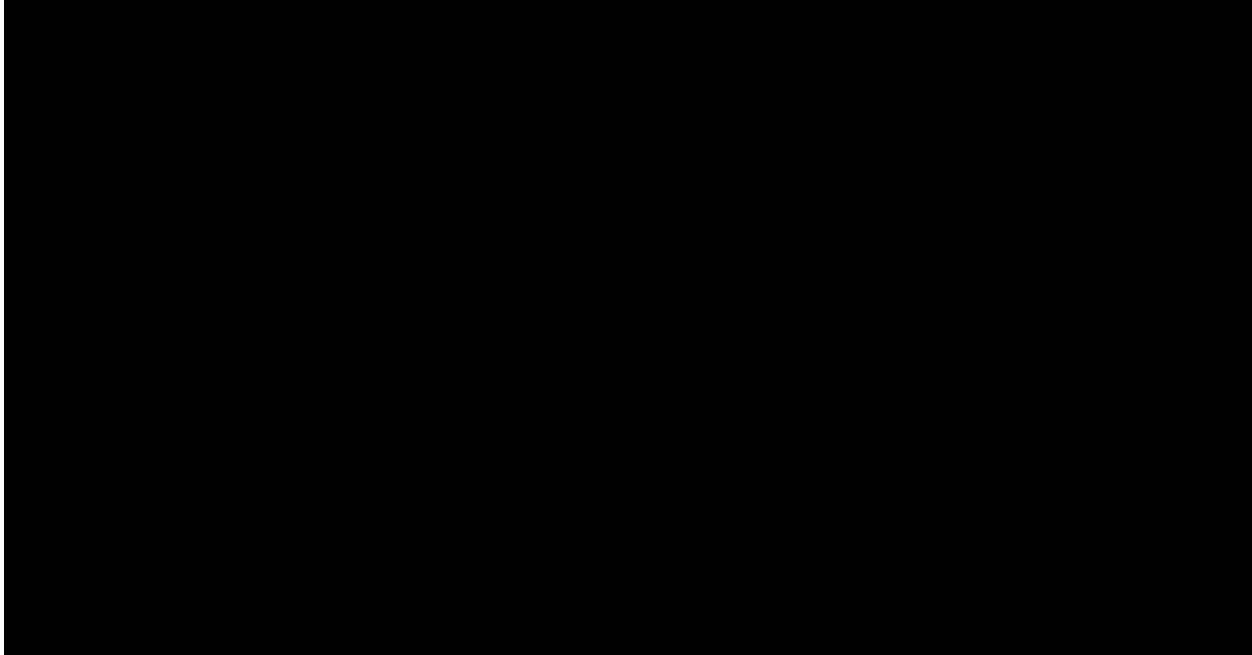


Figure 1-14 Connecticut-specific Gap Analysis, from Phase 1 of Strategic Planning of the 2022 Strategic Plan¹⁸⁰

1.6.4.3. Phase 2

Phase 2 begins once gap analyses are complete in June. At the Networks-level, four or five major themes are created based on the overall gap analyses from across business functions and states. Major themes from 2020 and 2021 were identical.¹⁸¹

- a. Increasing stakeholder expectations
- b. Attract, retain, develop & optimize resources
- c. Improve system reliability
- d. Growth opportunities & execution
- e. Process improvements for efficiency

In 2022, the major themes were replaced with the four strategic objectives shown in Figure 1-12 above (see Networks Appendix 3: 2021 and 2022 Strategic Plan Objectives). The combined results of the gap analyses are compared to industry trends; in Strategic Plans for 2020 through 2022, the major gaps were compared against 2019 study results from Black and Veatch in the section of the Strategic Plans that discusses the gap analyses. This study discusses major issues facing the industry, including concerns for reliability, environmental regulation, cybersecurity, aging infrastructure, and other topics addressed in the Plan’s objectives. The inclusion of excerpts from this report shows that Networks is benchmarking its gaps to industry trends.¹⁸²

From each of the four or five major themes, long-term (to 2030) goals and associated short-term (to 2024, or the “2022-2024 Near Term Plan”) or long-term (2025 to 2030, or the “2025-2030 Long Term Plan”) objectives are

¹⁸⁰ Response to FTI-0231, Att. 4 (confidential).

¹⁸¹ Response to FTI-0234, Att. 3 (confidential).

¹⁸² Ibid.

created by the Expanded Leadership team. For each short-term objective, up to three initiatives are outlined as steps to reach this objective. At this stage, the major themes and long-term objectives are Networks-wide, while some accompanying objectives and initiatives can be business function-specific or Networks-wide. As shown in the right-hand column of Figure 1-10, jurisdictional and functional area plans divide goals and initiatives into short- and long-term. This is not indicated in the final Networks-level Strategic Plan.¹⁸³ See Figure 1-15 as an example of one of the eight long-term goals with sub-objectives and initiatives contained in the 2021 Strategic Plan. A full list of objectives is shown in Appendix 3: Networks 2021 and 2022 Strategic Plan Objectives. The 2021 Networks Strategic Plan had 78 initiatives (not listed), while the 2022 Networks Plan had only 46. Many of these apply broadly to the entire Networks organization.

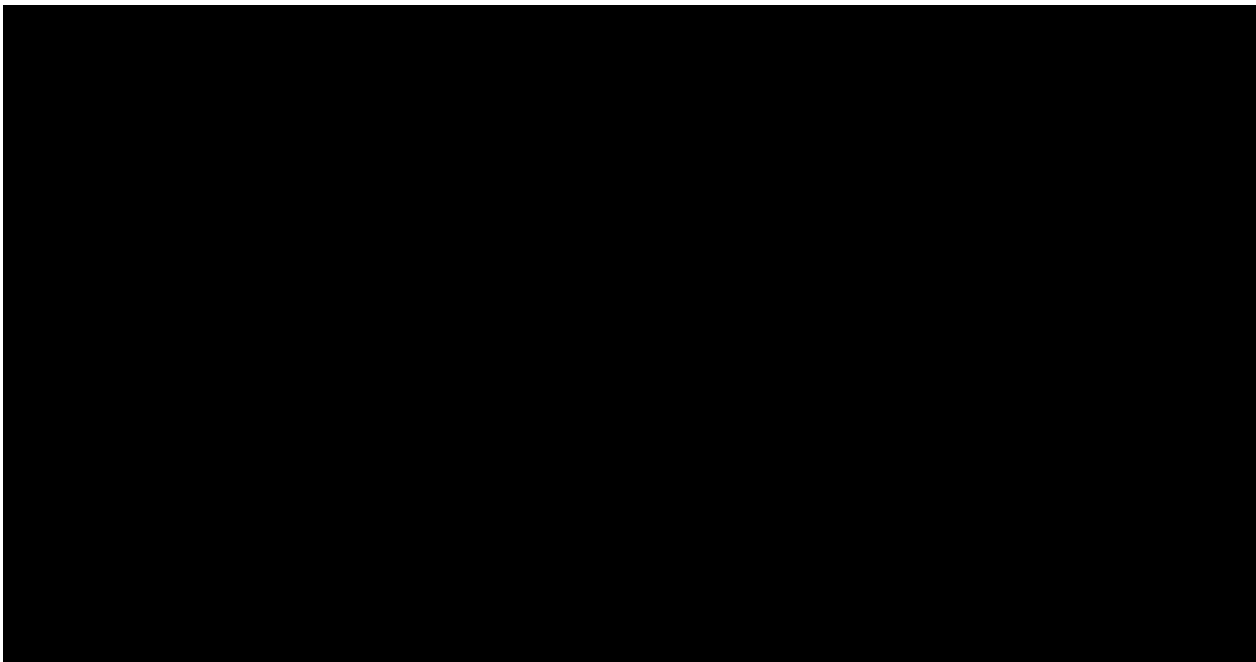


Figure 1-15 Example 2021 Plan Long-Term Goal with Objectives, Preliminary Initiatives¹⁸⁴

The full list of eight long-term goals contained in the 2021 Strategic Plan is as follows:¹⁸⁵

1. Develop a Risk Centric Culture of Health & Safety
2. Be Recognized as a Best-in-Class Employer
3. Be Recognized as Best-in-Class Ethics, Compliance, Governance
4. Modernization of the Electric & Gas Networks
5. Achieve Top Quartile Reliability Metrics: SAIFI; SAIDI and CAIDI (shown in Figure 1-15)
6. Achieve Top Quartile Customer Satisfaction through exceptional service

¹⁸³ Response to FTI-0234, Att. 3 (confidential); response to FTI-0734, Att. 1 (confidential).

¹⁸⁴ Response to FTI-0234, Att. 3 (confidential).

¹⁸⁵ Ibid.

7. Predictable and Sustainable Annual Earnings Growth
8. Meet Sustainability Objectives

The 2022 Networks Strategic Plan had 32 “Strategic Outcomes/ Priorities” instead of long-term goals, which are provided in Appendix 3: Networks 2021 and 2022 Strategic Plan Objectives.

During Phase 2, Strategic Planning specific to the business functions also occurs. The Networks Expanded Leadership team discusses and reviews Support Plans specific to each business function (electric, gas, regulatory, etc.) in August through October, and produces state-specific objectives and initiatives in the areas of Customer Service, Electric and Gas Operations/Engineering, People, Regulatory and Legislative, and Stakeholder Engagement; the team also creates key initiatives and KPIs related to these areas, both short-term and long-term. See Figure 1-16 for an example of a business function-specific Plan from the Strategic Plan 2022 planning process, which shows short-term and long-term initiatives to meet objectives.

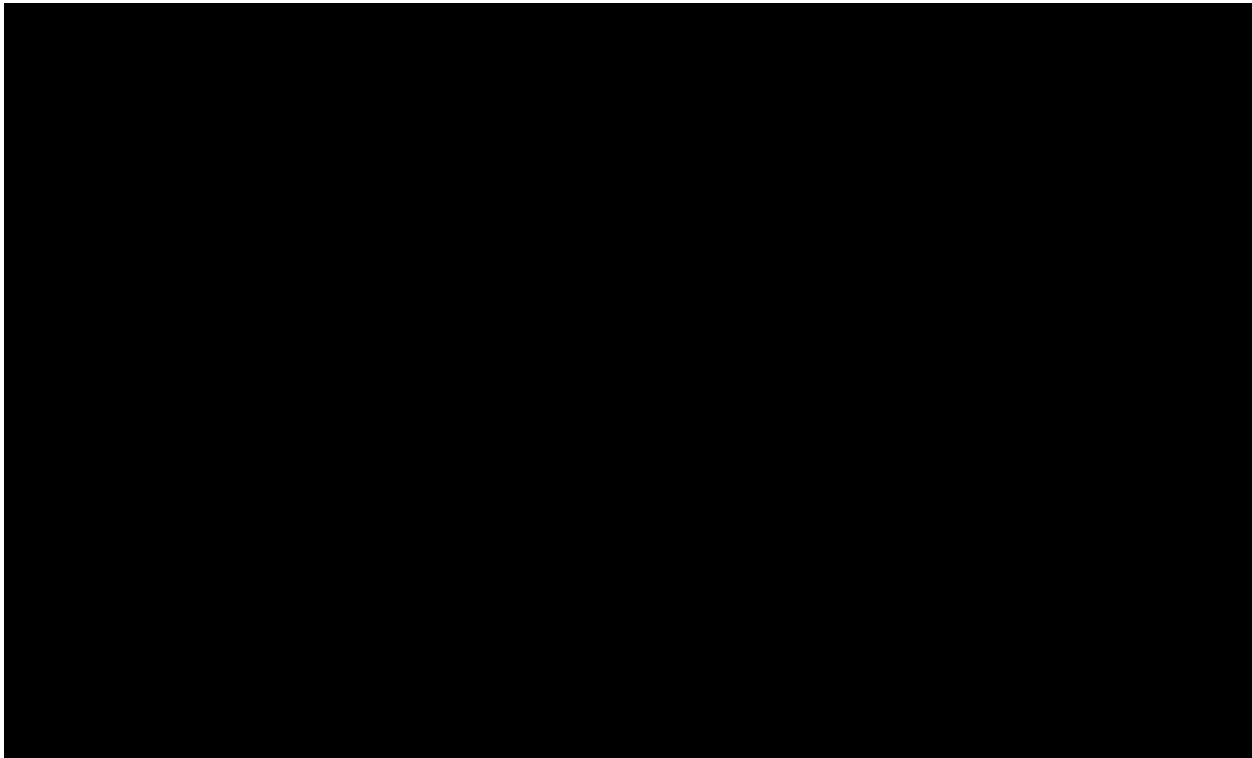


Figure 1-16 Regulatory Function Objectives and Initiatives, Strategic Plan 2022 Process¹⁸⁶

Financial Plans (Investment Plan, Annual Budget and LTO, discussed in the sections below) are completed during Phase 2.¹⁸⁷ Financial forecast updates for the first year of the LTO are provided from the overlapping annual budget process. In the 2020 Strategic Plan, the 10-year forecast from the LTO was also included, but in the past two years, the Strategic Plan has only included one-year budgets.¹⁸⁸

¹⁸⁶ Response to FTI-0231, Att. 4 (confidential).

¹⁸⁷ Ibid.

¹⁸⁸ Response to FTI-0234, Att. 3 (confidential); response to FTI-0734, Att. 1 (confidential).

During October through December of Phase 2, the Networks Expanded Leadership team collaborates to develop specific “Presidents’ Objectives” based on deficiencies from the state-specific SWOT and gap analyses. The objectives are arranged into a scorecard for each state CEO and for functional areas.¹⁸⁹

1.6.4.4. Phase 3

The third and final phase is approval and implementation. During final approval in January or February of the following year, the ANLC approves the Strategic Plan, and the Networks Board approves the accompanying objectives.¹⁹⁰ Avangrid reviews but does not approve the final Networks Strategic Plan. The Avangrid Board approves the consolidated Avangrid Strategic Plan.

1.6.5. Outputs

The final Strategic Plan includes multiple “Plans” that encompass broad, Networks-wide objectives and includes more targeted Support Plans including Workforce, Business Development, Regulatory Strategy, Capital, Operational, and Governance Plans.¹⁹¹ It also has sections that include excerpts from the financial plans (Capital and OpEx components of the Annual Budget discussed below) showing the current year’s operation and capital plans.¹⁹² While the 2020 Strategic Plan included a 10-year financial plan taken from the LTO, the 2021 and 2022 Plans did not.¹⁹³

As described above, state-level planning was a recent addition to the Strategic Planning process. The 2022 Strategic Plan includes state-level plans, as shown in Figure 1-17 below, for New York, Maine and Connecticut.¹⁹⁴ These plans provide both near-term and long-term objectives.¹⁹⁵ Note the four columns correspond to the four strategic objectives/key themes shown above in Figure 1-12.

¹⁸⁹ Response to FTI-0234, Att. 3 (confidential).

¹⁹⁰ Response to FTI-0237.

¹⁹¹ Response to FTI-0234, Att. 3 (confidential).

¹⁹² Response to FTI-0213.

¹⁹³ Response to FTI-0234, Att. 3 (confidential).

¹⁹⁴ State-level planning combines Connecticut and Massachusetts utilities as both are subsidiaries of UIL.

¹⁹⁵ Response to FTI-0734, Att. 1 (confidential); response to FTI-0231, Att. 4 (confidential).

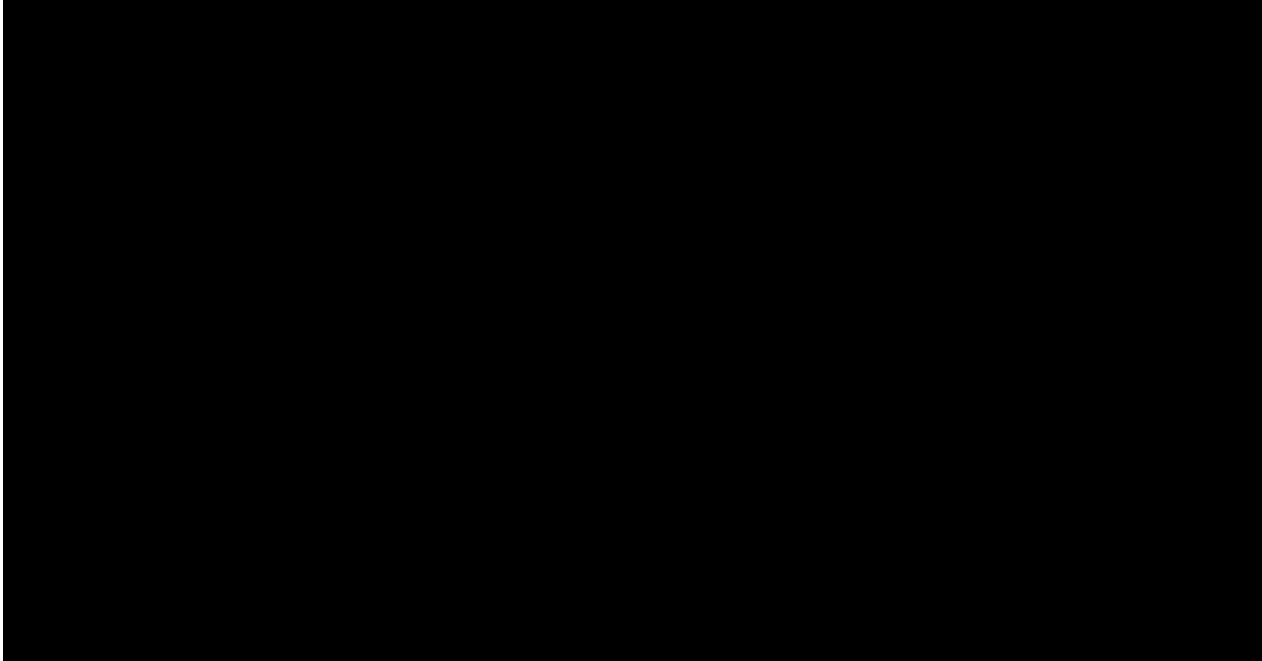


Figure 1-17 Connecticut/Massachusetts Objectives and Outcomes, 2022 Strategic Plan¹⁹⁶

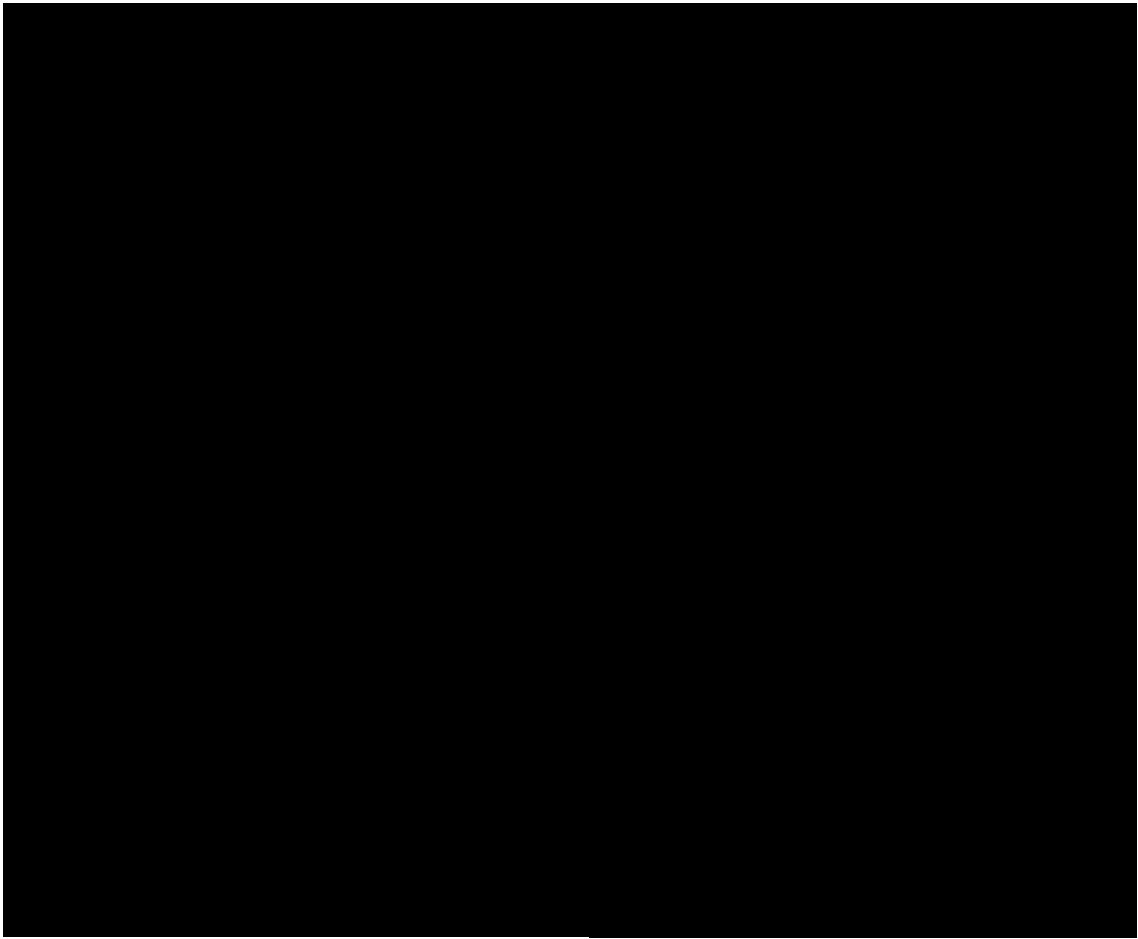
The Strategic Plan lists all major themes and associated near-term objectives and relevant initiatives. The Plan also includes a “Key Strategic Objectives” section that justifies the rationale for each of the four or five major themes and includes references to industry or regulatory trends. This section describes in more detail what steps or programs Networks or its subsidiaries are taking to address these themes. While the initiatives, such as those shown in Figure 1-15, tend to be concise and actionable, the narratives in the “Key Strategic Objectives” section tend to be more qualitative or broad in their scope. For example, the “Key Strategic Objectives” section includes discussion of energy storage, EV adoption and Non-Wires Alternatives (“NWA”) legislation in the Networks’ states, including Connecticut’s Grid Modernization proceeding. In contrast, initiatives tend to be more precise. For example, one initiative under performance improvement seeks to “Refresh Electric Distribution Planning Resource Plans in context of changing expectations from regulators, stakeholders and global model.”¹⁹⁷

In addition to the business-function-related themes, objectives, and initiatives discussed above and shown in Figure 1-15 and Figure 1-16, Networks-wide “Business Objectives” presenting quantitative metrics are also produced by the plan, as shown below in Figure 1-18 for the 2020, 2021, and 2022 Plans. These align broadly to the four or five key themes, but as seen in Figure 1-18, the number of Business Objectives changes each year. These Business Objectives include quantitative KPIs or metrics that business functions and states can measure their progress against.¹⁹⁸

¹⁹⁶ Response to FTI-0734, Att. 1 (confidential); response to FTI-0231, Att. 4 (confidential).

¹⁹⁷ Response to FTI-0234, Att. 3 (confidential).

¹⁹⁸ Ibid.



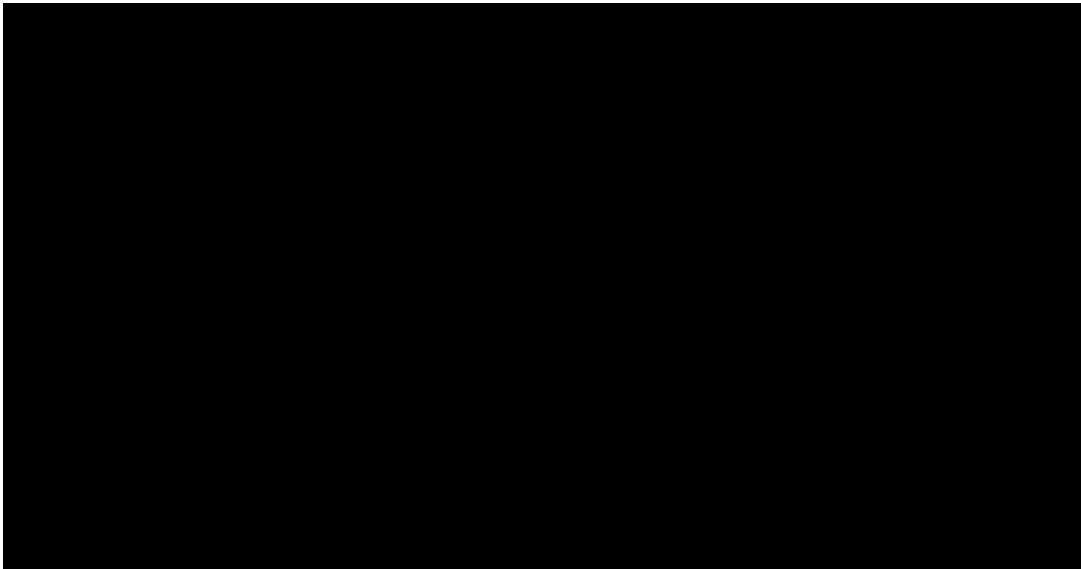


Figure 1-18 Comparison of 2020 (top), 2021 (middle), and 2022 (bottom) Networks Business Objectives¹⁹⁹

While there are thematic linkages between the four or five major themes, long-term goals, and short-term objectives, they are not directly linked. The 2021 Plan shows that only the four major themes are accompanied by long-term goals, while the 2020 plan had nine goals that were only tangentially related to five major themes, and the 2022 plan has 12 goals. The 2021 Strategic Plan had 78 initiatives and 8 objectives, while the 2022 plan had 46 initiatives and 32 objectives. The goals, objectives and preliminary initiatives (example in Figure 1-15) changed materially between 2020 and 2021 despite the four or five major themes remaining the same; substantive changes to these also occurred in 2022 when the major themes did switch to align with the four strategic objectives shown Figure 1-12 (see Appendix 3: Networks 2021 and 2022 Strategic Plan Objectives).

Recommendation: We question whether the Networks Strategic Plan results in too many objectives and initiatives to allow them all to be successfully completed and implemented. In addition, a number of these initiatives appear to be day-to-day business. The large quantity dilutes the value of truly strategic initiatives aimed at long-term business improvement. We recommend paring down the number of objectives and initiatives in the Strategic Plan to a realistic, manageable number, to allow more attention, focus and resources on the truly strategic ones, which would result in a higher probability of success. This should include but not be limited to the elimination of all non-strategic, day-to-day actions to run the business.

The use of aligned objectives across all Networks business functions offers Avangrid clear and tangible targets for operational and financial performance. However, upon review, we observe merely modest changes between the Business Objectives in the 2020, 2021, and 2022 Strategic Plans, as shown above in Figure 1-18. Objectives related to Net Income, Health and Safety, SAIDI, Customer Satisfaction, NOE, and Growth did not significantly change. Note that in 2022, ESG objectives show similarities to the 2021 Health and Safety category, despite the initial appearance of change. While these areas are important, and it is reasonable to assume that well-crafted targets are unlikely to change year over year, the repetitive nature of the Strategic Plan's outputs suggest the value of the process may be lost when prior year's outputs become the following years inputs.

¹⁹⁹ Response to FTI-0234, Att. 3 (confidential); response to FTI-0734, Att. 1 (confidential).

Strong similarities are also seen in the “Key Strategic Objectives” section of the 2020, 2021, and 2022 Strategic Plans where discussion of underlying activities and programs does not change substantially between years. This is to be expected, however, as it is not realistic for state policy and company-led programs and initiatives to undergo rapid changes within a year, which raises questions about the value of an annual Strategic Planning Process.

Recommendation: We observe modest changes in the Strategic Plan’s Vision and key objectives from year to year and question the value of a Strategic Planning process that occurs annually; a Strategic Planning process occurring every few years may allow for leadership to gain a fresh perspective on the business.

1.6.6. Tracking Process

To ensure that the CT Companies are on track to meet their targets determined in their Strategic Plans, a representative from Regulatory and Planning updates the group on each state CEO’s achievement of their objectives at each RPOCC-Networks meeting in the year following the Strategic Plan’s publication. During 2023, progress against the 2022 Plan is tracked.²⁰⁰

Figure 1-19 shows an example of the UIL CEO’s scorecard of Business Objectives from August 2022, tracking progress against the Business Objectives shown above in Figure 1-18 from the 2022 Strategic Plan. Adherence to the Networks-wide objectives and initiatives is reviewed by the Networks CEO, who oversees particular initiatives pertinent to a given state or operating company.²⁰¹

²⁰⁰ Response to FTI-0218.

²⁰¹ Interview with CEO, Networks (Catherine Stempien), September 15, 2022.

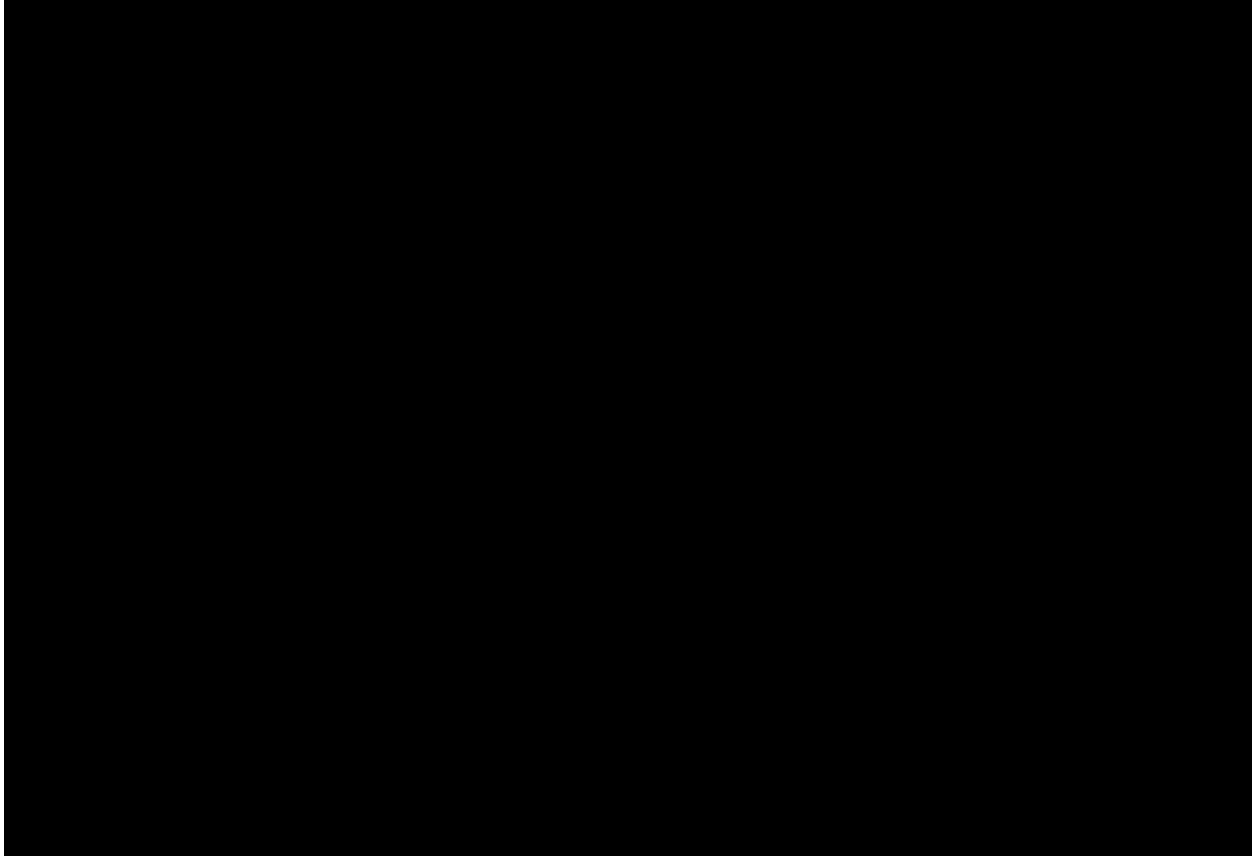


Figure 1-19 Connecticut-Specific CEO' Scorecard Tracking 2021 Strategic Plan Achievement²⁰²

Recommendation: State-specific, long-term planning is a recent feature of the Strategic Plan, starting in 2021. Connecticut-specific planning is a positive development, but we recommend the PURA review the final Avangrid-approved, state-specific Strategic Plans for the CT Companies to ensure alignment with Connecticut's regulatory policies and objectives.

Networks may endeavor to complete additional updates to certain goals, objectives, or initiatives in the plan on an ad-hoc basis. In 2019, the Company performed a Mid-Period Assessment of their 2021+ Vision, a long-term project designed to create value to Networks' stakeholders through improving quality of service, minimizing rate increases, becoming a best-in-class utility, meeting long-term goals, and becoming a more efficient company. This update is included in both the 2020 and 2021 Strategic Plans.²⁰³

1.6.7. Updates

The Strategic Planning process occurs every year. According to the Senior Vice President of the Regulatory and Planning group, planning templates such as SWOT analyses from the most recently completed Strategic Plan are used to complete the upcoming year's Plan. The Strategic Plan is "touched up" as certain areas are scrutinized more and as new budgets feed into the Strategic Plan. Because the financial planning process is an input to the Strategic Plan, it naturally changes year over year.²⁰⁴

²⁰² Response to FTI-0436, Att. 1 (confidential).

²⁰³ Response to FTI-0234, Att. 3 (confidential).

²⁰⁴ Interview with Senior Vice President of Regulatory and Planning, Networks (Kevin Donnelly), August 22, 2022.

1.7. Investment Planning

The “Investment Plan” is a 10-year, forward-looking financial plan for Networks that is updated annually. Informed by capital needs and rate case outcomes, the Investment Plan is produced using a “bottom-up” approach based on input across the business functions. The Investment Plan serves as a major input into the LTO process along with capital structure and cost of capital assumptions. The LTO Plans for Networks and Renewables are combined into a consolidated Avangrid plan which is used on the annual Investor Day and provides detailed financial forecasts to the investment community.²⁰⁵

1.7.1. Key Participants

Annual Investment Planning is led by the Investment Planning group under Networks Regulatory and Planning (see Figure 1-9 above), although the overall process involves many different Networks groups spread across the matrix organization.²⁰⁶ The Investment Planning group serves as a conduit between the business functions, who have an on-the-ground view of their needs, while the Investment Planning group has knowledge of the business functions’ regulatory requirements and parameters driven by rate case decisions and commission activities.²⁰⁷

The final plan is approved by the operating company’s Board while quarterly updates for each state are approved by that state’s CEO.²⁰⁸

1.7.2. Timeline and Process Flow

The Investment Planning process usually begins in May and ends in August, during the second Phase of the Strategic Planning process.²⁰⁹ The Regulatory and Planning group liaises with the business functions to receive accurate, first-hand views of pressing investment needs, and the CT Companies build and maintain their own unique Investment Plan while also submitting their Plan for consolidation into the Networks Investment Plan.²¹⁰

The Investment Plan is built from the bottom-up, with initial input coming from different business functions. Vice Presidents of state-specific business functions identify deficiencies in safety, reliability, resiliency, and performance while aligning with current rate case’s capital spending parameters. The business leaders hope to receive long-term funding for initiatives that will address their most pressing deficiencies, subject to the constraints of rate case decisions.²¹¹

These business functions identify investment priorities and update the previous year’s plan to include emerging issues, opportunities, and eliminate obsolete items.²¹² Note that the priorities and objectives used in this process are separate from the strategic objectives shown in the Strategic Planning section above. Key updates are made to reflect changes in rate case settlements, assumptions, or plans. This is where assumptions for state public policy initiatives are also incorporated into the plan.²¹³

²⁰⁵ Response to FTI-0031.

²⁰⁶ Interview with Senior Vice President of Operations, Networks (Thiago Bigi), August 18, 2022.

²⁰⁷ Interview with Vice President of Electric Operations, Connecticut (Charles Eves), August 4, 2022.

²⁰⁸ Response to FTI-0264.

²⁰⁹ Response to FTI-0450, Att. 1 (confidential).

²¹⁰ Ibid.

²¹¹ Interview with Senior Vice President of Regulatory and Planning, Networks (Kevin Donnelly), August 22, 2022.

²¹² Ibid.

²¹³ Response to FTI-0031.

At the business function level, projects and programs are ranked and prioritized in a holistic, quantitative approach.²¹⁴ This prioritization and coordination process requires each subsidiary to consider its priorities and choose the optimal use of its resources. From there, coordination occurs between the business functions including system planning, distribution engineering, and electric operations. Then the Regulatory and Planning group,²¹⁵ the Investment Planning Group, and the Treasury group all provide input and oversight before review by the state CEO.²¹⁶ See Chapter 2 for more detail on project prioritization.

Finally, the prioritizations are reviewed and noted by Vice Presidents at the UIL level.²¹⁷ Regulatory and Planning's role concludes with consolidating the different business functions and operating company Investment Plan inputs based on their project ranking and prioritization process. Refinement and correction to the Connecticut portion of the plan is done in RPOCC-CT meetings, where attendees verify that the plan aligns with rate case mandates.²¹⁸ The UIL CEO approves Connecticut's final Investment Plan.²¹⁹

1.7.3. Outputs

The Investment Planning group under the Regulatory and Planning group publishes the 10-year Investment Plan. Figure 1-20 depicts the Connecticut- and Massachusetts-specific outputs of the 2022-2031 Investment Planning process in near-final form. Note that while certain planning is done at the state level, Investment Planning for UIL companies includes BGC in Massachusetts.

²¹⁴ Response to FTI-0021, Att. 1.

²¹⁵ The Regulatory and Planning team provides valuable insight from both a regulatory perspective (rate case approved levels, regulatory commitments, etc.) but also the annual Strategic Planning process. Given their dual regulatory and financial capabilities, they are heavily involved in both processes.

²¹⁶ Interview with Manager of Networks Planning Investments, September 19, 2022.

²¹⁷ Interview with Senior Vice President of Regulatory and Planning, Networks (Kevin Donnelly), August 22, 2022.

²¹⁸ Interview with Chief Information Officer/Vice President of Information Technology (Sergio Merchan), August 10, 2022.

²¹⁹ Interview with Manager of Investment Planning, Networks, September 21, 2022.

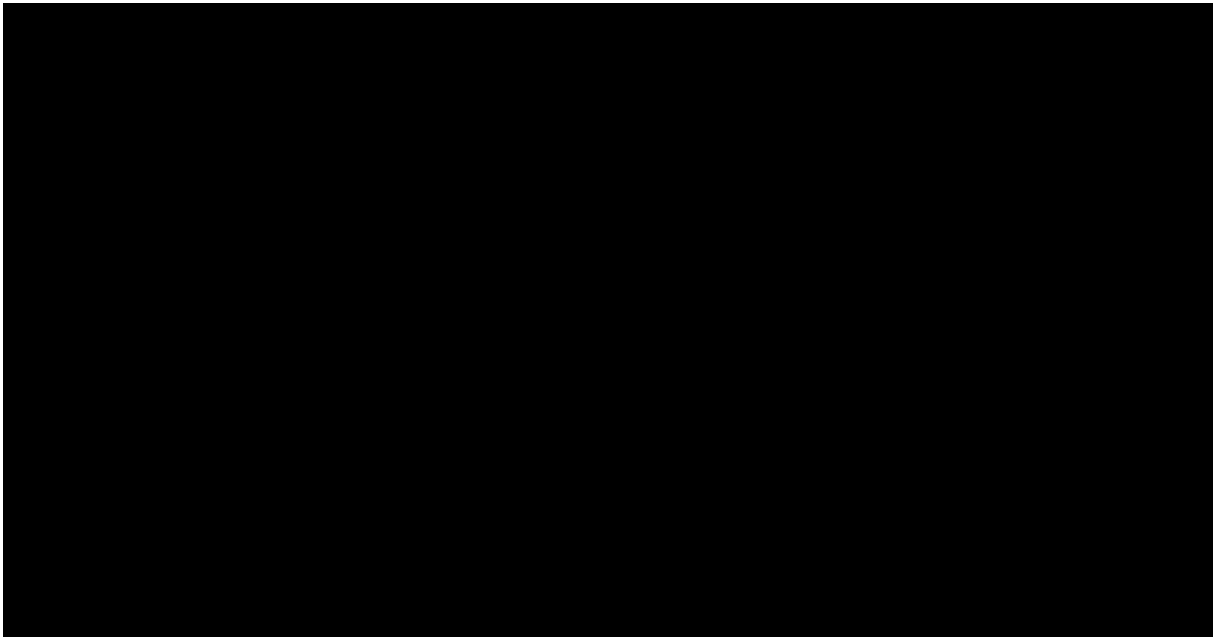


Figure 1-20 Investment Plan Outputs “P22” (2022 and Beyond) for Connecticut and Massachusetts²²⁰

The Investment Plan is sent to Control for two primary purposes: short-term use in the Annual Budget process by the Networks Business Analysis and Performance group (described below in Section 1.8), and long-term use in the LTO process by the Networks Planning Investments group (described below in Section 1.9, both within the Control group).

1.7.4. Updates

The Investment Planning process is conducted annually, with additional updates performed on an ad-hoc basis to meet rate case mandates.²²¹

1.8. Annual Budget Process

Networks updates its forecasted Profit and Loss (“P+L”) each year in a process (“Annual Budget”) that produces a budget projection called “PXX” for the following year (“P23” for calendar year 2023, performed in 2022, for example). There are two components of the Annual Budget: CapEx, and the breakdown of O&M spending by category: e.g., transmission, distribution, etc.²²² CapEx is forecasted 10 years by Regulatory and Planning in the Investment Plan (described above in Section 1.7), while OpEx forecasts are shorter-term and coordinated by the Control group.²²³ With these two components and other financial inputs such as revenue, depreciation, taxes and interest, Control generates a one-year full financial forecast with full P+L input from other functions, PXX, with both CapEx and OpEx included.

1.8.1. Key Participants

The Control group at the Avangrid and Networks levels, which ultimately reports to the Avangrid Chief Financial Officer (“CFO”) through the Avangrid Controller, is responsible for coordinating the inputs for the Annual Forecasts.

²²⁰ Response to FTI-0451, Att. 1 (confidential).

²²¹ Response to FTI-0450, Att. 1 (confidential).

²²² Response to FTI-0451, Att. 1 (confidential).

²²³ Interview with Vice President of Electric Operations, Connecticut (Charles Eves), August 4, 2022.

Control integrates the Networks Investment Plan and works across numerous business functions to prepare the forecast that is delivered to executives across Networks, Avangrid, and Iberdrola. Building the Annual Budget is a holistic process that involves “bottom-up” input from all business functions of both the parent company Avangrid and each of the state operating companies, including, but not limited to, Electric and/or Gas Operations, System Planning, Financial, Customer Service, Regulatory, and IT.²²⁴

1.8.2. Timeline and Process Flow

The first year of the previous year’s LTO is used as the starting point for the first year of the updated capital forecast for the current year’s Investment Plan process. Then, the business functions provide bottom-up input for OpEx as part of full financial and OpEx budgets for the following year.^{225,226} The parent company Avangrid provides detailed instructions to the Networks Control group, which are used to guide the development of the full financial forecast PXX for the next year, including updated detailed budgets from the business and corporate functions.

After the business function leads provide their key OpEx forecasts and other assumptions relevant to their areas, Control solicits cross-cutting corporate services’ OpEx forecasts such as Health and Safety, Legal, General Services, HR, Facilities, IT, Tax, Treasury, and Control itself. The Control group finalizes the aggregate OpEx forecast and combines it with the other financial inputs from various functions in Networks to create the final financial budgets for the following year. The state CEOs review and note the financial budgets for their state, as well as detailed OpEx budgets for specific business and shared corporate functions. The operating company budgets are then consolidated into a Networks forecast, which in turn is consolidated into an Avangrid-wide financial forecast, PXX, for the following year. PXX is reviewed and noted by the MC, and approved by the Avangrid Board.²²⁷ The consolidated Networks budget is approved by the Networks board, and each operating company’s budget is approved by its respective board or in the case of the Connecticut companies by the UIL board. As described below, the finalized PXX is updated quarterly and re-forecasted as part of the quarterly REV process. See Figure 1-21 for a diagram of the annual budgeting process.

²²⁴ Response to FTI-0031; interview with Vice President, General Counsel, Networks (Noelle Kinsch), August 17, 2022.

²²⁵ Interview with Chief Information Officer/Vice President of Information Technology (Sergio Merchan), August 10, 2022.

²²⁶ Interview with UIL CEO (Franklyn Reynolds), August 19, 2022.

²²⁷ Response to FTI-0031.

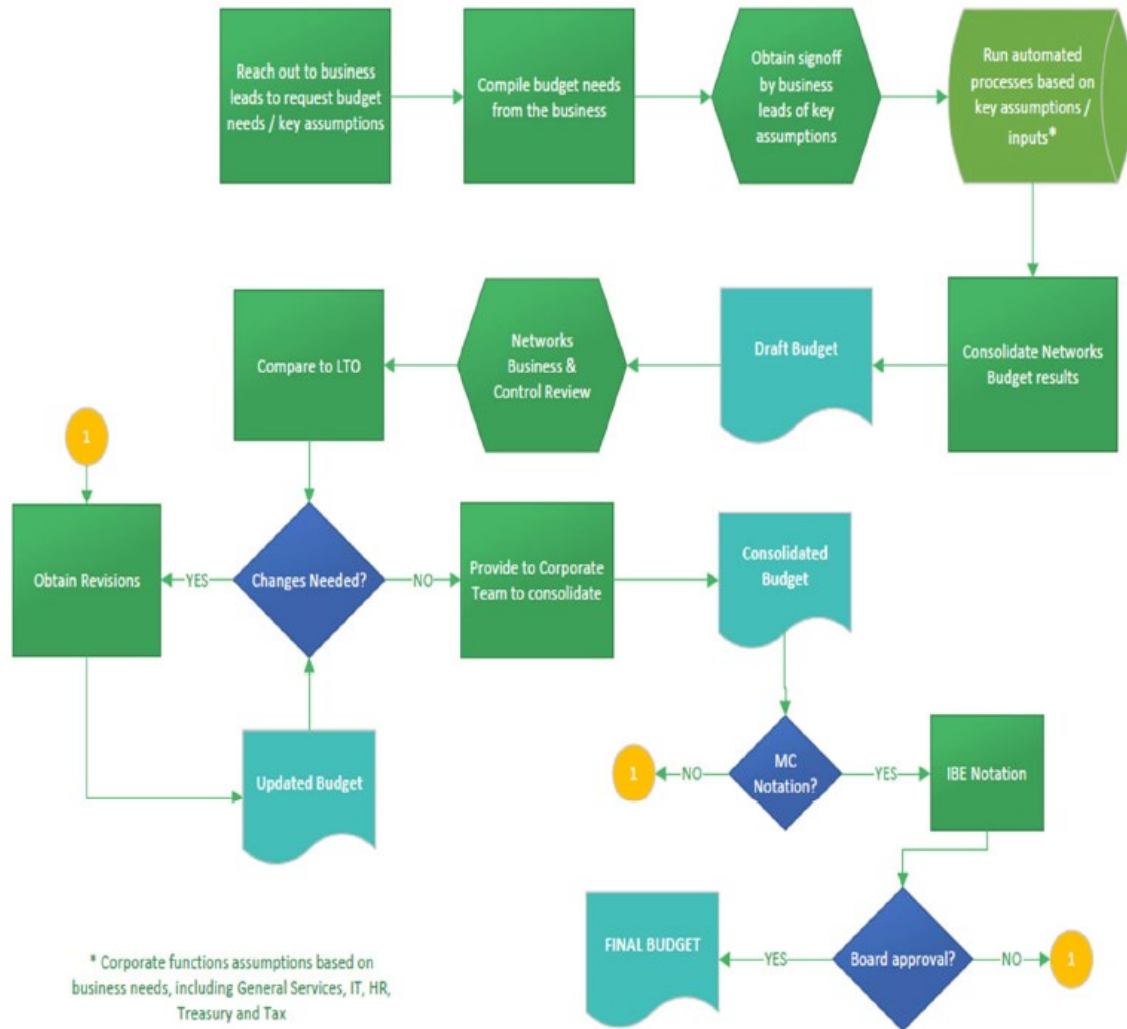


Figure 1-21 Avangrid Operating Budget Approval Process²²⁸

1.8.3. Outputs

The Control group produces the final forecast for Networks and throughout the year conducts three separate processes to align the forecast with the set budget: Availability Control, the REV process, and monthly reporting.²²⁹

Availability Control is an automated system that sets limitations on spending levels at the set OpEx budget levels in the approved budget. Spending cannot exceed these levels without authorization. The system-set levels can be modified during the year, subject to approvals at the business level and from Control.²³⁰

The monthly reporting process occurs during the forecast year. The full financial forecast is reviewed against actual results. A full variance and explanations analysis is developed by Control and reviewed monthly at the state and RPOCC-Networks, MC, and Board meetings.²³¹ This monthly reporting process run by Control allows variances from the budget to be tracked, reviewed, analyzed, explained, and shared across the Avangrid organization. The

²²⁸ Response to FTI-0031.

²²⁹ Response to FTI-0264.

²³⁰ Ibid.

²³¹ Response to FTI-0031.

monthly reports also include analysis on margin, operating expenses, return on equity and CapEx, among others.²³²

The REV process takes place quarterly to review the current expectations of results for the year based on actuals to date and compares the results to the approved budget. REV also considers emerging matters relevant to the business needs and the impact on the budget for the year. The REV process ensures compliance, performance, and assesses expected results.²³³ During each REV, PXX's assumptions are updated based on changes to expenses, regulatory outcomes and assumptions, legislation, tax treatment, weather and storm experiences year to date, financing costs, and CapEx timing. The UIL CEO approves REV process updates for the CT Companies which are also reviewed at the RPOCC-CT, the RPOCC-Networks, the MC, and various Boards.²³⁴

1.8.4. Updates

In 2018, Avangrid instituted a structured governance process to adjust annual CapEx and OpEx budgets “as needed” after they are set.²³⁵ This way, operating companies can quickly serve customers if an unforeseen state project or environmental concern arises.²³⁶

1.9. Long-Term Outlook

The LTO is the long-term financial plan for Avangrid and its subsidiaries; the LTO includes both Networks and Renewables.²³⁷ The LTO is investor-facing and focuses on the mid-term, although it includes estimates extending up to 10 years for internal planning purposes.^{238, 239} Highlights of the LTO spanning three to five years are presented to investors at Avangrid's annual investor day.

The purpose of the LTO is to identify necessary levels of investment and financing, and to communicate capital spending, performance under rate plans, general earnings estimates, and other financial and business metrics to the investor community.²⁴⁰ The LTO utilizes the current year's Investment Plan for Networks and the operating companies and uses the approved forecasted budgets resulting from that year's PXX process for the first year of the LTO. The LTO's financial forecast aligns with the state operating companies' most recent rate case settlement results, and then uses return on equity and capital structure assumptions from the Regulatory and Planning group, and inflation and interest/financing assumptions from the Control and Treasury groups.²⁴¹

The first year of the LTO is based on the approved forecasted annual financial budget used by the operating companies for the upcoming year approved through the PXX process. The long-term portion of the LTO 10-year forecast utilizes the assumptions described above. In Connecticut, utilities must file rate cases at least every four years, making LTO forecasts subject to comprehensive changes based on regulatory outcomes.²⁴²

²³² Response to FTI-0264.

²³³ Interview with Director of Business Analysis, Networks, September 1, 2022.

²³⁴ Response to FTI-0264.

²³⁵ However, according to Mr. Eves, IP calls are always “needed” so the cadence is in practice biweekly.

²³⁶ Interview with Vice President of Electric Operations, Connecticut (Charles Eves), August 4, 2022 (August).

²³⁷ Response to FTI-0031.

²³⁸ Interview with Controller, Avangrid (Scott Tremble), August 24, 2022.

²³⁹ Response to FTI-0031.

²⁴⁰ Ibid.

²⁴¹ Interview with Senior Vice President of Operations, Networks (Thiago Bigi), August 18, 2022.

²⁴² Chapter 277, Connecticut Department of Energy and Environmental Protection Public Utilities Regulatory Authority Office of Consumer Counsel Miscellaneous Provisions, Sec. 16-19a.

The LTO is generally updated annually,²⁴³ although there was no LTO in 2021 because the Investor Day planned for the first quarter of 2020 was delayed due to COVID-19.²⁴⁴ Additionally, the first quarter 2022 Investor Day was also delayed to November 2022 due to the Ukraine crisis.²⁴⁵

1.9.1. Key Participants

The Control group runs the LTO process. However, building the LTO involves input from all business and corporate functions of both Avangrid (e.g., the Treasury group provides input on capital structure and interest rate assumptions) and groups within the operating companies (e.g., Control communicates with the business functions to ensure alignment) through their contribution to the annual financial budgeting process, PXX, for the following year, and through the Investment Planning processes.

1.9.2. Timeline and Process Flow

The LTO process begins around August with a “kickoff” meeting for the local business planning and support coordinators at each operating company. Similar to the Investment Plan, the LTO process is conducted in a “bottom-up” manner. For Networks, this means that the process originates at each operating company with the jurisdictional business function leads providing direct input into the Investment Plan and the PXX Annual Financial Budget forecasting processes for the following year. Because forecasts are tied to rate case outcomes in the early years, OpEx levels outside of rate case settlement periods are escalated based on an inflation assumption.²⁴⁶

All input is consolidated and compiled into a draft LTO model within the Control group. For Connecticut and the other states, the individual responsible for the LTO modeling is a member of the Networks Control group.²⁴⁷ The state specific plans are combined into the consolidated “Networks component” of the LTO for review by the Networks CEOs.²⁴⁸ Revisions are made to the LTO upon feedback from these entities. Finally, business function leads, operating company Vice Presidents, and Senior Directors work collaboratively to create a final version which is shared with operating company Presidents, including the UIL CEO, for any final input or edits.

The consolidated LTO with both the Networks and Renewables outlooks is provided to the MC for formal review (or “notation”). The LTO is presented to the Avangrid Board for input and is ultimately approved by the Avangrid, Networks, and Renewables CEOs.²⁴⁹

1.9.3. Outputs

Highlights of the LTO focus on the mid-term (three to five years) which are presented on Avangrid’s Investor Day and also used for annual goodwill impairment analysis, while the full 10-year LTO is used internally as guidance for further planning.²⁵⁰ The LTO is a guiding tool for the CT Companies and serves as a foundation for both Strategic and Investment Planning. The LTO process also requires the CT Companies to prioritize their most important initiatives to correct deficiencies and achieve operational and strategic goals while aligning with the Strategic Planning process. Figure 1-22 shows the objectives from the Strategic Plan that the LTO must align with.

²⁴³ Interview with Chief Information Officer/Vice President of Information Technology (Sergio Merchan), August 10, 2022.

²⁴⁴ Response to FTI-0428.

²⁴⁵ Response to FTI-0442; interview with Manager of Investment Planning, Networks, October 17, 2022.

²⁴⁶ Interview with Senior Vice President of Regulatory and Planning, Networks (Kevin Donnelly), August 22, 2022.

²⁴⁷ Response to FTI-0001.

²⁴⁸ Interview with CFO, Avangrid (Patricia Cosgel), December 21, 2022.

²⁴⁹ Response to FTI-0031.

²⁵⁰ Response to FTI-0428.

Business Growth	\$14.6B of Regulated (88%) and Contracted (12%) Investments through 2025, including PNMR
Financials	6-7% EPS and Adj. EPS CAGR from 2022 to 2025, reliable dividends, commitment to solid investment grade credit ratings; partnerships and potential asset rotation to reduce need for additional capital

Figure 1-22 The Financial Goals of the Strategic Plan²⁵¹

1.9.4. Updates

The LTO is updated annually because of the Annual Investor Day, however, there was no LTO issued in 2021 as mentioned above. The financial forecasts presented in the LTO are primarily driven by rate case parameters, investment levels for capital projects, and global assumptions such as inflation and interest rates.²⁵² The annual budget is more granular than the LTO²⁵³ and the first year of the LTO is aligned with the annual approved budget.²⁵⁴

1.9.5. Alignment of Planning Processes

The LTO and Investment Plan forecasts both incorporate the finalized objectives of the current approved Strategic Plan. The Investment Plan process and PXX use the first year of the currently approved LTO as their starting point for a new planning year cycle. The LTO can be updated in the first year and beyond if necessary once these two processes are completed and the plans are approved. Once PXX is complete, the first year of the LTO forecast is revised to reflect the final, approved PXX financial budget for the first forecast year.²⁵⁵

Additionally, the annual Networks Strategic Planning process incorporates updates from the LTO and Investment Plan into the “Financial Plan” portion of the Strategic Plan. Thus, in an annual cycle, Avangrid consistently refreshes its financial outlook in all three forward-looking Plans.²⁵⁶ As explained in Section 1.6.5, we observe only modest changes in the Strategic Plan’s Vision and key Business Objectives from year to year. In contrast, the annual financial planning (Investment Plan and LTO) processes help the CT Companies to prioritize the most value-adding initiatives and stay aligned to the most recent rate case. Thus, we question the value of a Strategic Planning process that occurs every year; a Strategic Planning process occurring every few years may allow for Avangrid leadership to gain a fresh perspective on the business from the bottom-up.

The Control and Regulatory groups interface frequently to triangulate information, ensuring that they are aligned while developing the plans described above.²⁵⁷ However, a recent audit of the annual budgeting process recommended that the Control group ought to share analysis duties and inputs more liberally with the Regulatory and Planning group to ensure timely communications and resource alignments.²⁵⁸

Recommendation: Given the separate oversight of the three planning processes, we also recommend the PURA receive a copy of the final Connecticut portions of the Strategic Plan, Investment Plan and LTO so that the PURA

²⁵¹ Response to FTI-0428, Att. 1.

²⁵² Interview with Vice President of Business Performance, Long-term Planning, and Investments (Delia Aza), September 14, 2022.

²⁵³ Interview with Director of Business Analysis, Networks, September 1, 2022.

²⁵⁴ Interview with Chief Information Officer/Vice President of Information Technology (Sergio Merchan), August 10, 2022.

²⁵⁵ Ibid.

²⁵⁶ Ibid.

²⁵⁷ Interview with UIL CEO (Franklyn Reynolds), August 19, 2022.

²⁵⁸ Response to FTI-0538, Att. 4 (confidential).

may review the final results for the CT Companies to ensure consistency with the Strategic Plan and monitor alignment with Connecticut’s regulatory policies and objectives.

1.10. Impact of COVID-19 on Planning Processes

In 2020, the COVID-19 pandemic caused Avangrid to postpone its Investor Day from the first quarter of the year to November 2020.²⁵⁹ Consequently, no Investor Day was held in 2021. In 2022, the Ukraine crisis caused Avangrid to again to postpone its Investor Day to September 2022 due to industry-wide delays in reporting to the market.²⁶⁰ These delays impacted the formation of the LTO. Data gathering and submission deadlines were postponed, and as such, the data refreshed significantly between 2020 and 2022.²⁶¹

The COVID-19 pandemic and the Ukraine crisis did not affect the timeline of the Annual Budget process or the overarching Strategic Planning process.

1.11. Internal Audit

1.11.1. Internal Audit Organization

Ray Cardella, Vice President Internal Audit, leads an Internal Audit department that is organized into four functional areas, each managed by an Internal Audit Director, as shown below in Figure 1-23.

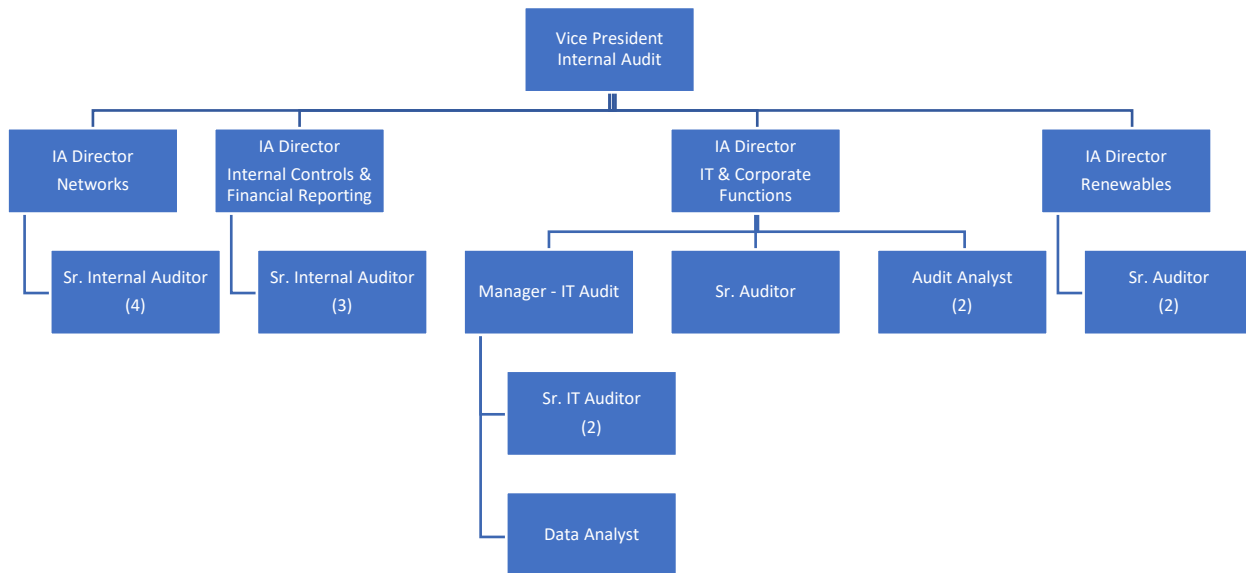


Figure 1-23 Internal Audit Organizational Chart²⁶²

Three of the four functional areas perform audits that impact the CT Companies, ASC and Avangrid:

- **Networks** – performs operational and compliance audits of the Networks utility companies, including UI, CNG, and SCG.

²⁵⁹ Interview with Manager of Investment Planning, Networks, September 21, 2022.

²⁶⁰ Interview with Controller, Avangrid (Scott Tremble), August 24, 2022.

²⁶¹ Response to FTI-0442.

²⁶² Response to FTI-0257, Att. 1.

- Internal Controls & Financial Reporting – reviews quarterly financial statements for Avangrid and its subsidiaries (including Networks), performs accounting related audits, and conducts Sarbanes-Oxley (“SOX”) testing of internal controls over financial reporting.
- IT & Corporate – audits administrative functions carried out at the Avangrid corporate level such as HR, environmental, and regulatory functions. IT audits also fall into this functional area, and address cybersecurity, systems implementations, and IT systems control testing for SOX compliance. In addition, a data analyst supports financial and operational audits across the department.

The Internal Audit Director that oversees the IT Audit function, previously Senior Audit Director at UI before the 2015 Merger, has an extensive internal audit background, including relevant national certifications, but does not have prior experience in IT Audit.²⁶³ While the IT Audit Manager who leads the team responsible for technology audits participates in Internal Audit leadership meetings overseen by the Vice President, the formal placement of the head of IT Audit within the organization is not consistent with best practices.

Oversight of the Networks Internal Audit function is provided by the Networks Audit and Compliance Committee, comprised of three members of the Networks Board of Directors, two of whom are Independent Directors (see Section 1.2.5.2 above). The Audit Director for Networks attends and provides written reports at each Committee meeting. Updates are provided quarterly on the progress on the annual audit plan completion, a summary of audits completed during the previous quarter, and the remediation status of high priority audit findings. Annual reports provided to the Committee include the results of SOX internal control testing,²⁶⁴ the internal audit plan, and the department’s goals and objectives.

Recommendation: The leader of the IT Audit function should have a position within the Internal Audit organization that reports directly to the Vice President of Internal Audit.

1.11.2. Internal Audit Plan

The internal audit plan development for the upcoming year begins in the fall timeframe. Internal Audit leadership (the Vice President and Directors) interviews senior leadership at the Avangrid and Networks levels to identify their key risks and priorities, and major projects for the upcoming year. The Chairpersons of the Audit and Compliance Committees of Avangrid and Networks are also interviewed. The Key Risk Register maintained as part of the enterprise risk management function is also used as a resource in plan development.²⁶⁵ The audit plan is presented to the Audit and Compliance Committee at the December meeting.

Certain audits in the annual plan are designated as “Essential”, defined as “those works that have the highest risk and/or great interest of AVANGRID and Networks Senior Leadership and that are considered strategically relevant at the group level and are subject to a special follow-up by the CAE and the Global Business Executives.”²⁶⁶ Three Networks audits were deemed essential in the 2022 internal audit plan: Reliability Metrics, Distributed Generation Connections, and the Cybersecurity Master Plan.

The Internal Audit Department does not use a formal audit calendar or have a schedule for recurring audits. Rather, the audit plan is newly created each year. Furthermore, management considers the audit plan to be a living

²⁶³ Interview with Vice President of Internal Audit (Ray Cardella), et al., November 15, 2022.

²⁶⁴ The testing of internal controls over financial reporting for SOX compliance is discussed further in Chapter 3.

²⁶⁵ Response to FTI-0256.

²⁶⁶ Ibid.

document that may be altered based on the emergence of new risks or issues. Modifications to the plan are communicated to and approved by the respective Networks Audit and Compliance Committee and Avangrid Audit Committee.²⁶⁷

1.11.3. Internal Audit Reports

Internal Audit workpapers, supporting documentation and audit reports are maintained within an automated tool, “i-audit,” which is part of the Archer GRC application suite. This software is used on a global scale and allows Iberdrola to monitor audits occurring at all subsidiaries through built-in dashboards.²⁶⁸ Audit recommendations, management remediation plans and implementation dates are also tracked through the tool.

An audit planning document, referred to as a “Terms of Reference” is created in the early stages of the audit that outlines the background, objectives, scope, and timing for the audit to be performed. This document is also used to develop a preliminary distribution list for the final audit report. Reports are drafted by the auditor who performs the audit, reviewed by the responsible Director and then the IA VP prior to draft issuance to the auditee and do not contain a rating of the overall audit. Instead, ratings are assigned to each individual finding, using a standardized methodology, summarized by the diagram below in Figure 1-24.



Figure 1-24 Internal Audit Rating Heat Map²⁶⁹

The probability score is based on the likelihood of an adverse event occurring, from less than 10% (Low) to greater than 85% (Critical). The impact score is determined using a number of quantitative and qualitative factors, depending on their relevance, including financial loss, operational risk, environmental risk, legal or compliance risk, and reputational risk. An audit finding pertaining to fraud committed by employees at the management level or above, or theft of funds or assets over \$10,000, is automatically deemed to be Critical.²⁷⁰

Audit findings and recommendations are not considered closed unless sufficient evidence has been obtained, reviewed, and validated to support remediation. Documentation is maintained in i-audit to support finding closure. All findings with a rating of High or Critical, and Medium-rated findings with missed implementation deadlines (which are more than 30 days past due and less than 90% remediated), are reported to the Audit and Compliance Committees of Networks and Avangrid, as well as the Iberdrola Global Audit Director at least quarterly.²⁷¹ Findings

²⁶⁷ Ibid.
²⁶⁸ Response to FTI-106.
²⁶⁹ Response to FTI-0106, Att. 1.
²⁷⁰ Ibid.
²⁷¹ Response to FTI-0106.

related to Networks companies and/or the CT Companies in recent years have remained relatively stable, with some normal variation in the severity of the findings.

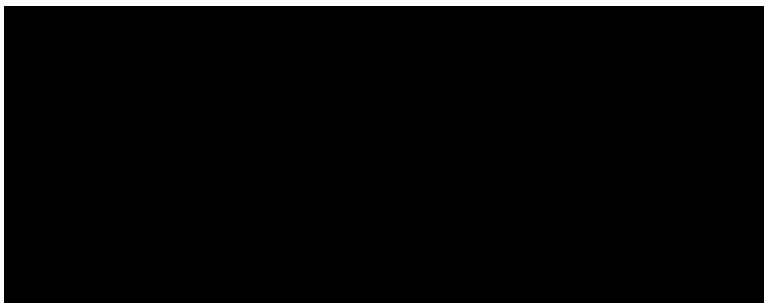


Figure 1-25 Internal Audit Findings by Year, 2019-2021²⁷²

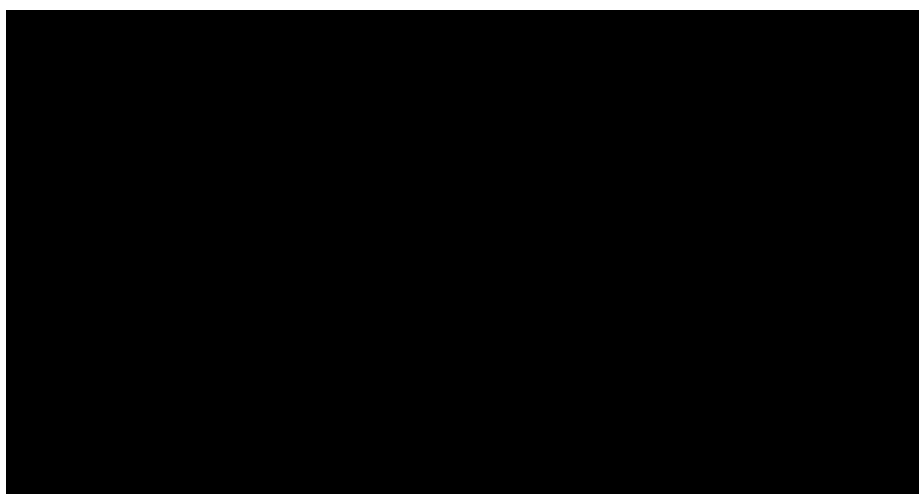


Figure 1-26 Open Internal Audit Findings as of September 30, 2022²⁷³



²⁷² Response to FTI-0107, Att. 1 (confidential).

²⁷³ Response to FTI-0577, Att. 1 (confidential).

²⁷⁴ Ibid.

²⁷⁵ Ibid.

1.11.4. Benchmarking

In 2020 the Avangrid Internal Audit group participated in an external quality assessment (“EQA”) of the department’s policies and practices for compliance with the Institute of Internal Auditors (“IIA”) International Standards for the Professional Practice of Internal Auditing, and the IIA Code of Ethics, which was conducted across all Iberdrola companies. Avangrid’s Internal Audit Department was found overall to have “generally conformed” to the IIA Standards and Code of Ethics – the highest rating provided through the assessment process. Furthermore, the department received a similar top rating in 14 of 15 individual Standards and had no instances of noncompliance.²⁷⁶

The EQA report made several favorable observations during the course of the assessment, noting:

- an excellent reputation and professional image based on surveys of Senior Management and the Audit and Compliance Committee members,
- a high level of professional qualifications, with most staff having relevant certifications, and
- a high degree of competence in both experience and technical knowledge.

In addition, the report included some findings and recommendations for improvement, which included the following:

- Provide formal confirmation of organizational independence to the Audit and Compliance Committee at least annually.
- Enhance and better formalize the procedures for internal quality assessments within the department.
- Determine and assess the annual audit plan’s coverage of the complete audit universe.
- Develop detailed procedures for conducting assurance and consulting engagements.
- Reduce the time between the initial draft report and final report issuance.

In response to the EQA report, a team of internal auditors from across the Iberdrola group of companies was formed to address and implement a Quality Assurance and Improvement Plan (“QAIP”). One requirement of the QAIP is that each company perform an annual internal quality review based on a preapproved checklist. Avangrid’s most recent internal assessment, in 2021 concluded that it “generally conformed” to the checklist criteria, with minor issues noted, such as the timely uploading of supporting documents into the i-audit system.²⁷⁷

²⁷⁶ Response to FTI-0574, Att. 1., *Internal Audit Activity External Quality Assessment*, Francisco Javier Faleato, October 7, 2020.

²⁷⁷ Response to FTI-0576.

Chapter 2: System Operations

Introduction

This chapter evaluates the Gas and Electric System Operations activities of the Connecticut utility subsidiaries of Avangrid, Inc. (“Avangrid”): the Connecticut Natural Gas Corp. (“CNG”), the Southern Connecticut Gas Company (“SCG”) and the United Illuminating Company (“UI”) (collectively the “CT Companies”).¹ These activities include the following: evaluation of the organizational structure, analysis of how the CT Companies manage distribution assets, analysis of system planning activities, evaluation of system design practices, evaluation of project management processes and practices, analysis of operations and maintenance (“O&M”) activities, evaluation of Electric Distribution activities including vegetation management and inspection programs, evaluation of Gas Distribution system management including gas supply and loss of unaccounted-for gas, and evaluation of the CT Companies’ Emergency Response Plans.

Findings

Organization and Structure

1. The senior leaders for both gas and electric are either responsible for Connecticut only or share their responsibility for one other state. However, there are still certain instances where system operations activities are managed centrally.

Distribution Asset Management

2. UI’s average asset age indicates older system assets in use which is typical of utilities in the Northeast.
3. CNG and SCG have average asset ages of 33.8 years which is typical of the industry.
4. UI stated they were unable to supply benchmarking data, so the United States’ (“U.S.”) industry reliability averages were used to compare with UI results, which are significantly better than the industry average.
5. The five-year leak history data indicates a reasonably stable performance with SCG maintaining a low average monthly balance.
6. CNG leak data began the five-year period high, but CNG made significant progress to reduce the number of leaks.

System Planning

7. UI has experienced flat to declining load growth which has been a common trend across the U.S. for the past 20 years.
8. In 2021, the Gas Engineering group took the responsibility for SCG and CNG’s system planning with a centralized Director who leads all planning activities at the Avangrid Networks (“Networks”) utilities.

¹ The CT Companies are directly owned by the UIL Holdings Corp., which also owns Berkshire Gas Company (“BGC”) in Massachusetts.

9. CNG and SCG have a newly created Enhanced QA-QC program which effectively performs audits of various functions. These audits are conducted through a field-based inspection individual who observes work being performed to ensure compliance to The CT Companies' standards.

System Design

10. Electric Distribution does not use the same robust practices as Electric Transmission and Substation for cost estimation.
11. Gas Distribution does not consider alternatives for new designs, and while much of the CT Companies' work is replacement in kind, there is an opportunity for Gate Stations and District Regulators.
12. Similar to Electric Distribution, Gas Distribution does not use the same robust practices as Electric Transmission and Substation for cost estimation.

Project Management

13. All SCG and CNG projects are managed through the Projects group while Electric Distribution projects are managed by the Electric Operations group. UI noted that work remains to "redevelop" the procedures used for Electric Distribution project management but gave no action plan or timeline to do so.
14. Lead times for material and equipment have grown significantly due to COVID-19-related supply chain challenges.
15. UI's inventory system of record is SAP Global which manages materials based on a min/max system structure. All work is processed through the SAP work order system which drives inventory requirements down to SAP MRP. Logistics utilizes MRP in SAP to reorder stock for project demand and normal usage. UI's project material is sourced from normal stock where it may be used for any work. While no system can guarantee zero stock outs, utilizing MRP provides visibility to all loaded requirements both project and otherwise.
16. Most Gas and Electric Transmission and Substation projects use contracted resources, while Electric Distribution projects are resourced using in-house or UI-employed crews.

Operations and Maintenance

17. Historical O&M spend over the past five years had periods of little variation coupled with a significant variation for all three CT Companies in 2021. The CT Companies explained the variances were due to the transition to SAP, which made "P&L line item" comparisons to other years impossible.²

Electric Distribution

18. UI is currently finalizing the process of moving from time and material to lump sum and unit-based pricing for all their Vegetation Management programs, which can drive costs lower. Previously the Utility Protection Zone program (UPZ) used lump sum pricing for approximately 75 percent of the work performed.

² P&L is a common abbreviation for "Profit and Loss."

Gas Distribution

19. Over the 2019/2020 winter period, the estimated usage for CNG for the coldest five days was 97.9 percent of actual load for Hartford, Connecticut and 100.5 percent for Greenwich, Connecticut with a similar analysis at SCG resulting in 100.2 percent of actuals, which indicates the accuracy of the CT Companies' regression model.
20. CNG and SCG (the "Gas Utilities") do not perform hedging, rather, they lock in pricing prior to the monthly and daily index settlements due to the "80/20 rule," where the majority of benefits go to ratepayers and the majority of costs go to shareholders.

Emergency Response Plan

21. Emergency Response Plan implementation is led by an incident response organization that is structured around the Incident Command System ("ICS"), which is aligned to the National Incident Management System ("NIMS") maintained by the Federal Emergency Management Agency ("FEMA").
22. The role of the Incident Commander ("IC") is typically served by individuals in a leadership role with experience in system operations and understands the Incident Command System structure and principles needed to manage an event.
23. UI works with each of their municipalities annually to update a list of 10 individual priorities, which then become UI's priorities for each emergency response event.

Recommendations

Distribution Asset Management

1. The CT Companies should consider all potential unique causes to equipment failures including the effect of salt corrosion due to the CT Companies' coastal location. This factor should be considered when analyzing failures and should be a key consideration for new equipment purchases and standards updates.

System Planning

2. The CT Companies should consider the locationally specific influences of Heavy-Duty Electric Vehicles ("HDEVs") and other influences such as marijuana growing facilities into their long-term system forecasts.

System Design

3. SCG and CNG should implement a robust design alternatives analysis process to ensure that a broad set of design considerations are made prior to finalizing design. This process should take lessons learned from the electric process and implement them as necessary, including the governance used for review. This process should also include methods and approaches that are repeatable through the use of standardized templates and documentation.
4. The CT Companies should develop an estimating tool for Gas and Electric Distribution projects that applies similar approaches, methodologies, and tools used for Transmission and Substation projects. Appropriate training should be developed and deployed to applicable users.

Project Management

5. UI Electric Distribution should implement a robust Project Management “Playbook” with all project management processes, policies, tools, and templates for Electric Distribution projects. Implementation of this playbook will ultimately support the consistent application of best practices necessary to successfully run a project within scope, schedule, and budget.
6. The Gas Utilities should implement a Responsibility Matrix similar to UI’s. The CT Companies can use similar format and content, but the matrix should be customized for gas purposes.
7. The CT Companies need to provide a comprehensive set of productivity trackers on a regular cadence to Operations leaders. The CT Companies should also perform regular productivity tracking to assist with decisions on when to use and not to use contracted resources, and to also assist with the benchmarking of internal crew productivity. The CT Companies should also conduct time tracking studies for field-facing supervisors so they can determine if time is focused on the most valuable activities. The outcome of this recommendation should be monitored and understood by all relevant operational leaders.

Operations and Maintenance

8. The CT Companies should develop more formal productivity and work exception management practices. This should include time trackers and metrics for performing routine maintenance tasks. Also, exception management should track when planned work is not performed with the reasons why noted so that root cause and improvement actions can be implemented. Performance trackers should be created to monitor the health of the O&M work management process.
9. The CT Companies should augment their existing performance management program to drive improvement in at-fault dig-ins. The improvement to the existing initiative should include the identification of additional root causes through deep analysis that considers software, records management, human factors, contractor versus internal employee performance, process, training, and others as necessary.

Electric Distribution

10. There is an opportunity to improve the budget development process to reflect actual spend of vegetation management more accurately. This includes more accurate budgets for the Utility Protection Zone (“UPZ”) program since there is more certainty with the amount of work to be accomplished on an annual basis.

Emergency Response Plan

11. The “Avangrid Networks Unified Gas Emergency Plan” should be updated to include “Event/Emergency-level” specific references that define emergency response activities, for example, activation and communication requirements for each level. Additionally, checklists should be created for each ICS role and other major operational roles as necessary, which can be modeled by those included in the UI Plan.
12. UI should designate primary and secondary emergency roles for employees, which consider need based on a variety of activation scenarios and through the process mapping analysis. This recommendation also includes the development of a process for activation that ensures employees are not activated for both their primary and secondary role at the same time. UI should also develop a database that indicates assigned and available resources.

13. The CT Companies need to develop process maps and associated documentation for the critical emergency response processes. Process mapping sessions should be used to evaluate event scale (number of employees required), and to evaluate the tools used to support the process and develop the metrics that will be used to monitor performance. Mapping activities should include “as-is” and “to-be” states and the appropriate initiatives supporting moving towards a to-be state. Finalized process maps will not have to be included in the response plans, but each plan should be reviewed to determine if updates are needed to align to these new processes.

2.1. Organization and Structure

System Operations is a broad topic that covers several activities and functions within the CT Companies and is primarily focused on investment, development, design, construction, O&M, and emergency response activities. Correspondingly, there are several organizations that are directly and indirectly responsible for managing these activities and each Section within this Chapter evaluates their ability to effectively manage them.

Catherine Stempien, the President and Chief Executive Officer (“CEO”) of Networks (“Networks CEO”), is the leader responsible for System Operations for Avangrid Networks. She reports directly to Pedro Azagra, the CEO of Avangrid. Reporting to Ms. Stempien, in addition to others, are four senior leaders who are responsible for leading the electric and gas utility activities and who are responsive to local Connecticut needs. Specifically, Thiago Bigi is the Senior Vice President – Operations for the Network Companies with the primary responsibility for UI’s Electric System Operations. Albert Langland is the Vice President of Gas Engineering and Operations with the primary responsibility for System Operations for both SCG and CNG. Franklyn Reynolds is the President and CEO of UIL Holdings Company (“UIL CEO”) and has direct accountability for the performance of the CT Companies, see Figure 2-1.³

The CT Companies recently realigned to this structure to become more responsive to the specific needs of Connecticut by moving operational leaders to a regional model. The senior leaders for both gas and electric operations are either responsible for Connecticut only or share their responsibility for one other state, whereas the previous model had these leaders responsible for multiple operating companies across multiple states.^{4,5} This model is ideal since it drives the focus required for day-to-day performance management and for effective emergency response. Additionally, Franklyn Reynolds is responsible for the CT Companies’ performance and can directly influence leaders as necessary to serve the needs of Connecticut. However, there are certain instances where system operations activities are managed centrally, which are evaluated within this Chapter.

³ Response to FTI-0001, Att. 1.

⁴ Interview with Senior Director of SCG/CNG Gas Operations, August 3, 2022.

⁵ Interview with Vice President of Electric Operations (Charles Eves), August 4, 2022.

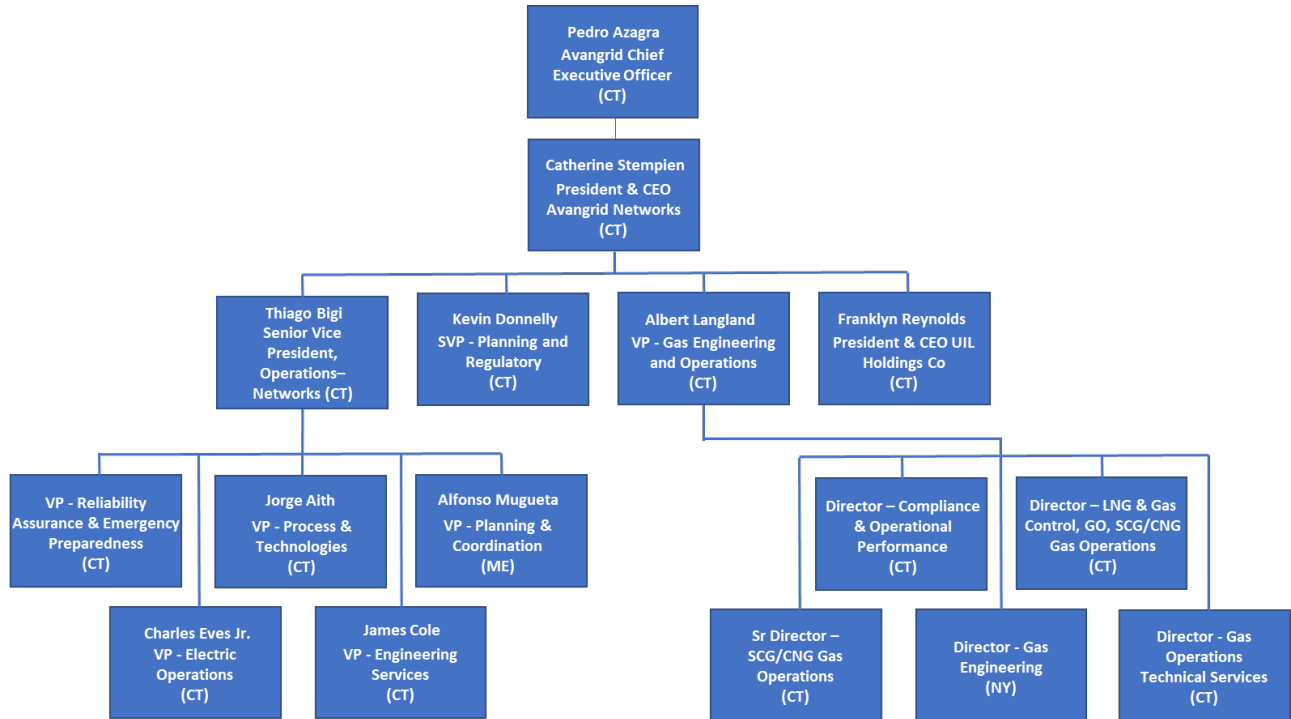


Figure 2-1 Organization Responsible for System Operations⁶

As of April 30, 2022, there were a total of 985 employees who report to the three CT Companies, with 261 employees reporting to CNG, 237 employees reporting to SCG, 481 employees reporting to UI, and six employees reporting to the UIL Holdings Corp., as shown in Figure 2-2.⁷ The organizations with the greatest number of vacancies include the operations teams for the Gas Utilities and the Projects group, which provides services to all three CT Companies. Specific detail is provided where applicable within this Chapter.

⁶ Response to FTI-0001, Att. 1.

⁷ Response to FTI-0002, Att. 1.

Headcount and Vacancies for UI, SCG, CNG as of April 30, 2022											
Function	CNG			SCG			UI			UIL Holding Co	
	Active HC	Vacancies	%	Active HC	Vacancies		Active HC	Vacancies		Active HC	Vacancies
Health & Safety	0	0	-	1	1	100.0%	0	0	-	1	0
Asset Management & Planning	0	0	-	0	0	-	9	2	22.2%	0	0
Electric T & D Operations	1	0	-	10	0	0.0%	365	10	2.7%	0	0
Energy Supply	11	1	9.1%	2	1	50.0%	1	0	0.0%	0	0
Gas Engineering	3	0	-	5	1	20.0%	0	0	-	0	0
Gas Operations	213	15	7.0%	196	6	3.1%	0	0	-	1	0
Office of CEO	1	0	0.0%	0	0	-	1	0	0.0%	0	0
Operational Smart Grids	0	0	-	0	0	-	27	0	0.0%	0	0
Performance & Budgets	0	0	-	0	0	-	2	0	0.0%	0	0
Planning & Coordination	1	0	0.0%	0	0	-	17	2	11.8%	0	0
Planning & Investment	0	0	-	0	0	-	1	0	0.0%	0	0
Process & Technology	0	0	-	0	0	-	20	0	0.0%	0	0
Projects	31	3	9.7%	23	5	21.7%	36	4	11.1%	0	0
Reliability & Emergency Prep	0	0	-	0	0	-	1	0	0.0%	0	0
Smart Grids Innovation	0	0	-	0	0	-	1	0	0.0%	0	0
UIL Presidents Office	0	0	-7.3%	0	0	-	0	0	-	4	1
Total	261	19	7.3%	237	14	5.9%	481	18	3.7%	6	1

Figure 2-2 Headcount and Vacancies for UI, SCG, and CNG as of April 30, 2022⁸

2.2. Distribution Asset Management

Maintaining reliable and safe electric and gas infrastructure is a primary responsibility for any utility and is typically managed through asset management programs that define the standards and practices required for an acceptable level of service. For UI, the responsibility is managed through several functional areas including Reliability and Assurance, Electric Operations, and Process and Technology, see Figure 2-1 for the location of these groups within the broader organizational structure. For SCG and CNG, this responsibility is with the Gas Engineering, Gas Operations, and Process and Technology groups.

2.2.1. Procedures and Documentation

These groups' actions and activities are coordinated through documentation including the "Maintenance Plan for Transmission and Distribution Overhead and Underground lines" for UI, and the "Operating and Maintenance Plan" for SCG and CNG (individually "Plan" or collectively "Plans"), and materials standards for all three Companies.^{9,10,11}

2.2.1.1. Maintenance Procedures for UI

These documents define the processes, procedures, and specifications for UI including:

- Overhead Distribution System
- Underground Distribution System
- Overhead Transmission System

⁸ Response to FTI-0002, Att. 1.

⁹ Response to FTI-0003.

¹⁰ Response to FTI-0004.

¹¹ Response to FTI-0086, Att. 1.

- Underground Transmission System
- Substations
- Vegetation Management

UI adheres to a reliability centered maintenance (“RCM”) approach.¹² RCM expands typical time-based maintenance programs to also include condition-based maintenance and replacement, which considers the condition of the asset to determine if it is vulnerable to a condition-based failure. RCM is a common industry approach, with its effectiveness improving due to the availability of additional data through connected devices, such as temperature monitoring and loading, among others.

RCM is implemented at UI through a detailed inspection and maintenance program used for all major asset classes including conductors, overhead and padmounted switches, lighting arrestors, capacitor banks, overhead/underground transformers, pole mounted regulators/reclosers, streetlights, splicing chambers and vaults, network transformers, and circuit breakers.¹³ Each asset class has specific inspection and/or maintenance frequency along with the required maintenance tasks required defined within the Plans.

Vegetation management standards and methods define the frequency of inspection and trimming, line clearances, details about the UPZ, and substation and transmission vegetation management requirements.¹⁴ They also describe the process for program management, including how to schedule, obtain owner consent, and work site management practices. The documents also list the relevant standards and federal and state regulations governing vegetation management activities.

Our review of these documents indicates their alignment to industry standards with respect to document layout, content, and the standards applied to these activities.

2.2.1.2. Maintenance Procedures for SCG and CNG

The Gas Plan includes, but is not limited to, the following areas¹⁵:

- Monthly, Annual and Ad Hoc Incident Reporting to PHMSA (“PHMSA”) and the Connecticut Public Utilities Regulatory Authority (“the PURA”)
- Customer Notification regarding Buried Customer Piping
- 49 CFR 192 Subpart L, Operating Procedures
- 49 CFR 192 Subpart M, Operations Procedures
- 49 CFR 192 Subpart I Operations Procedures for Corrosion Control
- Monitoring and Protection of Gas Facilities with Adjacent Underground Construction, Excavation, or Blasting under 49 CFR 192.755
- Gas Leak Procedures

The Plan applies to both Gas Utilities and includes the rules and regulations that govern their maintenance and inspection practices. It also highlights the required training for employees who are responsible for operating and maintaining the system, otherwise known as Operator Qualification (“OQ”), which is an industry requirement. It also details the reporting requirements under part 191 Federal Regulations and Docket No. 8950 of the

¹² Response to FTI-0003 UI, Att. 1.

¹³ Ibid.

¹⁴ Response to FTI-0003 UI, Att. 1.

¹⁵ Response to FTI-0086, Att. 1.

Connecticut Department of Public Utility Control. This includes the reporting required for certain incident types, including those resulting in property damage, failures, and other routine reporting such as leaks and system integrity reports.¹⁶

The Plan defines the various operating procedures used to maintain and inspect the gas systems, the annual patrol and inspection of facilities, the three-year inspection lifecycle for all pipelines installed on structures, the inspections requirements for pressure limiting and regulator stations, among others. It also details the procedures for each grade of gas leak, including the requirement for mitigation and ongoing management.

Our review of the inspection practices at the CT Companies noted that their leak surveys are conducted every three years in compliance with the plan, and their documentation aligns to industry standards concerning document layout and the standards applied to these maintenance and inspection activities.¹⁷

2.2.1.3. Engineering and Material Standards

UI, SCG, and CNG maintain equipment and engineering standards which define the material/equipment requirements for the gas and electric systems. The CT Companies' philosophy is to either meet or exceed all applicable codes governing utility work including for UI the "National Electrical Safety Code (NESC), the ASCE Standard, the National Electrical Code (NEC), or the IEEE-ANSI Code. CNG and SCG Companies standards meet Minimum Federal Safety Standards (49 CFR 191, 192, 193 and 199) promulgated under federal law (49 USC Chapter 601) and Regulations of Connecticut State Agencies (§16-11-1 et. seq.)"¹⁸

The CT Companies' Plans are updated based on input from users on an annual basis and/or when there is a relevant code change. This process requires signoffs to indicate review and approval from the Electric Operations, Projects, Health and Safety, electric and gas engineering vendors (consultants), Gas Engineering and Operations, and Gas Design and Delivery groups. The updated Plans, with applicable changes, are shared with all stakeholders within UI, and SCG and CNG changes are shared during annual training sessions.¹⁹

The CT Companies also highlighted that they are consolidating standards between the Networks utilities to identify best practices, and to move toward a more common material standard which will help optimize purchasing efficiency. This will also apply to maintenance standards, with a stated goal of finding synergies within all Networks utilities.^{20,21} Overall, the processes are used to maintain standards, ensure their effectiveness and adherence to industry standards, and comply with applicable regulations.

2.2.2. Tools used for Asset Management

All three CT Companies use SAP as their system of record for tracking assets and UI uses the application to support the management of their maintenance program. The system includes applicable records for each asset, and SAP's work management program is used to monitor and schedule the performance of maintenance activities.²²

¹⁶ Response to FTI-0086 SCG, Att. 1.

¹⁷ Ibid.

¹⁸ Response to FTI-0004.

¹⁹ Ibid.

²⁰ Interview with Senior Director of Operational Excellence, November 8, 2022.

²¹ Interview with Vice President of Electric Operations (Charles Eves), August 4, 2022.

²² Response to FTI-0003.

2.2.3. Asset Age

While age alone is not an accurate indicator of overall asset health, older assets must follow a rigorous and, at times, an elevated level of maintenance to ensure continued health. In fact, certain assets can be very reliable as they age and do not need replacement based on age alone. Conversely, certain assets such as older cross-linked polyethylene (“XLPE”) insulated underground cables can be more age sensitive with limited success for extending useful life.²³ We evaluated each CT Company’s asset age to determine their alignment to industry trends and to determine if any special considerations exist for their maintenance program based on asset age. Figure 2-3 below shows UI’s average asset age.

Electric Average Age by Asset Class		
Major Asset Class	Age of population	Average age of oldest 10% of population
Distribution Poles	32 years	79 years
Substation Circuit Breakers	31 years	60 years
Substation Power Transformers	34 years	57 year

Figure 2-3 UI Average and Oldest Assets by Class²⁴

UI did not provide extensive age data by asset class, however, the data provided indicates older assets, typical of utilities in the Northeast. Despite the limited data sets, we assumed that UI’s other assets are similarly aged. UI does not designate any special or additional maintenance or inspections solely due to age, deeming existing programs sufficient.²⁵ Figure 2-4 below shows CNG and SCG’s average asset ages.

Gas Average Age by Asset Class		
Major Asset Class	CNG	SCG
Main	41.1 years	45.1 years
Services	31.6 years	32.6 years
Main (Oldest 10%)	82 years	82 years
Service (Oldest 10%)	73 years	82 years

Figure 2-4 SCG and CNG Average and Oldest Assets by Class²⁶

Similar to UI, both CNG and SCG have average asset ages of 33.8 years, which is typical of the industry.²⁷ The significant factors that define useful life include material type, soil type, moisture exposure, roadway versus grass (vibration), among other factors. Some older cast iron assets can have thicker walls that can remain in service with minimal leak issues. To address assets with more problematic service history, the Gas Utilities have implemented a leak-prone pipeline replacement program, which is evaluated in Section 2.2.4.2.

2.2.4. Asset Management Performance

To evaluate the effectiveness of their asset management practices, we reviewed each of the CT Companies’ reliability and leak data. It is important to note that reliability and leak performance is not solely driven by asset

²³ https://electricenergyonline.com/EE_magazine_article.php?article=186

²⁴ Response to FTI-0006 UI.

²⁵ Response to FTI-0003 UI, Att. 1.

²⁶ Response to FTI-0006 CNG-SCG.

²⁷ <https://rmi.org/a-new-approach-to-americas-rapidly-aging-gas-infrastructure/>

management programs, and that other components such as replacement programs and responsiveness to outages and leaks are also major contributors.

2.2.4.1. *Electric (UI) Reliability and Loading*

UI develops their reliability metrics through the use of industry-recognized metrics, including the following:²⁸

- **System Average Interruption Frequency Index (“SAIFI”)**: Measures how frequently outages occur on average.
- **System Average Interruption Duration Index (“SAIDI”)**: The outage duration any particular customer may experience.
- **Customer Average Interruption Duration Index (“CAIDI”)**: The ratio of SAIDI and SAIFI, which is typically considered the average restoration time.

UI stated they were unable to supply benchmarking data, so U.S. industry reliability averages were used compare UI results. While this is not an ideal comparison reference due to variations in geography, weather, system design, and age, the results indicate that UI performs significantly better than the industry average for non-major outage events, as shown in Figure 2-5.²⁹ Specifically, the frequency and duration of outages are about half the average, with restoration notably better than average. When compared to their other Northeastern peers UI and Connecticut Light and Power, the two investor owned electric utilities in Connecticut, also has better non-major outage event reliability.³⁰

UI Reliability Data						
Year	SAIFI (UI)	SAIFI (Industry Average)	CAIDI (UI)	CAIDI (Industry Average)	SAIDI (UI)	SAIDI (Industry Average)
2017	0.4	1.023	1.37	1.91	0.55	1.02
2018	0.63	1.051	1.57	1.93	0.98	1.05
2019	0.5	1.04	1.28	1.96	0.63	1.04
2020	0.57	1.013	1.33	1.91	0.77	1.01
2021	0.46	1.039	1.44	2.02	0.66	1.04

Figure 2-5 UI Five-year Reliability Compared to U.S. Industry Average^{31,32}

While UI has strong reliability data, the causes of outages were reviewed to determine specific drivers. UI’s Transmission and Distribution system annual report highlighted equipment-based failures as a leading cause. The Company provided a plan to drive improvement, including sourcing equipment with high reliability, evaluating equipment lifecycle, and conducting failure analysis.³³ However, one area not mentioned was the evaluation of asset performance in the high sea salt environment which is prevalent in UI’s service territory. We suggest that if

²⁸ IEEE Guide for Electric Power Distribution Indices - Standard 1366.

²⁹ Response to FTI-0005 UI

³⁰ <https://www.ctpost.com/local/article/Data-suggests-CT-utilities-are-more-reliable-than-15622715.php>

³¹ Ibid.

³² https://www.eia.gov/electricity/annual/html/epa_11_01.html

³³ Response to FTI-0037, Att. 1.

that UI has not done so already, they should include this factor in their evaluation of equipment failures and future equipment selection.

Recommendation: The CT Companies should consider all potential unique causes to equipment failures including the effect of salt corrosion due to the CT Companies’ coastal location. This factor should be considered when analyzing failures and should be a key consideration for new equipment purchases and standards updates.

Vegetation-based failures are also significant; however, the Company is progressing their UPZ specification, which is an aggressive program that should yield improvement in vegetation-related outages.³⁴ As it currently stands, vegetation-related outages remain the largest outage cause within the U.S. However, the data evaluated in Section 2.6 indicates that the Company is progressing their current UPZ program which is further detailed in the 2.7.1 Vegetation Management Program section.³⁵

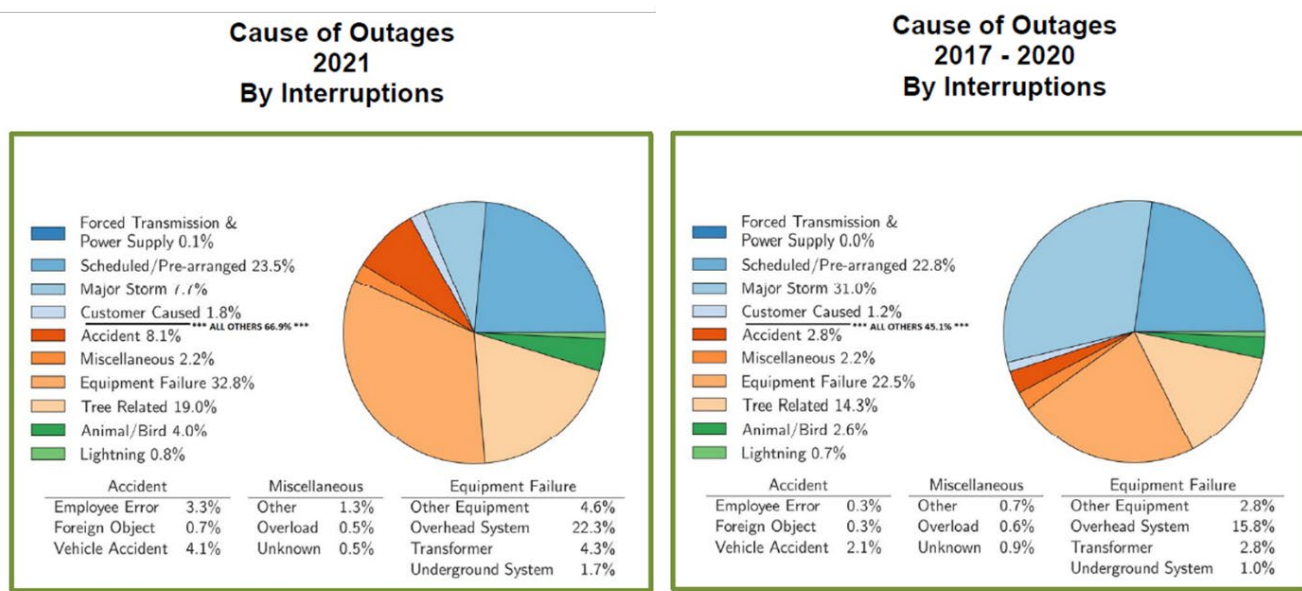


Figure 2-6 UI Five-year Outage Causes by Interruptions^{36,37}

We also reviewed UI circuit loading to determine if any substations or circuits are loaded above the planning criteria standard of 90 percent of their normal rating.³⁸ This criteria, detailed in Section 02.3. System Planning, is designed to ensure that substations and circuits do not regularly exceed the thermal capacity of equipment, which can lead to accelerated fatigue and circuit outages. UI-provided data indicated that around 3 percent of circuits and one substation out of 38 exceeded 90 percent loading over a five-year average time period.³⁹ These numbers are reasonable for the industry and do not indicate any major concern so long as system improvement projects are implemented to mitigate this.

³⁴ Response to FTI-0005 UI.

³⁵ <https://www.tdworld.com/vegetation-management/article/21239691/outsmart-vegetationrelated-power-outages>

³⁶ Response to FTI-0005 UI.

³⁷ https://www.eia.gov/electricity/annual/html/epa_11_01.html.

³⁸ Response to FTI-0007, Att. 1.

³⁹ Response to FTI-0008 Supplement.

2.2.4.2. Gas (SCG and CNG) Reliability

SCG and CNG track leak data, which is obtained either through customer complaints or inspections, to assist with determining pipeline health. Leak data, when coupled with other asset data such as age, installation location, materials used, protection, inspection results, and other parameters, are typically used to determine the health of assets and their subsequent inclusion in replacement programs.⁴⁰ The Gas Utilities track active leaks on a monthly basis along with new leaks, leaks repaired, and those with any dispositions.^{41,42} They, however, do not delineate if the data was sourced through members of the public or through their inspection program, which limits the ability to evaluate leak inspection quality. This is addressed further in Section 2.6.

The five-year leak history data indicates a reasonably stable performance, with SCG maintaining a low average monthly balance, and the volume of repairs are within a reasonable balance of leaks detected, as shown in Figure 2-7. There is no appreciable reduction in detected leaks over the five-year period, which indicates that while SCG is keeping up with leaks through their repair and replacement programs, they are not getting ahead of them.

SCG data also indicated a significant spike in leaks detected in 2021, which was caused by leak survey personnel taking over repair rechecks in 2021. A recheck would be reported as a new leak even though it was likely caused by residual gas, effectively duplicating the leak.^{43,44} The Company stated they have since transferred the responsibility back to the Gas Distribution group to eliminate the issue.

CNG leak data began the five-year period high, but they made significant progress to reduce the number of leaks, as shown in Figure 2-7, while this is a significant improvement the Company recognizes additional work remains.⁴⁵

SCG Leaks							
	Grade 1 Leaks	Grade 2 Leaks			Grade 3 Leaks		
Year	Reported Leaks	Leaks Detected	Leaks Repaired	Ave Monthly Balance	Leaks Detected	Leaks Repaired	Ave Monthly Balance
2017	387	473	426	64	226	181	283
2018	444	392	334	51	205	173	262
2019	392	291	253	45	215	168	220
2020	285	322	278	55	266	162	213
2021	353	423	343	80	446	123	369

CNG Leaks							
	Grade 1 Leaks	Grade 2 Leaks			Grade 3 Leaks		
Year	Reported Leaks	Leaks Detected	Leaks Repaired	Ave Monthly Balance	Leaks Detected	Leaks Repaired	Ave Monthly Balance
2017	285	567	506	126	490	465	700
2018	288	581	524	109	476	253	702
2019	272	612	570	111	551	122	504
2020	233	526	503	83	422	169	561
2021	263	332	285	58	237	108	441

Figure 2-7 SCG and CNG Five-Year Gas Leaks^{46,47}

⁴⁰ Response to FTI-0586.

⁴¹ Response to FTI-0005 CNG SCG, Att. 1.

⁴² Response to FTI-0005 CNG SCG, Att. 2.

⁴³ Response to FTI-0005 CNG SCG, Att. 1.

⁴⁴ Response to FTI-0553.

⁴⁵ Response to FTI-0005, Att. 2.

⁴⁶ Response to FTI-0005, Att. 1.

⁴⁷ Response to FTI-0005, Att. 2.

2.3. System Planning

System Planning is the function/activity that analyzes the electric and gas systems to identify any planning violations that require mitigation. The methods used to perform this include load forecasting, reliability analysis, system operational considerations, summer/winter loading, stability calculations, among others. The outcome of this analysis can result in new programs and projects, including asset replacement programs, circuit reconfigurations, new circuits, and new substations. These recommendations are then prioritized and budgeted as appropriate based on a range of factors such as driver, metrics, operational need, and others. This Section evaluates UI, SCG, and CNG's System Planning capabilities, including their application of best practices.

2.3.1. UI System Planning

UI System Planning is the responsibility of the Planning and Coordination group which is led by Alfonso Mugeta Navajo, the Vice President of Planning and Coordination, as seen in Figure 2-1. The group includes the Strategy Planning, Integrated System Planning, Control Centers, Technical Services, and Operational Excellence groups. The Advanced Planning group is housed under one of the Integrated System Planning groups and is responsible for creating the tools and Key Performance Indicators ("KPIs") for system planning activities. Day-to-day planning activities are the responsibility of the other Integrated System Planning group which is based in Connecticut, and the Operational Excellence group is responsible for resource planning as it relates to the outcome of planning studies. The Technical Services group is responsible for interfacing with the Projects group to support environmental permitting and the Quality Management System ("QMS"). Lastly, the Performance and Control Center group is responsible for providing the standards and training used for the Control Centers and is responsible for ensuring that standards are complied with.⁴⁸

UI stated that the Planning organization's resourcing is well balanced and includes several recent hires to support upcoming retirements and attrition. They also have a rotational program for new employees to ensure they gain exposure to various parts of the business, which is coupled with planning-specific training and development opportunities.⁴⁹

2.3.1.1. Modeling and Forecasting Methodology

The modeling and forecasting methods used by UI are detailed in their "Distribution Planning Criteria" document, which describes the use of a top-to-bottom forecasting method called the "single multi-variable model." This model includes temperature and economic data to forecast their associated impact on peak loading. UI also includes the influence of Distributed Energy Resource ("DER") time-specific output to effectively adjust the magnitude of the system peak, which typically takes the form of load curtailment. The Company then uses a two-scenario model to forecast both a normal "50-50" and extreme "90-10" scenario that is based on historical data for winter and summer conditions to derive their planning forecasts. More locationally specific forecasts refine these outcomes using information from a "granular analysis of local economic development data" to ultimately calculate a Compounded Annual Growth Rate.⁵⁰

UI does not use advanced probabilistic forecasting to assist with forecast development and does not currently see the need given its smaller service territory size and current flat to declining load growth trends. They also stated they do not foresee major forecasting challenges with respect to DER penetration since there is not a significant

⁴⁸ Interview with Vice President of Planning and Coordination (Alfonso Mugueta), October 12, 2022.

⁴⁹ Interview with Senior Director of System Planning, November 16, 2022.

⁵⁰ Response to FTI-0007, Att. 1.

amount of open land for larger installations, and that only “a couple of new studies a month” occur. However, UI recognized that rooftop solar presents a challenge for forecasting, which will be mitigated through their plans for expanding Advanced Metering Infrastructure (“AMI”) data usage, which is expected in 2023.⁵¹

UI has experienced flat to declining load growth, which has been a common trend across the U.S. for the past 20 years.^{52,53} However, there is some forecasted growth in areas such as electric vehicle adoption, but UI has not considered the influence of HDEVs, which represents a future spot load challenge for the industry.⁵⁴ HDEVs include Class 6 through 8 vehicles: school buses, dump trucks, and tractor-trailer trucks, which will likely be prevalent within UI’s service territory given its proximity to the busy Interstate 95 corridor.⁵⁵ The demand profile for these vehicles is likely to be significant, typically occurring during peak periods of the day, unlike electric passenger vehicles’ charging demand profiles, are highest at night during low peak hours 80% of the time.⁵⁶ We recommend that UI include HDEVs and their locationally specific impacts in their system planning studies.

Also, the growth of the adult use marijuana industry has fueled locationally specific increases in electricity demand across the U.S., and as of January 2023, Connecticut has opened this market. This will result in high electric demand from growing facilities, which typically sited in industrial areas with good access to transportation infrastructure.⁵⁷ Therefore, we also recommend the Company consider this influence in their locationally specific forecasts where possible.

Recommendation: The CT Companies should consider the locationally specific influences of Heavy-Duty Electric Vehicles (“HDEVs”) and other influences such as marijuana growing facilities into their long-term system forecasts.

2.3.1.2. Other Planning Inputs

In addition to load growth, UI considers other system planning factors such as power quality, thermal exceedances for substation and circuit equipment, reliability (discussed in Section 2.2), and system operations. UI’s “Distribution Planning Criteria” document describes the requirements for each category and is shared by all of the Networks utilities, with jurisdictional-specific criteria included as necessary.

The Distribution Planning Criteria document aligns to industry standards along with rules and industry standards such as ANSI C84.1 voltage tolerance, IEEE 519 harmonic distortion limits, NERC N-1 outage planning criteria, and IEEE C57.12.00 substation transformer rating criteria. The Company uses a 90 percent loading limit to begin analyzing for mitigation measures, which is a typical threshold for the industry.⁵⁸ We also recognize the benefit of standardization of the planning document across all of Avangrid’s electric companies to ensure that best practices are shared.

⁵¹ Interview with Senior Director of System Planning, November 16, 2022.

⁵² <https://www.bloomberg.com/opinion/articles/2018-03-01/americans-electricity-use-just-keeps-falling>

⁵³ Interview with Senior Director of System Planning, November 16, 2022.

⁵⁴ El Helou, R., Sivaranjani, S., Kalathil, D., Schaper, A., & Xie, L. (2022). The impact of heavy-duty vehicle electrification on large power grids: A synthetic Texas case study. *Science Direct*.

⁵⁵ <https://www.fhwa.dot.gov/publications/research/infrastructure/pavements/ltp/13091/002.cfm>

⁵⁶ <https://www.forbes.com/wheels/news/jd-power-study-electric-vehicle-owners-prefer-dedicated-home-charging-stations/>

⁵⁷ <https://www.ncsl.org/research/energy/electricity-use-in-marijuana-production.aspx>

⁵⁸ Response to FTI-0007, Att. 1.

2.3.1.3. Planning Outcomes

The output of the planning process includes a list of recommended projects based on violated planning criteria. As a normal course of the process, these recommended projects along with their alternatives are evaluated by a technical governance group, which requires signoffs prior to moving forward with their inclusion in the investment management process. The investment management process prioritizes each project through a formal ranking scheme alongside other major capital investments, however, with reliability a Company priority these projects are usually high on the priority list. Once projects are funded and approved to move forward, they are managed through a project management process detailed in Section 2.5.⁵⁹

2.3.2. SCG and CNG System Planning

In 2021, the Gas Engineering group took the responsibility for SCG and CNG's system planning with a centralized Director who leads all planning activities at the Networks utilities. The centralized model does account for specific jurisdictional needs within their processes and documentation. The CT Companies, however, are still building their capability for Connecticut by leveraging Avangrid's New York utilities' established practices. This effort also includes consolidating standards and materials.

2.3.2.1. System Planning Inputs

SCG and CNG both utilize the Avangrid Transmission and Distribution Planning Manual to define the minimum system pressure necessary to maintain safe and reliable performance. It also details the planning criteria used to develop system forecasts, including the methodology used. The CT Companies review all connection requests to determine demand. The CT Companies then use hydraulic modeling to identify planning deficiency. The modeling results are reviewed along with the "Avangrid Assets Risk Management Plan" to determine any adverse effects, which are then combined with the 10-year load forecasts to determine system improvement projects necessary to maintain the integrity of the gas system.⁶⁰

With industry topics such as electrification for heat pumps and other traditionally gas-powered equipment emerging, we asked the CT Companies how they have adapted their planning processes to consider this impact, however, they stated this is not currently considered primarily due to the lack of accurate data for forecasts.⁶¹ For now, this position is reasonable, as the current policy environment would make it difficult to understand the timing and scale of electrification. The CT Companies predict that mass electrification will follow the same trend as electric energy efficiency and demand reduction programs: these programs matured over time to a point where their effects can now be included in forecasting projections.⁵⁹

For gas supply purposes, the "CNG and SCG Energy Supply – Gas Operations Overview and Processes and Procedures" document provides the guidelines on the Gas Supply activities. Inputs include forward pricing from SNL,⁶² weather data, transportation and storage contracts, Liquefied Natural Gas ("LNG") facilities, and customer requirements including growth projections to determine current and future requirements. This is examined in further detail in Section 2.8.⁶³

⁵⁹ Interview with Senior Director of System Planning, November 16, 2022.

⁶⁰ Response to FTI-0007.

⁶¹ Response to FTI-0011.

⁶² SNL Financial LC provides business intelligence services. In 2015, SNL Financial was acquired by S&P Global and rebranded as S&P Global Market Intelligence.

⁶³ Response to FTI-0090, Att. 1 (confidential).

2.3.3. Records Management

Maintaining accurate records is necessary to ensure that the data used to support the planning process is based on an actual field representation. To achieve this, UI maintains the bulk of their system information, which includes the type of equipment, its specific attributes, and locational data, in SAP. SAP serves as the single source of truth for UI's Geographic Information System ("GIS") data. Any changes in the field are captured through a "Standardized Asset Equipment Update" form, which is collected and used to update SAP where necessary. The Company uses automated and templated information where possible to minimize the amount of manual entry which lowers the risk of inaccurate data.⁶⁴ The Company also reviews the quality of geospatial equipment information through their Distribution Line Inspection process, with equipment coordinates captured and used to adjust their respective location in GIS.⁶⁵ This process is typical for the industry and usually leads to high-quality asset records.

The Gas Utilities have a newly created Enhanced QA-QC program which effectively performs audits of various functions. These audits are conducted through a field-based inspection individual who observes work being performed to ensure compliance to the Gas Utilities' standards. This individual is also responsible for ensuring that as-built records accurately reflect field conditions. The Gas Utilities also stated that the feedback gained through this process is used to improve work practices that fall outside of tolerances.

The Gas Utilities also maintain a re-dig program that uncovers recently completed work to determine if it meets quality standards for construction and as-built purposes. They stated this is currently performed for a selected sample of work, however, they indicated that they plan to accelerate this program in 2023 to expand the sample size.⁶⁶

2.4. System Design

System design is the practice of developing the construction designs used to build the infrastructure needed for customer and system purposes. These designs are guided by engineering standards and standard operating procedures ("SOP"), which detail the practices necessary to comply to industry standards and to promote cost control. Additionally, this practice should also have appropriate oversight in place to ensure designs routinely adhere to standards and limit repeat work and as-builts.

2.4.1. UI System Design

For UI, this function is the responsibility of the Electric Operations group led by Charles Eves, who is dedicated to UI, as seen in Figure 2-1. The Manager's of Distribution Engineering are responsible for managing the two groups within Electric Operations, Capital Projects Engineering and Customer Project Engineering. Capital Engineering designs the infrastructure created from planning studies or other similar need. Customer Engineering develops the designs for customer needs, such as a new building or an increase in load.

2.4.1.1. Design Tools

UI uses several tools for design, including Pole Foreman for pole loading and Pull Planner for cable tension, both of which are primarily used for transmission design. Civil designs used for underground work, including duct banks and manholes, are developed through AutoCAD. Electric system designs are developed through ArcFM Web which

⁶⁴ Response to FTI-0009 Supplemental.

⁶⁵ Response to FTI-0018.

⁶⁶ Response to FTI-0550.

are frequently used by other utilities. ArcFM Web interfaces with UI's GIS data so the model can be updated once designs are constructed and energized.⁶⁷

2.4.1.2. Design and Alternatives Analysis

The development of both a design and their alternatives can be used as an effective tool for solving an engineering challenge while also promoting cost containment. UI implements a robust alternative process for new construction, equipment replacements, refurbishment repair, and expansion of the electric system. The Company stated that the Field Operations group is involved early in the design process by supporting engineering choices with field visits and other consultations, as needed.⁶⁸ Alternatives are developed and reviewed using the following process:⁶⁹

- Possible alternatives are developed in alignment to current standards, methods, and procedures.
- Each alternative has a budget level estimate developed with an accuracy range of minus 10 to 30 percent on the low end and positive 20 to 60 percent on the high end.
- The engineering department reviews the alternatives for quality, and alternatives are further reviewed with project team members.
- The project team agrees on the appropriate alternative that satisfies the scope of the project and other established parameters such as "feasibility," "safe," "operable," "reliable," "maintainable" given the estimated cost.
- The recommended alternative is reviewed by the Distribution System Reliability group, who will approve or deny the request funding.
- The recommended alternative is presented to Governance for approval and budget funding.

This process is also applied to customer work, where UI will present alternatives to the customer, including any costs, so the customer can consider the best approach. While the customer assists with the selection of a design that serves their needs, the Company will make the final selection that best serves both the customer and operating company needs. This includes considerations such as constructability, environmental considerations, and system operations. Small projects, however, are an exception, since there may be no viable alternatives.⁷⁰

Our evaluation of this process indicates good practices, especially since alternatives are not always considered within the industry, and engaging customers through this process, where applicable, can help ensure both the needs of the Company and the customer are met. Additionally, a wide stakeholder review and approval process ensures the best approaches are taken and constructability risk is limited.

2.4.1.3. Cost Estimation

Cost estimation can present quality, accuracy, and repeatability challenges if standards are inconsistent and poorly defined. This can result in projects overrunning or underspending their budget, which will have ripping impacts to the Investment Plan. UI mitigates these challenges by including their cost estimating process in their QMS, which is both ISO 9001 and 14001 certified to promote consistent standards and documented processes and procedures. The procedures the Company maintains include:⁷¹

⁶⁷ Response to FTI-0013.

⁶⁸ Interview with Senior Manager of Field Construction and Design, November 18, 2022

⁶⁹ Response to FTI-0014.

⁷⁰ Interview with Senior Manager of Field Construction and Design, November 18, 2022.

⁷¹ Response to FTI-0017.

- T.P.04.04A Substation Cost Estimate Template
- T.P.04.04C Project Cost Estimate List
- T.P.04.04D TL Overhead Estimation Tool
- T.P.04.04E TL Underground Estimate Tool
- SOP.E-CD.04.04 Cost Management

UI’s cost estimation SOP, the “Cost Management” document, details the philosophy, procedures, and practices used to develop and approve cost estimates. This includes the inputs used, the quality gates followed, and the estimated quality ranges for each phase of project development. Suggested contingency is also provided for each stage of development, which also narrows as the project develops. This practice is known as “rolling wave planning.”⁷²

The documentation provided clear details concerning the processes, standards, and tools used for cost management. This includes defining an estimating tolerance of 50 percent for conceptual designs and the most refined phase of a project meeting a 10 percent tolerance, see Figure 2-8. The Company uses the Association for Advancement of Cost Engineering’s (“AACE”) and Electric Power Research Institute’s (“EPRI”) industry standards.⁷³

Source: Derived from Association for Advancement of Cost Engineering (AACE) and Electric Power Research Institute (EPRI)

Estimate Type	Descriptive	LEVEL OF PROJECT DEFINITION Expressed as % of complete definition	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges	Suggested Contingency
A	Study / Simplified Estimate CONCEPTUAL DESIGN	1% to 15%	Equipment factored or parametric models	L: -15% to -60% H: +30% to +120%	30-50%
B	Budget, Authorization or Control / Preliminary Estimate INITIATION PLAN	10% to 40%	Semi-detailed unit costs with assembly level line items	L: -10% to -30% H: +20% to +60%	15-30%
C	Control or Bid / Detailed estimate PMP	30% to 70%	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +10% to +30%	10-20%
D	Check Estimate or Bid / Finalized Estimated CONSTRUCTION	50% to 100%	Detailed unit cost with detailed take-off	L: -5% to -5% H: +10% to +10%	5-10%

Figure 2-8 Cost Management Targets by Project Phase⁷⁴

Our review of the documentation and tools noted the lack of distribution-specific tools, procedures/policies including cost management targets, or description of these tools. The Company should develop a Distribution estimating tool that applies a similar level of rigor used for Transmission and Substation projects, this is detailed in a recommendation in section 2.4.1.3.

⁷² Response to FTI-0017, Att. 5.

⁷³ Ibid.

⁷⁴ Ibid.

2.4.1.4. *As-builts and Data Quality*

As-builts are a method used to capture any changes from the original design to the actual field conditions to promote record accuracy. They are not unusual and can either occur on a small or large scale based on a variety of factors. The process begins with field construction crews manually capturing any changes between construction and the design. The completed documentation is submitted to the field supervisor, who reviews it for completeness.⁷⁵ Once the documentation is deemed complete, the supervisor submits the as-builts to the Records and Mapping group, who follow the process detailed in Section 0 for data quality and refinement.

To ensure this step is completed, the UI Work Management system has a requirement within their “Task Based Routing” model that includes the following checkpoints: “59: Return Shop Papers – Field Complete,” “61A: Equipment updates,” “84: GIS Update,” “84A: MAPS Update,” and “84B: DWG URD Update.” These requirements must be completed where applicable before a project is able to be closed.⁷⁶ This process aligns to industry standard controls and quality measures.

2.4.2. SCG and CNG System Design

2.4.2.1. *Design Tools*

The Gas Utilities use Computer Aided Design (“CAD”) to create construction drawings, with CNG using AutoCAD and SCG using MicroStation, which are typical tools used by gas utilities.⁷⁷

2.4.2.2. *Design and Alternatives Analysis*

The Gas Utilities’ approach to design alternatives differs from UI’s due to the nature of work performed. They stated that the majority of their work is replacement of pipeline through their leak-prone pipe replacement program. As a result, there is no opportunity to consider design alternatives, since the replacement is direct in kind. The Company stated that they are adopting “a more formal requirement for consideration of alternatives based on cost benefit analysis” for projects such as Gate Stations and District Regulators but gave no timeline or steps taken thus far to achieve this.⁷⁸

Recommendation: SCG and CNG should implement a robust design alternatives analysis process to ensure that a broad set of design considerations are made prior to finalizing design. This process should take lessons learned from the electric process and implement them as necessary, including the governance used for review. This process should also include methods and approaches that are repeatable through the use of standardized templates and documentation.

2.4.2.3. *Cost Estimation*

Gas cost estimates follow the same “Cost Management” SOP as UI, using the same process, standards, and tools to develop cost estimates. However, the Gas Utilities have not obtained official ISO certification, which is currently underway and expected to be achieved by 2023. The standards and procedures included in the SOP are applicable to both gas and electric projects, therefore, the document is appropriate for gas use. The Gas Utilities, however,

⁷⁵ Response to FTI-0018.

⁷⁶ Response to FTI-0667, UI Supplement, Att. 1.

⁷⁷ Response to FTI-0013.

⁷⁸ Response to FTI-0014.

did not supply or indicate the tools used to estimate gas projects, which is critical to ensure construction tasks are fit for purpose and provide high-quality, repeatable estimates.⁷⁹

Recommendation: The CT Companies should develop an estimating tool for Gas and Electric Distribution projects that applies similar approaches, methodologies, and tools used for Transmission and Substation projects. Appropriate training should be developed and deployed to applicable users.

2.4.2.4. *As-builts and Data Quality*

SCG and CNG follow a similar as-built process as UI with the following differences: any as-built records for Gas Service installation, abandonment, and maintenance are scanned into the Gas Utilities' document management system. All as-built mapping for CNG is included in the Avangrid GIS system with the exception of services, which are shown as a represented line. As-built mapping for SCG is reflected in the SCG's CAD database with the exception of services, which are not mapped. SCG noted that they are nearly complete with their GIS implementation, at which point SCG will follow the same process used at CNG.⁸⁰

2.5. Project Management

Project Management is a wide-reaching discipline that manages major construction projects through standardized processes that promote communication and coordination of the major tasks necessary to manage scope, schedule, budget, quality, benefits, and risks. This discipline is seen as a valuable tool to manage the complexities of a project, including the coordination of multidisciplinary groups, and is known to be effective at containing costs while ensuring on-time delivery of projects within scope.⁸¹

All SCG and CNG projects are managed through the Projects group, which coordinates with the Gas Operations group on design and construction matters. The Projects group also manages Electric Transmission and Substation projects; however, UI's Distribution projects are primarily managed through the Electric Operations group. The rationale behind this choice is that most distribution projects are delivered by internal construction crews and all other projects including Electric Transmission and Substations and Gas are delivered by contractor crews.⁸² The documentation we evaluated defines the policies and procedures used for capital project management, including:⁸³

- SOP.E-CD.E.04.01 Electric Project Management Processes Manual
- SOP.GH.04.01 Project Management Process Manual – Gas & Hydro
- SOP.P.E.04.01A Electric Matrix of Responsibilities – Rev. 2.1
- SOP.GH.04.01B Project Management Process Flowchart – Gas & Hydro
- SOP.P.04.01C Project Initiation and Charter Process – R5
- T.P.04.01A Project Information Form R6
- T.P.04.01B Project Charter Form Rev5
- SOP.P.04.01E Project Management Plan Rev4
- T.P.04.01E Project Management Plan Template R6

⁷⁹ Response to FTI-0017.

⁸⁰ Response to FTI-0018.

⁸¹ <https://www.pmi.org/learning/library/big-benefits-project-management-basics-7584>

⁸² Interview with Vice President of Projects / Engineering Services (James Cole), August 8, 2022.

⁸³ Response to FTI-0020.

While Gas and Electric Transmission and Substation projects follow these robust practices and policies, the Electric Distribution group does not consistently follow them for projects managed by a Project Manager.^{84,85} UI noted that work remains to “redevelop” the procedures used for Electric Distribution project management but gave no action plan or timeline to do so. We recommend that the Electric Distribution group leverage the policies, tools, and templates created and used for Gas and Electric Transmission and Substation projects to develop their practices.

Recommendation: UI Electric Distribution should implement a robust Project Management “Playbook” with all project management processes, policies, tools, and templates for Electric Distribution projects. The Playbook can leverage many of the process, procedures and materials used for Gas and Electric Transmission projects to support this effort. Applicable training should be deployed to all project team members. Implementation of this playbook will ultimately support the consistent application of best practices necessary to successfully run a project within scope, schedule, and budget.

2.5.1. Project Prioritization

2.5.1.1. Investment Management

As stated in Section 0, the Company reviews and selects the projects it wishes to undertake through a project prioritization process which considers a range of investments including IT projects, real estate, and capital construction projects. This process is governed through the “Avangrid Capital Project Prioritization & Governance Review Process” document which details the steps and governance necessary to move capital projects from review to approval. This includes how to categorize projects, which supports project ratings and scoring, and details project portfolio development which is a list of prioritized projects. It also defines the governance used to review and approve the results.

To begin, each project is assigned to one of five categories: Customer Focus, Reliability, Asset Condition, Safety, and Strategic and Efficiency. These categories are pre-weighted, with Customer Focus and Safety achieving the highest priority weighting, and Strategy and Efficiency the lowest priority weighting, as shown in Figure 2-9. The projects are then given a second prioritization category rating: “Mandated,” “Significant,” “Moderate,” “Low,” and “None.” Within the “Mandated” rating, there are two subcategories: “Regulated” and “Operational.” The “Regulated” subcategory is applied to projects that are driven by regulatory need. The “Operational” subcategory is applied to projects that address new business, public interest or another operational need. Each project’s two category ratings are multiplied together to create an “Absolute Project Score.”⁸⁶

Capital Project Category Prioritization		
Capital Project Category	Priority	Weight
Customer Focus	P1	4
Safety	P1	4
Reliability	P2	3
Asset Condition	P3	2
Strategic and Efficiency	P4	1

⁸⁴ Interview with Vice President of Projects / Engineering Services (James Cole), August 8, 2022.

⁸⁵ Response to FTI-0381.

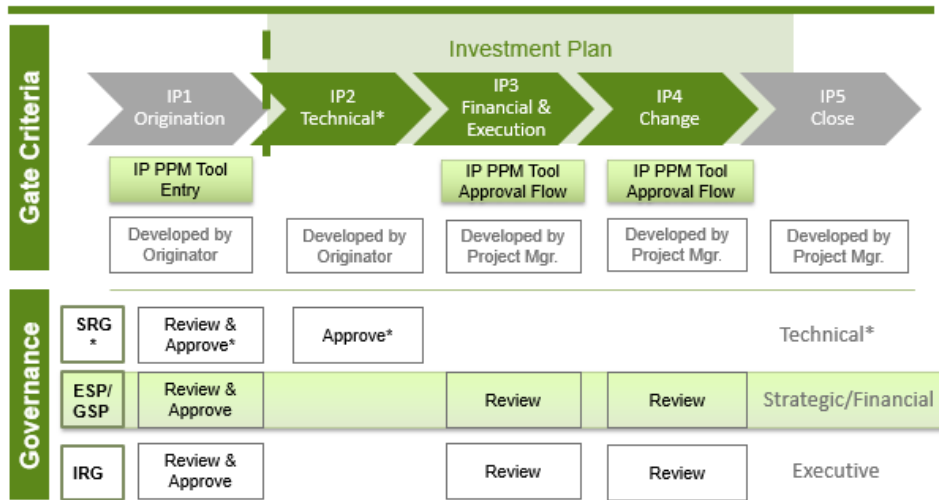
⁸⁶ Response to FTI-0021, Att. 1.

Prioritization Category Rating				
Mandated	Significant	Moderate	Low	None
9	6	3	1	-

Figure 2-9 Capital Project Category Prioritization⁸⁷

The Absolute Project Score from every project is incorporated into the annual budget process, which is managed through a governance review that evaluates, monitors, and approves the scoring results. Project reviews and approvals are managed either individually or as a portfolio through a multi-gate process. Electric projects undergo an electric-specific review through the Strategic Review Group (“SRG”), which focuses on the technical aspects of each project. Both gas and electric projects then undergo review before the Electric/Gas Strategic Planning and Approval Groups (“ESP/GSP”) which either approve, place on hold, or reject investments that are greater than or equal to \$500,000. Final review occurs at the Investment Review Group (“IRG”), which includes the CT Companies’ senior leaders who review and either approve or reject projects greater than or equal to \$1 million.⁸⁸

Planning/Approval Process



*Currently the IP2 phase and SRG is designed strictly for Electric. This may be extended to other areas in the future.

Figure 2-10 Capital Project Planning and Approval Process⁸⁹

2.5.1.2. Project Management Tools

The CT Companies have recently implemented a Project Portfolio Management Tool (“PPM”) called Clarity PPM which supports this process by maintaining a database of the CT Companies’ capital and rate base forecast data. It also supports the prioritization approval and governance processes.⁹⁰ Approved projects that move toward design and construction are managed through use of Primavera P6, which is an industry standard project management tool that supports work breakdown structures, schedules, and other critical project management

⁸⁷ Ibid.

⁸⁸ Ibid.

⁸⁹ Response to FTI-0021, Att. 1.

⁹⁰ Ibid.

activities. The benefit of this tool is its networked capability, which allows for an enterprise-wide view of all projects, given certain user access rights.⁹¹

The CT Companies' investment management process is robust and includes the necessary controls to ensure transparency and appropriate level of review. Additionally, the use of PPM tools aligns with industry best practices, especially for a company with the size and complexity of Networks.

2.5.2. Project Development and Management

The next step within a project's lifecycle includes additional development such as the refinement of scope and design, environmental reviews, and procurement of materials. The project manager also needs to develop a resourcing plan to determine how the project will be staffed to ensure successful delivery. This Section evaluates the application of these practices at the CT Companies.

2.5.2.1. Stakeholder Management

With the complexity inherent for major electric and gas projects, the coordination of activities and key stakeholders is a necessity to ensure successful outcomes. This requires specialists in system planning, environmental engineering, real estate, construction, design, among others to be active participants on each project's team. These interactions are detailed through the Electric Project Management Process Manual and the Project Management Process Manual for Gas and Hydro.^{92,93}

These documents outline the responsibilities for each stakeholder group and provide guidelines on how to engage the project team through the use of "Planning and Teaming Workshops" to "optimize the planning process in a short time".⁹⁴ They also include a responsibility matrix that describes an individual's responsibilities throughout a project's lifecycle, along with flow charts and other graphics to indicate interactions between the various groups.⁹⁵ However, a similar tool does not exist for gas projects, which is a best practice that should be adopted.

Recommendation: The Gas Utilities should implement a Responsibility Matrix similar to UI's. The CT Companies can use similar format and content, but the matrix should be customized for gas purposes.

2.5.2.2. Procurement

Recently, lead times for material and equipment have grown significantly due to COVID-19 related supply chain challenges. These challenges and how the CT Companies are mitigating them are evaluated in more detail in Chapter 7.

The CT Companies stated that UI's long lead time items include steel poles, hardware, and accessories typically used for transmission line projects. For small- and medium-size distribution projects, UI procures stock from their normal inventory, which is stocked based on forecasts and historical volumes. Larger distribution projects manage long lead time items through a standard procurement process that is defined through the "Procedure for purchasing goods and services", which is triggered once "90% of drawings" are received. This process is similar for

⁹¹ Interview with Vice President of Projects / Engineering Services (James Cole), August 8, 2022.

⁹² Response to FTI-0020, Att. 1.

⁹³ Response to FTI-0020, Att. 2.

⁹⁴ Response to FTI-0020, Att. 1.

⁹⁵ Ibid.

the Gas Utilities, since most of the equipment used for gas is considered to have a long lead time due to the required custom build of most equipment used.⁹⁶

2.5.2.3. Resource Management

Project resourcing balances the availability of resources with cost and productivity, optimizing resources such that each project is delivered within scope, schedule, and budget. This includes analyzing the type of resources used including contracted versus in-house crews, and dedicated project versus platform crews.

As previously discussed, the CT Companies stated that most Gas and Electric Transmission and Substation projects use contracted resources, while Electric Distribution projects are resourced using in-house or UI-employed crews. The process for determining how many resources, including the type of resources needed, is managed through the CT Companies' Engineering Resource Plan ("ERP") which "covers all the methodology and information requested" in their Resource Planning process.⁹⁷ This uses the annual budgeting process to determine resource requirements for each organizational unit to develop quantitative resource needs. The CT Companies stated that the considerations for the resource planning process include the following:⁹⁸

- Maintaining costs and quality at acceptable levels
- Maintaining a critical mass of staff subject under immediate and direct control, to allow for effective and efficient response to core competencies volume.
- Maintaining an appropriate balance among internal and external resources, to avoid overreliance on external resources
- Maintaining adequate expertise and skills in areas critical to the engineering, permitting, construction, and project management, and the expansion of networks
- Providing sufficient back-up strength to ensure that development of less experienced personnel remains sufficient to compensate for attrition and retirement of resources without compromising core competencies
- Allowing for the development and introduction of new skillsets commensurate with the anticipated demands of the business

They also detail the following criteria used in the resource planning process:⁹⁹

- A comprehensive, detailed forecast of medium- and longer-term capital and O&M work requirements; it should be sufficient to identify corresponding resource needs
- Capital work forecasts have a factual and analytical foundation sufficient to support staffing projections
- A sufficient source of complete, accurate staffing information by region and by function
- Forecasts should project losses through attrition and retirement by function, region, and work type, and reflect historical trends, recent experience, and expected conditions
- Management should have a sound understanding of areas where personnel losses have had, and are likely to have, significant work performance consequences
- Training and development programs should be sufficiently robust to provide adequate support for long-term staff requirements

⁹⁶ Response to FTI-0022.

⁹⁷ Response to FTI-0024.

⁹⁸ Ibid.

⁹⁹ Ibid.

The effective management of resources extends beyond ensuring that resource levels are planned correctly, but also includes evaluating the number and types of resources throughout the year to determine if resource levels are in fact appropriate. This is typically performed through productivity tracking and the use of time studies.

The CT Companies provided productivity trackers to indicate productivity on a heat map (see Figure 2-11), which compares results against all Networks utilities.¹⁰⁰ The tracker indicates total hours productive time, non-productive time, overtime, vacation hours, non-emergency hours, and emergency hours. It does not include a breakdown of non-production time such as meetings, drive time, materials loading, etc. According to the heat map productivity tracker provided by the Company, UI's productivity appears to lag when compared to many of their Avangrid peers. When leaders for both the Gas Utilities and UI were interviewed about the tracker, they indicated that they were not aware of it.^{101,102} Given the lagging performance observed on the provided tracker, and lack of regular operational leadership oversight, UI's leaders should include the regular review of this tracker as part of their routine and implement actions should performance concerns be identified.

Division	RTC Regular Time Capacity	CR Capacity Rate	PTR Productive Time over Capacity	SPT Semi-productive Time over Capacity	NP Non-productive Time over Capacity	NP(paid) Non-productive PAID over Capacity	Pay Payment over Capacity	RT Regular Time over Productive Time	OT Overtime over Productive Time	Vacation over Capacity	Rest NP Rest Time over Non-Productive Time	sTr Storm Regular Time over Storm Capacity	sPTR Storm Productive Time over Storm Capacity	sOT Storm Overtime over Storm Productive Time	sRest Storm Rest Time over Storm Hours	Storm Storm hours over Total Hours	Vacation Ad Vacation over Planned Vacation
CMP	82,556	93%	83%	2,630%	10%	10%	2%	88%	11%	17%	19%	12%	46.9%	26.6%	19.4%	10.4%	135%
Alfred	7,382	95%	91%	1,355%	10%	9%	2%	91%	9%	14%	11%	17%	57.9%	29.6%	20.9%	12.7%	118%
Augusta	8,741	92%	88%	1,739%	16%	13%	2%	89%	11%	17%	5%	6%	29.8%	20.6%	17.6%	7.8%	139%
Belfast	1,042	86%	91%	0.000%	7%	7%	0%	97%	3%	20%	0%	34%	59.7%	56.7%	8.0%	12.5%	146%
Brignton	3,564	98%	92%	2,301%	3%	3%	2%	91%	8%	18%	17%	12%	61.9%	18.7%	19.0%	11.1%	152%
Brunswick	5,550	94%	99%	1,838%	14%	13%	3%	82%	17%	13%	19%	10%	33.8%	29.4%	18.4%	7.1%	107%
Dover	2,152	95%	92%	2,045%	6%	6%	1%	92%	5%	16%	84%	14%	81.9%	17.2%	28.5%	16.2%	131%
ECC	5,898	95%	98%	0.000%	3%	3%	2%	90%	10%	7%	0%	34%	35.9%	94.5%	0.0%	5.3%	59%
Fairfield	3,736	98%	82%	1,981%	12%	12%	0%	91%	7%	19%	25%	8%	36.6%	20.8%	23.4%	10.1%	163%
Farmington	5,519	94%	86%	7,610%	12%	12%	1%	89%	9%	20%	54%	7%	48.7%	15.2%	26.6%	13.4%	161%
Lewiston	7,062	95%	93%	2,181%	8%	8%	1%	86%	14%	19%	12%	10%	50.2%	20.3%	19.5%	11.4%	154%
MWF	5,277	90%	101%	2,843%	11%	10%	0%	86%	13%	16%	31%	16%	62.8%	26.0%	19.5%	12.0%	127%
Penobscot	4,141	96%	87%	6,133%	10%	10%	0%	88%	9%	16%	62%	16%	73.2%	22.5%	21.5%	18.1%	136%
Portland	9,584	91%	96%	2,442%	10%	9%	1%	87%	12%	17%	11%	15%	59.2%	26.1%	21.4%	12.8%	137%
Rockland	504	97%	83%	0.000%	0%	0%	0%	98%	2%	25%	0%	15%	42.1%	35.2%	13.3%	8.8%	207%
Skowhegan	2,552	98%	80%	3,919%	14%	14%	1%	88%	10%	21%	26%	6%	35.8%	16.9%	25.1%	11.2%	178%
Substations	10,283	91%	97%	3,073%	11%	11%	4%	88%	10%	18%	1%	8%	27.5%	27.7%	1.4%	4.9%	144%
NYSEG	117,865	86%	93%	1,008%	22%	21%	20%	76%	21%	23%	22%	20%	60.6%	32.9%	23.0%	19.9%	171%
Auburn	3,930	84%	78%	2,379%	20%	20%	19%	77%	16%	28%	16%	27%	72.1%	37.3%	23.3%	29.6%	202%
Binghamton	10,469	90%	81%	1,629%	13%	13%	23%	85%	14%	27%	19%	18%	44.6%	39.4%	16.5%	15.3%	210%
Brewster	10,177	90%	96%	0.128%	24%	23%	27%	75%	23%	20%	25%	9%	22.2%	41.3%	26.8%	7.0%	155%
ECC	7,060	97%	116%	0.000%	17%	16%	5%	61%	39%	18%	0%	6%	15.1%	50.9%	3.1%	3.1%	150%
Elmira	8,901	92%	88%	1,741%	23%	22%	12%	75%	20%	21%	25%	7%	50.9%	23.5%	26.2%	11.7%	167%
Geneva	5,906	85%	92%	4,114%	30%	29%	13%	68%	26%	21%	36%	16%	32.1%	29.6%	21.2%	20.5%	159%
Hornell	5,459	87%	93%	2,569%	18%	17%	11%	73%	24%	24%	17%	17%	65.8%	26.3%	22.0%	22.9%	184%
Ithaca	7,432	88%	86%	0.283%	26%	20%	11%	85%	13%	20%	11%	11%	32.3%	33.9%	17.1%	10.7%	150%
Lancaster	10,068	76%	95%	1,132%	32%	31%	43%	70%	27%	24%	31%	38%	105.1%	35.7%	23.5%	33.9%	158%
Liberty	5,997	91%	86%	0.117%	24%	24%	20%	73%	22%	29%	24%	9%	20.9%	45.4%	16.0%	7.3%	229%
Lockport	1,077	69%	109%	2,414%	19%	19%	23%	82%	16%	27%	40%	54%	141.4%	38.3%	28.0%	35.2%	162%
Mechanicville	5,749	92%	103%	1,565%	20%	20%	25%	76%	20%	18%	32%	7%	49.1%	13.7%	16.0%	9.5%	143%
Oneonta	12,332	85%	93%	0.422%	19%	19%	11%	82%	15%	24%	16%	14%	60.6%	23.6%	25.2%	19.5%	177%
Plattsburgh	6,131	72%	83%	1,028%	29%	27%	20%	84%	13%	22%	14%	45%	130.8%	34.2%	25.1%	45.6%	139%
Substations	17,238	84%	101%	0.000%	19%	18%	9%	75%	23%	25%	25%	22%	66.1%	33.5%	23.5%	20.4%	181%
RG&E	29,710	85%	87%	0.000%	25%	25%	1%	61%	39%	36%	13%	20%	58.1%	33.8%	1.3%	19.6%	262%
Canandaigua	2,648	80%	85%	0.000%	34%	33%	0%	60%	40%	36%	12%	19%	56.1%	34.2%	0.0%	19.2%	253%
Central	15,661	83%	90%	0.000%	26%	26%	2%	60%	40%	35%	15%	22%	63.7%	34.7%	2.2%	21.0%	250%
Fillmore	2,289	83%	95%	0.000%	19%	19%	4%	51%	49%	48%	16%	21%	72.7%	29.4%	0.0%	24.4%	340%
Sodus	2,711	92%	85%	0.000%	19%	19%	2%	59%	41%	43%	9%	4%	14.0%	31.7%	0.5%	4.9%	343%
Substations	6,404	90%	79%	0.000%	25%	24%	0%	67%	33%	30%	10%	19%	56.3%	33.6%	0.0%	19.7%	235%
UI	45,630	55%	81%	0.933%	22%	19%	5%	84%	16%	30%	5%	5%	12.6%	37.2%	1.3%	3.2%	245%
UI	45,690	95%	81%	0.933%	22%	19%	5%	84%	16%	30%	5%	5%	12.6%	37.2%	1.3%	3.2%	245%

Figure 2-11 Avangrid Productivity Heat Map (Electric Utilities Companies Only)¹⁰³

The CT Companies also stated they do not conduct productivity tracking of contractors, saying that their use of unit-based pricing eliminates the need to do so.¹⁰⁴ Contractor oversight is achieved through the use of independent supervisor contractors, working directly for the CT Companies, who are responsible for monitoring the safe delivery and productivity of construction activities. The supervisors also approve the submittal of units for construction activities performed.¹⁰⁵ However, leadership noted that they do not conduct productivity time

¹⁰⁰ Response to FTI-0287; Response to FTI-0287, Atts. 1-3.

¹⁰¹ Interview with Vice President of Electric Operations (Charles Eves), August 4, 2022.

¹⁰² Interview with Senior Director of Gas Operations, August 3, 2022.

¹⁰³ Response to FTI-0287, Att. 1.

¹⁰⁴ Response to FTI-0560.

¹⁰⁵ Interview with Vice President of Projects / Engineering Services (James Cole), August 8, 2022.

tracking to indicate if the supervisors are working on the most productive and valuable activities, including providing field based oversight of crews.^{106,107}

We believe the lack of widespread use of productivity trackers, especially by the Operations group, is problematic. When the CT Companies do not regularly focus on productivity, long-term crew effectiveness can slip, and poor resource decisions can be made due to the lack of complete data and oversight. Additionally, the CT Companies noted that they are working to reduce their reliance on contactors, but effective analysis to determine if this is a good approach cannot be performed due to the current lack of data.¹⁰⁸

Recommendation: The CT Companies need to provide a comprehensive set of productivity trackers on a regular cadence to Operations leaders. The CT Companies should also perform regular productivity tracking to assist with decisions on when to use and not to use contracted resources, and to also assist with the benchmarking of internal crew productivity. The CT Companies should also conduct time tracking studies for field-facing supervisors so they can determine if time is focused on the most valuable activities. The outcome of this recommendation should be monitored and understood by all relevant operational leaders

2.5.2.4. Scope, Schedule, and Budget Attainment

Project performance management is the direct responsibility of the Project Manager, with other leaders providing high-level oversight to ensure the delivery of commitments. This is typically managed through the use of project reporting and governance to promote transparency and to drive performance. To accomplish this, the CT Companies develop an annual scorecard that provides aggregate performance over several categories including Health and Safety, Execute Projects, Process and Improvement, Operating Efficiency and Controls, and Organizational Capabilities. While this scorecard monitors performance at an aggregate level, specific information can be obtained for off-target performance categories.¹⁰⁹

We reviewed project scorecards and sample documentation for 10 recent gas and electric projects to evaluate the effectiveness of monitoring and control capabilities. The provided documentation indicated a variety of project documentation used; however, the documentation appears to serve the need of each project despite the lack of standardization. The documentation also appears to follow the practices and standards as described by the CT Companies through their various SOPs. The project scorecards also indicated good performance with no at-risk performance categories.¹¹⁰

We also evaluated the CT Companies' capital budget management practices to determine if the CT Companies are able to deliver on their commitments and can reprioritize when necessary to account for overspend, underspend, or other factors such as delays. This review indicated that all CT Companies had challenges remaining within budget in 2019 and 2020, as shown in Figure 2-12. A deeper review of causes identified project start delays and deferment and additional project refinements as contributors to these challenges. However, there were not any major systemic issues that were identified through this review.^{111,112,113}

¹⁰⁶ Interview with Vice President of Electric Operations (Charles Eves), August 4, 2022.

¹⁰⁷ Interview with Senior Director of Gas Operations, August 3, 2022.

¹⁰⁸ Interview with Senior Director of Operational Excellence, November 17, 2022.

¹⁰⁹ Response to FTI-0384; Response to FTI-0384, Atts. 1-3.

¹¹⁰ Response to FTI-0027.

¹¹¹ Response to FTI-0519, Att. 1 (confidential).

¹¹² Response to FTI-0641, Att. 1 (confidential).

¹¹³ Response to FTI-0731, Att. 1 (confidential).

Capital Plan vs Actuals (thousands)									
	UI			CNG			SCG		
Year	Actual	Plan	Variance	Actual	Plan	Variance	Actual	Plan	Variance
2017	\$ 176,000	\$ 216,800	-18.8%	\$ 70,000	\$ 70,300	-0.4%	\$52,700	\$56,200	-6.2%
2018	\$ 153,000	\$ 169,900	-9.9%	\$ 55,000	\$ 52,200	5.4%	\$57,200	\$63,000	-9.2%
2019	\$ 191,900	\$ 159,600	20.2%	\$ 60,200	\$ 49,300	22.1%	\$82,600	\$72,700	13.6%
2020	\$ 202,600	\$ 172,800	17.2%	\$ 56,800	\$ 50,400	12.7%	\$78,200	\$84,500	-7.5%
2021	\$ 186,300	\$ 191,200	-2.6%	\$ 63,200	\$ 57,400	10.1%	\$86,200	\$81,300	6.0%

Figure 2-12 Capital Plan Versus Actuals – Five Years¹¹⁴

We also evaluated the CT Companies’ investment plan which is a 10-year forecast of capital expenditures to determine if there are any major year-over-year variances, which can be caused by the start of new projects or the end of others. This analysis ensures that the CT Companies continue to make system investments and account for major projects appropriately. SCG and CNG both project flat spending over the next 10 years with no new major program indicated, as shown in Figure 2-13. UI, however, projects significant spending increases in 2023 and 2024 and a significant decrease after 2027. UI indicated five projects that were key contributors to this spending profile, including a flood mitigation project, line and substation rebuilds, and certain transmission projects. The decrease in spend beyond 2027 is the result of these projects reaching a conclusion.¹¹⁵

Capital 10 year investment plan (thousands)										
Company	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
UI	\$ 222,316	\$ 322,166	\$ 352,177	\$ 239,352	\$ 268,469	\$ 241,593	\$ 203,719	\$ 170,789	\$ 168,180	\$ 168,703
CNG	\$ 70,148	\$ 70,849	\$ 71,558	\$ 72,273	\$ 72,996	\$ 73,726	\$ 74,463	\$ 75,208	\$ 75,960	\$ 76,719
SCG	\$ 106,934	\$ 107,988	\$ 109,068	\$ 110,159	\$ 111,261	\$ 112,373	\$ 113,497	\$ 114,632	\$ 115,778	\$ 116,936

Figure 2-13 Capital 10-Year LTO, 2022-2031¹¹⁶

2.5.3. Impacts Due to COVID-19

The Company stated that COVID-19 did not result in significant impacts to the management of capital projects. An exception includes the difficulty in obtaining material for projects, which is detailed further in Chapter 7. However, this situation is not isolated to the CT Companies, as the entire industry is facing ongoing supply chain issues, especially with long lead time items. The CT Companies have not indicated if any of the supply chain issues had any specific impact to the delivery of projects, and review of the CT Companies’ supplied material did not indicate any significant impacts.¹¹⁷

2.6. Operations and Maintenance

Operations and maintenance of the electric and gas systems according to fluctuations in weather and demand, among other factors, is a daily core responsibility for each utility. This Section evaluates the CT Companies’ ability to operate and maintain the system and determine if they properly plan for and execute maintenance activities, manage their inspection programs effectively, and comply to the Call Before You Dig (“CBYD”) program.

¹¹⁴ Response to FTI-0030, Att. 1.

¹¹⁵ Response to FTI-0732.

¹¹⁶ Response to FTI-0030, Att. 2.

¹¹⁷ Response to FTI-0029.

Several groups are responsible for O&M; however, the core responsibility remains with the Operations group for the Gas Utilities and UI, as shown in Figure 2-1. The budget developed for O&M is similar in approach and process as described in Sections 0 and 2.5. The Networks utilities' O&M budgets are developed using a bottoms-up approach, where each individual Company develops their specific budget need based on drivers that are unique to each utility. All funding requests are considered by senior leadership, who review and prioritize investment requests based on "rate case commitments, regulatory requirements, state and federal policy priorities, and critical safety, reliability, and resiliency needs and obligations for each Operating Company." The outcome of the budget process is factored into the LTO, discussed in Chapter 1.¹¹⁸

Historical spend over the past five years had periods of little variation coupled with a significant variation for all three CT Companies in 2021, with the largest variations for CNG and SCG, as shown in Figure 2-14. The CT Companies explained the variances were due to the transition to SAP, which made "P&L line item" comparisons to other years impossible. They stated that these variations were divergent from the plan, due to "geography" items, which are described as energy efficiency and hardship expenses, unallocated efficiencies, and vehicle depreciation.¹¹⁹ These variances appeared to be one-time expenses that will likely not reoccur, similar to other historical trends from previous years.

O&M Plan vs Actuals (thousands)									
	UI			CNG			SCG		
Year	Actual	Plan	Variance	Actual	Plan	Variance	Actual	Plan	Variance
2017	\$ 361,219	\$ 386,496	-6.5%	\$ 98,183	\$ 93,311	5.2%	\$93,426	\$75,910	23.1%
2018	\$ 382,544	\$ 384,046	-0.4%	\$ 97,806	\$ 98,078	-0.3%	\$88,146	\$94,578	-6.8%
2019	\$ 377,349	\$ 397,228	-5.0%	\$ 99,588	\$ 93,210	6.8%	\$85,164	\$90,414	-5.8%
2020	\$ 371,604	\$ 370,559	0.3%	\$ 102,112	\$ 102,307	-0.2%	\$89,828	\$86,265	4.1%
2021	\$ 390,980	\$ 331,023	18.1%	\$ 102,744	\$ 82,146	25.1%	\$97,770	\$67,514	44.8%

Figure 2-14 O&M Five-year Plan Versus Actuals¹²⁰

We evaluated the CT Companies' O&M 10 year plan to determine if there were any major forecasted year-over-year variances. This analysis ensures that the CT Companies continue to provide funds needed to perform maintenance and inspections. All three CT Companies projected reasonably flat spending over the next 10 years with no new major increases or decreases observed, as shown in Figure 2-15.¹²¹

O&M 10 year plan (thousands)										
Company	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
UI	\$ 430,103	\$ 431,236	\$ 427,774	\$ 435,580	\$ 449,502	\$ 461,834	\$ 473,547	\$ 485,976	\$ 501,558	\$ 519,683
CNG	\$ 115,839	\$ 132,796	\$ 131,910	\$ 133,866	\$ 134,886	\$ 138,326	\$ 142,263	\$ 145,896	\$ 149,641	\$ 153,506
SCG	\$ 115,569	\$ 150,845	\$ 149,983	\$ 152,716	\$ 153,142	\$ 156,787	\$ 144,070	\$ 147,962	\$ 151,969	\$ 156,129

Figure 2-15 O&M 10-year LTO¹²²

¹¹⁸ Response to FTI-0031.

¹¹⁹ Response to FTI-0552.

¹²⁰ Response to FTI-0031.

¹²¹ Response to FTI-0552.

¹²² Response to FTI-0031.

2.6.1. Maintenance and Inspection Work Management

The Chapter 2: System Operations and Distribution Asset Management sections describe the maintenance and inspection programs used to ensure reliability and safety. This Section evaluates how this work is scheduled to ensure that cycle times are maintained and that any exceptions to the schedule are managed appropriately.

UI indicated that they use SAP, their “system of record,” to schedule inspection and maintenance work using the same approach used for all other work, including customer and capital project work. Based on the volume of work, the Company will assign work to either internal or contractor crews. Stakeholders include “Distribution Construction and Maintenance, Integrated Planning and Scheduling, Power Delivery, Project Mangers, Joint Use, Substation & Test, Integrated Field Construction and Design, and Standard Field.” For work that goes to a contractor, a project manager is assigned to monitor performance and scheduling, which occurs outside of this process.¹²³

The Gas Utilities automatically schedule monthly and annual maintenance based on their maintenance plan using SAP. Compliance dates, which are entered into SAP, are major factors for inspection and maintenance activities and are used to support prioritization of the schedule. Work that enters through the CT Companies’ call center or service department is dispatched through the CT Companies’ dispatching application called VSS.¹²⁴

UI stated that they do not track productivity or schedule exceptions for maintenance and inspection work. Peer utilities track schedule exceptions and crews not performing work as scheduled, which can then assist with identifying trends so improvements can be made.

The Gas Utilities stated that they informally track productivity through the use of daily supervisor reports for planned work and a monthly variance report for service department work. However, there is no formal performance tracking performed at any of the CT Companies.

Recommendation: The CT Companies should develop more formal productivity and work exception management practices. This should include time trackers and metrics for performing routine maintenance tasks. Also, exception management should track when planned work is not performed with the reasons why noted so that root cause and improvement actions can be implemented. Performance trackers should be created to monitor the health of the O&M work management process.

2.6.2. Call Before You Dig Program (CBYD)

The state of Connecticut maintains the CBYD program to minimize the risk of digging into underground utility infrastructure, which can often result in the damage of underground gas pipeline and buried underground electric cables. This can lead to outages, injuries, and even death. To comply with this program, the CT Companies “mark out” gas and electric infrastructure with a clearly visible warning and an 811 phone number to alert third parties to potentially conflicting dig locations.

The CT Gas Companies’ CBYD program is managed under the Director of Operations – Technical Services, with a Manager and Lead Supervisor of Damage Prevention managing day-to-day activities. There are two Damage Prevention Inspectors and 18 Mark-out Technicians who are responsible for conducting damage investigations and performing mark-outs, respectively. The Company stated that they perform investigations and mark-outs

¹²³ Response to FTI-0032.

¹²⁴ Ibid.

mostly using internal employees. By using this model, the CT Companies can drive quality control more effectively, given that employees are directly accountable to each CT Company.¹²⁵

CBYD applications are managed through software provided by a vendor called KorTerra, which is a company that specializes in CBYD and 811 programs. The dig-in investigation process follows an industry standard path, with a Service Mechanic dispatched to perform a leak investigation, and if one is detected, a Damage Prevention Supervisor, a Mark-out technician will investigate. The result of each investigation is tracked and included in the CT Companies’ performance metrics. If the investigation determines that fault lies with the third-party contractor or property owner, the CT Companies’ claims department will recover costs as appropriate. However, if the investigation determines that the Mark-out technician is at fault, the CT Company will conduct a performance review, with the results shared as necessary.¹²⁶

A review of the CT Companies’ budgets for the CBYD program indicates nearly flat growth for SCG, however, CNG had significant increases over a three-year period, as shown in Figure 2-16. CNG indicated that its increases were due to moving the Damage Prevention program’s budget from the Gas O&M budget to a dedicated Damage Prevention budget. They also instituted a new process that uses SAP to track the cost of the program more accurately as of Q1 of 2022.¹²⁷ Therefore, it is not possible to accurately assess the spending of the program, given the data provided.

Damage Prevention Outside Services Budget		
	CNG	SCG
Year		
2018	-	-
2019	-	-
2020	\$ 137,548	\$ 211,698
2021	\$ 164,607	\$ 222,287
2022	\$ 201,914	\$ 216,922

Figure 2-16 CBYD Program Budget¹²⁸

CBYD’s performance is managed through four primary methods: the development of targets each year, regular review of performance metrics, monitoring training attainment on new equipment and technology, and safety stand-downs where necessary.

Current KPIs indicate an increase in company at-fault damage, with a steady increase for both CNG and SCG, as shown in Figure 2-17 . While the Gas Utilities do have a reasonable performance management program for CBYD, there is an opportunity to augment it to conduct a deep process improvement review into direct and in-direct root causes and implement any actions to reduce the increasing instances of company at-fault mark-outs.

¹²⁵ Response to FTI-0034.

¹²⁶ Ibid.

¹²⁷ Response to FTI-0733.

¹²⁸ Response to FTI-0034.

SCG - Third Part Damage Metrics											
Company	CBYD Requests	Total Damage	Hits/100	Contractor Hits	Contractor Hits/1000	No Notice Damage	No notice hits/1000	Company Markout Fault	Company Fault/1000	Company records at fault	Hits/1000 Company Records
2017	49096	62	1.26	38	0.77	16	0.33	2	0.04	6	0.12
2018	53333	80	1.5	38	0.71	27	0.51	3	0.06	12	0.23
2019	54655	84	1.54	49	0.9	21	0.38	2	0.04	12	0.22
2020	54949	80	1.46	36	0.66	26	0.47	8	0.15	10	0.18
2021	57415	78	1.36	35	0.61	17	0.3	11	0.19	15	0.26

CNG - Third Part Damage Metrics											
Company	CBYD Requests	Total Damage	Hits/100	Contractor Hits	Contractor Hits/1000	No Notice Damage	No notice hits/1000	Company Markout Fault	Company Fault/1000	Company records at fault	Hits/1000 Company Records
2017	55392	71	1.28	49	0.88	9	0.16	7	0.13	6	0.11
2018	58978	57	0.97	40	0.68	9	0.15	1	0.02	7	0.12
2019	63057	66	1.05	31	0.49	13	0.21	4	0.06	11	0.17
2020	61317	76	1.24	35	0.57	27	0.44	5	0.08	9	0.15
2021	65854	61	0.93	28	0.43	13	0.2	10	0.15	10	0.15

Figure 2-17 CBYD Program Metrics¹²⁹

Recommendation: The CT Companies should augment their existing performance management program to drive improvement in at-fault dig-ins. The improvement to the existing initiative should include the identification of additional root causes through deep analysis that considers software, records management, human factors, contractor versus internal employee performance, process, training, and others as necessary.

2.6.3. Operator Qualification Program

Given recent high-profile events, the gas industry has been focused on training and qualifying those who manage, operate, construct, and maintain the gas system. An OQ program is a requirement of the U.S. Department of Transportation for all pipeline operators to ensure there are controls and training in place for continued pipeline safety.¹³⁰

SCG and CNG both stated that they manage OQ through conducting refresher training prior to an Operator's need to requalify. Records are managed through an "ITS" database and are maintained for both internal and contracted resources. The Company has an OQ group, which is responsible for ensuring, along with the Operations group, that employees are not allowed to perform work that they are not qualified for.

Quality is assured through a multi-pronged approach, including through an internal review for compliance with the program, with the results tracked and reviewed weekly. OQ testing for qualification purposes is monitored through Prometrics and is administered through AStar, which helps ensure the security and integrity of testing, which had been a problem for a non-Avangrid utility in New York.¹³¹ Testing performance is also assured through random screen testing conducted by the CT Companies' OQ group.¹³² Prior to commencing any construction

¹²⁹ Ibid.

¹³⁰ <https://www.northeastgas.org/tqi-operator.php>

¹³¹ <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/national-grid-agrees-to-21m-in-restitution-in-test-cheating-pipe-safety-cases-62989900>

¹³² Response to FTI-0034.

activities, tailboard briefs are conducted to determine if necessary OQ tasks are required so appropriate actions can be implemented.

The CT Companies' OQ program appears to be robust and ensures the integrity of the program through controls and continued monitoring performed by the OQ group.

2.6.4. Maintenance and Operations Impacts Due to COVID-19

The CT Companies all stated that there were no major impacts to their ability to operate and maintain the electric and gas systems due to COVID-19. They stated that they implemented protocols such as remote work for non-field based personnel, a decentralized field workforce, and crews travel in separate vehicles to job sites so they were not clustered together.¹³³ Based on our experience, these measures are similar to what other utilities have implemented to manage COVID-19 impacts. Our review of various metrics did not indicate any trends that would indicate impacts due to COVID-19, this includes safety and attainment of various programs deliverables.

2.7. Electric Distribution

This Section focuses how Electric Operations manages ongoing integrity and system reliability regardless of operating conditions. It also reviews UI's Vegetation Management program to ensure compliance and alignment to best practices to improve reliability.

2.7.1. Vegetation Management Program

UI's Vegetation Management program is the responsibility of the Manager of Vegetation Management, who reports to the Senior Director of Electric Operations, who in turn reports to the Vice President of Electric Operations, Charles Eves. They are all completely responsive to UI and Connecticut needs. Reporting to the Manager are four arborists who are internal employees with responsibilities in a combination of geography and work types. Two arborists are responsible for the UPZ which is geographically split between east and west, one arborist is responsible for customer and worst performance circuit work, and one is responsible for transmission.

2.7.1.1. Adherence to Standards and Consent

As previously stated in Section 2.2, UI maintains vegetation management specifications and standards within their "Maintenance Plan for Transmission and Distribution Overhead and Underground Lines" documentation. This document details the rules and regulations that are followed and complied with including the following:¹³⁴

- OSHA 29CFR 1910.269 Electric Power Generation, Transmission & Distribution NERC FAC-003-4 Transmission Vegetation Management Program or current standard
- ANSI A300 "Standard Practices for Trees, Shrubs and Other Woody Plant Maintenance"
- ANSI Z133.1 "Pruning, Trimming, Repairing, Maintaining and Removing Trees, and Cutting Brush – Safety Requirements"
- NESC
- Connecticut General Statutes
- Department of Transportation
- Local Ordinances
- "Pruning Trees Near Electric Utility Lines" by Dr. Alex L. Shigo

¹³³ Response to FTI-0035.

¹³⁴ Response to FTI-0003, Att. 1.

- Best Management Practices, Utility Pruning of Trees

Vegetation management work is completely outsourced to contractors ,who are overseen by the Arborists who confirm that work is performed to UI standards. Should trimming standards fall short, the Arborist will work with the contractor to remedy any deficiencies using the Maintenance Plan document as a guide.¹³⁵

The Arborists regularly work with tree wardens within each community to discuss trimming plans and to manage property owners’ consent. This interaction typically occurs toward the end of January, when Arborists inform each tree warden about the annual plan, and then begin the process of gaining consent from each impacted landowner. If the Company is unable to gain consent for hazard trees, they will work with the tree warden to overrule the landowner; however, the customer will be notified about the decision prior to conducting any work.¹³⁶

Prior to starting work, UI must have landowner consent or an override from a tree warden. Permissions are managed through a mobile work management application. The system creates a new record for each tree to be trimmed, and records will remain in “proposed” status. Once consent is obtained, the record’s status will change to “released to crews.” The system indicates status by color so the Contractor responsible for trimming can readily identify the trees that can be trimmed.¹³⁷

The Manager of Vegetation Management stated there have been limited instances where a tree was trimmed without consent. Should it occur, the Company will notify the area’s tree warden to rectify the situation, then will work with the responsible contractor during their weekly meeting to ensure that future occurrences do not happen. The customer complaint is also documented within the Company’s system with a note indicating the cause for the issue.¹³⁸ The Manager highlighted one instance of this occurring because the original homeowner gave consent, but later sold the house and did not notify the new homeowner of the consent. While it is the responsibility of the previous homeowner to notify the new homeowner, the Company has implemented a system to capture any potential home or land ownership changes to eliminate future occurrences.¹³⁹

UI appears to have good processes and practices in place for managing the tree trimming program within standards and complies with applicable rules and regulations. The group also appears to maintain a level of continuous activities to drive improvements where necessary.

2.7.1.2. Performance Management

Vegetation management performance is monitored through a scorecard with metrics including miles percent complete and budget attainment. Annual targets are included and used to support performance monitoring on a monthly basis. We asked on several occasions for complete metric data, however, the requested five-year data with annual goals and attainment was not provided.^{140,141} Of the data provided, we observed that tree-related reliability had improved over the five-year review period, indicating a potential improvement due to the program’s effectiveness. While it was not possible to evaluate the Company’s attainment of annual goals, the Company did supply their monthly scorecard for 2022, which appears to be well-designed. It includes monthly attainment and

¹³⁵ Interview with Manager of Vegetation Management, November 11, 2022.

¹³⁶ Ibid.

¹³⁷ Ibid.

¹³⁸ Response to FTI-0661.

¹³⁹ Interview with Manager of Vegetation Management, November 11, 2022.

¹⁴⁰ Response to FTI-0036.

¹⁴¹ Response to FTI-0343.

a mile/week recovery plan.¹⁴² The miles/week recovery plan helps drives the goal attainment by providing visibility to off-target performance and a correction plan. Overall, FTI was unable to evaluate the Company’s ability to achieve their planned verse attained miles over the 5 year review period.

UI Vegetation Management Metrics					
Metric	2018	2019	2020	2021	2022
Average Weekly Crews	53	60	42	41	45
Transmission Miles	27.25	21.42	7.5	31.25	28.37
Distribution Miles	187.8	521.3	424.9	252.1	140.3
Total VM Budget	\$15,894,702	\$16,042,440	\$15,954,549	\$15,776,771	\$18,269,416
Total VM Spend	\$16,062,615	\$20,178,135	\$13,166,737	\$14,610,106	\$10,366,288
Tree SAIFI	0.139	0.123	0.118	0.093	0.077
Tree Incident	728	709	809	612	371

Figure 2-18 Vegetation Management Program Metrics¹⁴³

2.7.1.3. Evidence of Cost Control and Budget Attainment

UI promotes vegetation management cost containment and control through a few methods, which include regularly conducting competitive bidding processes, moving from time and material to lump sum and unit-based pricing, a performance management program, and regular supervisor oversight. The Company stated that 75 percent of UPZ work is performed using lump sum pricing but they are moving toward performing all vegetation management work using lump sum and unitized-based pricing which is generally seen as positive since it can drive costs lower.^{144,145,146} Lump sum and unitized-based pricing also limits the amount of administrative burden, since the required review of timesheets and expenses is no longer necessary. This increases the amount of time an Arborist is available to remain in the field to oversee quality and safety.

Historically, UI maintains contracts with several contractors who may be called upon to work as needed, so work levels are not guaranteed. As the Company completely moves from a time and material pricing structure to a lump sum and unitized structure, the Company will continue this practice, which provides options for UI, including utilizing lowest-cost contractors while having a back-up for any resourcing or productivity challenges.¹⁴⁷

Our review of UI’s historical budget versus actual spending indicates significant variance throughout the five-year review period, as shown in Figure 2-19. While it is understandable that there should be some variance in the annual budget over the years, given the annual changes in program goals in addition to other operational considerations, significant variances between budget and actual spending for three out of the five years provides significant opportunity for improvement.

¹⁴² Response to FTI-0036.

¹⁴³ Response to FTI-0343.

¹⁴⁴ Interview with Manager of Vegetation Management, November 11, 2022.

¹⁴⁵ <https://www.tdworld.com/vegetation-management/article/20966045/lrec-achieves-1-million-in-annual-cost-savings>

¹⁴⁶ <https://www.tnelectric.org/wp-content/uploads/2016/08/ECI-Veg-Mgt-CRN.pdf>

¹⁴⁷ Interview with Manager of Vegetation Management, November 11, 2022.

UI Vegetation Management Budget vs Actuals									
	Utility Protection Zone (UPZ) Budget	Utility Protection Zone (UPZ) Actuals	UPZ Variance	Reliability Maintenance Budget	Reliability Maintenance Actuals	Reliability Maintenance Variance	Total Budget	Total Actuals	Variance
2017	\$ 12,271,060	\$ 11,111,157	-10.4%	\$ 1,320,000	\$ 805,921	-63.8%	\$ 13,591,060	\$ 11,917,078	-14.0%
2018	\$ 13,177,897	\$ 13,611,636	3.2%	\$ 1,229,000	\$ 1,072,120	-14.6%	\$ 14,406,897	\$ 14,683,756	1.9%
2019	\$ 13,325,635	\$ 17,764,996	25.0%	\$ 1,229,000	\$ 891,690	-37.8%	\$ 14,554,635	\$ 18,656,686	22.0%
2020	\$ 13,200,876	\$ 10,805,915	-22.2%	\$ 1,229,000	\$ 839,914	-46.3%	\$ 14,429,876	\$ 11,645,829	-23.9%
2021	\$ 13,147,368	\$ 12,470,562	-5.4%	\$ 998,259	\$ 866,260	-15.2%	\$ 14,145,627	\$ 13,336,822	-6.1%

Figure 2-19 Vegetation Management Five-year Budget Versus Actuals¹⁴⁸

Recommendation: There is an opportunity to improve the budget development process to reflect actual spend of Vegetation Management more accurately. This includes more accurate budgets for the UPZ program, since there is more certainty with the amount of work to be accomplished on an annual basis.

2.7.2. Management of System Integrity

Managing system integrity for abnormal conditions is a critical step that must be embedded into system operations. These conditions can include major weather events such as unusual temperatures, including heat waves or deep freezes. While electrical systems are typically designed to withstand many types of events, asset conditions and abnormal system conditions such as line outages can place additional stress on the system. Therefore, careful monitoring and the implementation of protocols can prevent extended outages and costly damage.

One such protocol is load shifting, which moves load from a heavily loaded circuit to a less loaded one. Load shedding can also be used by asking customers to voluntarily reduce load, implementing demand response programs, or through voltage reduction programs. Load shedding can also include strategically shutting off supply, usually in extreme circumstances when other measures fall short.

2.7.2.1. Circuit Loading and Load Shifting

We evaluated UI's ability to manage system integrity through their management of asset conditions in Section 2.2. We found that the Company reasonably manages circuit loading so they do not exceed 100 percent of summer normal loading. They also have excess capacity on a significant portion of their circuits, which allows for load balancing when needed. The Company also highlighted that they design their system with one or more tie points, which allows for operational flexibility.¹⁴⁹

2.7.2.2. Inspection Programs

Section 2.2 also details the various inspections programs that are used to monitor asset condition. These programs are necessary to ensure that the system operates as designed. We also evaluated the Company's distribution line inspection program, since overhead infrastructure provides electric service to a significant percentage of customers within UI's service territory. Regular pole inspection programs identify end-of-life issues and can also be used to extend the life of existing assets. If properly implemented, these programs can reduce the impact of adverse weather conditions while driving down costs for replacements.¹⁵⁰

¹⁴⁸ Response to FTI-0036, Att. 1.

¹⁴⁹ Response to FTI-0289.

¹⁵⁰ Ibid.

UI’s Distribution Line Inspection (“DLI”) program is a visual inspection of each pole and their attached assets, including crossarms, insulators and ties, and other pole mounted equipment. The DLI program takes place every six years. Any identified issues are remedied as needed. The Company also stated their independent Wood Pole Inspection and Treatment (“WPIT”) program inspects and treats the approximately 87,000 poles within their custodianship. The Company also noted that they replaced about 845 poles as part of their Pole Management Program, and they will continue to conduct a “ground-line” inspection program. They also changed their pole thickness standard to a Class 2 minimum, thicker than Class 3, which was the past thickness standard.¹⁵¹

Overall, UI’s inspection program appears to be robust and maintains a reasonable six-year cycle to capture any damage that could lead to a weather-driven outage. Additionally, these inspections help ensure that equipment operates close to original standards and specifications so it can withstand adverse weather conditions.

2.7.2.3. Load Shedding

The Company’s load shedding program is primarily focused on transmission loading, and there were no protocols provided that were specific to distribution. However, distribution infrastructure can undergo load shedding via some of the protocols typically included in the transmission load shedding program. UI-supplied documentation was only presented in a shell format, and we were unable to evaluate the content. The Company did note that, while they have not had the need to implement voltage reduction or a load shedding program over the past five years, they do perform two live voltage reductions tests to ensure readiness.¹⁵²

2.7.3. Electric Supply Management

UI procures electricity by managing a Request for Proposal (“RFP”) process to solicit bids, which are managed through a dedicated section on their [website](#). The website contains the materials necessary for suppliers to bid on standard service (“SS”) and last resort service (“LRS”). The RFP follows the applicable Connecticut General Statutes as well as multiple PURA dockets, including the most recent PURA decision in Docket No 12-06002RE03 issued on December 20, 2017. The most recent RFP, at the time of this report’s publication, had bids due on January 18, 2023, at 10:00am for the tranches detailed in Figure 2-20:

	2023	2024
Tranches	2nd Half	1st Half
10%	Future RFPs	Future RFPs
10%		
10%		
10%		
10%		
10%	40% Filled	
10%		
10%		Tranche 6
10%		Tranche 5
100%		

Figure 2-20 2023-2024 RFP Tranches¹⁵³

¹⁵¹ Ibid.

¹⁵² Response to FTI-0039.

¹⁵³ https://www.uinet.com/suppliers_and_partners/power_procurement

UI evaluates the bids based on a single system weighted average price. If the bid price varies by customer class, calendar month, and service hour, then it will be converted into a single load-weighted system average using the bidding quantities. The Company will then utilize the load-weighted price to select the bid(s) providing the greatest value to its customers, with SS bids and LRS bids evaluated separately. Prior to submitting bids, bidders must execute a Master Wholesale Power Supply Agreement (“WPSA”) with UI, and if the supplier does not meet UI’s credit requirements, then they must provide either a guaranty from an affiliate that meets the credit threshold, a letter of credit, or cash as outlined in the RFP. The RFP process is the only method of securing electric supply, and UI does not financially hedge any of their supply requirements.

2.7.4. Electric System Tools

As previously stated, actively monitoring the electric system is necessary to ensure that assets are operated within their specifications, and if abnormal conditions exist, then appropriate steps must be implemented to maintain safe and reliable supply of electricity. This practice is supported through the use of Supervisory Control and Data Acquisition (“SCADA”)-connected substations and the use of AMI. Specifically, the Company maintains 100 percent connectivity to their 115kV/13.8 kV substations to allow for real-time circuit loading data. UI has deployed AMI to approximately 80 percent of their customers. AMI provides additional end-user data which can further augment for instances where there is no information at the substation level, including for certain 4kV circuits.¹⁵⁴

UI uses Hitachi Energy’s (formerly known as ABB) Network Manager as their SCADA system, which is a common industry tool. The system is responsible for collecting and displaying, through a graphical interface, all data from field-connected devices. Should there be an abnormal system condition, the system will graphically represent the issue and send an alarm to the System Operator who is responsible for monitoring the system.¹⁵⁵

UI has also implemented Hitachi Energy’s Advanced Distribution Management System (“ADMS”) which provides additional distribution-level features and monitoring. Implementation of ADMS is increasingly important as DER penetration increases to a point that requires advanced monitoring and control to maintain system stability.¹⁵⁶ UI’s SCADA and ADMS are both monitored by System Operators, who have 24-hour, 7-day-a-week responsibilities within their Electric Control Center (“ECC”).¹⁵⁷

These tools align to industry practices, especially the implementation of ADMS, which is increasingly important given the increased penetration of DERs.¹⁵⁸ The Company also noted that an upgrade to this system is planned for March 2023, which will provide additional functionality.¹⁵⁹ The Company’s ECC is also equipped to properly monitor the system using standard rotation schedules, with consideration for appropriate rest time and any other scheduling challenges. UI maintains back-up protocols in case of an ECC outage and drills regularly for such scenarios.

¹⁵⁴ Response to FTI-0289.

¹⁵⁵ Response to FTI-0038.

¹⁵⁶ Ibid.

¹⁵⁷ Interview with Senior Director of System Operations, October 13, 2022.

¹⁵⁸ <https://www.energy.gov/sites/prod/files/2015/02/f19/Voices%20of%20Experience%20-%20Advanced%20Distribution%20Management%20Systems%20February%202015.pdf>

¹⁵⁹ Interview with Senior Director of System Operations, October 13, 2022.

2.7.5. Electric Distribution Impacts Due to COVID-19

We did not note any material impact due to COVID-19, as the CT Companies were able to continue system operations.¹⁶⁰ We also did not discover any issues with the implementation of the Vegetation Management Program or the other inspection programs.¹⁶¹

2.8. Gas Distribution

This Section evaluates the effectiveness of SCG and CNG's management of gas supply through the use of the spot market purchases, gas commodity purchasing, and interstate pipeline capacity. The forecasting methods used to support load management and their effectiveness are also evaluated, along with how the CT Companies implement reduction methodologies for abnormal conditions. This Section also evaluates the management of Lost and Unaccounted-for Gas ("LAUF"), design peak day calculations, along with LNG operations.

2.8.1. Current Organization Structure

The Gas Supply group is managed by the Senior Director of Energy Supply, who reports directly to Franklyn Reynolds, the UIL CEO, as shown in Figure 2-1. The Energy Supply group also coordinates with operational, financial, and regulatory groups within the CT Companies. Their mission is to provide reliable service at the best cost to customers, under all weather conditions, over all time horizons to foster growth and customer satisfaction, while increasing the competitiveness of natural gas at the retail level compared to other competing energy products.¹⁶²

2.8.2. Operational Planning

In compliance with regulatory requirements, the CT Companies file a five-year forecast of demand and supply with the PURA every two years, which includes the following details:¹⁶³

- Peak Day Demand Forecast
- Overall Supply Forecast Methodology
- Underlying Supply Strategy Acquisition (Commodity / Transportation / Storage)
- Underlying Supply Strategy LNG
- Operations

2.8.2.1. *Peak Day Demand Forecast*

SCG and CNG utilize a multivariate regression model for peak day requirements, with the inputs including daily weather information and firm send-outs for their respective service areas, Effective Degree Days ("EDD"), and the coldest EDD in the last 30 years. EDD adjusts actual degree days for the impact of wind, which refines the results of the weather model. The regression statistical model utilizes the prior four winters to determine utilization per EDD. SCG and CNG then utilize the resulting output by applying it to January 15, 2004, the coldest EDD within the EDD 30-year test period.¹⁶⁴ Over the 2019/2020 winter period, the estimated usage for the coldest five days was 97.9 percent of actual load for Hartford, Connecticut and 100.5 percent for Greenwich, Connecticut for CNG, with

¹⁶⁰ Ibid.

¹⁶¹ Interview with Manager of Vegetation Management, November 11, 2022.

¹⁶² Response to FTI-0090, Att. 1 (confidential).

¹⁶³ Ibid.

¹⁶⁴ Response to FTI-0095, Att. 1 (confidential).

a similar analysis at SCG resulting in 100.2 percent of actuals, which indicates the accuracy of the CT Companies' regression model.¹⁶⁵

2.8.2.2. Overall Supply Forecasting Methods

SCG and CNG evaluate available supply sources on a daily, seasonal, and monthly basis by considering their contractual delivery obligations. They identify base and heat usage at the sales category and service territory level. These metrics are then aggregated by calendar month in order to produce projected demand by month. The CT Companies' unaccounted-for gas is then layered into this aggregation to develop a complete view of the supply required to purchase.¹⁶⁶

The gas supply assumptions, transportation contracts, storage facilities, and projected demand are entered into the SENDOUT® model, which is used to determine the best cost to allocate supplies. It also identifies interruptible sales class curtailments based on forecasted weather in addition to the amount of fuel gas required to meet the CT Companies' needs.^{167,155}

2.8.2.3. Underlying Supply Strategy Supply Acquisition – Commodity

The Gas Utilities purchase gas supply primarily from producer supplies, with CNG and SCG preferring to acquire supplies from producers versus marketers.¹⁶⁸ The benefit of this strategy includes cost reduction and security of supply. In addition, the Gas Utilities purchase from multiple producers in order to diversify supply sources, thus reducing credit risk.

SCG and CNG purchase firm supplies of natural gas from the Marcellus shale region and Canada at market prices each winter season to ensure reliability. The purchases are made via RFPs, which are structured around contracts that are typically for one winter season, however, multiple-season purchases may be made based on economic and reliability factors. The Senior Director of Energy Supply, following the UIL Grants of Authority, may execute firm multi-month supplies or a right to call on supplies may be executed for non-winter periods. SCG and CNG may pay a slight reservation charge in order to maintain optionality for monthly and daily pricing as well as the ability to sell back unneeded volumes. This reservation charge is typically approximately \$0.01-0.02.¹⁶⁹

The RFP responses are evaluated by the Gas Buyers and the Manager of Gas Supply, who uses a matrix scoring system. They then provide recommendations to the Senior Director of Energy Supply, who makes the final decision. Approval is based on the UIL Grants of Authority, as seen in Figure 2-21:

¹⁶⁵ Response to FTI-0090, Att. 1 (confidential).

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.

¹⁶⁸ Ibid.

¹⁶⁹ Ibid.

Operation under existing contracts- Supply Approvals

- Seasonal plan (winter and summer) prepared and signed off by President
- Transactions in accordance with approved seasonal plan
 - One month and less than \$5MM approved by Senior Director of Energy Supply
 - Monthly transactions per a monthly planning process
 - Daily transactions per morning gas supply operations/market conditions meeting decisions
 - Intra-day transactions outside of morning meeting decisions require subsequent approval
 - Transactions executed by gas supply buyers and manager
 - Multi-month transactions less than \$15 MM require President approval
 - Multi-month transactions greater than \$15 MM require two approvals from the following four: CEO, CFO, COO, or PRES
- The above reflects the UIL Grants of Authority
- No hedging performed due to DPUC 80/20 policy
- Supplies are purchased at market prices or better at time of transaction

Figure 2-21 Grants of Authority Review Process

Canadian gas is purchased on a daily, monthly, or seasonal basis. These supplies are acquired at the New York Mercantile Exchange (“NYMEX”) monthly settlement prices, adjusted by a fixed basis. Canadian supply acquisitions take into account storage capabilities in Union, Connecticut.¹⁷⁰

The Gas Utilities purchase gas at either monthly or daily index prices, following the PURA’s requirement that purchases must be made at market price. The Gas Utilities do not perform hedging (locking a price prior to the monthly and daily index settlements), due to the “80/20 rule,” where the majority of benefits go to ratepayers and the majority of costs go to shareholders.¹⁷¹

2.8.2.4. Underlying Supply Strategy Supply Acquisition – Transportation and Storage Capacity

The Gas Utilities have firm transportation on 12 pipelines, three of which (Tennessee Gas Pipeline, Algonquin Gas Transmission, and Iroquois Gas Transmission) interconnect with one or more of the Gas Utilities.¹⁷² All transportation contracts have right of first refusal (“ROFR”) provisions.¹⁷³ Prior to terminating contracts, with the timing being based on the ROFR language, each of the Gas Utilities will confirm with the pipeline company that it plans to exercise its ROFR rights. Typically, the extension will need to match the highest term offered by potential replacement shippers due to the lack of additional capacity available in the region, and because contracts are executed at maximum tariff rates. This matched cost will be compared to other alternatives, and the decision will be made as to how to proceed based on the approvals outlined above.

The Gas Utilities also maintain gas storage capacity in Pennsylvania, New York, West Virginia, and in Dawn, Ontario, Canada. As the end of a storage contract approaches, the Gas Utilities undergo a similar exercise for firm transportation to renew storage contracts.

¹⁷⁰ Response to FTI-0095, Att. 1 (confidential).

¹⁷¹ Interview with Senior Director of System Operations, October 13, 2022.

¹⁷² Response to FTI-0090, Att. 1 (confidential).

¹⁷³ Interview with Senior Director of System Operations, October 13, 2022.

2.8.2.5. Underlying Supply Strategy Liquefied Natural Gas

SCG and CNG both have LNG peaking facilities, which are not typically utilized until flowing pipeline resources are exhausted. The general practice SCG and CNG follow is to only use LNG peaking to support firm load. Exceptions can be made according to the following:¹⁷⁴

- Unexpected changes in mid-day weather
- High LNG storage levels late in the winter season
- Expected LNG use is small and may not occur

In these cases, marginal revenue from non-firm sales exceeds both the weighted average cost of gas (“WACOG”) and replacement cost of LNG and cannot jeopardize firm reliability. The table below shows annual LNG utilization for the past five years for the two Gas Utilities.

LNG utilization for the past 5 years					
	2017	2018	2019	2020	2021
CNG LNG Vaporized Mcf	187,737	201,630	65,812	1,217	11,726
SCG LNG Vaporized Mcf	177,388	169,964	142,490	24,044	19,625

Figure 2-22 LNG Utilization for the Past Five Years¹⁷⁵

2.8.2.6. Daily Operations

There is a standard cadence maintained to ensure that the Gas Utilities are prepared to meet their daily obligation of supplying gas to customers in a safe, reliable, and affordable practice. Prior to the delivery month, files are created to identify normal daily volumes for each Gas Utility. This includes validating fuels and rates on each pipeline and current NYMEX and basis data from SNL to determine projected least-cost supplies. A purchase strategy for each month, which considers market conditions and other factors, is discussed, and final supply decisions are made prior to the start of the month.

Every day, there are processes executed to ensure supply is acquired and scheduled for the following day. These processes begin at 6:15 AM when the Gas Supply group downloads scheduled volumes from the electronic bulletin boards, downloads weather data, and updates files to prepare for the daily morning group meeting. Final updates are performed to balance supply based on Pipeline Operations Balancing Agreements, and correct imbalances between the Gas Utilities and the pipelines based on adjustments or pipeline operation flow orders. Estimations of current gas day requirements and the next two to five gas days’ requirements (based on weekend/holidays) are calculated for further discussion at the 8:10am morning meeting, where the Gas Supply group reviews the following:¹⁷⁶

- Gas day ending operations report
- Local weather information – 15-day forecast
- North American current and long-range weather deviations from normal
- Market prices at various North American locations
- Least-cost pathways to citygate from contract access points

¹⁷⁴ Ibid.

¹⁷⁵ Response to FTI-0101.

¹⁷⁶ Response to FTI-0090, Att. 1 (confidential).

- Market conditions for energy markets
 - Alternate fuels #2, #6
 - Electricity (ISO-New England and New York ISO)
 - Power plant outages
- Pipeline operating conditions
 - Restrictions/bottlenecks
 - OFO and imbalance warnings
 - Other information
- Scheduled volumes at key points
- Pipeline and company imbalance statuses
- Gas storage and peaking balances
- Current day plan versus demand
- Projected gas needs and strategies for next three days
- Open capacity
- Purchase, sales, and operational strategy determined
- Any other relevant information

Following the meeting, the Gas Control group’s “Game Plan” is updated by 10:00am, which includes providing the Gas Control group with updated delivery sheets for the new gas day. Due to limited capacity in the Northeast U.S., it is imperative to meet timely scheduling and not rely on intraday scheduling on pipelines.¹⁷⁷ This evaluation is being performed 24 hours per day, 365 days a year to provide customers with reliable natural gas supply year-round.

2.8.3. Gas Purchasing

2.8.3.1. *Strategies*

To meet customer needs, the Gas Utilities purchase gas at either monthly or daily index prices in compliance with the PURA’s requirements that mandate purchases to be at market price. As previously stated, the CT Companies do not perform hedging.¹⁷⁸

2.8.3.2. *Tracking of Purchases and Sales*

SCG and CNG traders enter transactions into a Microsoft Access database. The database generates a deal sheet which is forwarded to analysts where they enter information into a Microsoft Excel database (the “Tab32” worksheet). Tab32 has daily and summary pages and includes information to calculate fuel loss and transportation costs.¹⁷⁹

2.8.3.3. *Future State*

Currently, there are a lot of manual updates and linking of data between Microsoft Excel and Microsoft Access. In 2023, the CT Companies are projected to complete the implementation of Hitachi Energy’s energy trading and risk management (“ETRM”) system. Completing this project will help support the CT Companies by reducing redundancy and improving workflow.

¹⁷⁷ Response to FTI-0101.

¹⁷⁸ Interview with Senior Director of System Operations, October 13, 2022.

¹⁷⁹ Response to FTI-0090, Att. 1 (confidential).

2.8.4. Lost and Unaccounted for Gas (LAUF)

As mentioned previously, gas purchases by the CT Companies include LAUF. CNG and SCG follow the LAUF procedures established in PURA Docket 18-03-28.¹⁸⁰ The calculation is derived from the gas coming into the system less gas output, measured through meters.¹⁸¹ A key component is the timing of the measurements with gas coming into the system measured daily, however, gas delivered to customers is metered monthly. This distinction is important given the recent focus on emissions and climate change in public and political opinion, where LAUF does not equate to gas emissions but is attributable to timing and measurement error inherent in the system's design.

2.8.4.1. Market Growth

Earlier aspects of this Section have been focused on servicing current customers. As discussed, the Gas Utilities provide a five-year outlook for their requirements, which includes forecasts for new gas customers. SCG and CNG have marketing programs in place to target residents with aging heating equipment, along with high-value audiences including new homeowners, home buyers, and new construction by utilizing a combination of incentive offers and financing options. The objectives include consumer education such as awareness of incentives, tax credits (if available), financing, and general information on the benefits of natural gas.

The Gas Utilities' marketing strategy is to utilize direct marketing as well as other media campaigns with conversion success. The COVID-19 pandemic has impacted this process significantly, with sales representatives now conducting virtual, in-home visits, which has lengthened the contracting time period of the sales cycle. The global material shortages have also caused delays with installations for executed contracts. The Gas Utilities have mitigated some of these challenges by clearly communicating schedules to help alleviate backlogs and ensure customer satisfaction.¹⁸²

Historically, customers have been hesitant to pay Costs in Aid of Construction ("CIAC"), which are required to make necessary improvements and construction to support new installations. Therefore, in 2021, the CT Companies only achieved 41 percent of their ten-mile annual goal. However, to alleviate this, in 2022, the CT Companies were able to utilize anchor load projects. Since these projects will be along the anchor loads' installation path, this will present the opportunity to market to new customers without CIAC being necessary.¹⁸³

2.9. Emergency Response Plan

Emergency response has emerged as a critical activity which all utilities must perform well, every time, regardless of event type and size. Utilities across the country have developed and implemented Emergency Response Plans that define the processes, procedures, and actions to be used for event responses. These Plans are based on an all-hazards approach to drive consistent performance. These plans are led by an incident response organization that is structured around the Incident Command System ("ICS"), which is aligned to the National Incident Management System ("NIMS") maintained by the Federal Emergency Management Agency ("FEMA").

Event readiness is the responsibility of several groups, typically within the Operations group, and is coordinated through a group that is directly responsible for Emergency Preparedness. UI, SCG, and CNG achieve event

¹⁸⁰ Response to FTI-0098.

¹⁸¹ Response to FTI-0099.

¹⁸² Response to FTI-0104, Att. 1 (confidential).

¹⁸³ Response to FTI-0099.

readiness through their Reliability Assurance and Emergency Preparedness group, with the Gas Utilities and UI each having their own Manager who is responsible for coordinating emergency response preparedness, as shown in Figure 2-1.

2.9.1. Emergency Response Plans

SCG and CNG share an Emergency Response Plan, the “Avangrid Networks Unified Gas Emergency Plan (UGEP),” while UI maintains their own, the “United Illuminating Emergency Response Plan,” both of which account for the specific requirements of their industries and systems. Both plans have a typical chapter structure which includes a background, pre-event preparedness, during-event activities, post-event activities, process improvement, and supporting documentation. They both also include detailed references to the ICS, including the various roles and responsibilities that are required for event response and the required ICS organizational structure.^{184,185}

Each Plan also details applicable regulatory requirements, including timeframes for notifications to the PURA and communication responsibilities. They also provide the CT Company-specific regulatory requirements, for example, the required timeframes and parameters for Estimated Time of Restoration (“ETR”) for UI, the investigation requirements for the Gas Utilities, and drill requirements for all three CT Companies.¹⁸⁶

The Plans also includes provisions for obtaining after-action information for continuous improvement purposes, which are sourced from either an actual event or drill. Drill requirements, the intent behind them, and their mandated frequency are also detailed. For example, UI can use an actual event to serve as a drill but are then required to complete a drill within the 18 months following. UI is also required to conduct a test which exercises major components of their plan every three years. Meanwhile, each Gas Utility is required, regardless of past events, to conduct drills annually to test their Response Plans.^{187,188}

2.9.1.1. Specific UI Emergency Response Plan Details

UI’s Plan includes “Event Level Classification” which is used to select the response scale based on a set of parameters defined in a matrix format. There are a total of eight Event Level Classifications (“Levels”) beginning with a minor event or “5 Minor” and ending with 1, which is a catastrophic event with nearly all customers without service. UI’s Plan also details the corresponding weather that could drive a specific Level to assist with selection.¹⁸⁹

The Plan include checklists for each major ICS and other critical operational roles to ensure that required activities are performed for each phase of the event.¹⁹⁰ The use of checklists is a best practice which ensures that regardless of busyness or experience level for an individual, every critical task is performed.

UI’s plan, however, does not include documentation or standardized forms for the various types of required communications including the use of ICS 201.¹⁹¹ ICS 201 is a standardized form used to support incident briefing, which is typically performed at the start of each operational period. Its use ensures that standardized briefings are conducted while covering the appropriate amount of detail. The completed forms should then be collected at

¹⁸⁴ Response to FTI-0041, Att. 1 (confidential).

¹⁸⁵ Response to FTI-0041, Att. 2 (confidential).

¹⁸⁶ Response to FTI-0041, Att. 1 (confidential).

¹⁸⁷ Ibid.

¹⁸⁸ Response to FTI-0041, Att. 2 (confidential).

¹⁸⁹ Response to FTI-0041, Att. 1 (confidential).

¹⁹⁰ Ibid.

¹⁹¹ Ibid.

the end of each event and stored for reference and auditing purposes. UI should consider including the ICS and other communication forms in the Plan's appendix similar to the Gas Companies' Plan as detailed in the next section.

2.9.1.2. Specific SCG and CNG Emergency Response Plan Details

The Gas Utilities' Plans define "Event/Emergency" response through one of five Levels, which is selected for events including disasters, outages, and resource needs exceeding local capacity. Similar to the UI Plan, each Level also describes the potential impact, ICS response, and required notifications. The Plan details the event Level definition process and identifies who can declare an event. While the Levels are practical and define the scale of an event well, there are very little additional references or corresponding actions driven by them. For example, the Plan should include details about which Level triggers specific reporting requirements, actions for activation, and other Level-specific requirements and actions.¹⁹²

Checklists and their use are also missing from the Plan which can assist with coordinating activities for each major role. The Electric Emergency Response Plan includes them and is considered a good example of the content and breadth required.¹⁹³

The Gas Emergency Response Plan makes use of ICS 201 forms, which provide a structured approach to briefings and is standardized through the NIMS methodology.¹⁹⁴

Recommendation: The "Avangrid Networks Unified Gas Emergency Plan" should be updated to include "Event/Emergency-level" specific references that define emergency response activities, for example, activation and communication requirements for each level. Additionally, checklists should be created for each ICS role and other major operational roles as necessary, which can be modeled by those included in the UI Plan.

2.9.2. Incident Command System (ICS)

2.9.2.1. ICS Utilization

Both Emergency Response Plans provide details about their compliance with and utilization of the ICS, including applicable roles and responsibilities. The individuals who serve ICS roles are pre-defined, and the Plans include a rotation of resources to maintain a certain level of bench depth for shift and back-fill purposes.^{195,196} The CT Companies stated that they strive for approximately four individuals in each role, with three individuals who have experience and a fourth in a training capacity.

The role of the Incident Commander is typically served by a senior leader within each of the CT Companies' Operations groups, who possesses experience necessary for the role.¹⁹⁷ Other roles within the Command Structure are typically filled with individuals with "blue-sky" jobs that align closely to an ICS role.^{198,199,200} The goal

¹⁹² Response to FTI-0041, Att. 2 (confidential).

¹⁹³ Ibid.

¹⁹⁴ Ibid.

¹⁹⁵ Response to FTI-0041, Att. 2 (confidential).

¹⁹⁶ Interview with Manager of Operational Readiness, August 5, 2022.

¹⁹⁷ Interview with Vice President of Electric Operations (Charles Eves), August 5, 2022.

¹⁹⁸ Interview with Manager of Vegetation Management, November 16, 2022.

¹⁹⁹ Interview with Manager of Logistics, November 15, 2022.

²⁰⁰ Interview with Director of Government and Community Relations, October 11, 2022.

is to have consistent staffing for each event, while also training the individuals who can back-fill and ultimately become the next leaders for future events.²⁰¹

As previously noted, each Command Staff role includes a description of their responsibilities for each phase of an event. The Plans also detail reporting structure to ensure clarity of alignment and responsibilities.

Our review indicates that the CT Companies have created the necessary ICS bench strength to handle emergencies without too many individuals assigned for rotational purposes. The Plans also demonstrate good alignment to NIMS ICS with minimal customization, and a reasonable level of detail is provided for each Command Staff role. The sample organizational charts contained within each Plan provide clear organizational alignment for each role to eliminate confusion, and the interviewed sample of employees displayed a good level of understanding of their respective roles and responsibilities.^{202,203,204}

2.9.2.2. Event Scaling

Events levels should drive the scale of each of the CT Companies' responses, which includes determining the appropriate number of leaders and supporting individuals for each role. This includes the number of line crews, damage assessors, wires down standby, and various other field and back-office staff required. For major weather events, electric utilities can typically determine this based on historical data, type of impact, and through processes analysis.

UI's plan includes staffing matrices that can be used to support staffing and are delineated by event level, which in effect recognizes that larger events require more staff to support restoration. When asked how staff size was determined, the Company responded that it was the responsibility of each individual leader to determine the appropriate number of staff, however, it is not based on any sort of process-driven analysis.²⁰⁵ This shortcoming is evaluated in the next Section.

The Gas Utilities' Plans do not attempt to determine the appropriate number of resources required for each role, which is likely due to the high variability of need based on the type of event. Gas events can be caused by a variety of factors such as weather or flooding, a failure of an assets, or some other need, making it difficult to completely designate the number of employees needed for each role. Additionally, not every ICS role needs to be activated for every event. The discretion of an experienced Incident Commander is needed to determine the appropriate response size. To satisfy this need, SCG and CNG typically staff the Senior Director of Gas Operations, who has a significant background in Gas Operations, as the Incident Commander.²⁰⁶

2.9.2.3. Communications

Documenting and storing event communications is an important activity for any response, since it contains the decisions, notifications, and rationale for each action taken by the individuals. A record of decisions and actions that can be reviewed and evaluated can support the development of a post-event report and continuous improvement activities.

²⁰¹ Interview with Manager of Operational Readiness, August 5, 2022.

²⁰² Interview with Manager of Vegetation Management, November 16, 2022.

²⁰³ Interview with Manager of Logistics, November 15, 2022.

²⁰⁴ Interview with Director of Government and Community Relations, October 11, 2022.

²⁰⁵ Interview with Manager of Operational Readiness, August 5, 2022.

²⁰⁶ Interview with Senior Director of Gas Operations, August 3, 2022.

The CT Companies stated that all ICS roles down to the Director level are required to maintain a list of activities and a time log which is tracked and stored to support, among other things, the CT Companies' event response narrative provided to the PURA.²⁰⁷ The Manager of Operational Readiness is responsible for collecting and storing this documentation, and while some utilities use systems to help track and store event documentation, the size of the three CT Companies does not require a robust IT solution to support this task.²⁰⁸

The CT Companies also highlighted the required communication milestones and cadences for each phase of an event, which include:

- Before event: Notice of pre-staging of resources and intent to communicate level to the PURA
- During event: Daily PURA ESF-12 Call, three-per-day PURA report, two-per-day Sit Rep EOC, PURA call, daily legislature conference call, storm updates
- After event: 14-day report and 60-day after-action report (Level 4 or greater) and PHMSA report for gas events

Upon review, we determine that the CT Companies' supporting documentation, including the declaration of event, Storm Advisory report, preparedness fact sheet, restoration status, and post-event reports, appear to have an appropriate amount of detail and are aligned with each report's requirements as detailed in their respective Emergency Response Plans.²⁰⁹

2.9.2.4. Restoration Priorities

UI has a formal practice that outlines how restoration activities are prioritized, including the following:²¹⁰

- Immediate Life Threatening, Public Health and Safety which includes wires down, blocked roads, and other immediate municipal priorities
- Restoration of transmission lines, substations, and primary distribution lines
- Restoration of laterals, including three- and single-phase lines
- Distribution Transformers and services

UI also works with each of their municipalities to annually update a list of their 10 individual priorities, which then become the Company's priorities for each event. Should there be a specific need outside of this list, the event's Incident Commander will work to accommodate them through the Municipal Liaisons, who are Company employees who are assigned to support a specific municipality. Otherwise, should a municipality's needs change during the annual refresh period, those changes can be made as necessary.^{211,212}

UI also maintains a practice of supplying a crew to each municipality to assist with cut-and-clear activities, which are typically performed during the earliest phases of a weather event. This allows each municipality to rapidly deploy crews for road clearing and general scene stabilization purposes during the earliest phase of an event response. The Company remains in contact with these crews so they can redeploy for utility restoration needs as

²⁰⁷ Interview with Manager of Operational Readiness, August 5, 2022.

²⁰⁸ Ibid.

²⁰⁹ Response to FTI-0048.

²¹⁰ Response to FTI-0047.

²¹¹ Interview with Manager of Operational Readiness, August 5, 2022.

²¹² Response to FTI-0047.

rapidly as possible.²¹³ This practice is reasonable and ensures priorities are not only considered, but that municipality needs are adapted to when necessary.

The Gas Utilities stated that they remain in contact with the PURA and other public officials to discuss emergency response procedures and restoration priorities. The CT Companies generally follow a practice of life-safety stabilization, then large customers including hospital and schools, then restore to the individual service level. Similar to electric, any changes to the prioritization list rest with the Incident Commander and depends on gas system integrity during the event.²¹⁴

2.9.3. Emergency Response Processes

While ICS defines the organizational structure and roles for those responsible for event restoration, processes detail the specific tasks required for event response. With a significant number of resources needed for major events, having clear and accurate processes provides clarity for the individuals serving in roles. Processes also assist with the analysis of emergency response activities to determine if they are managed effectively through performance measurement, help with determining resourcing requirements, and determine if processes are fit for purpose.

While each Companies' plan includes the activities performed during an event response, processes are only detailed in textual bulletized format, with no process maps maintained.²¹⁵ The lack of process maps limits the amount of advanced analysis for performance management and continuous improvement purposes. Process maps can also be used to support resourcing needs by identifying the most efficient number of resources for each response level.

We reviewed specific processes including the Resource Activation Process, ETR, and Life Support Notification for additional opportunities.

2.9.3.1. Resource Activation

The Incident Commander is responsible for activating resources for each event by first notifying the Section Chiefs who report to them. Each Section Chief is then responsible for activating and notifying all the other resources needed. Employees are activated for a specific or "primary role." UI maintains only one role for each electric employee and effectively two roles for certain gas employees who serve in both a gas and electric emergency response capacity. Having employees maintain more than one role would increase UI's resourcing flexibility for each event.

UI typically activates resources by either via email or calling employees directly, which, for smaller events, can be an effective method. However, UI does not maintain a database to track employees who have been activated or those who are available for activation.²¹⁶ For larger events which have specific needs, it may be necessary to activate a significant number of resources to manage an effective response, and a database will limit or eliminate availability confusion.

Recommendation: UI should designate primary and secondary emergency roles for employees, which consider need based on a variety of activation scenarios and through the process mapping analysis. This recommendation

²¹³ Interview with the Manager of Operational Readiness, August 5, 2022.

²¹⁴ Response to FTI-0047.

²¹⁵ Interview with Manager of Operational Readiness, August 5, 2022.

²¹⁶ Ibid.

also includes the development of a process for activation that ensures employees are not activated for both their primary and secondary role at the same time. UI should also develop a database that indicates assigned and available resources.

2.9.3.2. Estimated Time of Restoration (ETR)

More now than ever, customers and municipalities are relying on ETRs to support decision making. UI maintains an ETR coordinator role which is responsible for coordinating ETR updates to ensure they are compliant with applicable rules and that they are reviewed and approved by the appropriate individuals prior to distribution. This role has a specific checklist to ensure that the requirements for each phase of an event is managed appropriately. The role description also details the requirements for ETRs.²¹⁷

However, the Plan does not provide complete detail about the ETR process. In addition, the CT Companies' documentation did not provide the full requirements for ETRs, including the distribution cadence and the level of detail required at each phase of any event.

2.9.3.3. Critical Needs Customer Notification

"Critical needs customer" notification is an important service that notifies customers who require electricity for medical purposes of pending outages and provides additional notifications as necessary. Similar to the ETR process, UI maintains a coordinator role, a "Critical Needs Coordinator," that supports deploying these messages throughout an event. This role also has a specific checklist to ensure that requirements for each phase of the event are managed appropriately, and the role description also has some level of process for Critical Needs Customer notifications.²¹⁸

However, similar to the other processes reviewed, the Plan does not provide complete detail for the process, including the cadence that must be followed and the level of information required at each phase of any event. This is consistent with findings for other emergency response processes and is addressed in the following recommendation.

Recommendation: The CT Companies need to develop process maps and associated documentation for the critical emergency response processes. Process mapping sessions should be used to evaluate event scale (number of employees required), and to evaluate the tools used to support the process and develop the metrics that will be used to monitor performance. Mapping activities should include "as-is" and "to-be" states and the appropriate initiatives supporting moving towards a to-be state. Finalized process maps will not have to be included in the response plans, but each plan should be reviewed to determine if updates are needed to align to these new processes.

2.9.4. Training

Emergency Response training can take many forms, including formal training, drills, and On-the-Job Training ("OTJ"). As stated earlier, the CT Companies work to align an individual's blue-sky role to their Emergency Response role to limit the required training, however, there may be instances where it becomes necessary to staff roles with individuals without skills in the required tasks.

²¹⁷ Response to FTI-0041 Att. 1 (confidential).

²¹⁸ Ibid.

UI maintains a process to build the required capabilities, including through OTJ training, which is implemented via shadowing an experienced employee. The Company lists all 98 roles and provides training requirements for each one.²¹⁹ They also track training, where applicable, through the Company’s Human Resources (“HR”) training databases, so they are aware of who has been trained.²²⁰

The Gas Utilities follow a similar process, however, they stated they do not have the same resourcing requirements as UI does due to the scale of gas events, which are not as large or as frequent as electric events.²²¹ As a result, the majority of Gas Utility employees’ emergency response roles are aligned with their blue-sky roles, but they still maintain the training requirements required for each.²²²

These training practices are similar to other utilities’, where the majority of the emergency response roles have OTJ detailed through training requirement documentation. Also, blue-sky and emergency response roles are aligned as closely as possible.

2.9.5. Drills and After Action Reviews

Electric Utility Emergency Response roles are frequently activated, which provides opportunities for employees to remain current and ready. However, the Gas Utilities and UI roles that are rarely activated can achieve readiness through emergency response drills. These drills can be expansive so many employees can participate, while certain, lesser-used processes are activated to provide the opportunity to test them.

To accomplish this, all three CT Companies maintain annual drills that simulate actual events, which for UI includes Hurricanes, Major Storms, and a load shed event. The Gas Utilities conduct joint drills with all Avangrid Gas Utilities, or just amongst themselves. Performing these drills annually aligns with local requirements and industry standards, and each Plan contains detail concerning their design requirements.²²³

The Emergency Response Plans also define the continuous improvement activities required after each drill and event to provide a mechanism for evaluating the effectiveness of response activities. These “After-Action Reports” are typically performed after each drill, and most events solicit improvement actions from members of the response team. More informal information-gathering is conducted for smaller events.²²⁴

Meaningful actions should be an end result of the After-Action Reports to drive improvements in response plans and restoration performance. However, these improvements can only be implemented if there is proper oversight in place. To achieve this, UI’s Manager of Operational Readiness is responsible for tracking all After-Action initiatives using a tool called EHS 360. The tool assigns due dates along with appropriate actions for accountability.²²⁵ The Gas Utilities noted that they have not had an event which required an After-Action Report, therefore, an evaluation of implementation improvement could not be performed.²²⁶

²¹⁹ Response to FTI-0049.

²²⁰ Interview with Manager of Operational Readiness, August 5, 2022.

²²¹ Interview with Senior Director of Gas Operations, August 3, 2022.

²²² Response to FTI-0049.

²²³ Response to FTI-0041.

²²⁴ Response to FTI-0041, Att. 1 (confidential).

²²⁵ Response to FTI-0385, Att. 1.

²²⁶ Response to FTI-0051.

2.9.6. Regulatory Compliance

The CT Companies are all required to comply with various rules regarding Emergency Response processes defined in CGS § 16(h) through (j), which describes performance standard requirements, After-Action Reports, and road clearing requirements.²²⁷ Our review of the CT Companies' plans indicate an alignment to PURA regulations. Additionally, we reviewed a sample of UI's After-Action Reports and determined they provide appropriate context and content to evaluate the Company's response. As previously noted, the Gas Utilities have not had an event since the implementation of their Emergency Response Plan, but the provided After-Action Reports conducted after drills indicate a reasonable assessment of the CT Companies' performance.²²⁸

2.9.6.1. Local Affiliation Agreements

The CT Companies stated that there are no affiliate agreements in place that specify the number of employees dedicated to Connecticut.²²⁹

²²⁷ https://cga.ct.gov/current/pub/chap_277.htm#sec_16-32i

²²⁸ Response to FTI-0050, Atts. 1-10.

²²⁹ Response to FTI-0045.

Chapter 3: Finance

Introduction

This chapter describes the finance organizations of Avangrid, Inc. (“Avangrid”) and their processes, policies, and practices to serve the Connecticut Natural Gas Corp. (“CNG”), the Southern Connecticut Gas Company (“SCG”) and the United Illuminating Company (“UI”) (collectively the “CT Companies”). Topics in this chapter include:

- Organizational and personnel structure
- Treasury and Accounting functions
- Credit ratings
- Capital structure and allowed returns
- Affiliate Transactions

Findings

Organization and Structure

1. Financial governance for CT Companies occurs at multiple levels of the Avangrid matrix structure. The specific functions involved within Avangrid collect, manage, monitor, and report financial accounting, tax, audit and treasury information. Financial services directly report to the Avangrid level to the Chief Financial Officer (“CFO”) or Chief Executive Officer (“CEO”), but they are also located at the Networks (overseen by a Networks Controller) and Connecticut levels within the UIL Holdings Corporation (“UIL”). Certain Networks-level financial employees serve in roles specific to the CT Companies.

Accounting

2. Accounting is located within the Control group overseen by the Avangrid Controller who reports to the Executive Vice President and CFO. Reporting to the Avangrid Controller is the Avangrid Networks (“Networks”) Controller, who manages the accounting group performing day-to-day general ledger accounting for all the Networks utility operating companies. In addition, there is another accounting group reporting to the Avangrid Controller that handles the accounting for depreciation, pensions, and other items for all Avangrid subsidiaries, including the CT Companies.
3. Performance of the Accounting group as well as the Treasury group is internally monitored as part of senior management incentive compensation. While there were some instances of lagging performance, recent achieved results indicate that there are no systemic issues that require immediate management intervention, especially pertaining to UI, CNG, and SCG.
4. Internal audit testing, Sarbanes-Oxley (“SOX”) testing, and a review of proposed but passed audit adjustments also revealed some concerns with controls related to accounting and financial reporting. None of these concerns were particularly alarming, but in one instance a medium-rated finding related to Business Area accountability within the Budgeting function which was identified by Internal Audit during their 2019 audit of

the Budget/REV Process went un-remediated for over two-and-a-half years, and still was an open matter when we were last updated on its status in August 2022.¹

5. Neither Accounting nor Treasury participates in or relies upon external benchmarking studies.

Treasury

6. Budgets are developed at each of the CT Companies independently from their domestic (Avangrid) parent company and Avangrid's international, majority shareholder Iberdrola S.A. ("Iberdrola"). Like most utilities, one way the CT Companies manage costs is to monitor actual-to-budget variances throughout the year.²
7. Since the beginning of 2019, Avangrid has outsourced a portion of its income tax department to a nationally recognized accounting firm. As initially implemented, most (if not all) of the tax personnel originally performing this work for Avangrid were rebadged and became employees of the contracted accounting firm. According to management, Avangrid has reduced its income tax costs by \$3.2 million per year by entering into this fixed price contract.
8. Treasury services provided to the CT Companies are performed by a group that has responsibilities for all Avangrid subsidiaries, including Avangrid Renewables ("Renewables").
9. UI, CNG, and SCG primarily fund their operations from cash flows generated by their operations and the periodic issuance of privately placed, fixed rate long-term debt. In our experience, the latter is a cost-effective method to finance operations and minimizes uncertainty regarding future cash flow needs.
10. To the extent that UI, CNG, or SCG use their equity to distribute or receive affiliate funds, they do so within constraints imposed by management to comply with regulator-approved capital structures. In recent years, the outflows of funds from the CT Companies (e.g., dividends and other capital distributions) might have been used by its parent to infuse money into a New York utility affiliate and Renewables, who were both net recipients of equity contributions.³
11. The CT Companies have several different sources of short-term liquidity. In recent years, they have borrowed exclusively from a virtual money pool, whose other participants are limited to investment-grade Networks utilities, and from their parent Avangrid pursuant to terms of an intercompany credit agreement.
12. Neither the CT Companies nor their affiliates have recorded any significant long-term asset impairments during the time period 2019 to 2021.

Rates

13. The 2015 Merger Order ring-fencing provisions allow certain financial protections for Connecticut ratepayers and are viewed favorably by the credit rating agencies.
14. The Avangrid Treasury organization monitors both actuals and forecasts of the CT Companies capital structures to target allowed capital structure ratios per current rate case decisions.

¹ On a scale of Low, Medium, High, and Critical.

² Networks updates its budget throughout the year, so actual comparisons are made to original budget and revised budget amounts.

³ To a much lesser extent, Central Maine Power also was a net recipient of equity funding from 2019 to 2021.

15. Despite the Connecticut Public Utilities Regulatory Authority (“the PURA”) and Connecticut being rated “Below Average,”⁴ the CT Companies continue to maintain attractive credit ratings.
16. Credit ratings for the CT Companies have not undergone drastic changes in recent years, however, CNG has increased from A3 Stable to A2 Stable since 2019, and UI was upgraded to a Baa1 with a Positive outlook in February 2022.

Affiliate Transactions and Service Company Allocations

17. Avangrid’s centralized service costs flow to benefiting subsidiaries in a cascading process, For Connecticut, this includes Iberdrola charging international corporate costs to the Avangrid Management Company (“AMC”), AMC charging its own corporate costs plus its allocations from Iberdrola to Avangrid Service Company (“ASC”), and so on down to UIL Holding Co and then to the individual operating companies.
18. Beginning in 2021, UIL and its subsidiaries adopted the SAP accounting system version used by Avangrid’s other regulated utility subsidiaries. Prior to 2021, there were effectively two accounting systems to distribute costs to the utilities in Connecticut.
19. Iberdrola charges corporate management and administrative services to each of its country-level companies based on specific intercompany service agreements. For Avangrid these costs are charged to AMC, from which they are charged to ASC and Renewables, and ultimately to the Networks utility subsidiaries. Iberdrola charged an average of approximately \$36 million annually to AMC during the years 2019 through 2021, of which approximately \$7 million annually was charged to the CT Companies.
20. The costs allocated by Iberdrola to Avangrid include SAP licensing and platform support costs. In addition to these cost allocations, during the years 2019 through 2021, Iberdrola directly charged UIL (and ultimately the CT Companies) approximately \$2.6 million for UIL’s upgrade to Avangrid’s version of the SAP accounting system.⁵
21. AMC provides centralized corporate management and administrative services which are distributed to Networks, Avangrid’s utility line of business, and to Renewables, the holding company for the Avangrid’s non-regulated line of business, based on specific intercompany service agreements. AMC directly incurred approximately \$119 million annually during the years 2019 through 2021.⁶ Of this an average of about \$34 million annually was allocated to UIL and the CT Companies.
22. AMC’s cost distributions between Avangrid’s regulated Networks and its unregulated Renewables lines of business appear reasonable based on a comparison with the relative financial size of the two lines of business.
23. ASC provides centralized services to the Networks group of subsidiaries, consisting primarily of Avangrid’s regulated distribution utilities in New York, Maine, Connecticut and Massachusetts. ASC’s services are subdivided into corporate (Information Technology (“IT”), Human Resources (“HR”), Corporate Communications, Legal, General Services, and others) and technical categories (Asset Management, Electric and Gas Operations, Operations Technology, Executive and Governance, and others). ASC’s costs increased from \$105 million in 2019 to \$144 million in 2021, primarily due to the transfer of employees to ASC from

⁴ Based on quarterly ratings from S&P Regulatory Research Associates.

⁵ Response to FTI-0311, Att. 1.

⁶ Response to FTI-0622, Att. 1. Costs are incurred in the United States AMC, excluding costs allocated from Iberdrola and also further allocated by AMC.

other subsidiaries, some of whom were transferred from UIL and the CT Companies. Charges from ASC to the CT Companies increased from \$18.3 million in 2019 to \$34 million in 2021.

24. Avangrid relies on a size-based Massachusetts formula to allocate nearly half the costs incurred by AMC and ASC. The formula is described as being based on fixed assets, gross margin and personnel costs.⁷ Although we did not conduct a detailed review of allocation processes or factor calculations, a high-level review suggests that the formula produced reasonable allocation results during our review period. However, it is likely that more direct charging or attributable allocation methods could be used for some services, including ASC's customer services, which might have been more attributable allocated using customers instead of an average of assets, gross margin, and personnel costs.
25. Avangrid applies what appears to be a different Massachusetts formula to allocate costs from UIL to the CT Companies. The formula uses gross plant plus construction work in progress instead of fixed assets, net sales revenue instead of gross margin, and salaries instead of personnel costs. The formula is used to distribute costs from the UIL-level among the three CT Companies. Costs distributed from AMC and ASC to UIL using allocation methods other than the Massachusetts formula, such as employees, are further allocated within Connecticut using the Massachusetts formula. As noted in the finding above, it is possible that more direct charging or attributable allocation methods could be used to distribute some UIL services, including customer services, which could be distributed on a more attributable basis such as customers.
26. Similar to ASC, UIL provides corporate and technical services primarily to the CT Companies. According to data provided by Avangrid, UIL incurred approximately \$87 million in centralized services in 2019, which declined to approximately \$40 million in 2021. During this period, UIL allocated approximately \$3 million annually for services provided to Berkshire Gas. UIL did not provide significant services to the New York or Maine utilities.
27. Avangrid has been integrating the CT Companies into its Networks organization since the former Iberdrola U.S.A. merged with UIL in 2015 under a new parent entity Avangrid (the "2015 Merger"). Organizational data shows that Avangrid transferred approximately 160 Connecticut-based positions into AMC and ASC between the end of 2019 and September 30, 2022.⁸ UIL Holdings had 130 employees providing services to the CT Companies in eight functional areas at the end of September 2022. Avangrid stated that UIL functions and activities have "essentially all been integrated into ASC and AMC where appropriate at this time,"⁹ which we interpret to mean it is unlikely UIL will transfer additional employees to ASC or AMC in the near future.
28. UIL provides corporate and technical services similar to those provided by ASC. The primary difference is that the costs incurred by ASC are allocated to all Networks utilities, whereas costs incurred by UIL are allocated mostly to the CT Companies.¹⁰ The New York and Maine utilities also have their own holding companies, but they do not operate as service companies as UIL does in Connecticut. Because UIL is an additional centralized service provider limited primarily to serving the CT Companies, these utilities had a higher centralized services cost burden during the review period than other Networks utilities, both on a relative financial size basis and a per customer basis. For example, in 2021 the CT Companies accounted for 28% of the total Avangrid utility

⁷ Response to FTI-0523, Att. 1 (confidential).

⁸ Response to FTI-0480, Att. 1.

⁹ Response to FTI-0610-A.

¹⁰ With the exception of an allocation to Berkshire Gas of about \$3 million annually.

financial size but were responsible for approximately 40% of the combined Networks costs of ASC and UIL.¹¹ This does not necessarily mean the CT Companies are “double-charged” for centralized services,¹² however, it does suggest that Avangrid should ensure that UIL, which primarily serves Connecticut, and ASC, which serves all Networks utilities including Connecticut, are integrated to the maximum extent practicable.

29. Although high compared with other Avangrid’s other utilities, Networks service company costs allocated to Connecticut declined from approximately \$148 per customer in 2019 to \$100 per customer in 2021, whereas the cost for the combined New York, Maine and Massachusetts utilities rose slightly, from \$34 to \$43 per customer, indicating additional progress integrating Avangrid’s Connecticut operations into Networks. However, it remains unclear to what extent further progress will be made, given Avangrid’s statement that the integration of Connecticut operations is essentially complete.
30. Avangrid’s corporate services costs are budgeted and managed on a combined basis for all subsidiaries by AMC. Corporate services budgets are prepared, reviewed internally, and notated by a Management Committee and are reviewed and revised quarterly during the year. Budget variance reporting tracks actual costs at a functional level for corporate services as a whole (but not at the operating company level) and compares actual and budgeted costs on a quarterly basis.
31. Prior to 2021, corporate services budgets did not show the distribution of costs to individual Avangrid subsidiaries. The addition of total allocated costs at the operating company level is a management control improvement which should be extended from providing summarized total cost information to providing cost information at the corporate functional level.
32. Avangrid does not maintain management reporting which shows charges by individual service company to operating companies, for technical function-level or by cost allocation method. The only information visible to utilities from corporate services budgets and variance reporting is the total amount of corporate services charged from all service company levels. Apart from querying and analyzing accounting system data as performed in response to audit requests for data, Avangrid does not have a process to identify and track functional or allocation method costs through its multilayered service company allocation process. The data provided to the audit team, which allowed us to quantify the costs allocated to Connecticut from the various service companies, required significant time and analytical effort from Avangrid to produce. It should not be so cumbersome to provide utility management or regulators with a breakdown of service company costs by provider company showing what functions they include and how they are distributed to utilities and other affiliated companies.

Recommendations

Accounting

33. We recommend that any Internal Audit finding that is graded Medium, High, or Critical that is not remediated within a timely manner (as determined by Internal Audit and management at or prior to the internal audit report release date) be considered in future incentive compensation determinations for applicable management. This could be accomplished in several different ways. Remediation of an internal audit finding

¹¹ Based on analysis of service company cost data from Response to FTI-0622, Att. 1 and financial data from Avangrid’s SEC Form 10-K.

¹² For example, in order to serve the CT Companies, UIL contains certain Customer Service employees and functions that in New York and Maine are contained within the individual utilities.

could be added as a future objective with a weighting that would encourage prompt action. However, it seems counterintuitive to reward management in a future year for remediating a finding that was not corrected in a timely manner. Alternatively, until the finding is remediated, the incentive compensation of applicable management could be reduced or capped. In any case, if internal audit findings are to be taken seriously (especially those that are not assigned the least critical designation) then management should hold its employees responsible for their prompt improvement.

34. We recommend that Avangrid participate in benchmarking studies and obtain such information in the future as a tool to be used in identifying processes that could be improved and performed more cost-effectively. The acquisition of this type of information should be coordinated with the group responsible for identifying best practices throughout the Avangrid organization.

Affiliate Transactions and Service Company allocations

35. We recommend that Avangrid develop management reporting that identifies amounts charged by each Avangrid centralized service provider entity (AMC, ASC, etc.) to Avangrid operating subsidiaries for each significant corporate and technical function and each allocation method used. This information is available in SAP and it has been shared with the businesses and is currently being enhanced for more consistent monthly reporting.
36. With UIL's adoption of Avangrid's version of the SAP accounting system, Avangrid now has a better ability to maintain cost identity through the process from higher-level services companies AMC and ASC down to the CT Company level. We recommend Avangrid adapt its corporate and technical service company budgets and budget variance reports to show costs at the operating company level by function so that operating company executives can at least see what Iberdrola and Avangrid corporate management is planning to charge them for specific functions. Note: Some utility industry service companies provide budgeted charges to operating companies at the service level (i.e., they provide budgeted amounts for the individual services within each centralized group or function).
37. We recommend service company customer service costs currently allocated by ASC and UILH using the Massachusetts formula be allocated using a more attributable customer-based allocation factor. We recognize this may require several cost pools and customer-based factors, depending on the services being provided.
38. We recommend Avangrid review UILH costs other than customer service distributed to the Connecticut utilities using the Massachusetts formula to determine that costs are directly assigned to the cost-causing utility when possible, and that allocations from UILH are made using attributable allocation methods (methods other than the non-attributable Massachusetts formula) whenever practical.

3.1. Organization and Structure

3.1.1. Finance Governance Overview

Key decision-making is subject to the Avangrid, Networks, and UIL Grants of Authority, which provide clear responsibility levels for decision-making for any given employee's title. See Chapter 1 for the Grants of Authority matrices. Below is an overview of the finance organizations within Avangrid and their interactions to serve the CT Companies.

3.1.2. Finance Group Overview

The finance function serving the CT Companies is composed of multiple groups within Avangrid and Networks that work in a matrix structure to coordinate and serve Avangrid’s subsidiaries. The four primary groups responsible for finance processes for the CT Companies are Internal Audit, Treasury, Tax, and Control (including Accounting). Figure 3-1 below shows the key personnel involved with finance processes for the CT Companies, with office locations indicated in parentheses. Although ultimately reporting to a Vice President at the Avangrid level, employees serving Connecticut may work for either ASC or AMC.¹³ However, as the structure and personnel titles of Figure 3-1 illustrate, a variety of functions such as Control, Accounting, Planning and Analysis, Investment Planning, and Business Analysis are spread across the matrix groups. Note that Figure 3-1 is abridged and that leaders on the chart may have additional direct reports not shown – for example, the Vice President of Corporate Sustainability who is not on the chart also reports directly to the Avangrid CFO.¹⁴

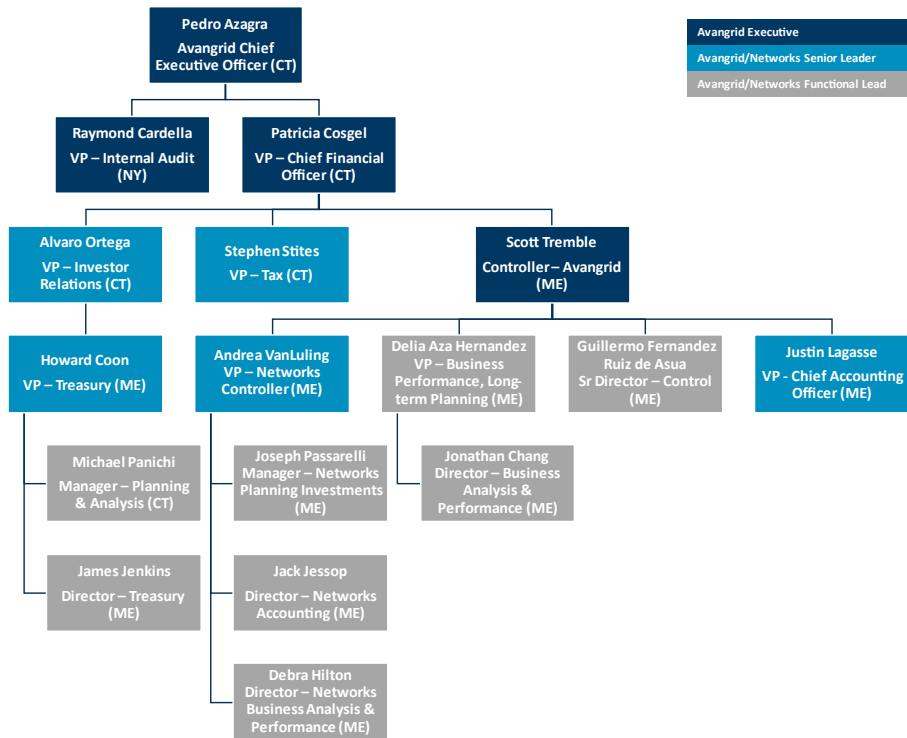


Figure 3-1 Abridged Organizational Chart of Finance Organizations¹⁵

3.1.2.1. Connecticut Finance Leadership – Internal Audit

The Internal Audit function is housed at the Avangrid level with teams dedicated to financial, IT/Corporate, Networks and Renewables functional areas (see Chapter 1 for more detail on the Internal Audit function).¹⁶ Unlike the other three primary finance groups, the Internal Audit group is not situated under the Avangrid CFO but instead has its own Vice President reporting directly to the Avangrid Chief Executive Office (“CEO”) and the Avangrid Audit Committee.

¹³ Response to FTI-0105.

¹⁴ Interview with CFO, Avangrid (Patricia Cosgel), December 21, 2022.

¹⁵ Response to FTI-0001.

¹⁶ Ibid.

3.1.2.2. Connecticut Finance Leadership – Control

The Control group has broad and varied involvement in the financial activities of Avangrid. As shown in Figure 3-1, within Control is the Networks Control group, which oversees all accounting, long- and short-term financial forecasting, annual financial and Operating budget setting, and monthly performance for the Networks operating companies, including the CT Companies. This group is the primary source of utility accounting information that is used in Avangrid’s Securities Exchange Commission (“SEC”) filings (such as Forms 10-K and 10-Q).¹⁷ Within the Control group, the Business Performance Team prepares the annual budget, performs monthly and quarterly tracking of actual expenditures, and compares them to the annual budget and current forecast in reports with detailed explanations presented at numerous, cross-functional meetings monthly.¹⁸ The Networks Planning Investments team within Control produces the Long-Term Outlook (“LTO”), which is presented to investors (see Chapter 1 for more info on both the Budget, Investment Planning and LTO processes).¹⁹

Within Control is also the Accounting group, described in detail below in Section 3.2, which performs general ledger accounting for the three CT Companies as well as for all Networks utilities, and covers internal control (including SOX compliance). Specific responsibilities to the CT Companies related to plant, depreciation, pensions, and other elements of the financial statements are performed by the Accounting Group at the Avangrid level under the Chief Accounting Officer reporting to the Group Controller, whose costs are allocated through AMC.²⁰ Additionally, within the Control group is a team at the Avangrid level focused on the shared services accounting and budgeting, with certain employees dedicated to Connecticut. Avangrid has two service companies, requiring this group to track and ensure time is allocated properly from AMC to ASC and then to CT Companies via UIL.^{21,22}

3.1.2.3. Connecticut Finance Leadership – Treasury

The Avangrid-level Treasury group serves both Networks and Renewables.^{23,24} The Treasury function tracks capital structure and cash flow needs for the operating utility companies, including the CT Companies, to target regulatory allowed capital structure ratios and have the cash/liquidity needed on a daily basis. The Treasury group oversees and manages all day-to-day (short-term) financing as well as long-term debt financing and the payment of dividends. The Treasury group works to maintain capital structure ratios in line with the current rate case decisions for each of the regulated utilities.^{25,26} They also plan their longer-term financing decisions based on cash needs for the CT Companies, the level of short-term debt, and when an operating company’s debt issuance combined with that of other Networks’ utilities results in a large enough size to attract a wide pool of potential investors. Besides overseeing and proposing quarterly dividends, Treasury also recommends when to contribute equity capital contributions from Avangrid. These equity contributions are approved by the Management Committee (the “MC”) and all long-term debt financings, dividends and equity contributions are approved by the utility subsidiary Boards and are socialized with the Networks Regulatory and Planning group.²⁷

¹⁷ Interview with Controller, Avangrid (Scott Tremble), August 24, 2022.

¹⁸ Interview with Director of Business Analysis, Networks, September 1, 2022.

¹⁹ Interview with Manager of Networks Planning Investments, September 19, 2022.

²⁰ Interview with Controller, Avangrid (Scott Tremble), August 24, 2022.

²¹ Ibid.

²² Interview with Senior Director of Control (Guillermo Fernandez Ruiz de Asua), September 21, 2022.

²³ Interview with Vice President, Treasury (Howard Coon), October 27, 2022.

²⁴ Interview with Controller, Avangrid (Scott Tremble), August 24, 2022.

²⁵ Response to FTI-0267.

²⁶ Interview with Vice President, Treasury (Howard Coon), October 27, 2022.

²⁷ Response to FTI-0272.

The Treasury function provides key input on the appropriate capital structure targets and interest rate assumptions to the Networks Planning Investments team within Control during the consolidated LTO process, described in Chapter 1.

3.1.2.4. Connecticut Finance Leadership – Tax

The Tax group reports to the Avangrid Group Controller and their costs are allocated through AMC. This group serves both Networks and Renewables. Within this function are groups dedicated to federal and state income and sales tax calculations, and the reporting and preparation of all filings.²⁸ Specific to the CT Companies, the team that prepares their income taxes is housed within ASC.²⁹ In recent years, Avangrid has outsourced a portion of its income tax department to a nationally recognized accounting firm as a cost-saving measure. Additionally, the Tax function provides guidance to the Networks Planning Investments team during the LTO process.

3.1.2.5. Interaction of Groups

A key element of a matrix organization is the ability of separate groups with different reporting lines to liaise to accomplish shared or interrelated responsibilities. To keep correspondence among these groups fluid, regularly scheduled meetings allow for frequent interaction outside of contact required to fulfil their day-to-day responsibilities. At the Avangrid level, the CFO and Group Controller, who reports to the CFO, attend the MC, where information is shared amongst Avangrid leadership regarding all finance and treasury areas.³⁰ Representatives from Networks Regulatory and Planning, Budgeting (under Control), and Investment Planning groups attend the monthly Connecticut Regulatory, Planning, Operations and Customer Council (“RPOCC-CT”) meetings hosted by the President and CEO of UIL (“UIL CEO”), where different groups share information with the UIL CEO and other attendees.

The distribution of finance functions within the Avangrid matrix structure is fairly common in large multi-state utility holding companies. Shared corporate functions such as Internal Audit, Tax, Treasury and Control allows for efficiencies through economies of scale, while also assigning local accountability through dotted-line reports to state CEOs.

3.1.3. Interaction with Parent Company

The CT Companies’ ultimate parent is Iberdrola, who owns 81.5% of Avangrid. Iberdrola has minimal financial control over the CT Companies but does have occasional involvement in International Financial Reporting Standards (“IFRS”) and SEC work for its own consolidated reporting.³¹ Avangrid is the parent of the CT Companies, and as a publicly traded entity, oversees the CT Companies. Financial decision-making is subject to UIL’s Grants of Authority, described in Chapter 1, which specify \$10 million of decision-making authority for the UIL CEO and unlimited authority for the UIL Board as well as maximum amounts for all other officers. Avangrid’s decision-making structure encourages potential decisions to be socialized among Boards and management committees at the Networks and Avangrid levels and allows for comments and input on certain matters in a process called “notation.” Thus, the Grants of Authority designate the ultimate decision-makers, but meetings and committees ensure the decision-maker receives guidance and consultation from the Networks and Avangrid levels when appropriate. See Chapter 1 for more information on governance.

²⁸ Response to FTI-0001; response to FTI-0119.

²⁹ Response to FTI-0119.

³⁰ Interview with Controller, Avangrid (Scott Tremble), August 24, 2022.

³¹ Ibid.

3.2. Accounting

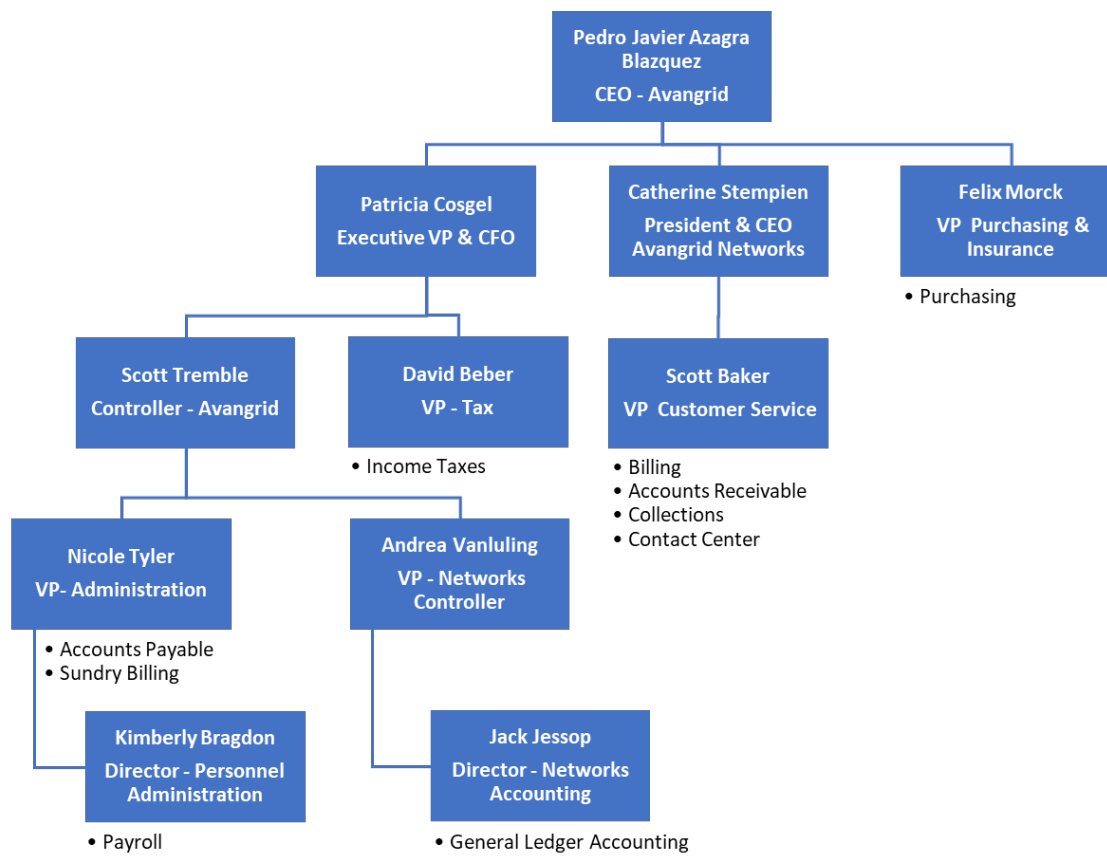
Our review of this area primarily focuses on the general ledger accounting services provided to UI, SCG, and CNG during the time period from 2019 to 2021. In addition, we evaluate management's use of budgets to control costs and the manner in which income taxes are assigned among Avangrid entities.

3.2.1. Organization

Accounting for all Networks utilities, in New York, Maine, and Massachusetts, as well as Connecticut is managed through the Director of Networks Accounting (see the Director of Networks Accounting in the organization chart below).³² However, functions associated with the principal revenue and expenditure cycles of these utilities (e.g., customer billing, third-party expenditures, payroll, etc.) have employees whose responsibilities can vary from servicing all Avangrid utility and non-utility entities (e.g., payroll and procurement) to those that service individual CT Companies (e.g., contact center and field collections).³³ The following abridged management organization chart in Figure 3-2 depicts the current assignment of some of these critical responsibilities.

³² Response to FTI-0638.

³³ Response to FTI-0111; response to FTI-0321.



Note: If an employee has a title or reports to a person with a "Networks" designation, his/her focus and department's responsibilities will typically be limited to Avangrid's regulated utilities as a group or individually.

Figure 3-2 Avangrid Accounting Organization Chart³⁴

As can be seen in Figure 3-2, most accounting-related functions are under the oversight of the Executive Vice President and Chief Financial Officer (“EVP & CFO”) – the most prominent exception being the revenue / accounts receivable business cycle. We would prefer, from an accounting perspective, to see all of these functions reporting directly or indirectly to the CFO so that management expectations are communicated by one executive rather than several, to enhance collaboration between related functions, to more easily identify redundancies in responsibilities between groups, and, most importantly, to increase the likelihood that financial results will be fairly presented; it is not uncommon in a diversified energy company for the revenue / accounts receivable business cycle to report to an executive with a utility focus given the unique rate-setting characteristics of each regulated entity. As will be noted later in this chapter, given the favorable results that the CT Companies have achieved in recent internal audit and SOX testing, we see no compelling reason to recommend a change to the organization at the current time.

³⁴ Response to FTI-0111; response to FTI-0119; response to FTI-0321; response to FTI-0480.

3.2.2. Performance

Company-Monitored Performance - For Avangrid, the performance objectives and associated results of the Accounting organization are encompassed in senior management's incentive compensation monitoring.³⁵ According to management, the incentive compensation objectives of senior management cascade down through the organizations it oversees.³⁶ Presumably, the individual employee objectives that are relevant to a specific group are assigned as a common goal to that group. For example, if the EVP & CFO has an incentive compensation metric associated with a payroll matter, that metric would be an organizational goal of the payroll function, but not necessarily the income tax function or the accounts payable function.

When measuring performance achievement for incentive compensation purposes, the target is set at the mid-point of outcomes that qualify an individual for incentive compensation earnings.³⁷ For instance, the Company may choose to incent a senior manager to complete a particular project by a certain date. In this hypothetical example, the senior manager would earn 50% of incentive compensation assigned to this objective if he/she completes the project by July 31, 2021. However, the senior manager would earn 100% of the applicable assigned incentive compensation if he/she completes the project by June 30, 2021 or earlier, and 0% if the project is completed on August 31, 2021 or later. In this case, targeted performance is a completion date of July 31, 2021.

Management indicates that targeted performance for incentive compensation purposes is set at "stretch" levels.³⁸ This implies that any employee that earns 50% or more of the incentive compensation made available to him/her is achieving at ambitious and challenging levels.

Based on our review of the incentive compensation metrics of the EVP & CFO as well as the Controller of Avangrid for the time period from 2019 to 2021, we have summarized those metrics which we believe include the historical contributions of the CT Companies in the following tables (for purposes of our discussion, we will refer to these metrics as key performance indicators or "KPIs"). Figure 3-3 through Figure 3-5 show failures in red text.

³⁵ In response to a request for the performance measurement goals and objectives as well as the actual results for the accounting group, the CT Companies provided the incentive compensation goals of the EVP & CFO and Controller of Avangrid (response to FTI-0112, Atts. 1-8; response to FTI-0322).

³⁶ Accounting panel interview, November 18, 2022.

³⁷ Response to FTI-0635 (confidential).

³⁸ Response to FTI-0638.

Objective	Attributed to?	Key Performance Indicator	L/H (A)	Target	Actual (B)
1. Achieve Purchase Savings	EVP & CFO	(Award Price - Reference Price) / Reference Price (C)	L	(0.040)	(0.062)
2. Effective Internal Controls in 2019 and Timely Filing of 2019 Form 10-K:					
A. No Material Weaknesses in Internal Controls	Both	A. Count of Material Weaknesses	L	0.5	-
B. No Significant Deficiencies in Internal Controls	Both	B. Count of Significant Deficiencies	L	0.5	1.0
C. File All 2019 Forms 10-Q and 10-K Timely	EVP & CFO	C. Number of Late Filings	L	0.5	-
3. Effectively Manage Combined Personnel and External Service Costs, and Support Avangrid Transformation Initiative					
A. Minimize Combined Personnel and External Service Costs	Both*	A. (Actual Costs - Budget Costs) / Budget Costs	L	-	E (0.092) C (0.279)
B. Support Avangrid Transformation Initiative and Implement Recommendations	Both	B. 2019 Savings Delivered for Depts / 2019 Savings Targeted for Depts	H	0.50	E 0.79 C 1.00
4. Internal Controls Project					
A. Efficiency and Integration of Automated and Manual Controls	Controller	A. Date Achieved	L	10/31/19	07/16/19
5. Improve Process for Evaluation of Financial Information Regarding Plan, Budget and Real Data Aligned to Business Plans					
A. Long-Term Plan Alignment and Reporting for Feb 2019 Investor Day	Controller	A. Date Achieved	L	Feb-19	Feb-19
B. Milestones Achieved:	Controller	B. Number of Milestones Achieved	H	1	1
i. Budget Alignment with Business for Feb 2019 Investor Day					
ii. Budget Calendar and Detail Plan Requests by May 31, 2019					
C. Milestones Achieved:	Controller	C. Number of Milestones Achieved	H	1	1
i. Year End 2018 Actuals Presented in US GAAP Format for Investor Presentation. Reconciliation Prepared for GAAP to IFRS Format.					
ii. Tailor 2019 Results Tracking Monthly Reporting to Agreed-Upon Monitoring					
6. Lease Standard Implementation					
A. 2018 Disclosures: No Significant Deficiencies and Fewer Than 4 Minor Deficiencies	Controller	A. Count of Significant Deficiencies and Minor Deficiencies	L	2	-
B. Formal 2019 Controls and Reporting Processes Fully in Place, Documented and Operational by 3/31/19 (Completed by 4/30/19)	Controller	B. Date Achieved	L	Mar/Apr 19	Mar/Apr 19
7. Implement Processes for Evaluation, Analytics and Monitoring Controls Surrounding Personnel Costs, Treasury and Income Taxes					
A. Personnel Costs	Controller	A. Date Achieved	L	06/30/19	03/31/19
B. Financial Income and Costs (interest, AFUDC, etc.)	Controller	B. Dated Achieved	L	06/30/19	03/31/19
C. Income Taxes	Controller	C. Date Achieved	L	06/30/19	03/31/19

(A) L = objective is to be lower or earlier than target, H = objective is to be higher or later than target
(B) E = EVP & CFO, C = Controller - Avangrid
(C) Reference price = current last price or last price paid for a similar category unless there is an investment dossier. If there is an investment dossier, reference price = price included in dossier.
* For the Controller - Avangrid, the metric was limited to External Services
Numbers presented in red are key performance metrics that were not achieved.

Figure 3-3 Avangrid Accounting-Related KPIs, 2019³⁹

³⁹ Response to FTI-0112, Atts. 1 and 2.

Objective	Attributed to?	Key Performance Indicator	L/H (A)	Target	Actual (B)
1. Achieve Purchase Savings					
A. Savings vs. Reference Price	EVP & CFO	(Award Price - Reference Price) / Reference Price (C)	L	(0.035)	(0.107)
B. UIL SAP Implementation	Both	Date Achieved	L	11/15/20	09/30/20
2. Effective Internal Controls in 2020:					
A. No Material Weaknesses in Internal Controls	Both	A. Count of Material Weaknesses	L	0.5	-
B. No Significant Deficiencies in Internal Controls	Both	B. Count of Significant Deficiencies	L	0.5	1.0
3. Effectively Manage Personnel and External Service Costs While Meeting Key Deliverables, and Support Avangrid Transformation Initiative	Both	(Actual Costs - Budget Costs) / Budget Costs	L	-	E 0.001
			L	-	C (0.05)
4. Collaboration and Coordination with Business					
A. Refine Exact Reporting Needs / Timely Reporting of Results / Reporting of Higher Level Key Business Messages	Controller	A. Date Achieved	L	06/30/20	03/31/20
B. Automate Reporting Needs	Controller	B. Date Achieved	L	10/31/20	08/31/20
5. Budget, Long-Term Plan and Investment Process					
A. Clear Accountability by Business Through Formal Requirements Tracking and Escalation Process	Controller	A. Date Achieved	L	06/30/20	04/30/20
B. Business Accountability / Well Supported Achievable Assumptions and Accurate Plans with Appropriate Business Sign-Off and Updating of Long-Term Plan Prior to Investment Day	Controller	B. Date Achieved (Investment Day)	L	----- 1.5	
C. Accuracy of Long-Term Plan Excluding Extreme / Unusual / Unknown Items	Controller	C. % Variance to Long-Term Plan (+/- 5%)	L	of 3	1
D. Enhance SAP Functionality to Include Budgeting Information Under US GAAP	Controller	D. Date Achieved (10/31/20)	L	-----	
E. Clarify Process Responsibility for Budget, Long-Term Plan and Investment Planning	Controller	E. Date Achieved (6/30/20)	L	----- 1 of	-
F. Evaluate Budget Coordinators, etc.	Controller	F. Date Achieved (8/31/20)	L	----- 2	
6. Corporate Functions Review - Other Control					
A. Clarify Process Responsibility for All Areas Including Analysis of Actual Results	Controller	A. Date Achieved	L	07/31/20	04/30/20
B. Centralization and Redistribution of Training Materials, Appropriate Transition of New Employees Within Non-Control Areas to Include Training on Job Responsibilities	Controller	B. Date Achieved	L	07/31/20	04/30/20
(A) L = objective is to be lower or earlier than target, H = objective is to be higher or later than target					
(B) E = EVP & CFO, C = Controller - Avangrid					
(C) Reference price = current last price or last price paid for a similar category unless there is an investment dossier. If there is an investment dossier, reference price = price included in dossier. Numbers presented in red are key performance metrics that were not achieved.					

Figure 3-4 Avangrid Accounting-Related KPIs, 2020⁴⁰

⁴⁰ Response to FTI-0112, Atts. 3 and 4.

Objective	Attributed to?	Key Performance Indicator	L/H (A)	Target	Actual (B)
1. Achieve Purchase Savings					
A. Savings vs. Reference Price	EVP & CFO	(Award Price - Reference Price) / Reference Price (C)	L	(0.035)	(0.070)
B. Achieve Supplier Sustainability Targets	EVP & CFO	% of 2021 Awards to Suppliers with Sustainability Scores > 51 (D)	H	0.260	0.565
2. Effective Internal Controls in 2021:					
A. No Material Weaknesses in Internal Controls	Both	A. Count of Material Weaknesses	L	0.5	-
B. No Significant Deficiencies in Internal Controls	Both	B. Count of Significant Deficiencies	L	0.5	-
3. Net Operating Expense Management					
A. Meet or Improve Budgeted Net Operating Expense (Net External Services + Net Personnel Costs)	Both	A. E: Actual Costs / Budget Costs	L	1.00	E 0.92
			L	1.00	C 0.923
B. Every Day Better Implementation: Delivery of P&L Target	Both	B. % Achievement of Financial Target	H	50%	E 89%
			H	50%	C 100%
C. Every Day Better Leadership: Assessment of Driving Strategic Initiatives and Championing Required Changes to Processes, Culture, etc.	Both	C. As Determined by Leadership Assessment (CEO & CHRO)	H	5.5	10.0
4. Financial Results					
A. Monitor Risk Areas - Monthly Reporting and KPIs	Controller	A. Date Achieved	L	04/05/21	03/18/21
B. Monthly Entity Reporting of P&L and CEO Meetings	Controller	B. Date Achieved	L	03/20/21	01/25/21
C. Monthly Reporting of Cash Flows by Entity	Controller	C. Date Achieved	L	04/05/21	02/18/21
5. Process and Procedures					
A. Roles and Responsibilities - 1) Clearly Define and 2) Centralization of Certain Procedures and Budget Coordinator Plan	Controller	A1. Date Achieved (7/15/21)	L	----- 1 of	2
		A2. Date Achieved (5/31/21)	L	----- 2	
B. Reporting: Requirements and Timeline - 1) Refine Requirements / Timeliness for Ongoing Reporting, 2) Networks Regulatory Reporting Defined and Prepared, 3) IFRS Lease Accounting, 4) Ongoing Project Spending Monitoring	Controller	B1. Date Achieved (5/5/21)	L	----- 2	
		B2. Date Achieved (7/1/21)	L	of	1.229
		B3. Date Achieved (7/31/21)	L	4	
		B4. Date Achieved (6/15/21)	L	-----	
6. System and Accounting Processes					
A. Corporate SAP Implementation at UIL	Controller	A. Date Achieved	L	08/30/21	06/30/21
B. Implementation of New Vendor Invoice Management Module for UIL	Controller	B. Yes / No	H	Yes	Yes
C. Finalization of Centralization of Accounting Process Related with Land Management Accounting and Payments into Corporate, Internalized with Avangrid All Accounting Processes Relating to Leases	Controller	C. Yes / No	H	Yes	Yes
<p>(A) L = objective is to be lower or earlier than target, H = objective is to be higher or later than target (B) E = EVP & CFO, C = Controller - Avangrid (C) Reference price = current last price or last price paid for a similar category unless there is an investment dossier. If there is an investment dossier, reference price = price included in dossier. (D) Limited to suppliers with awards > €1 million Numbers presented in red are key performance metrics that were not achieved.</p>					

Figure 3-5 Avangrid Accounting-Related KPIs, 2021⁴¹

For incentive compensation purposes, not all KPIs were weighted equally nor did the weights assigned to the EVP & CFO match those assigned to the Controller of Avangrid for common objectives. In most cases, the KPIs tracked by Avangrid in the accounting area were not limited to objectives associated solely with the CT Companies – the one primary exception being the UIL SAP project. Given those qualifications, Avangrid failed to achieve 1 of 17 identified accounting objectives in 2019, 4 of 13 identified accounting objectives in 2020, and 1 of 17 identified accounting objectives in 2021.

⁴¹ Response to FTI-0112, Atts. 5 and 6.

Management provided the following explanations for and/or observations of these failures:⁴²

- 2019 – The one identified significant deficiency related to a matter associated with Renewables fixed assets,
- 2020 – The one identified significant deficiency related to a matter associated with Renewables fixed assets,
- 2020 – While not explained, the failure to manage personnel and external service costs was only missed by 0.05% at the EVP & CFO level,
- 2020 – Because the investor day date changed, there was no ability to evaluate the accuracy of the LTO. In addition, a late significant change to the Renewable LTO occurred which hampered the ability to ensure accuracy of this long-term financial plan. Finally, while SAP functionality exists, the U.S. generally accepted accounting principles (“GAAP”) format was not utilized.
- 2020 – Other than acknowledging that the clarification of process responsibility for the annual budget, LTO, and Investment Plan as well as the evaluation of budget coordinators had not been achieved as of the end of the year; no explanation for these failures was given by management.
- 2021 – The only Reporting Requirements and Timeline objective achieved on time was the refinement of requirements / timelines for ongoing reporting. The IFRS lease accounting objective, which had nothing to do with the accounting for CT Companies, was completed in mid-November. No explanations for the inability to achieve this or the other objectives were provided by Avangrid.

While overall accounting performance inexplicably waned in 2020, the vast majority (87%)⁴³ of objectives assigned to the organization were achieved at stretch levels over the three-year period from 2019 to 2021. In addition, some of the failures were related to matters that had nothing to do with the CT Companies. For these reasons, we do not believe the company-monitored accounting performance in recent years indicates a systemic problem that requires special attention, especially as it relates to the accounting of UI, CNG, or SCG.

3.2.3. Other Measures of Performance Related to CT Company Accounting

At its core, the most fundamental measurement of the effectiveness of CT Company accounting is whether or not UI, CNG, and SCG were able to present fairly, in all material respects, the financial position, results of operations, and cash flows of each utility in accordance with U.S. GAAP. That is the focus of the external audit of the financial statements each year, and for each year from 2019 to 2021, each of the CT Companies was successful in doing so.⁴⁴

Internal Audits - Beyond this, we have found that there are typically other indicators of how well a utility is fulfilling its accounting responsibilities. The first of these is through a review of the results of recent internal audits. While the scope of many internal audit groups has expanded over the years to provide value-added services involving operational efficiency and the independent analysis of data; internal audit organizations are typically tasked with evaluating a company’s internal controls, especially as it relates to corporate governance and accounting processes.

In the case of Avangrid, its Internal Audit organization is headed by the Vice President of Internal Audit, who administratively reports to the CEO of Avangrid and functionally reports to the Audit and Compliance Committee

⁴² Response to FTI-0635 (confidential), Att. 1.

⁴³ 87% = 41 ÷ 47

⁴⁴ Response to FTI-0479, Att. 1: pp. 3, 43, and 86; Att. 2: pp. 3, 37, and 74; and Att. 3: pp. 3, 39, and 71.

of Avangrid.⁴⁵ Management identified a total of 18 individuals in the Internal Audit organization with responsibilities that include conducting internal audits of UI, CNG, and SCG as well as other entities.⁴⁶

Historically, in performing internal audits, Avangrid's internal Audit organization has not used a grading system in assigning opinions but rather has employed a grading system that focuses on findings instead. Avangrid internal audit findings are assigned one of four grades:⁴⁷

- Low
- Medium
- High
- Critical

The grade assigned to a finding is dependent on the impact the issue is expected to have on the entity, as estimated by various risks that are assumed (e.g., financial, operational, reputational, etc.), as well as the associated probability. A large risk accompanied by a high probability is assigned a Critical or High finding grade while a small risk accompanied by a low probability is assigned a Low finding grade. See Appendix 4: **Avangrid's Impact and Probability Criteria Matrix** for more details of Avangrid's Impact and Probability Criteria Matrix. While the matrix is a tool used by Internal Audit to assign finding grades, professional judgment also plays an important role in making a final determination.

We asked management to provide a list of all internal audit reports issued from January 1, 2019 to present.⁴⁸ Figure 3-6 below summarizes those internal audit reports disclosed to us that we believe are most relevant to CT Company accounting-related matters.

⁴⁵ Response to FTI-0105; response to FTI-0480, Att. 1; Internal Audit panel interview, November 15, 2022.

⁴⁶ Response to FTI-0105.

⁴⁷ Response to FTI-0106; response to FTI-0106, Att. 1.

⁴⁸ Response to FTI-0107 (confidential).

Report No.	Report Title (B)	Severity of Findings (if any)
19-02	Objectives Evaluation - Corporate	None
19-03	Objectives Evaluation - Networks	None
19-11	Avangrid Networks - Collections Review	1 High, 1 Medium, 1 Low
19-19	UIL Bad Debt Analysis and Unbilled Revenue Review	None
19-22	AVANGRID - Employee Termination Process	4 Medium, 1 Low
19-27	AVANGRID - Robotics Process Automation Review	1 Low
19-34	AVANGRID - Budget and Quarterly Revision Adjustments Process Audit	1 Medium
19-36	AVANGRID - Consolidated SOX Internal Controls Review	None
19-37	AVANGRID - Tax Transformation Audit	None
20-08	Avangrid Networks - Time Reporting	1 Medium, 2 Low
20-24	AVANGRID - Long-Term Planning	3 Low
20-25	AVANGRID - Consolidated SOX Internal Controls Review	None
21-18	COVID Impact Cost Analysis & Reporting	None
21-33	AVANGRID - Consolidated SOX Internal Controls Review	None
21-34	AVANGRID - Long-Term Outlook Forecast vs. Actual Look Back	2 Low

(A) The most recent data response was dated November 1, 2022 (see FTI-0538).

(B) In some cases, the formal title of the report was modified and/or truncated for table presentation purposes.

Figure 3-6 Avangrid Internal Audit Report Concerning UI, CNG, or SCG Accounting Matters, 2019 - 2022 (A)⁴⁹

Of the fifteen internal audit reports issued during this time period, over half (eight) had no findings. Only one of these audit reports had a High grade finding related to a 2019 audit. None of the 2020 or 2021 internal audit reports identified a High grade finding.

Short descriptions of the High and Medium grade findings follow:⁵⁰



⁴⁹ Response to FTI-0107 (confidential), Att. 1; response to FTI-0318; response to FTI-0538, including Atts. and revisions.

⁵⁰ Response to FTI-0107 (confidential), Att. 1.



⁵¹ Response to FTI-0319 which triggered the revised attachment to Response to FTI-0107 (confidential).



In general, there do not appear to be any recurring issues identified recently by Internal Audit that require management's attention. However, Internal Audit No. 19-34 concerning the budget and quarterly REV has a finding that has not been addressed for over two and a half years (the report was issued on January 29, 2020).⁵² In our opinion, that delay is excessive. The finding specifically mentions a lack of commitment from the business functions in addressing identified matters and the possibility of establishing consequences for this behavior. An obvious consequence that could be implemented is a reduction to employee incentive pay if the finding is not remediated in a timely manner.

Recommendation: We recommend that any Internal Audit finding that is graded Medium, High, or Critical that is not remediated within a timely manner (as determined by Internal Audit and management at or prior to the internal audit report release date) be considered in future incentive compensation determinations for applicable management. This could be accomplished in several different ways. Remediation of an internal audit finding could be added as a future objective with a weighting that would encourage prompt action. However, it seems counterintuitive to reward management in a future year for remediating a finding that was not corrected in a timely manner. Alternatively, until the finding is remediated, the incentive compensation of applicable management could be reduced or capped. In any case, if internal audit findings are to be taken seriously (especially those that are not assigned the least critical designation) then management should hold its employees responsible for their prompt improvement.

Beginning with audits associated with the 2023 Internal Audit Plan, Internal Audit will begin issuing reports with opinions that have the following grades:⁵³

- Favorable – no problems or some minor problems were observed.
- Favorable with Improvements – moderate problems observed.
- Needs Significant Improvements – one or few significant problems observed.
- Not Satisfactory – multiple significant and/or (a) important issues noted.

SOX Testing – Another way to assess the performance of the Accounting function is to review the results of recent testing that complies with the SOX. As a result of several high-profile cases in the late 1990s and early 2000s involving corporate wrongdoing in which investors lost billions of dollars, SOX was enacted in 2002 to provide oversight over public company boards of directors, corporate management, and public accounting firms. One of the rules established by SOX (Section 404) was that each annual financial report (Form 10-K) contain an internal control report which states the responsibility of management to establish and maintain an adequate structure and procedures over internal controls related to financial reporting along with an assessment by management concerning the effectiveness of the associated internal control environment. In addition, the registered public accounting firm that issues the audit report for the company shall attest to the assessment made by management.

Since the common stock of the CT Companies is not publicly traded, Section 404 does not apply to UI, CNG, or SCG individually or as a group. However, Avangrid is subject to Section 404, and in 2019, 2020, and 2021, management

⁵² Response to FTI-0538, Att. 4 (confidential).

⁵³ Response to FTI-0628; response to FTI-0628, Att. 1.

of Avangrid determined that the Company's internal controls over financial reporting were effective, and external auditors concurred.

In carrying out this assessment of internal controls over financial reporting, management has its key internal controls tested to determine whether they are operating effectively. In the case of Avangrid, this testing is performed by its Internal Audit organization under the oversight of the Director of Internal Audit, Internal Control and Financial Reporting.⁵⁴ In performing these tests, internal control failures are assigned one of three classifications from least to most critical:

- Deficiency
- Significant Deficiency
- Material Weakness

These terms are generally understood to mean the following. A deficiency in internal control over financial reporting exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A significant deficiency is a deficiency, or combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness yet important enough to merit attention by those charged with governance. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis.⁵⁵

While UI, CNG, and SCG as stand-alone entities are not required to comply with SOX Section 404, management of Avangrid has reviewed its key internal controls and made a determination of whether or not each applies to the CT Companies. Likewise, management has reviewed its identified internal control failures in recent years and reached a conclusion on the applicability of each to one or more of the CT Companies. Figure 3-7 summarizes that information:

⁵⁴ Response to FTI-0108.

⁵⁵ Clarified Statement on Auditing Standards, AU-C Section 265.07.

Description	2019	2020	2021
Internal Control Failure Classification:			
Deficiencies	6	11	6
Significant Deficiencies	-	-	-
Material Weaknesses	-	-	-
Total Internal Control Failures (A)	6	11	6
Key Internal Controls Tested (B)	310	307	308
Internal Control Failure Rate (A) ÷ (B)	1.9%	3.6%	1.9%
Note: The failures do not include prior year failures that were unremediated as of year-end.			

Figure 3-7 The CT Companies' SOX Failures and Control Universe⁵⁶

As can be seen in the preceding table, none of the failures in 2019 to 2021 was categorized as a significant deficiency or a material weakness. According to management, the deficiency counts in any given year do not reflect un-remediated prior year deficiencies that were fully remediated during that year.⁵⁷ However, we noted several instances in which the same control was not operating effectively in consecutive years. While this is somewhat concerning, as a percentage of key internal controls tested, these repeat offenders were not a significant issue (less than 1% of total key controls tested in any one year).

In addition, while the increase in failures from 2019 to 2020 gives us pause, it should be noted that the CT Companies were in the process of migrating to the corporate SAP system during this time and accommodated a change to the working environment because of the COVID-19 pandemic, which may have contributed to some of the issues identified.⁵⁸ Regardless, the subsequent decrease in 2021 to 2019 levels suggests that there is not an overall trend in internal control problems that requires management intervention at this time.⁵⁹

Proposed But Passed Audit Adjustments – One additional method to judge the performance of the Accounting function is to review the number of and magnitude of audit adjustments that were identified but not made. During the time period from 2019 to 2021, Figure 3-8 summarizes this information:

⁵⁶ Response to FTI-0476 (confidential); response to FTI-0631.

⁵⁷ Response to FTI-0631.

⁵⁸ Response to FTI-0328.

⁵⁹ While we do not have counts of key internal controls tested to calculate a failure rate, the companies disclosed that in 2017 and 2018, the internal control deficiencies associated with UI, CNG, and SCG totaled 11 in both years, and in 2017, there was one additional material weakness (Response to FTI-0110) (confidential).

Entity / Year	No. of Adj	Incorrect Effect as a Percentage of Financial Statement Amounts					
		Income (A)	Equity	Current Assets	Non-Current Assets	Current Liabilities	Non-Current Liabilities
UI:							
2019	7	0.55%	-0.01%	1.27%	0.26%	3.58%	0.06%
2020	2	0.00%	0.00%	-3.16%	0.27%	-3.29%	-0.43%
2021	7	-0.98%	0.00%	0.00%	-0.38%	-1.96%	-0.13%
CNG:							
2019	13	0.92%	-0.15%	0.98%	0.00%	0.45%	0.34%
2020	5	4.45%	0.04%	0.00%	0.00%	0.00%	0.00%
2021	4	-0.79%	-0.08%	-0.18%	-0.17%	0.00%	-0.27%
SCG:							
2019	16	-6.26%	-0.16%	-0.93%	0.31%	0.07%	0.72%
2020	7	4.72%	0.51%	0.00%	0.00%	0.00%	0.00%
2021	4	-2.98%	-0.12%	-0.39%	-0.05%	0.00%	-0.08%
(A) Average of two different methods							

Figure 3-8 UI, CNG, and SCG Proposed but Passed Audit Adjustments⁶⁰

As this table demonstrates, while UI's number of passed audit adjustments fluctuated over this three-year period, both CNG and SCG saw a gradual decrease in the number of passed audit adjustments during this time, and all three CT Companies had relatively insignificant impacts on their balance sheets and income statements in 2020 and 2021 from audit adjustments that were not made.

3.2.4. Benchmarking

According to management, there was no external benchmarking completed for the Accounting function from 2019 to present.⁶¹ In our experience, this is rather unusual for a time period that extends for nearly four years. Most companies have an interest in how they are performing relative to similar companies for purposes of identifying areas that could be performed more efficiently and at a lower cost as well as to generally be kept abreast of new developments in technology and management practices.

One avenue that this information may become available to Avangrid in the near future is if it is successful in its pursuit of merging with PNM Resources, Inc. ("PNMR").⁶² PNMR may independently have access to the type of information that Avangrid has chosen not to pursue in the past, but even if it does not, there may be processes in place at PNMR that could benefit Avangrid on a prospective basis if it is open to change.

Recommendation: We recommend that Avangrid participate in benchmarking studies and obtain such information in the future as a tool to be used in identifying processes that could be improved and performed more

⁶⁰ Response to FTI-0643 (confidential).

⁶¹ Response to FTI-0113.

⁶² The merger with PNMR was denied by New Mexico regulators in 2021, but has been appealed to the New Mexico Supreme Court, where the case remains unresolved.

cost effectively. The acquisition of this type of information should be coordinated with the group responsible for identifying best practices throughout the Avangrid organization.

3.2.5. Budgeting

Beginning in late Spring of the preceding year, each of the Networks utilities start developing their own individual budgets. For each of the CT Companies, the budget is designed to accommodate the necessary investments to ensure safe and reliable customer service. Management characterizes the process as “bottom-up” with the individual businesses establishing their needs and any key assumptions, while the Networks Control group compiles and consolidates the resulting data for eventual approval by each operating company’s Board of Directors. Management indicates that the Iberdrola Operating Committee is informed of the final consolidated budget so that it is aware of its contents, but it does not approve this budget nor does it play any role in the development of UI’s, CNG’s or SCG’s capital or operating budgets.⁶³ In addition, Avangrid also plays no role in the development of the CT Companies’ budgets.⁶⁴ We view this as the preferred approach to budget oversight since this suggests that the parent is not constraining spending that utility management views as necessary to operate the business in a safe and reliable manner. This is called the PXX process, which covers Operational Expenditures (“OpEx”) and a full financial forecast for the following year. For more information on the annual PXX’s OpEx and financial budgeting process, see Chapter 1.

To reflect known changes to the approved budget throughout the current year, Avangrid revises its budget on a periodic basis during the REV process. The first revision is a refresh of the approved budget and is finalized in early March, the second revision consists of three months of actual results and nine months of forecasted data and is finalized in early June, and the third revision consists of six months of actual results and six months of forecasted data and is finalized in early September. Monitoring of actual and revised budgeted financial results through variance analysis is performed by Networks Control group on a quarterly basis. In recent years, this variance analysis is focused on actual-to-revised-budget differences that have a significant impact on earnings, although no specific criteria ($X > \$YYY,YYY$ or $X > ZZ\%$) is employed to determine which variances are explained. This budget revision process is also used by Avangrid to update its earnings guidance to investors throughout the year.⁶⁵

3.2.6. Income Taxes

Income Tax Allocation – In a document accompanying the Avangrid, Inc. Tax Allocation Agreement, the Company summarizes the approach it takes in allocating income taxes among its various entities. For federal income tax purposes, it is based on a concept of Separate Taxable Income (“STI”). STI is consolidated taxable income that is “pushed back” to individual members of the agreement on a proportionate basis and differs slightly from “stand-alone” taxable income. By doing so, a capital loss that a member might not have been able to use on a stand-alone basis gets credited to that member if the capital loss can be used on a consolidated basis. However, the opposite is also true. If a member has a deduction that would be available to use on a stand-alone basis and there is no such deduction in consolidation, the member gets no credit for this deduction.

Allocations are dependent on the source of the calculated federal tax. There are unique allocation methodologies for regular tax before credits, alternative minimum tax (“AMT”), and credits because differing factors give rise to each of these three tax attributes. In general, the consolidated regular tax liability before credits is allocated out

⁶³ Response to FTI-0031; response to FTI-0318, Att. 6 (confidential); response to FTI-0326.

⁶⁴ Accounting panel interview, November 18, 2022.

⁶⁵ Response to FTI-0031; response to FTI-0637 (confidential); response to FTI-0638; response to FTI-0640. In 2019, the variance analysis was performed at the UIL level while in more recent years, it has been performed at the individual CT Company level (e.g., UI, CNG, and SCG).

proportionately to all members having positive STI. Members with separate net operating losses are “paid” for their losses by imposing an incremental charge on the members with positive STI. Consolidated AMT is allocated to all members who have separate AMT in proportion thereto. If there is consolidated AMT, but no member has separate AMT, then Avangrid gets allocated the entire AMT. Likewise, if there is no consolidated AMT, no member is allocated any AMT regardless of whether any member has separate AMT. Finally, credits are handled by “paying” member for credits they would have used on a separate return basis. If the consolidated credit is different from the sum of separate return credits, the excess or deficiency is allocated proportionately to each member.⁶⁶

State income taxes are allocated only among those members having nexus with the state. Each such member is allocated a tax on essentially a stand-alone basis. This approach is used for ease of administration and to avoid massive swings in tax rates that can occur if more detailed mechanisms are employed.⁶⁷

Since the tax allocation agreement became effective on December 16, 2015, Avangrid has received no SEC comments or decisions with respect to the agreement.⁶⁸ Avangrid intends to amend its current agreement effective January 1, 2022 to address the allocation of any interest expense deferral resulting from changes made to the Internal Revenue Code as a result of the 2017 Tax Cuts and Jobs Act, to clarify that its allocation approach applies to all cost of service rate-regulated entities in the same manner, to update its method of state tax allocations for non-rate regulated entities to more equitably distribute them, and to update certain administrative provisions of the agreement.⁶⁹ As its 2022 income tax filing has not yet been made, it has no feedback from the IRS on the preceding changes.⁷⁰

Absent any information to the contrary, we believe that the allocation methodology summarized above is a reasonable approach to assigning tax liabilities and benefits among the CT Companies and their affiliates.

Income Tax Outsourcing – Effective August 19, 2019, Avangrid entered into a five-year Co-Sourcing Contract with PricewaterhouseCoopers (“PwC”) to provide tax services whereby PwC is effectively operating Avangrid’s tax function under the oversight of Avangrid tax management. Among the services provided under this agreement are tax reporting, tax compliance, and forecasting of tax amounts. As initially implemented, 16 former tax employees of Avangrid were reassigned to PwC and continued to perform their former tax roles as new employees of PwC for the benefit of Avangrid.⁷¹

According to Avangrid management, several factors played a role in pursuing this agreement with PwC. They included a desire to accelerate the pace and breadth of tax process enhancement, a realization that internal resources at the time were less than required and the talent pool in the external labor market was limited, the ability to tap deeper resources within a large accounting firm, and the benefit of securing a fixed-price contract.⁷²

Avangrid issued a request for proposal in the first quarter of 2019 for these services and ultimately chose between two highly-qualified accounting firms.⁷³

⁶⁶ Response to FTI-0120, Att. 1.

⁶⁷ Ibid.

⁶⁸ Ibid.

⁶⁹ Response to FTI-0121.

⁷⁰ Response to FTI-0122.

⁷¹ Response to FTI-0538, Att. 5 (confidential).

⁷² Response to FTI-0729.

⁷³ Ibid.

Costs of performing tax services at Avangrid have decreased from \$13.4 million in 2019 (a year that includes both in-house and co-sourcing tax services) to \$10.2 million in 2021.⁷⁴

3.3. Treasury

In addition to considering the performance of the Treasury function in the past three years, our review of this area will be focused on the long-term financing of the three CT Companies (UI, CNG, and SCG) and the steps that have been taken to ensure their short-term liquidity as well as consideration of equity transactions that have transpired recently. The latter will provide an indication of the use of funds generated by these utilities. A review of asset impairments will also be conducted to identify any potential issues that may arise for the CT Companies' or parent's (Avangrid) credit ratings.

3.3.1. Organization

Unlike the Accounting organization for UI, CNG, and SCG which is conducted by personnel assigned only to the Networks entities, the Treasury function is handled by a group of employees who have responsibility for all Avangrid entities, including Renewables. This group is headed by the Vice President and Treasurer ("VP & Treasurer") and consists of 16 people, a few of which are dedicated solely to Renewables financial matters.⁷⁵

An abridged organization chart showing how the Treasury function fits within the overall Avangrid management organization follows:⁷⁶

⁷⁴ Response to FTI-0729, Att. 2.

⁷⁵ Response to FTI-0124.

⁷⁶ Response to FTI-0124; response to FTI-0480.

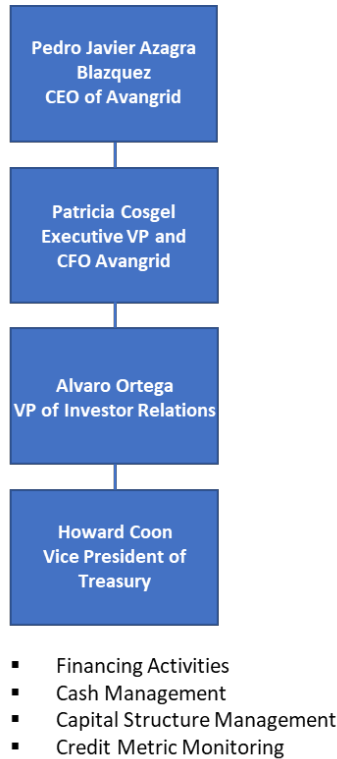


Figure 3-9 Avangrid Treasury Organization Chart ⁷⁷

3.3.2. Performance

Company-Monitored Performance – As with the Accounting group, the only organizational performance objectives identified by management were those associated with senior management incentive compensation – in this case, the EVP & CFO and the VP & Treasurer.⁷⁸ All of the observations made about incentive compensation targets and KPIs concerning the Accounting organization also apply to the Treasury group.

A summary of the targeted and actual treasury KPI results associated with the CT Companies for each year from 2019 to 2021 follows. To the extent that they are applicable, there may be some duplication of performance metrics that were previously disclosed in the earlier accounting tables as it relates to the EVP & CFO’s performance objectives.

⁷⁷ Response to FTI-0112; response to FTI-0480.

⁷⁸ Response to FTI-0112; response to FTI-0642.

Objective	Attributed to?	Key Performance Indicator	L/H (A)	Target (B)	Actual
1. Manage Average Cost of Debt	Both	Actual Weighted Average Cost of Debt + Budgeted Weighted Average Cost of Debt (C)	L L	E 1.01 T 1.00	0.94 0.94
2. Effectively Manage Costs, and Support Avangrid Transformation Initiative					
A. Minimize Combined Personnel and External Service Costs	EVP & CFO	A. (Actual Costs - Budget Costs) / Budget Costs	L	-	(0.092)
B. Manage Treasury Department Budget	Treasurer	B. Actual Spending / Budgeted Spending	L	0.980	0.793
C. Support Avangrid Transformation Initiative and Implement Recommendations	EVP & CFO	B. 2019 Savings Delivered for Depts / 2019 Savings Targeted for Depts	H	0.50	0.79
3. Define a Risk Scenario for the Liquidity Indicator, Incorporating the Impact of Other Identified Market, Credit, Financial or Key Risk (in Addition to Divestments) Identified on the Risk Map That Could Affect Liquidity at Avangrid Group					
A. Structure Analysis and Identify Main Inputs	Treasurer	A. Date Achieved	L	06/30/19	05/21/19
B. Complete Analysis and Calculate Liquidity Scenarios	Treasurer	B. Date Achieved	L	11/30/19	10/10/19
<p>(A) L = objective is to be lower or earlier than target, H = objective is to be higher or later than target (B) E = EVP & CFO, T = VP & Treasurer (C) The performance metric for the VP & Treasurer does not mention "weighted average" If applicable, numbers presented in red are key performance metrics that were not achieved.</p>					

Figure 3-10 Avangrid Treasury-Related Key Performance Indicators, 2019⁷⁹

⁷⁹ Response to FTI-0112, Att. 1; response to FTI-0642, Att. 1.

Objective	Attributed to?	Key Performance Indicator	L/H (A)	Target	Actual
1. Analyst Ratings					
A. Maintain Credit Ratings Issued by S&P and Moody's for Named Companies	EVP & CFO	A. Number of Downgrades by S&P or Moody's	L	0.500	-
B. Maintain Ratings Outlooks Issued by S&P and Moody's for Named Companies	EVP & CFO	B. Number of Negative Outlooks by S&P or Moody's	L	0.500	3.000
2. Minimize Average Cost of Debt and Maximize AFUDC Income in Networks					
A. Actual Weighted Average Interest Rate vs. Budget	Both	A. Actual Weighted Average Interest Rate / Budgeted Weighted Average Interest Rate	L	1.000	0.950
B. Actual Networks AFUDC Income vs. Budget	Both	B. Actual AFUDC Income / Budgeted AFUDC Income (after removing any variances due to average CWIP balances)	H	1.000	1.070
3. Effectively Manage Costs While Meeting Key Deliverables, and Support Avangrid Transformation Initiative					
A. Effectively Manage Personnel and External Service Costs While Meeting Key Deliverables, and Support Avangrid Transformation Initiative	EVP & CFO	(Actual Costs - Budget Costs) / Budget Costs	L	-	0.001
B. Limit TOTEX (External Service + Capex + Personal Expense + Operating Income) of Financing & Treasury	Treasurer	Actual Expenditures / Budgeted Expenditures	L	1.000	0.965
4. SAP Rollout / Rollout in UIL					
A. Impelementation of the Corporate SAP in UIL (Go-Live)	Treasurer	A. Date Achieved	L	Jan-21	Jan-21

(A) L = objective is to be lower or earlier than target, H = objective is to be higher or later than target
Note: Excluded key performance metrics related to leadership development and net debt reduction and working capital, the latter which is largely related to Avangrid Renewables.
Numbers presented in red are key performance metrics that were not achieved.

Figure 3-11 Avangrid Treasury-Related Key Performance Indicators, 2020⁸⁰

⁸⁰ Response to FTI-0112, Att. 3; response to FTI-0642, Att. 2.

Objective	Attributed to?	Key Performance Indicator	L/H (A)	Target	Actual (B)
1. Financing					
A. Financial Consolidated Cost	Both	A. Actual Financial Income / Expense from External Net Debt + Budgeted Financial Income / Expense from External Net Debt + Budgeted Average External Net Debt	L	1.000	E 0.980 T 0.982
B. Implement Actions to Improve 2021 Ratio of Cash Flow from Operations pre-Working Capital / Debt Compared to the Budget	EVP & CFO	B. (Actual Cash Flow from Operations pre-Working Capital / Debt) - (Budgeted Cash Flow from Operations pre-Working Capital / Debt)	H	-	X < 0
C. Profitability of Cash Surplus Placements Complying with the Limits Established by Risk Management	Treasurer	C. Interest Income & Account Service Charge Credits / Average Cash Balance (Measured in Basis Points)	H	25.000	30.000
D. New Signed Green / Sustainable Financing	Treasurer	D. Principal Amount of Green & Sustainable Financings Executed / Total Financing Budget	H	30%	35%
2. Net Operating Expense Management					
A. Meet or Improve Budgeted Net Operating Expense (Net External Services + Net Personnel Costs)	Both	A. E: Actual Costs / Budget Costs	L L	1.00 1.00	E 0.92 T 0.72704
B. Every Day Better Implementation: Delivery of P&L Target	EVP & CFO	B. % Achievement of Financial Target	H	50%	89%
C. Every Day Better Leadership: Assessment of Driving Strategic Initiatives and Championing Required Changes to Processes, Culture, etc.	EVP & CFO	C. As Determined by Leadership Assessment (CEO & CHRO)	H	5.5	10.0
D. Launch of a Billing Card RFP and Cost Reduction of Customer Card Collections	Treasurer	D. RFP Launch and Cost Reduction / Current Unitary Costs	L	-7.5%	0.0%
3. Financial Strength					
A. Financial Strength	Treasurer	A. Net Debt / Budgeted Net Debt	H	1.025	1.042
B. Compliance with Financial Risk Policy	Treasurer	B. Number of Quarter Ends in Compliance	H	2	4
4. Financial Information					
A. Compliance on Date and Quality of the Avangrid Financial Information to Give Support to the Board of Directors, Accounting Closings, Budget and Revisions	Treasurer	A. Number of Times Information is Complete and Timely	H	9	12
B. Monitoring of Actual and Expected Financial Information at Company Level	Treasurer	B. % of Time Objective Met	H	50%	100%
C. Financial Ratios Monitoring Improvement Plan Implementation	Treasurer	C. % of Time Objective Met	H	50%	75%
(A) L = objective is to be lower or earlier than target, H = objective is to be higher or later than target (B) E = EVP & CFO, C = Controller - Avangrid Note: Excluded key performance metrics related to leadership objectives. Numbers presented in red are key performance metrics that were not achieved.					

Figure 3-12 Avangrid Treasury-Related Key Performance Indicators, 2021⁸¹

As previously noted for accounting objectives, not all KPIs were weighted equally nor did the weights assigned to the EVP & CFO necessarily match those assigned to the VP & Treasurer for common objectives. In most cases, the KPIs tracked by Avangrid in the Treasury group were not limited to objectives associated solely with the CT Companies – the one primary exception being the UIL SAP project. Given those qualifications, Avangrid achieved all 7 treasury objectives in 2019, 5 of 7 identified treasury objectives in 2020, and 13 of 15 identified treasury objectives in 2021.

Information provided by management regarding the failures included:

⁸¹ Response to FTI-0112, Att. 5; response to FTI-0642, Att. 3.

- 2020 – None of the changes to rating agency outlooks involved the CT Companies in 2020,⁸²
- 2020 – While not explained, the failure to manage personnel and external service costs was only missed by 0.05% at the EVP & CFO level,⁸³
- 2021 – The failure to meet the metric associated with cash flow from operations was acknowledged but not explained,⁸⁴
- 2021 – The launch of the billing card Request for Proposals (“RFP”) was not achieved due to the postponement of the project by Customer Service.⁸⁵

Overall, Avangrid achieved 86% (25 of 29) of the treasury objectives from 2019 to 2021 that involved, to some extent, the CT Companies. Further investigation indicates that one of the four failures had nothing to do with UI, CNG, or SCG; and another was attributed to a decision made by another group. Given this, we do not believe the recent results of performance tracked by the company for the Treasury organization indicate that there are significant issues that need to be addressed, especially as it relates to the CT Companies.

3.3.3. Benchmarking

Consistent with Avangrid’s response regarding its Accounting organization, the Treasury function has not participated in nor relied upon or used any benchmarking information since January 1, 2019.⁸⁶

We believe benchmarking data from similar companies would be useful in identifying areas that are lagging and could use improvement. Our recommendation concerning accounting and treasury benchmarking can be found earlier in this chapter.

3.3.4. Long-Term Financing

As indirect (CNG and SCG) or direct (UI) wholly-owned subsidiaries of UIL, which is ultimately owned by Avangrid, none of the CT Companies have publicly-traded common or preferred equity.⁸⁷ Therefore, the primary methods that they have at their disposal to fund their operations and capital spending is through the cash flows generated from their individual operations, the issuance of long-term debt, and capital contributions from their parent (Avangrid). For the foreseeable future (2022-2031), management does not expect UI, CNG, or SCG to receive capital contributions from their respective parents to sustain operations,⁸⁸ which means that cash flows from operations and the issuance of debt will be the expected sources of funding for each of these utilities.

Long-Term Debt – UI’s, CNG’s, and SCG’s long-term debt outstanding as of December 31, 2021 consisted of the following debt issuances:

⁸² Response to FTI-0128, Att. 1.

⁸³ Response to FTI-0635 (confidential), Att. 1.

⁸⁴ Ibid.

⁸⁵ Response to FTI-0642.

⁸⁶ Response to FTI-0140.

⁸⁷ Response to FTI-0479; response to FTI-0479, Att. 1, 2 and 3, and Avangrid 2021 Form 10-K.

⁸⁸ Response to FTI-0331. In fact, management expects each of the CT Companies to be able to issue dividends during this ten-year period.

Description	Issue Date	Maturity Date	UI	CNG	SCG
Series C, Senior Unsecured (3.61%)	04/02/12	01/31/22	\$34,000		
Series B, Senior Unsecured (3.61%)	01/30/12	01/31/22	51,500		
Series C, Senior Unsecured (6.26%)	09/05/07	09/05/22	44,000		
Series D, Senior Unsecured (6.26%)	12/06/07	12/06/22	33,000		
2003 Pollution Control (2.80%)	10/02/18	10/02/23	64,460		
Series F, Senior Unsecured (3.95%)	10/25/13	10/25/23	75,000		
2009 Senior Unsecured (5.61%)	12/10/09	03/10/25	50,000		
2018 Senior Unsecured (3.96%)	12/12/18	12/12/25	50,000		
Senior Unsecured (4.07%)	10/04/18	10/04/28	100,000		
2020 Senior Unsecured (2.02%)	12/01/20	12/01/30	75,000		
Series E, Senior Unsecured (6.51%)	09/05/07	09/05/37	16,000		
Series F, Senior Unsecured (6.51%)	12/06/07	12/06/37	12,000		
2010 Senior Unsecured (6.09%)	07/27/10	07/27/40	100,000		
Series D, Senior Unsecured (4.89%)	01/30/12	01/30/42	52,000		
Series E, Senior Unsecured (4.89%)	04/02/12	01/30/42	35,000		
Series G, Senior Unsecured (4.61%)	06/29/15	06/29/45	50,000		
Senior Unsecured (4.52%)	01/15/19	01/15/49	50,000		
MTN Series D, Senior Unsecured (4.30%)	10/25/13	10/25/28		25,000	
MTN Series, Senior Unsecured (2.02%)	12/15/20	12/15/30		30,000	
MTN Series C, Senior Unsecured (5.63%)	09/20/05	09/15/35		20,000	
MTN Series C, Senior Unsecured (5.84%)	10/28/05	10/28/35		25,000	
MTN Series C, Senior Unsecured (6.66%)	10/09/07	10/15/37		20,000	
MTN Series D, Senior Unsecured (5.23%)	10/25/13	10/25/43		20,000	
Senior Unsecured (4.52%)	01/15/19	01/15/49		50,000	
MTN III, First Mortgage Bond (5.778%)	10/31/05	11/01/25			25,000
MTN I, First Mortgage Bond (7.95%)	08/05/96	08/05/26			15,000
MTN I, First Mortgage Bond (6.88%)	09/09/98	09/11/28			14,000
MTN, First Mortgage Bond (1.87%)	12/15/20	12/15/30			50,000
First Mortgage Bond (2.05%)	12/15/21	12/15/31			40,000
MTN III, First Mortgage Bond (5.772%)	12/20/05	12/01/35			20,000
MTN III, First Mortgage Bond (6.38%)	10/01/07	09/15/37			40,000
MTN IV, First Mortgage Bond (5.39%)	09/22/11	09/22/41			25,000
First Mortgage Bond (4.42%)	01/15/19	01/15/49			75,000
Total			\$891,960	\$190,000	\$304,000
MTN = Medium-Term Note					
Excludes unamortized debt issuance costs and/or premiums.					

Figure 3-13 CT Companies' Long-Term Debt Outstanding as of December 31, 2021 (in thousands)⁸⁹

In recent years (2019 to 2021), UI has issued \$125 million of long-term debt, CNG has issued \$80 million of long-term debt, and SCG has issued \$165 million of long-term debt. In some cases, this reflects a refinancing of maturing debt. According to management, durations chosen for long-term debt issued by the CT Companies is designed to correspond with the long-term nature of utility asset lives that are being financed. In addition, 10-year and 30-

⁸⁹ Response to FTI-0332, Att. 1.

year durations are most frequently chosen because these are the spots on the yield curve of utility-issued debt that have the most demand.⁹⁰

The scheduled maturities of the CT Companies' long-term debt are dispersed over the next 30 years as follows:

Year Range	UI	CNG	SCG
2022 - 2026	\$401,960	\$0	\$40,000
2027 - 2031	175,000	55,000	104,000
2032 - 2036	-	45,000	20,000
2037 - 2041	128,000	20,000	65,000
2042 - 2046	137,000	20,000	-
2047 - 2051	50,000	50,000	75,000
Total	\$891,960	\$190,000	\$304,000

Figure 3-14 CT Companies Scheduled Debt Maturities (in thousands)⁹¹

UI effectively refinanced a significant portion of its long-term debt maturing in 2022 by issuing \$150 million of 2.25% fixed-rate unsecured debt maturing in 2032.⁹²

Long-Term Debt Attributes – In reviewing the long-term debt issued by UI, CNG, and SCG; we identified many common attributes. These will be briefly summarized below along with one noteworthy difference.

All of the CT Companies' long-term debt is privately placed.⁹³ In our experience, private placement of debt is less costly than publicly-issued debt. The primary reasons for this are that the issuer of debt made available to the public incurs additional underwriter fees, auditor fees, and marketing fees.

All recent long-term debt outstanding for UI, CNG, and SCG is fixed rate debt.⁹⁴ By issuing fixed rate debt, the instability in future cash flows and the potential impacts this could have on customer rates are avoided.

All of the CT Companies' long-term debt is callable. However, this debt also includes an industry-standard make-whole premium that is designed to protect investors and makes it almost always uneconomic to call the debt early. Since 2019, none of the CT Companies have called their long-term debt.⁹⁵

Other than a grandfathered exception related to affiliate defaults associated with the funding of employee benefit plans under the Employee Retirement Income Security Act of 1974, there are no cross-default provisions in the CT Company debt agreements.⁹⁶

Unlike SCG which issues secured long-term debt, UI and CNG both issue unsecured long-term debt. Given that investors require a higher rate of return for assuming more risk, secured long-term debt typically has slightly lower interest rates than unsecured long-term debt with similar durations and terms. That would suggest that UI and CNG should begin issuing secured debt on a prospective basis to take advantage of this pricing differential. However, once an entity has made the decision to issue unsecured debt, it is very difficult (if not impossible) to

⁹⁰ Response to FTI-0723.

⁹¹ Response to FTI-0332, Att. 1.

⁹² Avangrid September 30, 2022 Form 10-Q, p. 48.

⁹³ Response to FTI-0335.

⁹⁴ Response to FTI-0723.

⁹⁵ Response to FTI-0724.

⁹⁶ Response to FTI-0268; response to FTI-0725.

issue secured debt in the future because the existing debt agreement typically has restrictions preventing this from occurring.⁹⁷

Credit Ratings – See discussion of credit ratings in Section 3.4.4 below.

Equity. While UI, CNG, and SCG do not issue equity to the public to raise additional funds, they could receive one or more equity infusions from their respective parents if circumstances warranted it. The following table summarizes both the contributions received from and the distributions made to the CT Companies’ parents in the last several years. Figure 3-15 shows the amount of dividends and capital distributions paid and the amount of capital contributions received by UI, SCG and CNG.

Category	2019	2020	2021
UI:			
Capital Contributions Received	\$47,000	\$0	\$0
Dividends Paid	(90,000)	(40,000)	(105,000)
Other Distributions Paid	-	-	-
Net Equity Contributions (Distributions)	(43,000)	(40,000)	(105,000)
CNG:			
Capital Contributions Received	43,000	40,000	20,000
Dividends Paid	-	(80,000)	(10,000)
Other Distributions Paid	-	(12,000)	(40,000)
Net Equity Contributions (Distributions)	43,000	(52,000)	(30,000)
SCG:			
Capital Contributions Received	18,000	40,000	25,000
Dividends Paid	-	(55,000)	-
Other Distributions Paid	-	-	(40,000)
Net Equity Contributions (Distributions)	18,000	(15,000)	(15,000)

Figure 3-15 CT Companies Selected Equity Transactions (in thousands)⁹⁸

As can be seen in this Figure 3-15, only CNG and SCG have been net recipients of equity funding from its parent in any of the three individual years from 2019 to 2021. In the other seven instances, the CT Companies were net distributors of equity capital on an annual basis.

Most importantly, these equity transactions only occur within constraints imposed by management to comply with capital structures approved by regulators. See the PURA-approved rate structures in Figure 3-24 in Section 3.4.2 below. Treasury closely monitors the capital structures of each utility to maintain these targets.⁹⁹

⁹⁷ Response to FTI-0724; response to FTI-0726.

⁹⁸ Response to FTI-0131, Att. 1.

⁹⁹ Response to FTI-0267.

In addition, any dividends paid by the CT Companies must comply with restrictions imposed on the entities by the 2015 Merger Order.¹⁰⁰ These include the maintenance of minimum common equity ratios and minimum credit ratings.¹⁰¹

Use of CT Company Funds – While treasury personnel ensure that UI, CNG, and SCG all maintain their approved capital structures when determining the types and amounts of equity transactions that each can pursue, as has been previously established, the CT Companies have largely been a net distributor of funds to their parents in recent years (see Figure 3-15 above).

Using publicly available information,¹⁰² we determined the extent to which other significant Networks utilities were recipients or contributors of equity funding from their respective parents in recent years. This information is summarized in Figure 3-16:

Category	2019	2020	2021
New York State Electric & Gas:			
Capital Contributions Received	\$50,000	\$400,000	\$185,000
Dividends Paid	(100,000)	(100,000)	(270,000)
Other Distributions Paid	-	-	-
Net Equity Contributions (Distributions)	(50,000)	300,000	(85,000)
Rochester Gas & Electric:			
Capital Contributions Received	-	50,000	200,000
Dividends Paid	-	(50,000)	(250,000)
Other Distributions Paid	-	-	-
Net Equity Contributions (Distributions)	-	-	(50,000)
Central Maine Power:			
Capital Contributions Received	-	60,000	126,076
Dividends Paid	(25,000)	(80,000)	(255,035)
Other Distributions Paid	-	-	-
Net Equity Contributions (Distributions)	(25,000)	(20,000)	(128,959)
Berkshire Gas:			
Capital Contributions Received	-	-	10,000
Dividends Paid	-	(2,000)	-
Other Distributions Paid	-	-	-
Net Equity Contributions (Distributions)	-	(2,000)	10,000

Figure 3-16 Other Significant Networks Utilities Selected Equity Transactions (in thousands)¹⁰³

While both Rochester Gas and Electric and Central Maine Power have consistently been distributing funds to their parents in recent years, New York State Electric and Gas and Berkshire Gas have been net recipients of equity

¹⁰⁰ Docket No. 15-07-38

¹⁰¹ Response to FTI-0317, Att. 1, pp. 41-42 of 50.

¹⁰² Requests for this information through discovery were ignored by management (see Response to FTI-0131; response to FTI-0132; response to FTI-0133).

¹⁰³ Subsidiary financials obtained from Avangrid website.

funding over the three-year period from 2019 to 2021. The source of some of those funds could have been the CT Companies as demonstrated in Figure 3-16 above. However, to the extent they were a source, UI, CNG, and SCG operated within the confines of the targeted capital structure and equity ratios previously mentioned.

Since financial statements for Renewables are not available on the Avangrid website, it is not as straight-forward to identify their financing activities. However, management has indicated that this business has been a net consumer of capital over the past three years, including receiving capital contributions from its parent, Avangrid.¹⁰⁴ As with New York State Electric and Gas and Berkshire Gas discussed above, the source of some of these funds could be the CT Companies.

3.3.5. Short-Term Liquidity

UI, CNG, and SCG address their short-term liquidity needs through one of three sources – 1) a virtual money pool arrangement with other Networks utilities, 2) an intercompany credit agreement with Avangrid in which Avangrid can act only as a lender, and 3) a bank-provided credit facility.

Virtual Money Pool. The virtual money pool is an agreement between the investment grade-rated regulated utility subsidiaries of Avangrid. Under this agreement, the parties can both lend to and borrow from each other. The interest rate is set at the A2/P2 non-financial 30-day commercial paper rate published by the Federal Reserve. UI, CNG, and SCG each have a \$100 million lending and borrowing limit under this agreement.¹⁰⁵

According to management, the CT Companies have exclusively used the virtual money pool and bilateral agreements (to be discussed later) to borrow and have primarily used the virtual money pool to invest excess cash because external alternatives have offered terms that are less advantageous. The one exception to this rule is occasional short periods of time when there was no opportunity to invest internally.¹⁰⁶

A summary of the virtual money pool activity for each CT Company follows:

¹⁰⁴ Response to FTI-0726.

¹⁰⁵ Response to FTI-0479, Att. 1, pp. 28, 70, 116 of 132.

¹⁰⁶ Response to FTI-0127.

Month	Interest Rate	Borrowings from Other Avangrid Regulated Utilities				Loans to Other Avangrid Regulated Utilities			
		Maximum	Minimum	Average	Days Borrowed	Maximum	Minimum	Average	Days Lent
January 2019	2.93%	\$ 450	\$ 450	\$ 450	1	\$ (90,700)	\$ (10,850)	\$ (49,048)	29
February 2019	2.81%	\$ -	\$ -	\$ -	0	\$ (1,900)	\$ (1,900)	\$ (1,900)	1
March 2019	2.73%	\$ -	\$ -	\$ -	0	\$ (20,500)	\$ (650)	\$ (11,377)	11
April 2019	2.73%	\$ 16,175	\$ 725	\$ 4,583	13	\$ (30,725)	\$ (1,425)	\$ (21,321)	17
May 2019	2.70%	\$ 8,975	\$ 1,075	\$ 4,192	6	\$ (18,725)	\$ (1,525)	\$ (11,089)	25
June 2019	2.67%	\$ 850	\$ 850	\$ 850	1	\$ (38,425)	\$ (16,275)	\$ (30,615)	30
July 2019	2.58%	\$ -	\$ -	\$ -	0	\$ (50,025)	\$ (30,475)	\$ (38,690)	24
August 2019	2.50%	\$ 61,025	\$ 53,225	\$ 57,485	5	\$ -	\$ -	\$ -	0
September 2019	2.31%	\$ 54,175	\$ 32,025	\$ 45,327	30	\$ (2,250)	\$ (2,250)	\$ (2,250)	3
October 2019	2.25%	\$ 40,125	\$ 725	\$ 22,908	22	\$ (6,075)	\$ (1,375)	\$ (3,397)	9
November 2019	2.08%	\$ -	\$ -	\$ -	0	\$ (12,575)	\$ (275)	\$ (7,144)	26
December 2019	1.85%	\$ -	\$ -	\$ -	0	\$ (19,375)	\$ (125)	\$ (9,764)	27
January 2020	1.99%	\$ -	\$ -	\$ -	0	\$ (35,525)	\$ (11,375)	\$ (26,236)	31
February 2020	1.78%	\$ -	\$ -	\$ -	0	\$ (15,825)	\$ (1,825)	\$ (9,406)	18
March 2020	1.73%	\$ -	\$ -	\$ -	0	\$ (7,675)	\$ (1,225)	\$ (4,531)	8
April 2020	1.99%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
May 2020	1.33%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
June 2020	0.87%	\$ 6,075	\$ 1,575	\$ 3,825	2	\$ -	\$ -	\$ -	0
July 2020	0.37%	\$ 8,975	\$ 1,475	\$ 4,513	8	\$ (475)	\$ (475)	\$ (475)	1
August 2020	0.25%	\$ -	\$ -	\$ -	0	\$ (225)	\$ (225)	\$ (225)	1
September 2020	0.18%	\$ -	\$ -	\$ -	0	\$ (2,975)	\$ (1,075)	\$ (2,555)	5
October 2020	0.16%	\$ -	\$ -	\$ -	0	\$ (19,625)	\$ (525)	\$ (11,023)	24
November 2020	0.18%	\$ -	\$ -	\$ -	0	\$ (5,975)	\$ (1,025)	\$ (4,155)	10
December 2020	0.20%	\$ -	\$ -	\$ -	0	\$ (45,175)	\$ (14,975)	\$ (28,460)	31
January 2021	0.24%	\$ -	\$ -	\$ -	0	\$ (60,250)	\$ (4,500)	\$ (40,325)	22
February 2021	0.18%	\$ -	\$ -	\$ -	0	\$ (34,950)	\$ (3,450)	\$ (15,321)	28
March 2021	0.17%	\$ -	\$ -	\$ -	0	\$ (35,650)	\$ (1,550)	\$ (22,121)	21
April 2021	0.19%	\$ -	\$ -	\$ -	0	\$ (10,000)	\$ (1,000)	\$ (4,056)	18
May 2021	0.19%	\$ 6,730	\$ 6,730	\$ 6,730	4	\$ (7,000)	\$ (7,000)	\$ (7,000)	10
June 2021	0.15%	\$ 12,230	\$ 3,730	\$ 6,918	8	\$ -	\$ -	\$ -	0
July 2021	0.15%	\$ -	\$ -	\$ -	0	\$ (40,700)	\$ (26,000)	\$ (30,865)	17
August 2021	0.14%	\$ -	\$ -	\$ -	0	\$ (39,300)	\$ (20,600)	\$ (29,577)	31
September 2021	0.14%	\$ -	\$ -	\$ -	0	\$ (36,100)	\$ (5,600)	\$ (20,748)	23
October 2021	0.14%	\$ -	\$ -	\$ -	0	\$ (1,300)	\$ (1,300)	\$ (1,300)	1
November 2021	0.14%	\$ -	\$ -	\$ -	0	\$ (11,000)	\$ (700)	\$ (6,340)	5
December 2021	0.18%	\$ -	\$ -	\$ -	0	\$ (64,600)	\$ (33,200)	\$ (45,410)	10
January 2022	0.26%	\$ -	\$ -	\$ -	0	\$ (65,600)	\$ (5,000)	\$ (49,642)	24
February 2022	0.23%	\$ -	\$ -	\$ -	0	\$ (66,100)	\$ (38,300)	\$ (54,550)	28
March 2022	0.35%	\$ -	\$ -	\$ -	0	\$ (82,200)	\$ (41,200)	\$ (59,661)	31
April 2022	0.84%	\$ -	\$ -	\$ -	0	\$ (54,400)	\$ (700)	\$ (12,353)	30
Jan 19 - Apr 22									

Note: In some months shown above, the utility loaned money to and borrowed money from other utilities on the same day. As a result, the number of days borrowed plus the number of days lent may exceed the number of calendar days in a given month.

Figure 3-17 UI Summary of Virtual Money Pool Activity (in thousands)¹⁰⁷

¹⁰⁷ Response to FTI-0126, Att. 1.

Month	Interest Rate	Borrowings from Other Avangrid Regulated Utilities				Loans to Other Avangrid Regulated Utilities			
		Maximum	Minimum	Average	Days Borrowed	Maximum	Minimum	Average	Days Lent
January 2019	2.93%	\$ 79,875	\$ 27,975	\$ 52,546	31	\$ -	\$ -	\$ -	0
February 2019	2.81%	\$ 27,975	\$ 27,975	\$ 27,975	28	\$ -	\$ -	\$ -	0
March 2019	2.73%	\$ 27,975	\$ 15,575	\$ 22,423	31	\$ -	\$ -	\$ -	0
April 2019	2.73%	\$ 18,775	\$ 225	\$ 7,546	29	\$ (1,075)	\$ (1,075)	\$ (1,075)	1
May 2019	2.70%	\$ 13,175	\$ 1,425	\$ 5,393	31	\$ -	\$ -	\$ -	0
June 2019	2.67%	\$ 7,275	\$ 75	\$ 3,107	22	\$ (1,225)	\$ (75)	\$ (581)	8
July 2019	2.58%	\$ 16,075	\$ 2,075	\$ 7,441	31	\$ (500)	\$ (500)	\$ (500)	1
August 2019	2.50%	\$ 27,525	\$ 15,825	\$ 20,515	31	\$ -	\$ -	\$ -	0
September 2019	2.31%	\$ 36,325	\$ 24,375	\$ 29,280	30	\$ -	\$ -	\$ -	0
October 2019	2.25%	\$ 37,475	\$ 25	\$ 32,400	22	\$ (2,500)	\$ (1,500)	\$ (2,250)	4
November 2019	2.08%	\$ -	\$ -	\$ -	0	\$ (900)	\$ (250)	\$ (575)	2
December 2019	1.85%	\$ -	\$ -	\$ -	0	\$ (12,300)	\$ (450)	\$ (4,219)	24
January 2020	1.99%	\$ -	\$ -	\$ -	0	\$ (25,400)	\$ (12,300)	\$ (19,524)	31
February 2020	1.78%	\$ -	\$ -	\$ -	0	\$ (28,800)	\$ (14,500)	\$ (22,966)	29
March 2020	1.73%	\$ -	\$ -	\$ -	0	\$ (42,050)	\$ (23,600)	\$ (36,708)	30
April 2020	1.99%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
May 2020	1.33%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
June 2020	0.87%	\$ -	\$ -	\$ -	0	\$ (10,050)	\$ (350)	\$ (4,567)	27
July 2020	0.37%	\$ -	\$ -	\$ -	0	\$ (7,600)	\$ (950)	\$ (4,723)	26
August 2020	0.25%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
September 2020	0.18%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
October 2020	0.16%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
November 2020	0.18%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
December 2020	0.20%	\$ -	\$ -	\$ -	0	\$ (6,550)	\$ (5,050)	\$ (5,800)	2
January 2021	0.24%	\$ -	\$ -	\$ -	0	\$ (7,250)	\$ (5,050)	\$ (5,993)	7
February 2021	0.18%	\$ -	\$ -	\$ -	0	\$ (30,350)	\$ (12,150)	\$ (20,657)	28
March 2021	0.17%	\$ -	\$ -	\$ -	0	\$ (34,150)	\$ (8,500)	\$ (16,592)	31
April 2021	0.19%	\$ -	\$ -	\$ -	0	\$ (16,000)	\$ (2,000)	\$ (8,977)	30
May 2021	0.19%	\$ -	\$ -	\$ -	0	\$ (15,900)	\$ (1,700)	\$ (5,296)	26
June 2021	0.15%	\$ -	\$ -	\$ -	0	\$ (5,500)	\$ (1,500)	\$ (3,214)	7
July 2021	0.15%	\$ -	\$ -	\$ -	0	\$ (14,500)	\$ (500)	\$ (8,818)	17
August 2021	0.14%	\$ 11,000	\$ 700	\$ 4,840	20	\$ (5,700)	\$ (1,000)	\$ (3,500)	4
September 2021	0.14%	\$ -	\$ -	\$ -	0	\$ (8,500)	\$ (500)	\$ (7,167)	6
October 2021	0.14%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
November 2021	0.14%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
December 2021	0.18%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
January 2022	0.26%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
February 2022	0.23%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
March 2022	0.35%	\$ -	\$ -	\$ -	0	\$ (24,600)	\$ (3,000)	\$ (13,204)	25
April 2022	0.84%	\$ 2,200	\$ 2,200	\$ 2,200	1	\$ (12,600)	\$ (12,600)	\$ (12,600)	3
Jan 19 - Apr 22									

Note: In some months shown above, the utility loaned money to and borrowed money from other utilities on the same day. As a result, the number of days borrowed plus the number of days lent may exceed the number of calendar days in a given month.

Figure 3-18 CNG Summary of Virtual Money Pool Activity (in thousands)¹⁰⁸

¹⁰⁸ Ibid.

Month	Interest Rate	Borrowings from Other Avangrid Regulated Utilities				Loans to Other Avangrid Regulated Utilities			
		Maximum	Minimum	Average	Days Borrowed	Maximum	Minimum	Average	Days Lent
January 2019	2.93%	\$ 79,300	\$ 34,750	\$ 50,498	31	\$ (450)	\$ (450)	\$ (450)	1
February 2019	2.81%	\$ 33,200	\$ 21,800	\$ 25,871	28	\$ -	\$ -	\$ -	0
March 2019	2.73%	\$ 21,800	\$ 14,730	\$ 21,116	31	\$ -	\$ -	\$ -	0
April 2019	2.73%	\$ 13,580	\$ 280	\$ 6,365	11	\$ (7,250)	\$ (1,400)	\$ (3,753)	18
May 2019	2.70%	\$ 3,500	\$ 500	\$ 1,390	5	\$ (6,850)	\$ (150)	\$ (4,233)	26
June 2019	2.67%	\$ -	\$ -	\$ -	0	\$ (9,850)	\$ (1,100)	\$ (6,378)	30
July 2019	2.58%	\$ -	\$ -	\$ -	0	\$ (6,800)	\$ (2,850)	\$ (4,681)	21
August 2019	2.50%	\$ 3,600	\$ 3,600	\$ 3,600	3	\$ -	\$ -	\$ -	0
September 2019	2.31%	\$ 29,600	\$ 3,600	\$ 19,475	30	\$ -	\$ -	\$ -	0
October 2019	2.25%	\$ 32,350	\$ 17,800	\$ 24,814	31	\$ -	\$ -	\$ -	0
November 2019	2.08%	\$ 31,865	\$ 12,390	\$ 23,178	30	\$ -	\$ -	\$ -	0
December 2019	1.85%	\$ 30,965	\$ 2,215	\$ 19,231	31	\$ -	\$ -	\$ -	0
January 2020	1.99%	\$ 19,265	\$ 5,875	\$ 12,248	31	\$ (950)	\$ (950)	\$ (950)	1
February 2020	1.78%	\$ 9,875	\$ 3,200	\$ 5,251	29	\$ -	\$ -	\$ -	0
March 2020	1.73%	\$ 3,200	\$ 1,125	\$ 2,681	4	\$ (10,675)	\$ (425)	\$ (5,360)	26
April 2020	1.99%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
May 2020	1.33%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
June 2020	0.87%	\$ -	\$ -	\$ -	0	\$ (3,125)	\$ (1,125)	\$ (1,865)	5
July 2020	0.37%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
August 2020	0.25%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
September 2020	0.18%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
October 2020	0.16%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
November 2020	0.18%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
December 2020	0.20%	\$ -	\$ -	\$ -	0	\$ (5,625)	\$ (3,225)	\$ (4,425)	2
January 2021	0.24%	\$ -	\$ -	\$ -	0	\$ (10,250)	\$ (3,225)	\$ (6,236)	7
February 2021	0.18%	\$ -	\$ -	\$ -	0	\$ (22,550)	\$ (10,250)	\$ (19,148)	28
March 2021	0.17%	\$ -	\$ -	\$ -	0	\$ (28,850)	\$ (3,500)	\$ (14,303)	31
April 2021	0.19%	\$ -	\$ -	\$ -	0	\$ (23,700)	\$ (7,100)	\$ (15,377)	30
May 2021	0.19%	\$ -	\$ -	\$ -	0	\$ (21,600)	\$ (2,000)	\$ (10,539)	21
June 2021	0.15%	\$ -	\$ -	\$ -	0	\$ (15,630)	\$ (5,500)	\$ (7,486)	26
July 2021	0.15%	\$ -	\$ -	\$ -	0	\$ (17,500)	\$ (6,500)	\$ (13,520)	30
August 2021	0.14%	\$ 8,800	\$ 1,600	\$ 6,354	13	\$ (7,600)	\$ (350)	\$ (2,286)	11
September 2021	0.14%	\$ 47,300	\$ 2,300	\$ 16,323	30	\$ -	\$ -	\$ -	0
October 2021	0.14%	\$ 14,200	\$ 800	\$ 5,390	31	\$ -	\$ -	\$ -	0
November 2021	0.14%	\$ 15,200	\$ 6,500	\$ 12,035	20	\$ -	\$ -	\$ -	0
December 2021	0.18%	\$ 7,000	\$ 2,800	\$ 4,786	14	\$ (31,000)	\$ (18,500)	\$ (24,650)	10
January 2022	0.26%	\$ -	\$ -	\$ -	0	\$ (27,500)	\$ (3,000)	\$ (19,665)	31
February 2022	0.23%	\$ -	\$ -	\$ -	0	\$ (11,900)	\$ (2,800)	\$ (7,323)	13
March 2022	0.35%	\$ -	\$ -	\$ -	0	\$ (15,600)	\$ (4,600)	\$ (10,838)	8
April 2022	0.84%	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	0
Jan 19 - Apr 22									

Note: In some months shown above, the utility loaned money to and borrowed money from other utilities on the same day. As a result, the number of days borrowed plus the number of days lent may exceed the number of calendar days in a given month.

Figure 3-19 SCG Summary of Virtual Money Pool Activity (in thousands) ¹⁰⁹

¹⁰⁹ Ibid.

Over this 40-month period, the CT Companies have borrowed from and lent money to each other as well as New York State Electric and Gas, Rochester Gas and Electric, Central Maine Power, and Berkshire Gas.¹¹⁰ As of year-end 2019 to 2021, the utilities operating outside of Connecticut had the following credit ratings and outlooks:

Description	December 31, 2019		December 31, 2020		December 31, 2021	
	S&P	Moody's	S&P	Moody's	S&P	Moody's
NYSEG:						
Rating	A-	A3	A-	A3	A-	Baa1
Outlook	Stable	Stable	Stable	Negative	Stable	Stable
RG&E:						
Rating	A-	A3	A-	A3	A-	Baa1
Outlook	Stable	Stable	Stable	Negative	Stable	Stable
CMP:						
Rating	A	A2	A	A2	A	A2
Outlook	Stable	Stable	Stable	Stable	Stable	Stable
BG:						
Rating	A-	A3	A-	A3	A-	A3
Outlook	Stable	Stable	Stable	Stable	Stable	Stable
S&P = Standard & Poor's, NYSEG = New York State Electric & Gas, RG&E = Rochester Gas & Electric, CMP = Central Maine Power, and BG = Berkshire Gas						

Figure 3-20 Non-CT Company Participants in the Virtual Money Pool Credit Ratings (Outlooks)¹¹¹

While the credit ratings of both New York State Electric and Gas and Rochester Gas and Electric trended downward over the selected time period (due to the financial implications of their three-year rate plan and the heightened political intervention into New York’s utility ratemaking and financial performance¹¹²), all of these utilities have credit ratings that equal or exceed those of the CT Companies and are safely within the investment grade classification. Therefore, the CT Companies are not taking undue risk by lending money to these other participants.

Bilateral Intercompany Credit Agreement. The bilateral intercompany credit agreement allows each of the CT Companies to borrow from Avangrid. None can lend to Avangrid under this agreement. Under the terms of the agreement, the same interest rate as the virtual money pool is used, and the borrowing limits for each CT Company are as follows:¹¹³

- UI - \$500 million
- CNG - \$250 million
- SCG - \$250 million

¹¹⁰ Ibid.

¹¹¹ Response to FTI-0128, Att. 1.

¹¹² Response to FTI-0126, Att. 2 – July 20, 2021 Moody’s Investors Service Rating Action.

¹¹³ Response to FTI-0125; response to FTI-0479, Att. 1, pp. 28, 70, 116 of 132.

A summary of the bilateral intercompany credit agreement activity between the CT Companies and Avangrid follows:

Month	Interest Rate	Borrowings from Avangrid, Inc.			
		Maximum	Minimum	Average	Days Borrowed
January 2019	2.93%	\$ 17,400	\$ 3,750	\$ 10,575	2
February 2019	2.81%	\$ 31,950	\$ 900	\$ 14,620	27
March 2019	2.73%	\$ 13,800	\$ 2,250	\$ 7,566	19
April 2019	2.73%	\$ -	\$ -	\$ -	0
May 2019	2.70%	\$ -	\$ -	\$ -	0
June 2019	2.67%	\$ -	\$ -	\$ -	0
July 2019	2.58%	\$ 62,425	\$ 51,475	\$ 55,332	7
August 2019	2.50%	\$ 79,275	\$ 1,800	\$ 53,781	31
September 2019	2.31%	\$ 10,100	\$ 5,100	\$ 8,750	4
October 2019	2.25%	\$ 8,810	\$ 840	\$ 4,003	10
November 2019	2.08%	\$ 6,575	\$ 3,725	\$ 5,863	4
December 2019	1.85%	\$ 3,025	\$ 2,825	\$ 2,975	4
January 2020	1.99%	\$ -	\$ -	\$ -	0
February 2020	1.78%	\$ 17,425	\$ 1,475	\$ 9,770	11
March 2020	1.73%	\$ 45,525	\$ 475	\$ 8,197	23
April 2020	1.99%	\$ 54,375	\$ 26,575	\$ 39,230	30
May 2020	1.33%	\$ 56,875	\$ 31,775	\$ 43,365	31
June 2020	0.87%	\$ 44,175	\$ 17,675	\$ 27,275	30
July 2020	0.37%	\$ 24,850	\$ 375	\$ 10,671	29
August 2020	0.25%	\$ 35,025	\$ 1,725	\$ 17,393	30
September 2020	0.18%	\$ 31,925	\$ 625	\$ 10,579	25
October 2020	0.16%	\$ 13,875	\$ 4,375	\$ 7,939	7
November 2020	0.18%	\$ 13,875	\$ 1,225	\$ 5,995	22
December 2020	0.20%	\$ -	\$ -	\$ -	0
January 2021	0.24%	\$ -	\$ -	\$ -	0
February 2021	0.18%	\$ -	\$ -	\$ -	0
March 2021	0.17%	\$ -	\$ -	\$ -	0
April 2021	0.19%	\$ -	\$ -	\$ -	0
May 2021	0.19%	\$ -	\$ -	\$ -	0
June 2021	0.15%	\$ -	\$ -	\$ -	0
July 2021	0.15%	\$ -	\$ -	\$ -	0
August 2021	0.14%	\$ -	\$ -	\$ -	0
September 2021	0.14%	\$ -	\$ -	\$ -	0
October 2021	0.14%	\$ -	\$ -	\$ -	0
November 2021	0.14%	\$ -	\$ -	\$ -	0
December 2021	0.18%	\$ -	\$ -	\$ -	0
January 2022	0.26%	\$ 12,750	\$ 650	\$ 8,300	7
February 2022	0.23%	\$ -	\$ -	\$ -	0
March 2022	0.35%	\$ -	\$ -	\$ -	0
April 2022	0.84%	\$ -	\$ -	\$ -	0
Jan 19 - Apr 22					

Figure 3-21 UI Summary of Bilateral Intercompany Credit Agreement Activity¹¹⁴

¹¹⁴ Response to FTI-0126, Att. 1.

Month	Interest Rate	Borrowings from Avangrid, Inc.			
		Maximum	Minimum	Average	Days Borrowed
January 2019	2.93%	\$ 48,550	\$ 1,200	\$ 22,310	24
February 2019	2.81%	\$ 29,850	\$ 8,000	\$ 18,650	28
March 2019	2.73%	\$ 16,100	\$ 1,750	\$ 6,325	28
April 2019	2.73%	\$ -	\$ -	\$ -	0
May 2019	2.70%	\$ -	\$ -	\$ -	0
June 2019	2.67%	\$ -	\$ -	\$ -	0
July 2019	2.58%	\$ -	\$ -	\$ -	0
August 2019	2.50%	\$ -	\$ -	\$ -	0
September 2019	2.31%	\$ -	\$ -	\$ -	0
October 2019	2.25%	\$ 3,950	\$ 1,200	\$ 2,406	16
November 2019	2.08%	\$ 4,400	\$ 600	\$ 2,154	25
December 2019	1.85%	\$ 4,850	\$ 100	\$ 1,864	7
January 2020	1.99%	\$ -	\$ -	\$ -	0
February 2020	1.78%	\$ -	\$ -	\$ -	0
March 2020	1.73%	\$ 19,600	\$ 19,600	\$ 19,600	1
April 2020	1.99%	\$ 17,950	\$ 8,700	\$ 12,238	30
May 2020	1.33%	\$ 16,100	\$ 2,750	\$ 7,569	31
June 2020	0.87%	\$ 4,350	\$ 800	\$ 2,700	3
July 2020	0.37%	\$ 7,650	\$ 1,450	\$ 4,510	5
August 2020	0.25%	\$ 22,500	\$ 7,400	\$ 13,376	31
September 2020	0.18%	\$ 27,800	\$ 19,600	\$ 23,007	30
October 2020	0.16%	\$ 69,700	\$ 24,400	\$ 31,611	31
November 2020	0.18%	\$ 73,700	\$ 65,550	\$ 69,158	30
December 2020	0.20%	\$ 72,100	\$ 23,500	\$ 48,548	29
January 2021	0.24%	\$ -	\$ -	\$ -	0
February 2021	0.18%	\$ -	\$ -	\$ -	0
March 2021	0.17%	\$ -	\$ -	\$ -	0
April 2021	0.19%	\$ -	\$ -	\$ -	0
May 2021	0.19%	\$ -	\$ -	\$ -	0
June 2021	0.15%	\$ -	\$ -	\$ -	0
July 2021	0.15%	\$ -	\$ -	\$ -	0
August 2021	0.14%	\$ 400	\$ 400	\$ 400	3
September 2021	0.14%	\$ -	\$ -	\$ -	0
October 2021	0.14%	\$ -	\$ -	\$ -	0
November 2021	0.14%	\$ -	\$ -	\$ -	0
December 2021	0.18%	\$ 15,700	\$ 8,700	\$ 13,100	5
January 2022	0.26%	\$ 28,300	\$ 4,700	\$ 12,623	22
February 2022	0.23%	\$ 22,600	\$ 200	\$ 11,218	28
March 2022	0.35%	\$ 4,400	\$ 1,600	\$ 3,700	4
April 2022	0.84%	\$ 10,500	\$ 1,600	\$ 5,143	7
Jan 19 - Apr 22					

Figure 3-22 CNG Summary of Bilateral Intercompany Credit Agreement Activity (in thousands)¹¹⁵

¹¹⁵ Ibid.

Month	Interest Rate	Borrowings from Avangrid, Inc.			
		Maximum	Minimum	Average	Days Borrowed
January 2019	2.93%	\$ 72,880	\$ 380	\$ 27,746	31
February 2019	2.81%	\$ 36,280	\$ 18,780	\$ 25,032	28
March 2019	2.73%	\$ 30,080	\$ 9,080	\$ 16,703	28
April 2019	2.73%	\$ -	\$ -	\$ -	0
May 2019	2.70%	\$ -	\$ -	\$ -	0
June 2019	2.67%	\$ -	\$ -	\$ -	0
July 2019	2.58%	\$ 7,650	\$ 1,100	\$ 3,625	10
August 2019	2.50%	\$ 19,300	\$ 8,250	\$ 11,524	31
September 2019	2.31%	\$ 16,500	\$ 13,200	\$ 14,950	4
October 2019	2.25%	\$ 16,435	\$ 1,985	\$ 9,552	18
November 2019	2.08%	\$ 24,360	\$ 2,585	\$ 13,726	30
December 2019	1.85%	\$ 39,335	\$ 1,385	\$ 15,319	31
January 2020	1.99%	\$ 12,125	\$ 285	\$ 2,246	31
February 2020	1.78%	\$ 12,125	\$ 125	\$ 3,459	29
March 2020	1.73%	\$ 24,675	\$ 825	\$ 7,500	4
April 2020	1.99%	\$ 22,975	\$ 12,375	\$ 16,450	30
May 2020	1.33%	\$ 20,225	\$ 8,725	\$ 13,046	31
June 2020	0.87%	\$ 11,425	\$ 725	\$ 5,003	25
July 2020	0.37%	\$ 16,375	\$ 175	\$ 5,627	31
August 2020	0.25%	\$ 31,975	\$ 16,225	\$ 22,402	31
September 2020	0.18%	\$ 43,925	\$ 31,025	\$ 35,660	30
October 2020	0.16%	\$ 82,775	\$ 42,325	\$ 50,025	31
November 2020	0.18%	\$ 93,175	\$ 81,625	\$ 85,717	30
December 2020	0.20%	\$ 92,225	\$ 22,925	\$ 59,465	29
January 2021	0.24%	\$ -	\$ -	\$ -	0
February 2021	0.18%	\$ -	\$ -	\$ -	0
March 2021	0.17%	\$ -	\$ -	\$ -	0
April 2021	0.19%	\$ -	\$ -	\$ -	0
May 2021	0.19%	\$ -	\$ -	\$ -	0
June 2021	0.15%	\$ -	\$ -	\$ -	0
July 2021	0.15%	\$ -	\$ -	\$ -	0
August 2021	0.14%	\$ -	\$ -	\$ -	0
September 2021	0.14%	\$ 12,900	\$ 12,900	\$ 12,900	2
October 2021	0.14%	\$ -	\$ -	\$ -	0
November 2021	0.14%	\$ -	\$ -	\$ -	0
December 2021	0.18%	\$ -	\$ -	\$ -	0
January 2022	0.26%	\$ -	\$ -	\$ -	0
February 2022	0.23%	\$ 18,400	\$ 7,100	\$ 12,493	15
March 2022	0.35%	\$ 22,300	\$ 1,700	\$ 9,282	22
April 2022	0.84%	\$ 7,700	\$ 2,000	\$ 5,586	7
Jan 19 - Apr 22					

Figure 3-23 SCG Bilateral Intercompany Credit Agreement Activity (in thousands)¹¹⁶

¹¹⁶ Ibid.

Bank-Provided Credit Facility. Avangrid and its seven investment-grade utility subsidiaries are parties to a revolving credit facility with a syndicate of banks. As of December 31, 2021, the maximum borrowings under this credit facility in aggregate were \$3.575 billion.¹¹⁷ The maximum sub-limit available to UI is \$250 million while it is only \$150 million for CNG and SCG. The parties to the agreement are under no obligation to borrow, and as noted previously, the utilities have historically borrowed from the virtual money pool and the bilateral intercompany credit agreement.¹¹⁸

The credit facility is also a backstop to Avangrid's commercial paper program. As of December 31, 2021, there was no amount outstanding under this program.¹¹⁹

3.3.6. Impairments

While the rules governing the U.S. measurement of assets and liabilities for financial statement purposes differs from one asset/liability category to another, the concept of fair value has been adopted for long-lived assets (property, plant, and equipment) that are no longer recoverable. Given the significance that these assets have for capital-intensive businesses such as utilities and power generators, it is important to understand what these write-downs of assets actually represent. In some cases, they represent a change in the business environment that few, if any, could anticipate. In others, they are an indication of the astuteness of past management decisions. Fair value is also a concept that is used in measuring goodwill and other assets. While not perfect, the quantification of asset impairments over time provides an estimate of the amount of consideration paid for an asset that has permanently been lost.¹²⁰

A review of Avangrid and subsidiary financial statements from 2019 to 2021 yielded no instances of impairments recorded by these entities related to property, plant, equipment, goodwill, intangible assets, or investments. While we are not privy to the details of Renewables, the information we do have at our disposal indicates that funds distributed by CT Companies are not being diverted to cover other affiliate losses.

3.4. Rate Cases and Credit Ratings

3.4.1. Rate Case and Regulatory Finance Overview

Not more than every four years, each of the CT Companies files a rate case before the PURA (see Appendix 1: Rates Handbook for more information). As part of a rate case filing, the CT Companies may petition for new allowed capital structure ratios. According to Regulatory Research Associates, a group within S&P Global Market Intelligence, the Connecticut regulatory environment is more restrictive than its peers from an investor perspective. Since August 2021, authorized returns on equity ("ROE") have been well below the average of returns accorded to utilities nationwide and the PURA has been rated as a "Below Average" regulatory environment by S&P Regulatory Research Associates due to stringent electric utility penalties following Hurricane Isaias in August 2020.¹²¹ Despite this, the state of Connecticut is seen as favorable for allowing beneficial ratemaking features, such as revenue decoupling, multi-year rate plans, and purchased gas adjustment clauses. The CT Companies

¹¹⁷ Avangrid 2021 Form 10-K, p. 70.

¹¹⁸ Response to FTI-0727.

¹¹⁹ Avangrid 2021 Form 10-K, p. 70.

¹²⁰ Increases in the fair value of previously impaired long-lived assets do not get recorded as a reversal of an impairment, so there are some instances in which historical impairments do not represent permanent losses.

¹²¹ S&P Regulatory Research Associates, [Connecticut PURA](#).

gained a favorable view with investors after achieving full revenue decoupling and infrastructure cost-recovery mechanisms in their most recent rate cases.¹²²

The CT Companies manage their capital structures to adhere to rate case targets. Once a capital structure is authorized by the PURA through a rate case decision, the Treasury group incorporates the capital structure targets into their short and long-term planning, financial management, and forecasting models. The Treasury models use actual results and projected cash flows, and other parameters to ensure capital structure ratios are managed to their rate case allowed ratios.¹²³ The Treasury group manages the CT Companies’ quarterly dividend payments and long-term and short-term debt issuances in order to maintain their rate case targeted capital structure and maintain solid investment grade credit ratings.¹²⁴

3.4.2. Recent Rate Cases

Figure 3-24 below summarizes PURA’s orders from each of the CT Companies’ most recent rate cases, as compared to the state and national averages. The cases are multi-year rate cases, with different targets for each year of the rate plan; year 1 is shown in Figure 3-24 below.

	UI (2022, proposed)	UI (2017)	CNG	SCG	National Avg. (Gas)	National Avg. (Electric)	National Avg. (Gas)	National Avg. (Electric)	Yankee Gas (Eversource, Gas)	CT Light & Power Co. (Eversource, Electric)
Filing date	09/09/2022	06/01/2016	05/30/2018	05/26/2017	2018	2018	2022	2022	2018	2018
Closing date	N/A	01/11/2017	12/19/2018	12/13/2017						
Equity Capital %	52% equity	50% equity	54% equity	52.19% equity	50.12% equity	49.02% equity	51.38% equity	50.33% equity	53.76% equity	53% equity
Allowed ROE	10.20%	9.10%	9.30%	9.25%	9.59%	9.60%	9.53%	9.52%	9.30%	9.25%

Figure 3-24 Recent CT Company Rate Cases vs. State and National Average¹²⁵

We reviewed the Treasury group’s capital structure tracking model and find that the CT Companies’ current and projected capital structure aligns to the targets agreed upon in their rate cases, generally within a percentage point.¹²⁶ We find that the tracking model is a good tool to manage and maintain the CT Companies’ finances.

¹²² Response to FTI-0274, Atts. 2, 3, 4.

¹²³ Interview with Vice President, Treasury (Howard Coon), October 27, 2022.

¹²⁴ Response to FTI-0129.

¹²⁵ Response to FTI-0130, Atts. 1, 3, 6; S&P Regulatory Research Associates.

¹²⁶ Response to FTI-0267, Att. 1 (confidential).

3.4.3. Capital Structure Alignment

The Regulatory and Planning and Treasury groups work closely to align capital structure targets for short and long-term planning processes. The Regulatory and Planning group provides the Treasury group with the capital ratio target from the latest rate case, and the Treasury group manages to that target via the payment of dividends and issuance of long-term debt.¹²⁷ The Treasury group monitors and manages capital structure, recommends dividends and manages all other debt and equity financings. The Treasury group also provides a monthly report of cash flow and financial results for the CT Companies to the UIL CEO to ensure alignment to financial targets.¹²⁸

The CFO of Avangrid and her Control group review and refine the consolidated LTO in consultation with the Avangrid CEO to ensure that the LTO results in strong investment grade credit ratings for the utility companies and aligns with the capital structures allowed in the most recent rate case decision.¹²⁹ The 2015 Merger Order set additional provisions to ensure the credit of the CT Companies by preventing dividend payments that would result in any of the CT Companies having a common equity percentage lower than 3% below the equity percentage allowed in its most recent rate case, and the maintenance of a minimum investment grade credit rating.¹³⁰

3.4.4. Credit Ratings Overview

3.4.4.1. Current and Historical Credit Ratings

A credit rating is an independent third party's evaluation of a company's creditworthiness used by the market and investors to determine the appropriate pricing for the purchase of debt and other securities. Primary factors that credit ratings agencies consider are consistency and favorability of the regulatory environment, state energy policies, ability to recover costs and earn returns, financial strength (allowed ROE and equity capital structure ratio), and market position. Despite ring-fencing provisions shielding the CT Companies from the actions of its affiliates, business activities of the ultimate parent Iberdrola are considered in credit rating agency reports alongside mentions to separation between the CT Companies and affiliates.¹³¹

Credit ratings for the CT Companies vary by rating agency, as shown in Figure 3-25 below. As of December 2021, all three CT Companies earned an A- (stable) rating from the credit rating agency S&P. Moody's issued a Baa1 rating to UI, an A2 rating to CNG, and an A3 rating to SCG. All credit ratings are investment grade and compare favorably to national average utility credit ratings.

¹²⁷ Interview with Vice President, Controller, Networks (Andrea VanLuling), September 12, 2022.

¹²⁸ Interview with UIL CEO (Franklyn Reynolds), August 19, 2022.

¹²⁹ Interview with CFO, Avangrid (Patricia Cosgel), December 21, 2022.

¹³⁰ Measured using a trailing 13-month average calculated as of the most recent quarter end, exclusive of goodwill. See Response to FTI-0696, Att. 1.

¹³¹ Response to FTI-0274, Atts. 2, 3, 4.

Company	S&P 12/2018	S&P 12/2019	S&P 12/2020	S&P 12/2021	Moody's 12/2018	Moody's 12/2019	Moody's 12/2020	Moody's 12/2021
UI	A-(Stable)	A-(Stable)	A-(Stable)	A-(Stable)	Baa1(Stable)	Baa1(Stable)	Baa1(Stable)	Baa1(Stable) ¹³²
CNG	A-(Stable)	A-(Stable)	A-(Stable)	A-(Stable)	A3(Stable)	A3(Positive)	A3(Positive)	A2(Stable)
SCG	A-(Stable)	A-(Stable)	A-(Stable)	A-(Stable)	A3(Stable)	A3(Stable)	A3(Stable)	A3(Stable)
National Avg. (Regulated Electric)	A-	A-	BBB+	BBB+				
National Avg. (Regulated Gas)	BBB+	BBB+	BBB+	BBB+				

Figure 3-25 Past Four Years of Credit Ratings issued to CT Companies by Agencies S&P and Moody's¹³³

3.4.4.2. Affiliates and Credit Ratings

The CT Companies, per the 2015 Merger Order, have a number of ring-fencing provisions in place that provide structural separation (for credit purposes) from the activities of Avangrid and the Renewables line of business. Beneficial ring-fencing measures include a minimum equity ratio, minimum credit rating, requirements to maintain separate books and records, and prevention of commingling funds.¹³⁴ These ring-fencing provisions bolster the CT Companies' credit ratings and support the CT Companies having a rating higher than Avangrid, the parent company.¹³⁵

3.4.4.3. Recent Credit Rating Changes

Major business decisions can impact the CT Companies' risk profiles, and thus their credit ratings. For the most part, the CT Companies' ratings have remained stable over the past four years, after reviewing recent credit rating agency reports. However, CNG was upgraded in October 2019 from A3 Stable to A3 Positive, and again in July 2021 to A2 Stable.¹³⁶ Moody's upgraded UI to Baa1 Positive in February 2022.¹³⁷

CNG's first upgrade to A3 Positive in 2019 was due to a higher allowed ROE (from 9.18% to 9.30%) and a positively viewed multi-year rate plan comparable with peer utilities.¹³⁸ CNG's second upgrade to A2 Stable in 2021 was due to strong financial performance amidst regulatory uncertainty. CNG's gas distribution asset profile, its 55% equity capitalization (capital structure), and its ability to recover \$25 million worth of infrastructure replacement investments upon expiration of CNG's rate plan were some of the specific reasons cited for the 2021 upgrade.

UI's upgrade to Baa1 Positive by Moody's was a result of a favorable rate settlement agreement in June 2021,¹³⁹ supportive federal regulation of its transmission rate base, and a strong cash flow outlook.¹⁴⁰

¹³² Moody's recently (February 2022) upgraded UI to a "Positive" outlook.

¹³³ Response to FTI-0128, Att. 1.

¹³⁴ Response to FTI-0274, Att. 1.

¹³⁵ Interview with CFO, Avangrid (Patricia Cosgel), December 21, 2022; response to FTI-0130, Att. 1.

¹³⁶ Response to FTI-0128, Att. 2.

¹³⁷ Interview with Vice President, Treasury (Howard Coon), October 27, 2022.

¹³⁸ Response to FTI-0128, Att. 2.

¹³⁹ UI settled with the PURA in June 2021 following Tropical Storm Isaias in August 2020. UI's June 2021 rate settlement agreement approved by the PURA included supportive cost recovery features such as a forward test year, full revenue decoupling, an infrastructure rider mechanism, a 50% equity layer and 9.10% allowed ROE.

¹⁴⁰ <https://www.yahoo.com/now/united-illuminating-company-moodys-changes-001307942.html>

Rating agency reports in recent years have also discussed various activities at the PURA as regulatory policies have a strong, direct impact on the CT Companies' credit outlook.¹⁴¹ Topics discussed have included COVID-19 under-collections and lower tax rates following the 2017 Tax Cuts and Jobs Act resulting in negative cash flow impacts.¹⁴² In December 2020, the impact of House Bill 7006 was also discussed. This Bill requires the consideration of performance-based rates in utility regulation and allows an extension of the PURA's deadlines for rate case decisions.¹⁴³ General political trends are also discussed as considerations. In 2021, references to increased state and PURA scrutiny on electric utilities following their performances during Hurricane Isaias was mentioned, and specifically the penalty on UI following a PURA decision to require a 15-basis point downward adjustment in their future rate case's ROE.^{144,145}

New elements of rating agency consideration are environmental, social, and governance assessments ("ESG"). The CT Companies tend to receive moderate reviews in these areas, including the gas utilities.^{146,147} Social considerations tend to be mixed, noting concerns pertinent to the overall utility industry related to social pressures or public concern around affordability, utility reputation (such as Hurricane Isaias), or public safety.¹⁴⁸ Governance review is moderate, considering Iberdrola's 81.5% ownership as supportive, and balanced with the remaining equity owned by public shareholders.¹⁴⁹

3.5. Affiliate Transactions

3.5.1. Affiliate Corporate Organization and Shared Services Overview

Affiliate transactions consist of costs allocated to the CT Companies by service companies and non-service company transactions with affiliates primarily under the Avangrid umbrella. There are broadly five categories of corporate costs that are allocated to the CT Companies from affiliates: corporate services, personnel assignment (expats), capital recharge (exceptional capital projects), guarantee fees (credit support when Iberdrola/Avangrid is the guarantor), and insurance policies.¹⁵⁰ The bulk of allocated charges are corporate services, also commonly referred to as centralized services, from service companies. Non-service company transactions consist primarily of utility employee services, such as project or internal service support, leased facilities, and electric or gas utility service provided by a utility to an affiliated company, which is often another Networks utility. Service company transactions consist of centralized corporate services. Avangrid has two service companies: AMC and ASC. AMC provides corporate services to both Renewables and Networks, while ASC provides both corporate and technical,

¹⁴¹ For the three CT Companies, the CT PURA is the primary regulatory consideration, however, UI's transmission business (35% of UI's rate base) is FERC regulated and UI's credit rating reports include discussion of FERC transmission ratemaking.

¹⁴² Response to FTI-0274, Atts. 2, 3, 4.

¹⁴³ Ibid.

¹⁴⁴ PURA penalized The Connecticut Light and Power Company ("CL&P") and UI in any pending or future rate proceeding with a downward adjustment of 90 and 15 basis points, respectively, to their allowed ROE.

¹⁴⁵ Response to FTI-0274, Att. 2.

¹⁴⁶ Response to FTI-0274, Atts. 2, 3, 4.

¹⁴⁷ UI's most direct carbon transition exposure comes from its 50% interest in two peaking generation plants (roughly 200 MW each for 100% ownership), housed under GenConn Energy LLC (GenConn, unrated). The operations of these plants adds some business and carbon transition risk; however, GenConn generates less than 5% of UI's consolidated cash flow and are non-core to the transmission and distribution utility's credit.

¹⁴⁸ Response to FTI-0274, Atts. 2, 3, 4.

¹⁴⁹ Ibid.

¹⁵⁰ Response to FTI-0145, Att. 1 (confidential).

utility-specific services shared among the Networks companies. Additionally, UIL provides services similar to those of ASC, but primarily to the three CT Companies.¹⁵¹

Affiliate transactions occur mainly among the Avangrid umbrella of companies, aside from certain global services such as software licenses or other services costs from Iberdrola relating to intercompany services agreements.¹⁵² Iberdrola, the majority shareholder of Avangrid, has minimal interaction with the CT Companies. An “Unaffiliated Committee” at the Avangrid level reviews all transactions between Avangrid and Iberdrola to ensure adequate separation.^{153,154} Furthermore, the CT Companies are completely insulated from other Avangrid affiliates (Renewables and other Networks utilities) by their organizational structure. The UIL Group, a corporate entity situated between Networks and UIL, was created per the 2015 Merger Order to serve as a special purpose entity that protects UIL subsidiaries from any bankruptcy and other proceedings of the other Avangrid affiliates (see Appendix 2: **Merger Conditions**). The UIL Group has no other operational functions, and any UIL Group costs recovered from the CT Companies’ customers are minimal.¹⁵⁵

3.5.2. Effect of the Merger on Affiliate Relations

Avangrid’s affiliate structure as it stands today resembles that of Iberdrola U.S.A. prior to the 2015 Merger, with the addition of UIL and its Connecticut-specific holding company, the UIL Group. Prior to merging, the Iberdrola USA Management Corporation provided shared services to both Renewables and Networks subsidiaries of Iberdrola U.S.A.,^{156,157} while today, this role is split between AMC and ASC. Since the 2015 Merger, most UIL functions and/or employees have been integrated into either ASC or AMC.¹⁵⁸ Certain functions such as the UIL CEO and the Vice President of Regulatory Affairs remain within UIL, and the Company has no plans to move them due to their sole focus on the CT Companies.¹⁵⁹

The 2015 Merger Order’s ring-fencing provisions insulate UIL from adverse financial impacts of other Avangrid subsidiaries.¹⁶⁰ The 2015 Merger Order includes a special provision that requires a “Golden Unit” (often referred to as a “Golden Share”) that operates as a key vote whose approval from an independent third party is required for certain major decisions. The UIL Group, who holds this Golden Share, was created as a special purpose entity that specifically protects the UIL subsidiaries from bankruptcy proceedings of the other Avangrid affiliates. The function of the Golden Share is outsourced to an administrative company (GSS Holdings) whose specialty is protecting special purpose entities. Decision-making that requires the approval from the Golden Unitholder includes the UIL Companies entering bankruptcy or undergoing reorganization, in addition to matters relating to mergers, consolidations, asset sales, official appointments, creditor assignment, admitting inability to pay debt, or dissolution or liquidation of UIL.^{161,162}

¹⁵¹ The UIL service company is a legacy structure of UIL carried over after the 2015 merger.

¹⁵² Interview with Senior Director of Control (Guillermo Fernandez Ruiz de Asua), September 21, 2022.

¹⁵³ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), December 5, 2022.

¹⁵⁴ Response to FTI-0276.

¹⁵⁵ Response to FTI-0268.

¹⁵⁶ Energy East Management Corporation was the predecessor of Iberdrola USA Management Corporation, see Iberdrola, U.S.A. Form S-4 (July 17, 2015).

¹⁵⁷ Iberdrola, U.S.A. Form S-4 (July 17, 2015).

¹⁵⁸ Response to FTI-0610.

¹⁵⁹ Ibid.

¹⁶⁰ Response to FTI-0274, Att. 2.

¹⁶¹ Response to FTI-0268.

¹⁶² Response to FTI-0268; response to FTI-0276, Att. 1 (confidential).

3.5.2.1. Ring-fencing Tracking

The 2015 Merger Order included over 50 conditions that Avangrid must adhere to. The ring-fencing provisions allow for a high degree of structural separation for credit purposes for UIL and the three CT Companies from Avangrid and its subsidiaries.¹⁶³ Each quarter, the Treasury group reports on the CT Companies' compliance with the ring-fencing merger commitments in a spreadsheet shared with relevant organizations.¹⁶⁴ The Treasury group also prepares memos in connection with the approval of dividend payments, which are sent to Avangrid Board members through the Networks Legal group.¹⁶⁵

Within Networks are eight regulated utilities, including the three in Connecticut.¹⁶⁶ These companies participate in a money pool exclusive to these utilities. As specified by the 2015 Merger Order, the CT Companies only participate in the money pool with other U.S. regulated utilities' affiliates. The Networks utilities also have a one-way loan agreement with Avangrid which allows the CT Companies to borrow from, but not lend to, Avangrid.^{167,168} See Section 3.3 above for more detail on money sharing agreements and processes.

3.5.3. Centralized Services Transactions

Avangrid has significant transactional relationships with its majority shareholder, Iberdrola, and among its utility and non-utility subsidiaries in the United States. Our goal in this management audit was to document these transactions in terms of type and magnitude, review controls in place to ensure intercompany transactions are properly authorized, charged and recorded, and consider the impact of the relationships and transactions on the CT Companies. However, this was not a detailed affiliate transactions audit. Affiliate transactions affecting the CT Companies consist primarily of centralized services transactions flowing from service company providers, and this is where we focused most of our effort.

Four separate companies provide services whose costs flow to the CT Companies. These include:

- Iberdrola, which provides global management, governance, software platform licensing, and other corporate-level services to Avangrid.
- AMC, which provides centralized corporate services to all of Avangrid's U.S. operating companies.
- ASC, which provides centralized corporate and technical services primarily to Avangrid's seven distribution utilities in the Northeast, but also small amounts of service to several minor subsidiaries, primarily involved in electric transmission.
- UIL, which provides certain services common to Avangrid's three CT Companies, UI, CNG and SCG.

Avangrid describes its centralized services cost distribution process as one in which costs cascade from top to bottom. International costs from Iberdrola are allocated to AMC at which point they become part of AMC's costs. AMC's costs are partially allocated to ASC, ASC's costs, including costs allocated from AMC, are partially allocated to UIL. Finally, UIL allocates all costs attributable to Connecticut from all higher levels to UI, CNG and SCG. This flow is shown below in Figure 3-26.

¹⁶³ Response to FTI-0271.

¹⁶⁴ Response to FTI-0696.

¹⁶⁵ Ibid.

¹⁶⁶ Interview with Vice President, Treasury (Howard Coon), October 27, 2022.

¹⁶⁷ Response to FTI-0268.

¹⁶⁸ Interview with Vice President, Treasury (Howard Coon), October 27, 2022; interview with Vice President of Finance (Alvaro Ortega), November 17, 2022; response to FTI-0125.

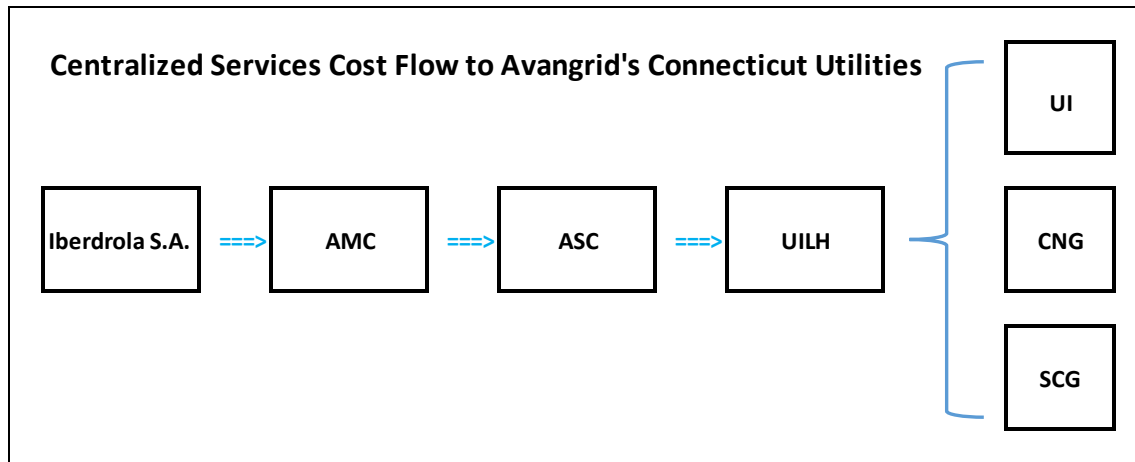


Figure 3-26 Avangrid Centralized Services Cost Flow

The following table (Figure 3-27) summarizes costs incurred during the years 2019 through 2021 which were incurred by and allocable to the CT Companies from U.S.-based centralized services providers.

Centralized Service Costs Incurred by Entity			
Service Co.	2019	2020	2021
Avangrid Mgt. Co.			
Allocated from Iberdrola	\$ 34,442,028	\$ 36,392,378	\$ 35,582,532
Incurred in the U.S. by AMC	110,606,510	117,255,779	129,391,184
Avangrid Service Co.			
Corporate Services	56,416,258	62,553,767	69,169,573
Technical Services	48,409,373	61,868,738	75,018,654
UIL Holdings Co.	90,671,447	54,960,433	39,566,166
Total Service Co. Costs	\$340,545,616	\$333,031,096	\$348,728,109
Centralized Service Costs Allocable to Connecticut			
Service Co.	2019	2020	2021
Avangrid Mgt. Co.			
Allocated from Iberdrola	\$ 6,196,341	\$ 7,150,647	\$ 7,483,024
Incurred in the U.S. by AMC	24,303,855	26,734,265	30,429,990
Avangrid Service Co.			
Corporate Services	11,376,255	12,703,869	17,009,607
Technical Services	6,908,546	13,429,360	16,948,983
UIL Holdings Co.	86,655,185	51,221,129	39,566,166
Total Costs Allocable to CT.	\$135,440,182	\$111,239,270	\$111,437,770

Figure 3-27 Centralized Service Cost Incurred by Entity¹⁶⁹

3.5.4. AMC

AMC provides corporate management and administration for Avangrid's U.S.-based operations, including the regulated line of business, Networks, and Renewables, the holding company for Avangrid's non-regulated line of business. In addition to its own costs, AMC is the conduit through which allocations from Avangrid's parent company Iberdrola flow to Avangrid's subsidiaries.

¹⁶⁹ Response to FTI-0622, Att. 1; response to FTI-0308, Att. 1.

3.5.4.1. AMC Staffing

AMC's staffing includes Avangrid's senior executive team (Avangrid CEO, Avangrid CFO, Avangrid Senior Vice President of Corporate Development, and others).¹⁷⁰ It includes corporate administrative functions that benefit all U.S. operations. Figure 3-28 below summarizes AMC's staffing by corporate function.

Corporate Function	Dec 31 2019	Dec 31 2020	Dec 31 2021	Sept 30 2022
Administration (Transactional Accounting)	39	50	49	45
Communication	7	13	14	17
Control (Financial Planning, Accounting & Reporting)	39	40	38	38
General Services (Office, Fleet & Building Services)	15	32	36	41
Human Resources	61	77	75	83
Info Tech	47	54	58	73
Internal Audit	12	14	13	14
Legal	12	12	14	13
Procurement	37	18	19	24
Security	20	21	25	37
Tax	13	12	13	7
Treasury	14	14	13	13
All Others	41	36	47	41
Totals	357	393	414	446

Figure 3-28 AMC U.S. Staffing Levels¹⁷¹

AMC has grown over the past three years in part due to the transfer of Connecticut employees as Avangrid and UIL continued to integrate their operations.¹⁷² At the end of 2019, there were 165 AMC employees based in Connecticut. At the end of September 2022, there were 225 Connecticut-based AMC employees. The 60 additional Connecticut employees, nearly all of whom are based in Orange, account for about two-thirds of AMC's staffing growth.

3.5.4.2. Iberdrola SA and AMC Costs and Allocations to Connecticut

We asked Avangrid to prepare an analysis of AMC's costs and cost allocations for the years 2019 through 2021 from data in its SAP accounting system. Distributions of costs charged by Iberdrola to AMC and U.S. corporate costs originating in AMC are summarized for the review period below in Figure 3-29.

¹⁷⁰ Response to FTI-0480, Att. 1.

¹⁷¹ Ibid.

¹⁷² For example, Avangrid's corporate level Human Resources management is based in Orange, CT.

Iberdrola and AMC Corporate Cost Allocations to Subsidiaries by Function 2019, 2020 & 2021 Combined							
Corporate Function	Avangrid Inc. and Unallocated	Avangrid Renewables	NYSEG & RG&E	CMP	UIL Holdings (2019 & 2020) & CT Utilities (2021)	All Other Subsidiaries	Total
IBERDROLA (SPAIN)							
Information Technology	\$ 19,677	\$ 10,063,292	\$ 15,131,378	\$ 5,663,055	\$ 8,364,828	\$ 132,948	\$ 39,375,178
Human Resources	4,048	992,265	3,034,103	1,071,066	1,841,183	34,682	6,977,347
Management Control	-	2,580,148	3,884,176	1,404,506	1,697,679	77,872	9,644,380
Tax	-	1,874,714	2,569,711	929,258	1,596,230	52,286	7,022,200
Administration	5,591	1,343,621	2,937,978	1,073,667	937,650	63,942	6,362,447
Purchasing	2,041	4,562,843	5,476,356	1,730,363	2,025,289	238,397	14,035,288
Legal	-	2,154,712	2,953,283	1,068,194	1,814,954	59,777	8,050,921
Finance & Treasury	1,003,156	452,092	950,981	430,137	1,016,797	121,023	3,974,186
All Others (1)	163,547	3,354,762	4,441,844	1,509,342	2,465,446	61,487	11,996,428
IBERDROLA Total	\$ 1,198,060	\$ 27,378,450	\$ 41,379,809	\$ 14,879,587	\$ 21,760,057	\$ 842,414	\$ 107,438,376
Percentages	1%	25%	39%	14%	20%	1%	100%
AMC (USA)							
General Services	148,063	4,329,965	12,180,321	4,291,943	6,555,796	219,542	27,725,629
Security	46,837	2,477,263	7,332,116	2,590,291	4,296,078	121,435	16,864,019
CEO & CEO's Office	6,842,831	7,360,328	10,093,619	3,653,902	6,184,195	731,480	34,866,355
Board & Board Secretary	-	2,749,321	3,768,592	1,362,822	2,331,146	69,618	10,281,499
Information Technology	21,201	5,349,607	18,747,440	6,647,544	8,458,311	168,164	39,392,268
Human Resources	113,317	9,610,264	29,344,235	10,374,301	17,764,170	358,585	67,564,873
Management Control	130,523	6,508,873	9,857,675	3,575,793	4,528,995	216,437	24,818,295
Tax	56,099	9,478,474	12,996,954	4,701,410	8,105,001	264,149	35,602,088
Administration	44,353	3,254,591	6,985,543	2,492,583	4,019,715	176,574	16,973,358
External Audit	-	3,087,156	4,231,869	1,529,197	2,687,869	76,365	11,612,455
Purchasing	2,148	5,167,006	5,908,691	1,876,129	2,255,172	259,234	15,468,379
Legal	477,126	3,200,803	4,330,188	1,553,732	2,666,077	638,661	12,866,586
All Others (2)	2,633,568	12,974,215	17,092,150	6,827,934	10,685,542	705,048	50,918,458
USA Total	\$10,516,065	\$ 75,547,867	\$ 142,869,392	\$ 51,477,581	\$ 80,538,066	\$ 4,005,292	\$ 364,954,263
Percentages	3%	21%	39%	14%	22%	1%	100%
Grand Total	\$11,714,125	\$ 102,926,317	\$ 184,249,201	\$ 66,357,168	\$ 102,298,122	\$ 4,847,706	\$ 472,392,639
<p>Note 1: Others include General Services (Office & Building), Environmental & Quality, Security, Business Ops & Regulation & Insurance.</p> <p>Note 2: Others include Internal Audit, Communication, "Centralized," Business Ops & Regulation, Insurance, Corp. Development, Finance & Treasury, Risk Mgt. and Investor Relations.</p>							

Figure 3-29 Iberdrola and AMC Corporate Cost Allocations to Subsidiaries by Function 2019, 2020, & 2021 Combined¹⁷³

Broken out by year, Iberdrola and AMC costs and cost distributions to Connecticut were as follows:

¹⁷³ Response to FTI-0308, Att. 1.

Year	Total	Allocated to Connecticut	Connecticut Percentage
Allocated from Iberdrola (Spain) to AMC			
2019	\$ 35,960,853	\$ 6,656,656	19%
2020	33,162,538	6,730,942	20%
2021	38,314,985	8,372,458	22%
Incurred by AMC (U.S.)			
2019	108,926,835	23,843,540	22%
2020	119,826,936	27,153,970	23%
2021	136,200,492	29,540,556	22%

Figure 3-30 AMC Cost Distributions by Year¹⁷⁴

3.5.4.3. Costs Allocated from Iberdrola

A portion of AMC’s costs consists of charges for services allocated from Iberdrola. These include corporate management and administrative services incurred primarily in Spain and allocated principally among Iberdrola’s “country-level” companies in Spain, the United States (Avangrid), the United Kingdom, Brazil, and Mexico. The costs are for services contracted through an intercompany agreement between Avangrid and Iberdrola, and represent various corporate functions including purchasing, control, information technology and other functions. As shown in Figure 3-30 above, costs allocated from Iberdrola added approximately \$7 million annually to CT Company operating expenses during our review period.

3.1.1.1. Nature and Types of Costs Allocated by AMC

Centralized services costs allocated to Connecticut lose their identity through Avangrid’s cascade allocation process. Although Avangrid was able, with some customized effort, to break AMC’s costs out for analysis purposes as shown in Figure 3-29 above, Connecticut management sees allocations from all higher-level entities (Iberdrola, AMC, and ASC) as a single intercompany line item charge in their utility budgets.¹⁷⁵ Although AMC’s activities and costs appear necessary to manage and administer the operations of Avangrid’s utility subsidiaries, included within the allocations are costs that may or may not be considered by state regulators to be reasonable and necessary for operation of the local utilities. We were able to identify relatively small amounts of such costs in AMC’s accounting detail. Amounts allocable to Connecticut are shown below. The data shows they were assigned to above-the-line FERC accounts 920 (A&G Salaries Expense) and 930 (General Advertising and Miscellaneous & General Expense).

¹⁷⁴ Ibid.

¹⁷⁵ Response to FTI-0608.

Expense Item	FERC Account Charged	Amounts Allocated to Connecticut			
		2019	2020	2021	Total
Brand and Image, Brand Services	930	\$ 82,884	\$ 91,742	\$ 129,232	\$ 303,858
Regulation AMC - EEI / Assoc. Dues	930	200,986	202,803	202,485	606,274
Regulation AMC Lobbying Exp.	920	73,004	79,043	112,301	264,348
Donations	920	108,202	33,899	160,745	302,846
Business / Corporate Development	920	219,086	334,776	234,241	788,103
Total		\$ 684,162	\$ 742,263	\$ 839,004	\$ 2,265,429

Figure 3-31 AMC - Expense Items Often Excluded by Regulations from Rate Recovery¹⁷⁶

3.5.4.4. AMC Cost Distributions by Allocation Method

We performed a high-level analysis of AMC's distribution of costs to operating subsidiaries. Cost distribution methods and amounts are summarized in Figure 3-32.

Allocation Method	Method Pct. Total	Used Primarily For	Avangrid, Inc.	Avangrid Renewables	NYSEG & RG&E	CMP	UIL CNG & SCG Combined (1)	All Other Subsidiaries	Totals
CONSUMPTION BY BUSINESS	5%	Information Technology IOC (Security) and "Digital Innovation & Architecture"	\$ 15,538	\$ 3,815,120	\$ 13,124,398	\$ 5,086,476	\$ 3,260,026	\$ 85,696	\$ 25,387,254
			0%	15%	52%	20%	13%	0%	100%
MASSACHUSETTS FORMULA	40%	Bd of Directors, CEO's Office, "Control" (Fin.Accting, Analysis & Reporting), Tax, Legal, Int. Audit & Regulatory	-	49,053,792	68,789,761	24,873,881	40,030,192	1,354,019	184,101,646
				27%	37%	14%	22%	1%	100%
NUMBER OF INVOICES	3%	Corporate Administrative Labor - SAP Support, Help Desk, Quality Reporting, Sundry Billing & Collection	13,818	3,342,066	6,567,331	2,358,033	1,694,828	193,991	14,170,068
			0%	24%	46%	17%	12%	1%	100%
NUMBER OF PEOPLE IN CORP. BUILDINGS	4%	Real Estate Leases, Facilities Management & Security	160,871	3,177,304	8,351,960	2,982,076	4,175,277	184,563	19,032,052
			1%	17%	44%	16%	22%	1%	100%
NUMBER OF PEOPLE PER BUSINESS	29%	Human Resources Services, "General" Business Support Services, Info Tech Corporate Mgt., Project Mgt Office	73,036	19,067,568	58,219,412	20,572,782	35,267,361	704,466	133,904,626
			0%	14%	43%	15%	26%	1%	100%
VALUE OPEN PURCHASE ORDERS	6%	Procurement Services	4,189	9,729,849	11,345,708	3,606,491	4,222,027	485,646	29,393,910
			0%	33%		12%	14%	2%	100%
ALL OTHERS	13%	Various	3,415,516	14,599,255	17,850,631	6,877,428	13,648,410	1,847,524	58,238,764
			6%	25%	31%	12%	23%	3%	100%
TOTAL ALLOCATED	100%		\$ 3,682,967	\$ 102,784,956	\$ 184,249,201	\$ 66,357,168	\$ 102,298,125	\$ 4,855,902	\$ 464,228,319
			1%	22%	40%	14%	22%	1%	100%
UNALLOCATED		Internal labor in 2020 and 2021 charged to a corporate project.							8,164,320
TOTAL AMC			\$ 3,682,967	\$ 102,784,956	\$ 184,249,201	\$ 66,357,168	\$ 102,298,125	\$ 4,855,902	\$ 472,392,639

Note 1: Distributed to UILH in 2019 & 2020. Individual utility allocations were identified at AMC in 2021.

Figure 3-32 AMC Cost Distributions by Allocation Method, 2019, 2020, & 2021 Combined¹⁷⁷

¹⁷⁶ Response to FTI-0308, Att. 1.

¹⁷⁷ Ibid.

Notable observations include:

- Nearly all AMC costs are allocated, rather than directly charged to specific subsidiaries. One exception is the “Monoclient Driver,” which directly assigned SAP licensing and related charges from Iberdrola to specific subsidiaries.
- Two allocation methods, the Massachusetts Formula and Number of People, account for almost 70% of total costs distributed from AMC during the three years 2019 through 2021.
- Unallocated costs consisted, in part, of amounts directly charged to a corporate project (Project Platinum) which Avangrid did not consider allocable to any subsidiary.

To test the overall reasonableness of AMC’s allocations, we compared the percentages of costs distributed to Avangrid’s two lines of business (Renewables and Networks) and to Connecticut with an average of six measures of subsidiary financial size obtained from publicly available financial information.¹⁷⁸ Cost distributions between the regulated Networks line of business and the unregulated Renewables line of business, as well as distributions between the CT Companies and all other Avangrid subsidiaries appear reasonable compared with relative subsidiary financial size, as shown below in Figure 3-33.

Business Segments	AMC Cost Distributions	Relative Subsidiary Financial Size
2019		
Avangrid Renewables	23%	23%
Avangrid Networks	77%	77%
AG Networks Connecticut	22%	23%
2020		
Avangrid Renewables	23%	21%
Avangrid Networks	77%	79%
AG Networks Connecticut	22%	24%
2021		
Avangrid Renewables	21%	23%
Avangrid Networks	79%	21%
AG Networks Connecticut	23%	23%

Figure 3-33 AMC Cost Distributions Relative to Subsidiary Size¹⁷⁹

3.5.5. ASC

ASC centralizes many of the corporate and higher-level technical functions attributable to Avangrid’s regulated Networks segment and its distribution utility subsidiaries.

3.5.5.1. ASC Functions and Staffing

ASC provides both technical and corporate support services to the Networks line of business. Total staffing increased 31% between the end of 2019 and September 30, 2022. Much of the staffing increase can be attributed to transfers from the UI Companies to ASC. At the end of 2019, ASC had 109 employees based in Connecticut. As of September 30, 2022, it had 207 ASC employees based in Connecticut. Positions transferred from UIL and the

¹⁷⁸ Operating revenue, operating expense, Operations and Maintenance (“O&M”) expense, operating income, net property, plant and equipment and total assets. The amounts were obtained from Avangrid Forms 10-K for the years 2019, 2020 and 2021.

¹⁷⁹ Response to FTI-0308, Att. 1; Forms 10-K for 2019-2021, Segment Information (Size measures).

CT Companies into ASC include Electric Planning and Coordination (approximately 16 full time employees (“FTEs”), Information Technology (approximately 13 FTEs), Process and Technology (approximately 23 FTEs) and Smart Grids organizations (approximately 13 FTEs). Figure 3-34 below summarizes ASC’s Lines of Business, functions, and staffing during our review period.

Line of Business	Primary Functional Areas	Primarily Corporate or Technical	Dec 31 2019	Dec 31 2020	Dec 31 2021	Sept 30 2022
Asset Management & Planning (2019-2021) / Planning & Coordination (2022)	Transmission & Substation Planning, Project Planning & Mgt, Transmission Business Development, Non-Wires Alternatives	Technical	13	23	30	48
Corporate Administration	General Services -Property, Energy & Land Mgt. (2019-2022), Fleet Services (2019-2021)	Corporate	32	24	26	23
	Health & Safety - Training, Engineering, Compliance & Wellness (2022) Part of HR in 2019 & 2020		23	28	27	20
	Procurement (Part of Finance 2020-2021)		-	12	12	12
	Physical Security, Fire Protection, NERC Compliance (2019 & 2020)		12	14	7	4
Customer Service	Business Support & Solutions, Cust. Relations Center B&C Support, Sundry B&C (2019, 2020) Cust. Experience, Programs & Products, Workforce Mgt. & Quality, Vendor Performance Mgt. Field Relationship Mgt. NY	Technical	17	31	32	40
Electric T&D Operations (1)	Substation Projects, Emergency Mgt., T&D Performance & Budgets, Integrated Planning & Construction.	Technical	19	24	20	5
Finance Control / Finance Admin	Networks Business Analysis / Planning, Networks Accting & Reporting, Sundry Billing, Risk Mgt.	Corporate	39	43	44	47
Gas Engineering / Gas Operations	Gas Engineering / Gas Operations	Technical	2	6	7	8
Human Resources	Networks Technical Training, Networks HR Mgt, Networks Labor Relations, General HR	Corporate	32	28	26	21
Information Technology	Networks Information Technology	Corporate	89	94	85	81
Legal / Compliance	Networks Legal, Networks Compliance	Corporate	18	18	20	17
Process & Technology	Materials Planning, Resource Planning, Testing Substation Mgt., Network Protection & Control, Quality Mgt. Contract Mgt., Technical Processes	Technical	35	44	63	77
Projects	Project Mgt Offices, Electric System Project Planning, Engineering, Cost Control, Management, Delivery	Technical	21	21	30	21
Regulatory	Regulatory Affairs, Revenue Requirements, Strategy, Services, Tariffs	Technical	11	13	15	21
Reliability & Emergency Prep	NERC Compliance, Operational Readiness, Emergency Management	Technical			15	14
Smart Grids / Operational Smart Grids / Smart Grids Innovation / Operational Excellence / Digitalization Planning	Smart Grids Infrastructure, Applications, Planning, Energy Control, Security, Telecom, Smart Metering, Innovation, Planning, Cyber Assurance	Technical	75	100	113	112
All Others	Networks Business Development, Bus. Planning, Internal Audit, Performance & Budgets, Office of CEO, UI Presidents Office	Both	32	37	42	45
Totals			470	560	614	616

Note 1: Most functions were distributed to Planning & Coordination, Reliability & Emergency Prep and Perf. & Budgets in 2022.

Figure 3-34 ASC Functions and Staffing Levels¹⁸⁰

¹⁸⁰ Response to FTI-0480, Att. 1.

3.5.5.2. ASC Costs

As noted above, ASC serves the Networks (regulated utilities) line of business and includes both corporate and technical organizations, functions, and services. The functional amounts charged to the operating companies and other Networks subsidiaries during the three-year review period are summarized below in Figure 3-35.

ASC Cost Distributions by Function 2019, 2020 & 2021 Combined									
Corporate Functions	NYSEG	RG&E	CMP	UIL	CNG	SCG	UIL Holdings	All Others	Total
General Services	\$ 8,118,050	\$ 3,673,336	\$ 4,009,686	\$ 1,082,254	\$ 305,788	\$ 324,600	\$ 3,168,404	\$ 264,307	\$ 20,946,426
Communication	1,151,298	479,450	552,792	206,884	58,586	62,190	626,894	19,753	3,157,846
Security	2,712,282	1,263,857	1,399,751	470,148	130,778	138,823	888,251	58,666	7,062,558
Info Technology	36,839,461	17,129,584	18,666,762	4,047,483	1,146,167	1,216,681	6,615,265	283,932	85,945,335
Human Resources	11,694,282	4,654,524	5,736,984	2,200,037	621,407	659,637	6,506,159	181,005	32,254,036
Management Control	5,951,938	3,152,883	3,293,325	1,188,640	336,599	357,307	2,334,674	426,440	17,041,806
Purchasing	721,723	237,601	281,756	209,057	59,201	62,843	-	57,320	1,629,500
Legal Services	3,910,772	2,053,198	2,145,370	804,894	227,197	241,174	2,379,215	120,290	11,882,110
All Other Corporate	2,895,767	1,470,483	1,567,572	537,649	152,112	161,470	1,561,261	129,502	8,475,816
Corporate Svcs Total	\$ 73,995,573	\$ 34,114,917	\$ 37,653,997	\$ 10,747,046	\$ 3,037,835	\$ 3,224,726	\$ 24,080,124	\$ 1,541,215	\$ 188,395,432
Technical Functions	NYSEG	RG&E	CMP	UIL	CNG	SCG	UIL Holdings	All Others	Total
Asset Management	\$ 4,222,214	\$ 2,254,058	\$ 2,810,800	\$ 685,297	\$ 11,101	\$ 14,372	\$ 913,871	\$ 241,446	\$ 11,153,158
Business Development	979,185	499,858	1,799,657	-	-	-	742,415	987,691	5,008,808
Customer Service	3,737,651	2,786,608	2,150,849	121,450	58,445	59,860	1,927,957	85,444	10,928,263
Electric Operations	10,960,973	8,164,189	7,959,621	5,259,060	316,339	324,003	3,147,765	517,375	36,649,325
Executive & Governance	14,305,005	7,228,898	7,576,964	118,592	30,576	47,395	11,690,248	791,366	41,789,043
Gas Operations	819,374	802,884	-	-	565,877	521,550	449,667	694,155	3,853,507
Ops Technology (1)	19,863,436	7,773,031	8,918,955	352,726	43,561	47,565	4,843,286	15,487	41,858,047
Process & Technology (2)	6,836,545	4,350,752	6,595,612	1,801,999	-	-	3,164,798	501,242	23,250,948
Regulatory	2,693,159	1,571,342	2,239,502	194	76,445	107,129	2,810,682	137,748	9,636,200
All Other Technical	240,219	139,694	321,958	29,744	97,967	116,064	168,862	54,955	1,169,464
Technical Svcs Total	\$ 64,657,762	\$ 35,571,314	\$ 40,373,917	\$ 8,369,062	\$ 1,200,311	\$ 1,237,937	\$ 29,859,552	\$ 4,026,909	\$ 185,296,764
ASC Total	\$ 138,653,335	\$ 69,686,230	\$ 78,027,914	\$ 19,116,108	\$ 4,238,146	\$ 4,462,664	\$ 53,939,676	\$ 5,568,124	\$ 373,692,196
Subsidiary Percentages	37%	19%	21%	5%	1%	1%	14%	1%	100%

Source: Response to FTI-622, Attachment 1.
 Note 1: Operations Technology includes Smart Grid, AMI, Telecom Engineering, GIS / Mapping, Energy Control, some storm expenses.
 Note 2: Process & Technology includes Quality Management, Environmental, Electric Maintenance & Engineering (substations, transmission), Technical Reporting

Figure 3-35 ASC Cost Distribution by Function 2019, 2020, & 2021 Combined¹⁸¹

Viewed on an annual basis, ASC costs and percentages allocated to Connecticut increased as Avangrid transferred Connecticut-based employees from UIL and the CT Companies into ASC.

Year	Total	Charged to Connecticut	Connecticut Percentage
2019	\$ 104,825,631	\$ 21,633,790	21%
2020	124,422,504	26,133,229	21%
2021	144,444,061	33,989,575	24%

Figure 3-36 ASC Cost Distributions by Year¹⁸²

3.5.5.3. ASC Cost Distributions by Allocation Method

Below is a comparison of amounts distributed to the state-level utility business in the Networks line of business by allocation method. The increasing Connecticut amounts and percentages are consistent with the transfer of Connecticut employees from UIL and the utilities into ASC, as discussed above.

¹⁸¹ Response to FTI-0622, Att. 1.

¹⁸² Ibid.

Allocation Method	Primarily Used For	Method % of Total	New York (NYSEG & RG&E)	Maine (CMP)	Connecticut (UILH, UI, CNG, SCG)	All Other	Total
Corporate Services							
CONSUMPTION BY BUSINESS	IT & IT Security	35%	\$ 40,534,213	\$15,713,099	\$ 9,208,531	\$ 186,277	\$ 65,642,120
MASS FORMULA	Exec. & Governance, Accounting, Financial Reporting)	20%	20,964,050	6,881,247	10,091,609	353,284	38,290,190
NUMBER OF IT WORKSTATIONS	IT Desktop Applications	4%	4,039,001	1,508,114	1,851,246	4,726	7,403,088
MONOCLIENT DRIVER	Various	3%	4,039,759	422,924	859,797	494,746	5,817,226
No. PEOPLE IN CORPORATE BLDGS	Building & Facilities Mgt, Support, Security	11%	11,715,091	4,078,957	4,345,113	88,098	20,227,259
No. PEOPLE PER BUSINESS	Communications, Human Resources, General Services	23%	22,064,572	7,782,971	13,105,450	177,921	43,130,914
All Others	Various	4%	4,753,804	1,266,685	1,627,984	236,162	7,884,636
Corporate Services Total		100%	\$ 108,110,490	\$37,653,997	\$41,089,731	\$1,541,215	\$ 188,395,432
Technical Services							
CONSUMPTION BY BUSINESS	Business Dev., Exec. & Governance	2%	\$ 1,890,097	\$ 653,113	\$ 962,895	\$ (0)	\$ 3,506,105
MASS FORMULA	Cust. Svc., Electric Ops, Gas Ops., Process & Technology, Energy Control	51%	50,817,622	16,377,160	26,570,369	220,620	93,985,771
DIRECTLY CHARGED	Asset Mgt., Cust. Svc., Elect. Ops, Gas Ops, Process & Technology	47%	47,521,357	23,343,644	13,133,598	3,806,289	87,804,887
Technical Services Total		100%	\$ 100,229,076	\$40,373,917	\$40,666,862	\$4,026,909	\$ 185,296,764
ASC Total			\$ 208,339,565	\$78,027,914	\$ 81,756,593	\$5,568,124	\$ 373,692,196
Allocation Percentages			56%	21%	22%	1%	100%

Figure 3-37 ASC Cost Distributions by Allocation Method 2019, 2020 & 2021 Combined¹⁸³

Observations from analysis of ASC's cost distribution data include:

- A large proportion (48%) of total ASC costs are distributed using the Massachusetts formula.
- The Massachusetts formula was used to distribute approximately \$11 million in customer service costs. A case can be made that customer counts would be a better allocator for customer service expenses than a composite of assets, margin, and personnel costs.
- Unlike AMC's and ASC's corporate services, which were mostly allocated, nearly half of ASC technical services were directly charged. During the three-year period we reviewed, a disproportionately high percentage of directly charged expenses (82%) were assigned to the New York and Maine utilities. Only 15% were assigned to Connecticut, probably because costs directly chargeable to Connecticut were incurred primarily by UIL.
- Most ASC costs charged to the CT Companies during the years 2019 through 2021 were first allocated to UIL using the Massachusetts formula. From that point, they were further allocated to the CT Companies using a different Massachusetts formula calculation.

¹⁸³ Ibid.

- Certain ASC technical costs were directly charged to UIL and the CT Companies, as shown in Figure 3-38.

Technical Function	UIL Holdings	UIL	CNG	SCG
Asset Management	\$ 346,804	\$ 685,297	\$ 11,101	\$ 14,372
Customer Service	475,112	121,450	58,445	59,860
Electric Operations	617,459	5,256,410	316,339	324,003
Executive & Governance	(395,590)	118,592	30,576	47,395
Gas Operations	60,458	-	565,830	521,550
Marketing & Comm.	-	29,744	97,967	116,064
Operations Technology	342,693	352,347	43,561	47,565
Process & Technology	698,280	1,801,266	-	-
Regulatory	184,879	194	76,445	107,129
Totals	\$ 2,330,096	\$ 8,365,301	\$ 1,200,264	\$ 1,237,937

Figure 3-38 ASC Direct Charges to Connecticut Subsidiaries, 2019-2021¹⁸⁴

- Direct charges to CNG and SCG from ASC’s Electric Operations function occurred primarily in 2020. These charges relate to Primavera, a scheduling and planning software package that CNG and SCG use. Although they appear as direct charges, they were in fact an allocation of Primavera software costs to all six of Avangrid’s major utilities, with SCG and CNG each receiving slightly more than 5% of the total, UIL receiving 16% and the New York and Maine utilities receiving the remainder.¹⁸⁵ When we asked Avangrid about these charges, Avangrid described them as a vlookup error and stated that they should have been aligned with the Purchasing function rather than Electric Operations.¹⁸⁶

Recommendation: We recommend service company customer service costs currently allocated by ASC and UILH using the Massachusetts formula be allocated using a more attributable customer-based allocation factor. We recognize this may require several cost pools and customer-based factors, depending on the services being provided.

3.5.6. UIL

Prior to the 2015 Merger, UIL served as a centralized service company for the CT Companies. UIL and ASC provide similar centralized corporate and technical functions and services to the Networks utilities, the key difference being that UIL provides them mainly to the Connecticut subset of companies.

3.5.6.1. UIL Functions and Staffing

During the 2019-2021 review period, UIL provided Customer Service, Accounting, IT, and Regulatory services. Staffing decreased by 24 FTEs between the end of 2019 and September 30, 2022. It appears this was due primarily to the transfer of accounting positions in the Finance group to ASC. However, the number of Customer Service positions increased slightly as Avangrid transformed the Customer Service function to a more state-focused group. Figure 3-39 below summarizes UIL staffing during our review period.

¹⁸⁴ Ibid.

¹⁸⁵ Analysis of data, response to FTI-0622, Att. 1.

¹⁸⁶ Response to FTI-0623-A.

Line of Business	Primary Functional Areas	Primarily Electric, Gas or Common	Dec 31 2019	Dec 31 2020	Dec 31 2021	Sept 30 2022
Asset Mgt & Planning	Non-Wires Alternatives (2019)	Electric	2			
Corporate Security	NERC Compliance	Electric	1			
Customer Service	Sales & Sales Support, Market & Bus Development, Bus. Engineering, Field Relationship Mgt, Research & Strategic Comm. (ME & CT), Cust Svc. Quality, Cust. Svc. Programs, BKO Energy Services (2020, 2021)	Common	65	65	69	69
Finance Control & Finance Administration	Budgets & Planning, General & Property Accounting (2019 & 2020), Financial Reporting (2019 & 2020), Transactional Accounting, Energy & Derivative Accounting (2021),	Common	32	17	8	8
Gas Operations	ETD Logistics	Gas	1	1	1	1
General Services	Real Estate Svcs (2019 & 2020), Bldg Projects & Space Mgt. (2019-2022), SCG Fleet (1 EE, 2021 & 2022).	Common	6	2	2	3
Human Resources	Health & Safety Compliance, Engineering, Wellness	Common	4	2	1	1
Information Technology	Connecticut Information Technology	Common	23	19	16	16
Legal	Claims	Common			2	2
Regulatory	Pricing & Analysis, Electric Pricing, Supplier Relations & Load Settlement, Wholesale Power Contract Management, GennConn Energy.	Common	16	17	22	21
UIL President's Office	Economic & Community Development (2019-2022), "C&I Sales Support" (2022 only).	Common	4	4	4	9
Totals			154	127	125	130

Figure 3-39 UIL Functions and Staffing Levels¹⁸⁷

UIL staffing levels appear inconsistent in some respects with the UIL accounting data discussed below. For example, the employee data provided in FTI-0480 shows that UIL averaged about 67 customer service employees in 2021,¹⁸⁸ while the cost data below indicates UIL incurred about \$5 million in customer service costs in 2021. The costs apparently incurred total only about \$74,000 per employee, which appears somewhat low as a fully loaded (benefits, taxes, etc.) measure of cost, and this assumes 100% of the cost is labor. This brings the accuracy of the cost data or the employee data into question.

3.5.6.2. UIL Costs

Costs incurred by UIL plus allocations from ASC are charged to the CT Companies in corporate and technical services intercompany assessments. Most costs incurred by UIL appear to be distributed to the CT Companies using the Massachusetts formula. Costs incurred during the years 2019 through 2021 are summarized below in Figure 3-40, based on data provided by Avangrid.

Recommendation: We recommend Avangrid review UILH costs other than customer service distributed to the Connecticut utilities using the Massachusetts formula to determine that costs are directly assigned to the cost-causing utility when possible, and that allocations from UILH are made using attributable allocation methods (methods other than the non-attributable Massachusetts formula) whenever practical.

¹⁸⁷ Response to FTI-0480, Att. 1.

¹⁸⁸ (65 + 69) / 2.

Function (1)	2019	2020	2021 (2)
Customer Service	\$ 2,850,228	\$ 2,783,501	\$ 4,974,458
Executive & Governance	5,430,023	4,181,345	7,247,034
General Services	4,011,023	3,507,001	1,590,439
Human Resources	2,020,729	1,068,638	718,658
Information Technology	17,343,791	13,575,723	14,783,848
Marketing, Comm & "OTBT"	1,172,503	1,588,416	4,441,798
Regulatory	257,492	295,186	3,195,120
Security	1,983,250	2,002,325	241,656
Other	11,537,921	7,823,827	2,373,155
Labor Costs Not Functionally Categorized	44,064,487	18,134,471	-
Total (3)	\$ 90,671,447	\$ 54,960,433	\$ 39,566,166

Note 1: Functional amounts for 2019 and 2020 are non-labor only. Due to a change in the version of SAP adopted by UI in 2021, Avangrid was unable to provide functional detail for labor in 2019 and 2020.

Note 2: 2021 functional amounts are based on an audit classification of cost centers. These may not all align with Avangrid's classifications for 2019 and 2020.

Figure 3-40 Costs Incurred by UIL¹⁸⁹

3.5.7. Networks Centralized Service Cost Distributions to Avangrid's Utilities

To test the overall reasonableness of Networks centralized service cost distributions, we compared utility distributions of the combined costs of ASC and UIL with utility financial size and customer counts.¹⁹⁰ This is shown below in Figure 3-41.

Utility Subsidiary Groups	Networks Centralized Cost Distributions				Financial Size	Customers	
	From ASC	From UILH (1)	Combined	Pcts.		Total (2)	Cost Per
2019							
Connecticut	\$ 21,633,790	\$ 86,655,185	\$ 108,288,975	55%	30%	723,450	\$ 149.68
New York / Maine / Mass	83,191,841	4,016,272	87,208,113	45%	70%	2,549,493	34.21
Total	104,825,631	90,671,457	195,497,088	100%	100%	3,272,943	59.73
2020							
Connecticut	\$ 26,133,229	\$ 51,221,129	\$ 77,354,358	43%	29%	730,811	\$ 105.85
New York / Maine / Mass	98,289,276	3,739,304	102,028,580	57%	71%	2,570,657	39.69
Total	124,422,505	54,960,433	179,382,938	100%	100%	3,301,468	54.33
2021							
Connecticut	\$ 33,989,574	\$ 39,566,166	\$ 73,555,740	40%	28%	735,832	\$ 99.96
New York / Maine / Mass	110,454,487	-	110,454,487	60%	72%	2,570,761	42.97
Total	144,444,061	39,566,166	184,010,227	100%	100%	3,306,593	55.65

Note 1: Amounts from UILH to the New York / Maine / Mass subsidiary category reflect charges to Berkshire Gas in 2019 & 2020.

Note 2: Electric plus gas customers for each utility. NYSEG and RG&E are combination gas and electric utilities.

Figure 3-41 Networks (ASC & UIL) Service Company Cost Allocations Compared with Utility Financial Size and Customers¹⁹¹

¹⁸⁹ Response to FTI-0622, Att. 1.

¹⁹⁰ Financial size is based on the average of operating revenue, operating expense, O&M expense, operating income, gross and net property, plant and equipment and total assets. NYSEG and RG&E electric and gas customers are counted separately. All financial and customer amounts were obtained from Avangrid Forms 10-K for the years 2019, 2020 and 2021.

¹⁹¹ Response to FTI-0622; Forms 10-K for 2019-2021.

Because UIL incurred significant costs attributable primarily to Connecticut, the CT Companies were charged a higher share of Networks regulated corporate and technical costs than indicated by their financial size or customer base. For example, in 2020, Connecticut incurred 44% of Networks' centralized services costs while accounting for only 29% of total Avangrid utility financial size and 22% of Avangrid utility customers. The factors that may have contributed to this include:

- Certain UIL employees and functions shared by the three CT Companies are maintained within the utilities in New York and Maine and are therefore not counted as service company charges.
- Integration of Connecticut operations into the Avangrid structure was not complete during the review period.¹⁹²

Although the CT Companies were charged a higher share of centralized services costs relative to financial size and customers than Avangrid's New York and Maine utilities, the percentage charged to Connecticut declined between 2019 and 2021. Connecticut charges from UIL declined more than charges from ASC rose as the costs of functions and employees transferred from UIL to ASC began to be spread over more than just the CT Companies. Notwithstanding these declines at the end of the review period, overall service company charges on a per customer basis remained higher in Connecticut than in New York or Maine.

3.5.7.1. Cost Allocations from UIL to CT Companies

Apart from some direct charges, all costs incurred by UIL, whether incurred by UIL or allocated from other entities (Iberdrola, AMC and ASC) are distributed to the CT Companies using a Massachusetts formula allocator.¹⁹³ Avangrid stated that “[h]istorically, PURA has issued final decisions in rate cases where the Massachusetts formula was presented as an allocator for affiliate transactions” and that “the use of the Massachusetts formula does not preclude the use of direct assignment, where appropriate.”¹⁹⁴ CT Company allocations of UIL-incurred costs (excluding costs allocated from higher-level service companies) are summarized below in Figure 3-42.

¹⁹² In response to data request Response to FTI-0610 (submitted November 29 2022), Avangrid stated that “UIL functions and activities have essentially all been integrated into ASC and AMC where appropriate at this time.” Although integration may be complete as of the end of 2022, the integration of UIL and ASC was ongoing during the 2019-2021 time period we reviewed, as evidenced by transfers of Connecticut employees into ASC during this period.

¹⁹³ Response to FTI-0609-D (confidential).

¹⁹⁴ Response to FTI-0623-B & C. In 2021, the only year for which Avangrid was able to provide the assessment (allocation) amounts from UIL to the utilities (Response to FTI-0622, Att. 1, ‘UIL 2021 Pivots’ worksheet), all amounts assessed within Connecticut were based on the Massachusetts formula. There was a separate allocation or assignment to Berkshire in the amount of \$2,927,726 and small direct assignments to NYSEG, RG&E and CMP. There were no direct assignments to UI, CNG, or SCG.

Distribution of UILH-Incurred Costs Among Connecticut Utilities				
Year	UI	SCG	CNG	Total
2019	54,305,338	18,706,053	16,571,588	89,582,979
	61%	21%	18%	100%
2020	30,896,566	11,838,549	11,413,809	54,148,924
	57%	22%	21%	100%
2021	<i>25,038,063</i>	<i>7,480,973</i>	<i>7,047,130</i>	39,566,166
	63%	19%	18%	100%

Source: Response to FTI-622, Attachment 1. 2021 amounts in italics are estimates based on 2021 UILH costs and Massachusetts Formula percentages provided in FTI-622, At. 1 'UIL 2021 Pivots' worksheet.

Figure 3-42 Distribution of UIL-Incurred Costs Among CT Companies¹⁹⁵

The fact that costs allocated from AMC and ASC to Connecticut are allocated using a variety of factors means that two different allocation methods are used to allocate some costs from AMC and ASC to the CT Companies. This is so because once the costs “cascade” to UIL using allocators based on service consumption, number of employees, or other methods, the last stage in the allocation process distributes them to the CT Companies using the Massachusetts formula, regardless of how they were distributed to UIL.

Recommendation: With UIL’s adoption of Avangrid’s version of the SAP accounting system, Avangrid now has a better ability to maintain cost identity through the process from higher-level services companies AMC and ASC down to the CT Company level. We recommend Avangrid adapt its corporate and technical service company budgets and budget variance reports to show costs at the operating company level by function so that operating company executives can at least see what Iberdrola and Avangrid corporate management is planning to charge them for specific functions. Note: Some utility industry service companies provide budgeted charges to operating companies at the service level (i.e., they provide budgeted amounts for the individual services within each centralized group or function).

3.5.8. Corporate Cost Budgeting and Approval

The primary management control over service company cost allocations to the CT Companies is the budget and related variance reports. Other internal controls include service company service agreements and a cost allocation manual; however, the latter exists primarily to provide information to regulators, not to company management. We focused most of our analysis on budget controls, as budgets are the primary tool for planning and forecasting centralized costs and their impact on subsidiaries to which the costs are allocated. Our findings and observations are as follows:

- Corporate costs (costs considered ‘corporate’ in nature) are budgeted together as “corporate costs,” regardless of whether they originate from a service company such as AMC or ASC, or within a utility such as UI or CNG. Corporate costs are budgeted on a “top down” basis for Avangrid as a whole.
- Normal budgetary controls apply. These include notation by the MC and approval by the Board of Directors, quarterly budget revisions (REV), and budget variance reports which compare each period’s budget and actual expenses with those from previous periods.¹⁹⁶

¹⁹⁵ Response to FTI-0622, Att. 1.

¹⁹⁶ Response to FTI-0031; response to FTI-0606 (confidential).

- Budgeted service company charges appear at UIL and the Connecticut operating companies as a single line item. For example, the UIL CEO, Franklyn Reynolds, sees his allocation of all service company costs from AMC and ASC as a single line item.¹⁹⁷ Mr. Reynolds does not see amounts for the individual service company functions or services provided to UIL and the CT Companies. This reflects a lack of transparency at the utility level (and the Connecticut state level) as to the nature and distribution of centralized services costs.

Although Avangrid appears to have adequate budgets and related variance reporting for corporate service costs, aligning the costs with individual service companies is challenging and the company did not reflect operating company cost distribution totals in budgets until 2021, and it is our understanding that budgets showing service company charges to operating companies at a corporate or technical services or function level do not currently exist. We recommend that Avangrid develop management reporting that identifies amounts charged by each entity (AMC, ASC, etc.) to Avangrid operating subsidiaries for each significant corporate and technical function and each allocation method used. This information is available in SAP, but it is not regularly compiled for management reporting.

Recommendation: We recommend that Avangrid develop management reporting that identifies amounts charged by each Avangrid centralized service provider entity (AMC, ASC, etc.) to Avangrid operating subsidiaries for each significant corporate and technical function and each allocation method used. This information is available in SAP, and it has been shared with the businesses and is currently being enhanced for more consistent monthly reporting.

¹⁹⁷ Response to FTI-0608.

Chapter 4: Human Resources

Introduction

This Chapter reviews the Human Resources (“HR”) function and procedures of Avangrid, Inc. (“Avangrid”) and its Connecticut subsidiaries: the United Illuminating Company (“UI”), the Southern Connecticut Gas Company (“SCG”), and the Connecticut Natural Gas Corporation (“CNG”) (collectively the “CT Companies”). This Chapter covers the following topics:

- Organization and Structure
- Compensation Policies, Practices, and Programs
- Employee Benefits
- Labor Relations
- Workforce Planning, Evaluation, and Recruiting
- Development and Training

Findings

Compensation and Benefits

1. Avangrid’s salary structure provides an objective, systematic means on which to base employee compensation. It appears flexible enough to handle variables related to compensation such as: location, current labor market (supply and demand), and cost of labor trends.
2. Upon reviewing the ranges for the salary structure for Region 1 in 2022, we found that the base salary range within individual pay grades were wide. For example, there is a 77% spread between the minimum and maximum salary for 2022 Region 1, grade G (\$83,578 to \$148,192).
3. Avangrid’s current repository of job descriptions contains inconsistent information and formatting as well as obsolete and missing job descriptions. Avangrid acknowledges these shortcomings and will launch a project to address them in 2023. Avangrid has completed the first step by purchasing a Job Description Manager through PayFactors (d/b/a PayScale), the company Avangrid uses to benchmark jobs.
4. In Avangrid’s Annual Performance Award (“APA”) incentive compensation plan, the 2021 calculation of the “% of Target Earned” appears to be inconsistently computed among the metrics for that year as well as compared to metric calculations in 2020 and 2019. Also, the corporate metric Health and Safety targets for 2021 for which a “% of Target Earned” was calculated had no documented 2021 results.
5. Avangrid provides employees with a menu of employee benefits that includes retirement income, retirement health and welfare, active employee health and welfare, paid time off (“PTO”), and various other cash-based benefits. Avangrid’s employee benefits were found to be in line with industry standards when reviewing benchmarking reports that covered the 2019-2021 audit period. Avangrid’s 401(k) employer match is considered a differentiator in attracting and retaining talent. The current match formulas were implemented in exchange for freezing legacy pension plans and are expected to generate significant savings for customers

over the long-term. Most of our peers still have pension plans actively accruing benefits. Avangrid's PTO policy could be enhanced to align more with its peers.

6. As of January 1, 2019, all non-union Avangrid employees were integrated into the same medical, dental, vision, disability, and life insurance vendors and plan offerings. As of January 1, 2021, all non-union Avangrid 401(k) match formulae were standardized.

Labor Relations

7. Avangrid has entered into collective bargaining agreements with five labor union organizations. Avangrid has a strong relationship with its labor unions that have agreements with the CT Companies.
8. The general wage increase was 3% for each Connecticut union contract, except Utility Workers Local 470-2, which had a 3.25% general wage increase in 2022. For comparison, according to the Bureau of Labor Statistics, the Consumer Price Index for All Urban Consumers ("CPI-U") in the Northeast Region increased by 6.9% for the rolling 12 months ending October 31, 2022. This comparison shows a significant gap between inflation and the general wage increases negotiated in the most recent collective bargaining agreements.
9. Avangrid has implemented a pension plan freeze for all of its recently negotiated union contracts. To mitigate volatility around future retirement plan expenses, reduce overall costs, and limit the impact of the transition for employees, Avangrid enhanced the 401(k) match and implemented a system of targeted payments over a period of several years, which is based on the amount of future projected pension benefit loss.
10. Between January 2020 and October 2022, Avangrid settled 96% of filed grievance cases before they reached arbitration. Being able to settle almost all grievances before reaching the arbitration stage evidences a good working relationship between Avangrid and union leadership at the CT Companies. Avangrid also had a sharp decline in grievance cases filed in the first 10 months in 2022 when compared to the yearly totals from 2020 and 2021.
11. The information that Avangrid provided from iSight, its system of record for labor grievances since 2020, lacks consistent and comprehensive information for each grievance case logged. Furthermore, it is difficult to determine, from the information provided, the outcome of each grievance case without tracing it back to the physical case files. Finally, the Director of Labor Relations does not have access to grievance data before 2020, as it was logged in a system (Neocase) that was decommissioned before he was hired by Avangrid in 2021.

Workforce Planning

12. Vacancy rates at the CT Companies remained generally stable between 2019 to 2021. The utilities did not implement policies to restrict hiring during the pandemic. However, all CT Companies have experienced sharp increases in vacancies in 2022. Open positions at the United Illuminating Company ("UI") are highest in the Electric Transmission and Distribution ("T&D") Operations and Projects groups while the Connecticut Natural Gas Corporation's ("CNG") and the Southern Connecticut Gas Company's ("SCG") vacancies are concentrated in the Gas Operations group.¹ Management attributed the increases to higher attrition rates and retirements.² The trends impacting the CT Companies' workforce mirror those seen across the nation. Despite these

¹ Response to FTI-0510.

² Response to FTI-0515.

increases, the vacancy rates at CNG and UI remained below the average of all Avangrid Networks (“Networks”) utility companies.

13. Day-to-day crew assignments are controlled and managed locally at each CT Company using commercial off-the-shelf workforce management software systems. Workforce planning for capital projects is centrally managed based on the construction planning schedule. Additionally, in April 2022, the Resource Management function was established under the Networks Chief Operating Officer that is responsible for the estimation, planning and control of resources in the medium- and long-term.
14. Open positions have increased substantially in 2022 (through April) due to increased resignations since the end of the pandemic. Headcount at UI was also lower in 2022 due to a reorganization that shifted personnel to the Avangrid Service Company (“ASC”).
15. In 2020 and 2021, CNG and SCG each had accumulated more overtime hours than any other Networks gas utility, including the larger gas utilities of New York State Electric and Gas (“NYSEG”) and Rochester Gas and Electric Corporation (“RG&E”). Avangrid began tracking their overtime usage using a dashboard tool in 2020. The tool has been refined in the subsequent years for the CT Companies to better track and manage overtime usage.
16. In our analysis of CT Company overtime, we were unable to obtain any evidence that the information from the overtime dashboards, particularly the variances between budgeted and actual overtime, was being actively managed in a meaningful way.
17. As noted above, increasing retirements are contributing to the higher vacancy rates in 2022. The CT Companies use succession planning, knowledge transfer, and talent development for critical roles with retirement-eligible incumbents but does not have formal coordinated plan that directly addresses aging workforce risk mitigation.
18. Succession planning is performed by HR in collaboration with business functions for critical and key roles in Avangrid. HR has extended succession planning in 2022 to Avangrid’s important roles (entry-level manager roles other than key or critical), by developing the managers on the responsibility for succession planning to the groups or business functions that contain those roles.

Training and Development

19. Employee training is managed by three groups within the HR group: global training (corporate policies), technical training, and environmental health and safety (“EHS”). Technical training is predominantly conducted on-site by 17 trainers, 4 of whom are based in Connecticut. Technical training is customized to meet the requirements of each utility.
20. The HR group tracks mandatory technical and EHS training hours by company, group, and employee through the GPI Learn software platform and GEP. Monthly dashboards are used to monitor progress during the year.

Recommendations

Compensation and Benefits

1. Avangrid should implement its project goals in 2023 concerning the creation and maintenance of a complete, internally consistent repository of job descriptions using PayFactors (d/b/a PayScale).

- Avangrid should investigate revising its PTO policy to provide increases in PTO every five years so that the PTO available to employees in the second half of each decade of service time would be more aligned with benefits survey participants.

Labor Relations

- Avangrid should implement a more robust and consistent method of electronically tracking and recording grievance data as well as filing hard copies of grievance documentation. This would allow Avangrid to more effectively and efficiently manage and settle grievance cases with its unions

Workforce Planning

- SCG and CNG should implement a formal workforce resource planning process that utilizes best practices from UI.
- Avangrid should build a formal long-term workforce strategy that evaluates the continued risk posed by its workforce aging profile, specifically employees with retirement eligibility, and determine whether existing policies and procedures are sufficient to mitigate potential staffing shortages in critical positions. Pending the outcome of this evaluation, Avangrid should consider the implementation of programs such as expanding partnerships with colleges, trade schools, and high schools to build a pipeline of trade employees. The Company should also consider strategies for attracting mid-career employees who can develop into and fill future leadership roles including expanding searches to other complimentary industries.

4.1. Organization and Structure

Figure 4-1 shows a personnel listing for Avangrid’s HR management organization at the corporate level, specifically the Chief HR Officer and her direct reports.

Human Resources Management Organization			
Name	Job Title	LOB description	Company Code
KYRA PATTERSON	Senior Vice President - Chief HR Officer	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
RAQUEL MERCADO	Vice President - Environmental H&S	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
JOHN O'NEIL	Vice President-HR Performance&Governance	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
ERICA IRVINE	Director - HR Strategic Initiatives	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
LIBERNA CHARLES	Vice President - Talent Mgmt & Diversity	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
KHADIJAH JOHNSON	Director - Shared Services	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
CARLA GREGORY	VP - Talent & Organization Effectiveness	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
KARI TROST	Director - Rewards Strategic Init & Ops	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
BRIAN HARRELL	Vice President - Chief Security Officer	CORPORATE ADMIN	AVANGRID MANAGEMENT COMPANY
MICHAEL BOGUE	Director - Employee and Labor Relations	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
TINA ULLMANN	Vice President - Human Resources	HUMAN RESOURCES	AVANGRID SERVICE COMPANY
BERNADETTE DORSO	Senior Executive Assistant	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
DENA PARATORE	Vice President - Human Resources	HUMAN RESOURCES	AVANGRID MANAGEMENT COMPANY
ANNA OCONNELL	Director - HR Policy	HUMAN RESOURCES	AVANGRID SERVICE COMPANY

Figure 4-1 Organization and Personnel, HR Function³

³ Response to FTI-0480, Att. 1 (confidential).

The HR function at Avangrid is a mostly centralized function that serves 7,348 employees, as of December 31, 2021, in Avangrid’s two lines of business: Networks and Avangrid Renewables (“Renewables”).⁴ In recent years, HR has increased its focus on talent acquisition and talent management as the competition for highly productive employees has increased and overall unemployment rates have decreased.⁵ Another key focus for the HR function is Diversity, Equity and Inclusion, with a specific focus on addressing issues involving women in senior leadership and executive positions. The HR function tracks its progress in these areas by compiling and maintaining certain metrics and performance indicators, which are used by HR leadership and presented to Avangrid executives on a monthly basis. These metrics and indicators include:⁶

- Budget vs. actual headcount
- Percent of headcount that is female and people of color
- Attrition, hiring, training and promotion metrics

For Networks, the HR function is deployed through a Shared Services model supported by four Centers of Excellence: Total Rewards; Talent & Diversity, Equity and Inclusion; People Operations; and HR Policy. The CT Companies are led by a Vice President and two Director-level HR Business Partners, supported by an HR Consultant.⁷

Avangrid uses SAP as its HR system to store information and provide overall support of the HR function. Avangrid is in the process of implementing Workday, an online software platform for Human Capital Management planning, with the goal of having Workday replace SAP in July 2023. Avangrid is partnering with consultants from PriceWaterhouseCoopers (“PwC”) to implement Workday to provide Avangrid employees and HR professionals with a more consistent, user-friendly, and efficient experience in carrying out their duties and tasks. Workday will also replace SuccessFactors, the software system Avangrid uses for recruiting and applicant tracking.⁸

4.2. Compensation and Benefits

4.2.1. Salaries and Wages

4.2.1.1. Salary Structure

Avangrid provides base compensation to its non-union employees based on a grade and range structure called the Avangrid Compensation Structure (“Compensation Structure”). This structure considers both job responsibilities and external market data. The Compensation Structure includes the following features:⁹

- 11 Grades (A-K)
- Four job levels
 - Business Support (B1-B4; associated with Grades A-D, respectively)
 - Technical (T1-T4; associated with Grades A-D, respectively)
 - Professional/Engineering (P1-P5; associated with Grades D-I, respectively)

⁴ Avangrid 2021 SEC Form 10-K.

⁵ In response to FTI-0178, Att. 1 p. 3 (confidential). Avangrid noted that for 2022, “Achieving our year end headcount budget targets will continue to be a challenge given market conditions impacting the attraction and retention of talent.”

⁶ Response to FTI-0178, Att. 1 (confidential).

⁷ Response to FTI-0177.

⁸ Response to FTI-0612.

⁹ Response to FTI-0170, Att. 1.

- Leadership/Management (L1-L4; associated with Grades F-K, respectively)¹⁰
- Three work locations
 - National
 - Region 1 – Connecticut, California, Washington, D.C., and Brewster, New York
 - Region 2 – Boston MA
- Standard Base Pay Ranges
- Adjusted Base Pay Ranges¹¹

The pay ranges used by Avangrid contain a minimum, midpoint, and maximum salary. The compensation range found within each pay grade provides some variability in base compensation that considers many factors, including experience, performance, and seniority. The range also provides boundaries for managers when determining annual merit increases for employees that are within a certain pay range and pay grade.¹² Upon reviewing the ranges for the salary structure for Region 1 in 2022, we found that the base salary range within individual pay grades was quite wide. For example, there is a 77% spread between the minimum and maximum salary for 2022 Region 1, grade G (\$83,578 to \$148,192). Using the actual salaries for those Avangrid employees in Salary grade G Region 1, we compared the minimum, maximum, median, and average to the range shown in Avangrid’s salary structure for 2022. Figure 4-2 shows the comparative data.

Avangrid							
Comparison of Salary Structure Range to Actual Salaries							
	Avangrid 2022 Salary Structure			Avangrid 2022 Actual EE Salaries			
	Minimum	Midpoint	Maximum	Minimum	Median	Average	Maximum
Salary Grade G Region 1	83,578	115,885	148,192	85,075	111,114	110,497	136,350
Salary Grade G1 Region 1	97,141	128,700	160,259	96,663	118,565	118,972	135,827

Figure 4-2 Salary Range Compared to Actuals, Grade G^{13,14}

We chose the salary grade G because it is representative of a middle management salary band, and we assumed that there would be a sizable population of employees residing within the grade. There are some notable observations shown in Figure 4-2 above. First, the median and average of the actual employee salaries are below the salary structure midpoint (by approximately \$5K in grade G and \$10K in G1). For both grades G and G1, there is a sizable portion of the pay range near the top of the range for which there are no actual employee salaries.

To ensure that employees fall within an acceptable salary range, Avangrid has adjusted the salary structure over the past 3 years by increasing the entire structure by a certain percentage. This process is called aging the structure. This was done for the 2020 and 2021 based on salary structure aging data obtained by Avangrid.¹⁵ The

¹⁰ For the Leadership/Management Job Levels in Avangrid’s Grades and Range Structure, there was not a one-to-one relationship between the job level and pay grade. L1 is associated with Grades F and G. L2 is associated with Grades H and I. L3 and L4 are associated with Grade J and Grade K, respectively.

¹¹ Avangrid created an “Adjusted” structure for Grades G and higher for when a “job’s accountability, complexity, and other job factors placed the job in a particular grade, but the market data for the job was much higher than the midpoint of the grade.”

¹² Response to FTI-0170, Att. 1.

¹³ Response to FTI-0532, Att. 4 (confidential).

¹⁴ Response to FTI-0618, Att. 1.

¹⁵ Interview with Tina Ullmann, Vice President, Human Resources Networks; Al Langland, Vice President, Gas Engineering & Operations; Chuck Eves, Vice President, Electric Operations; Jim Cole, Vice President, Projects (“HR Compensation and Benefits Panel Interview”), November 16, 2022.

2020 salary structure was aged from 2019 by an increase of 2.2%.¹⁶ The 2021 salary structure was aged from 2020 by an increase of 1.6%.¹⁷ The salary structure model was completely refreshed for 2022, with a regression line of best fit methodology using underlying market data from the salary surveys compiled by Avangrid. The Company is encouraged to continue this practice regularly to ensure the relevancy of the salary mid-points and ranges.

4.2.1.2. *Merit Increases*

Avangrid provides its employees an opportunity to earn annual merit-based increases to their base salary. Avangrid notes that merit-based increases are intended to be primarily “forward-looking” compensation tools. Each group within Avangrid is given a merit budget that is calculated as a percentage of the group’s aggregate annual base pay for current non-union employees as of the beginning of the year. The structure Avangrid uses to determine and distribute merit-based increases is based on its “Merit Matrix” shown in Figure 4-3.

Avangrid 2022 Merit Matrix			
Performance Rating	Compa-Ratio		
	Below 90%	90-110%	Above 110%
	Range for Merit Increase %		
Exceptional Performance	3.0 - 5.0%	2.25 - 4.25%	0 - 2.0%
Superior Performance	2.25 - 4.25%	1.75 - 3.75%	0 - 1.5%
Fully Competent	1.75 - 3.75%	1.25 - 3.25%	0%
Partially Competent	0 - 1.5%	1.25% - 3.25%	0%
Unsatisfactory	NA	NA	NA

Figure 4-3 Avangrid Merit Increase Matrix, 2022¹⁸

The “Compa-Ratio” is the formula used by compensation to determine the relationship between the employee’s base pay and the midpoint of their job’s grade.¹⁹ In addition to the merit-based increases shown in Figure 4-3, Avangrid will also use lump sum merit payments. Lump sum merit payments are used when an employee is at or near the top of the salary range for their current pay grade. These types of payments are generally reserved for high performing, merit-eligible employees, however, they are not used for special recognition. In general, merit increases are not considered cost of living increases.²⁰ In addition to merit-based increases, Avangrid also offers its employees promotion-base increases. In 2022 and 2023 the promotional budget was increased by 2% and 1.5% of base salary, respectively.²¹ Figure 4-4 shows the merit, promotion and salary structure percentage increases by year for the past five years. General economic inflation has led to recent increases in merit and promotion percentage adjustments.

¹⁶ Response to FTI-0527, Att. 21 (confidential).

¹⁷ Response to FTI-0527, Att. 22 (confidential).

¹⁸ Response to FTI-0170, Att. 1, p. 3.

¹⁹ A Compa-Ratio under 100% means the employee’s current base pay is below the grade midpoint. When the Compa-Ratio is above 100% the current base pay is above the grade midpoint.

²⁰ Response to FTI-0170, Att. 1.

²¹ HR Compensation and Benefits Panel Interview, November 16, 2022.

Avangrid			
Non-Union Compensation Percentage Increases			
	Merit	Promotion	Salary Structure
2023	4.0%	1.5%	TBD
2022	3.0%	2.0%	Regressed
2021	2.5%	1.0%	1.6%
2020	3.0%	1.0%	2.2%
2019	3.0%	1.0%	Regressed

Figure 4-4 Avangrid Non-Union Compensation Percentage Increases²²

4.2.1.3. Salary Budgeting and Candidate Negotiation

The Avangrid budgeting process for employee salaries has two components. The first component involves updating all active employees' budgeted salaries in SAP using a simulation tool called PCPS. The assumptions are uploaded by the Personnel Administration Team. The second component involves updating the budget for projected new hires. This portion of the budget is maintained manually on spreadsheets by HR. Once both processes are complete, they are aggregated and loaded into SAP. Avangrid's 401(k) match and payroll tax budgets are performed using the same process. Medical and other non-cash benefits are projected either by actuaries or using internal estimates.²³

Avangrid provides guidance for salary negotiations with newly hired candidates. Avangrid recruiters are typically authorized to offer between 80% and 110% of the midpoint of the range for the given job's grade based on skillset and experience. Avangrid is subject to the Connecticut Pay Transparency Law that went into effect in October 2021. This law requires Connecticut companies to disclose wage ranges to internal or external job applicants for the position for which the applicant is applying.²⁴

4.2.1.4. Union Salary Increases

For union employees, annual wage increases are governed by their respective collective bargaining agreements. Figure 4-5 shows the general wage increase for each union under their current collective bargaining agreements.

Labor Unions for Avangrid's Connecticut Utilities		
Union	Contract Expiration Date	General Wage Increase
CNG - Greenwich	3/28/2027	3.00%
CNG - Hartford	11/30/2022	3.00%
UI - BU1	5/15/2025	3.00%
UI - BU2	8/24/2022	2.95%
SCG - 12000	3/23/2024	3.00%
SCG - 12000-1	4/12/2024	3.00%

Figure 4-5 General Wage Increase Details by CT Company Union²⁵

²² Response to FTI-0616.

²³ Ibid.

²⁴ HR Compensation and Benefits Panel Interview, November 16, 2022.

²⁵ Response to FTI-0171.

4.2.2. Job Descriptions, Benchmarking and Alignment

Avangrid maintains job descriptions in its SAP system. However, with the numerous acquisitions and integration of companies and systems in recent years, the current repository of job descriptions contains inconsistent information and formatting as well as obsolete and missing job descriptions. Avangrid acknowledges these shortcomings and will launch a project to address them in 2023. Avangrid has completed the first step by purchasing a Job Description Manager through PayFactors (d/b/a PayScale), the company used by Avangrid to benchmark jobs. With the purchase of the Job Description Manager, Avangrid aims to achieve the following:²⁶

- A standardized template for all Avangrid job descriptions for union and non-union jobs
- One repository that maintains up-to-date versions of each job description
- Quality standards and reviews that hold Hiring Managers accountable
- Automation tools and workflows to streamline the approval process and track changes/edits
- Ability to perform benchmarking and salary recommendations within one system

Avangrid performs job role benchmarking to properly position jobs based on roles and responsibilities within the Avangrid salary structure. Avangrid uses PayFactors (d/b/a PayScale) as a database to maintain the salary survey data sourced from Willis Towers Watson and other vendors which is used to benchmark Avangrid jobs to market data, and for positioning within the Avangrid salary structure. New survey data is uploaded into PayFactors each year.²⁷ When a new job title is requisitioned by management, the job description is reviewed for positioning within the salary structure. The new job title is assigned a market price that matches the median of the market data job to the closest pay range grade midpoint. Existing job titles may have their salary structure positioning re-evaluated if the company is encountering challenges attracting or retaining talent for that particular role.²⁸

Avangrid moved job positions from UIL Holdings Corporation (“UIL,” the CT Companies’ parent entity) and the CT Companies into one aligned salary structure at the beginning of 2018. Those job positions were analyzed using the process described above in 2017 to position them in the new combined Avangrid salary structure.²⁹

Avangrid provided data for 2021 and 2022 showing new positions for which pay grades were established, and existing positions for which pay grades were changed. Figure 4-6 below summarizes existing positions evaluated for 2022, and new positions for which pay grades were established in 2022. An existing position is evaluated when its responsibilities change materially.

Recommendation: Avangrid should implement its project goals in 2023 concerning the creation and maintenance of a complete, internally consistent repository of job descriptions using PayFactors (d/b/a PayScale).

²⁶ Response to FTI-0702.

²⁷ Response to FTI-0533.

²⁸ Ibid.

²⁹ Ibid.

Avangrid Non-Officer Position Evaluations 2022			
Job Title	Company	Current Grade	New Grade
Existing Positions			
Supv Credit & Collections	CNG	G	F
Supv Logistics	UI	F	G
Key Account Manager	UIL Holdings Corp	G	H
New Positions			
Maps & Records Analyst	CNG		E
Manager - Gas Ops Technical Services	CNG		H
Manager - Meter Services & Logistics	CNG		I
Manager - Gas Distrib Design & Del MA/CT	CNG		I
Senior Manager - Enhanced QA/QC	CNG		I
Manager - Dispatch & Workforce Planning	CNG		I
Manager - Gas Design Engineering	CNG		I1
Lead Supervisor-Construction&Maintenance	SCG		G
Technical Trainer	SCG		G
Manager - Capital Construction	SCG		I
Senior Manager - Capital Design & Delvry	SCG		I1
Analyst - Customer Relations Center	UI		E
Senior Utility Arborist	UI		F
Lead Analyst - Transmission Analytics	UI		F
Sr Designer I	UI		F
Lead Utility Arborist	UI		G
Senior Manager - Digital Applications	UI		I1
Lead Engineer - Civil Distrib Infrastruc	UI		G1
Principal Analyst - Transmission Analyst	UI		H
Principal Analyst - Investment Planning	UI		H
Supervisor - Master Data	UI		H
Environmental Permitting Manager	UI		H
Mgr - Logistics	UI		H
Manager - Customer Relations Center	UI		I
Senior Manager - Programs & Joint Use	UI		I
Manager - Smart Grid Innovation Programs	UI		I
Senior Manager - Int Field Contr&Design	UI		I
Senior Director - Electric Operations	UI		K
Senior Director - System Operations	UI		K
Lead Analyst - Customer Service Quality	UIL Holdings Corp		F
Govt & Community Programs Specialist	UIL Holdings Corp		F
Program Manager - Customer Svc Compliance	UIL Holdings Corp		G
Lead Supervisor - Logistics	UIL Holdings Corp		G
Senior Manager - GIS & OSG Applications	UIL Holdings Corp		I1
Project Manager - Energy Land Management	UIL Holdings Corp		G
Manager - Delivery Programs & Products	UIL Holdings Corp		H
Principal Engineer - CLM Tech Services	UIL Holdings Corp		H
Director - Govt & Community Relations	UIL Holdings Corp		J

Figure 4-6 Avangrid Non-Officer Position Evaluations, 2022³⁰

4.2.3. Performance Incentive Plans

Avangrid has three non-union employee incentive compensation plans. The cash-based plan for non-executive employees is the Avangrid APA Plan. The second plan is for Avangrid executive employees and is called the Avangrid Amended and Restated Executive Variable Pay (“EVP”) Plan. The third plan is a long-term management incentive plan where it awards Performance Stock Units (“PSU”).

The objective of the APA “is to provide eligible employees of Avangrid and its affiliates with the opportunity to earn annual incentive compensation through engagement in promoting the Company’s strategic objectives.” The APA incentive plan is administered by Avangrid’s Management Committee (the “MC”), and it is available to all regular full-time employees (“FTEs”), except the following:

- Those that participate in the EVP Plan or a different annual incentive plan
- Those that work less than 20 hours per week at the end of the year
- International assignees not on a U.S. payroll
- Independent contractors

4.2.3.1. Annual Performance Award

The APA Plan payout is calculated using the formula below.

Incentive Award

$$= \text{Total Achievement Percentage } 0 - 100 * ((\text{Target Incentive Award Percentage} * \text{Incentive Factor}) * \text{Eligible Salary})$$

The Total Achievement Percentage component is made up of three subcomponents: individual performance, Avangrid/Networks objective achievement, and business or corporate function objective achievement. The weighting for these subcomponents is shown in Figure 4-7 below.

Avangrid			
APA Total Achievement Weighting (based on 1,000 Objective Target Points)			
Level	AVANGRID	Business Area/Corporate Function	Individual Performance
Directors and above	250	350	400
Below Director	200	300	500

Figure 4-7 APA Achievement Weighting Scheme³¹

Individual performance is given a percentage based on the five ratings below:

- Exceptional - 100%
- Superior – 75%
- Fully Competent – 50%
- Partially Competent – 25%
- Unsatisfactory – 0%

³⁰ Response to FTI-0533, Att. 1.

³¹ Response to FTI-0173, Att. 1, p. 3.

The Avangrid and business function/corporate function performance is measured on a percentage achievement (0% to 100%) of predetermined objectives. The Target Incentive Award Percentage is determined by HR and varies based on the position. The percentage ranges from 5% for entry-level employees to 20% for Vice Presidents and Senior Directors.³² The Incentive Factor is 200% for all participants unless changed by the Administrator. Eligible salary is defined as the employee’s base annualized salary as of the last day of the year. In general, eligible participants must be active employees in an eligible position on the Award Payment Date. Exceptions to this rule include retirement, death, or long-term disability.³³

Once the Performance Period is over, the Total Achievement Components are calculated, reviewed, and validated. The Chief HR Officer prepares a proposal to the Plan Administrator for final approval. The Award Payment Date is generally on or before March 31 of the year following the Performance Period.

From 2019 through 2021, all Avangrid employees in Connecticut that were eligible for the APA incentive plan received an award, except for one UIL employee in 2020.³⁴ Figure 4-8 below shows the employee data for the CT Companies as well as the budget to actual comparison.

Avangrid							
APA Employee, Budget and Award Statistics - 2019 through 2021							
Year	Employees			Budget and Actual Data			
	Eligible	Received	% Receiving	Targeted APA	Actual APA	% of Budget	\$ per Employee
UIL Holdings Company							
2021	150	150	100%	\$ 944,219	\$1,197,297	127%	\$ 7,982
2020	121	120	99%	\$ 791,452	\$ 850,649	107%	\$ 7,089
2019	115	115	100%	\$ 910,634	\$1,001,688	110%	\$ 8,710
UI							
2021	258	258	100%	\$ 1,825,042	\$2,283,885	125%	\$ 8,852
2020	244	244	100%	\$ 1,544,518	\$1,583,068	102%	\$ 6,488
2019	221	221	100%	\$ 1,522,496	\$1,468,415	96%	\$ 6,644
CNG							
2021	72	72	100%	\$ 577,368	\$ 738,724	128%	\$ 10,260
2020	72	72	100%	\$ 433,240	\$ 439,339	101%	\$ 6,102
2019	72	72	100%	\$ 407,798	\$ 405,102	99%	\$ 5,626
SCG							
2021	79	79	100%	\$ 417,745	\$ 506,202	121%	\$ 6,408
2020	73	73	100%	\$ 354,481	\$ 354,964	100%	\$ 4,863
2019	62	62	100%	\$ 380,776	\$ 353,178	93%	\$ 5,696

Figure 4-8 APA Employee, Budget, and Award Statistics, 2019 – 2021^{35,36}

³² Response to FTI-0534, Att. 4 (confidential).

³³ Response to FTI-0173, Att. 1.

³⁴ Response to FTI-0529.

³⁵ Ibid.

³⁶ Response to FTI-0529, Att. 1.

Figure 4-8 above also shows that Avangrid’s APA actual awards are closely aligned with the targeted payouts in 2019 and 2020. However, in 2021, the actual APA payout is more than 20% higher than the targeted amount. Upon reviewing the calculation for the APA awards, Avangrid changed a major component of the corporate metrics in 2021 by switching from Adjusted Earnings Per Share to Adjusted Net Income which had played a large role in the increased APA payout for 2021, when compared to the targeted payout.³⁷

4.2.3.2. Executive Variable Pay

The objective of the EVP Plan is “to provide executives of [Avangrid] and its Affiliates...with the opportunity to earn annual incentive compensation through their engagement in promoting the Company’s objectives.”³⁸ The EVP Plan Administrator is the Avangrid Board of Directors (“Avangrid Board”). The EVP payout formula is calculated in the same manner as the APA formula shown above.

Employees eligible for the EVP Plan are the Avangrid Chief Executive Officer (“CEO”), MC members, and Vice President equivalent or above who report to MC members at Avangrid. Participants in the Plan must have been an active employee during at least three months of the Performance Period to be eligible to receive an Incentive Award. For the years 2019 through 2022, there is one UIL employee that was eligible for the EVP and that employee received payments for the Plan years of 2019 through 2021. There were no EVP eligible employees in the CT Companies in 2022. Figure 4-9 shows the comparison between targeted and actual payouts for the EVP incentive compensation plan for the UIL employee. The reason behind the 2019 variance between budget and actual was due to the promotion of the then CEO & President of UIL Holdings to CEO & President of Avangrid Networks which resulted in a payment for the partial year as CEO of UIL. Similarly, the 2020 variance was due to the promotion of the President and COO of Berkshire Gas to CEO & President of UIL Holdings which resulted in a payment for a partial year as CEO of UIL.³⁹

UIL			
EVP Employee, Budget and Actual Statistics - 2019 through 2021			
Year	Targeted	Actual	%
2021	\$139,500	\$199,485	143%
2020	\$25,083	\$29,442	117%
2019	\$92,318	\$129,615	140%

Figure 4-9 EVP Employee, Budget, and Award Statistics 2019-2021⁴⁰

The EVP “Achievement Percentage” for each executive contains four subcomponents, some of which are not applicable to the executive eligible for the EVP Plan. The subcomponents are shown in Figure 4-10. Figure 4-10 also shows the applicable subcomponents for each executive level.

³⁷ Response to FTI-0534, Att. 1. It is noted that in 2019 and 2020 the corporate finance or profitability metric that was used was adjusted earnings per share. In both years, the actual result was below the target level. When the metric was switched to Adjusted Net Income in 2021, the actual result exceeded the maximum threshold. In 2021, Adjusted Net Income was used as a business function metric for Networks and exceeded the targeted level.

³⁸ FTI-0173, Att. 2, p. 1.

³⁹ Response to FTI-0529, Att. 1.

⁴⁰ Ibid.

Avangrid EVP Total Achievement Weighting (based on 1,000 Objective Target Points)				
Level	AVANGRID	Business Area/Corporate Function	Individual Performance	Global Practices
CEO	100%	NA	NA	NA
Business Area CEOs	35%	50%	NA	15%
Corporate Function Leaders	50%	50%	NA	NA
VP or above	20%	20%	60%	NA

Figure 4-10 EVP Total Achievement Weighting Scheme⁴¹

The objectives used for the calculation of each executive’s Plan is determined within the first three months of the Performance Period by the Plan Administrator. The Avangrid objectives are proposed by the Avangrid CEO and approved by the Avangrid Board. The business or corporate function leader proposes the objectives for his or her function. The business function objectives are subject to approval by the CEO and the appropriate Board/Managers (Networks or Renewables). The business and corporate function objectives are then presented to the Avangrid Board for approval. Individual performance objectives are established by business or corporate function leaders, approved by the CEO, and, as appropriate, the Avangrid Board. See Chapter 1 for more information on the Strategic Planning process.

We reviewed the Avangrid Company Objectives used in calculating the incentive compensation for the years 2019 through 2022 and Networks Objectives for 2021 for the incentive compensations plans.^{42,43} The overall Avangrid Company Objectives that are used to calculate incentive compensation for all CT Company employee metrics appear to be connected with the Avangrid Renewables business.⁴⁴ Furthermore, the 2021 calculation of the “% of Target Earned” appears to be inconsistently computed among the metrics for 2021 as well when compared to metric calculations in 2020 and 2019. Finally, the corporate metric Health and Safety targets for 2021, for which a “% of Target Earned” was calculated, had no documented 2021 results. Because of these shortcomings, it is difficult to understand the process of how the incentive compensation is calculated based on the metrics provided by Avangrid.

4.2.3.3. Long-Term Management Incentive Plan

Avangrid also has a long-term management incentive plan where it awards PSU based on the achievement of certain performance metrics. Employees with the title Vice President and above are eligible for the PSU Plan, with Senior Directors and Directors eligible to be nominated. As of the date of this report, the number of employees that are eligible and participating in the PSU Plan are: three UIL employees, two UI employees, two CNG employees, and no SCG employees. The PSU awards are determined as a percentage of base salary and are based on the level of responsibility. PSUs are awarded every three years or upon hire or promotion and are subject to forfeiture per the terms of the PSU Award Agreement. The awards will vest on March 31 and are issued and

⁴¹ Response to FTI-0173, Att. 2, p. 4
⁴² Response to FTI-0534 (confidential).
⁴³ Response to FTI-0534, Atts. 1-3 (confidential).
⁴⁴ These metrics include New England Clean Energy Connect (“NECEC”) Commercial Operation Date and Vineyard Wind Final Investment Decision.

delivered on June 30 in the years, 2023, 2024, and 2025.⁴⁵ The metrics on which the PSU awards are determined are shown in Figure 4-11.

Avangrid PSU Performance Goals 2022					
	Objective	Measurement	0%	50%	100%
35	Adjusted Net Income	Adjusted Net Income +/- Target	\$731M	\$877M	\$1.023B
35	Total Shareholder Return	Relative TSR compared to S&P Utility Index peers	< 25th Percentile	50th Percentile	>= 75th Percentile
30	Sustainability	NECEC Construction Milestone Vineyard Wind Project Milestone Supplier Sustainability Goal Score Unconscious Bias Training for 85% of organization	0 Achievements	2 Achievements	4 Achievements

Figure 4-11 PSU Performance Objectives and Metrics, 2022⁴⁶

The number of Common Stock (Performance Shares) delivered is calculated by multiplying the employee’s maximum award by the weighted ratio, which is determined by the level of PSU performance metrics achieved multiplied by the weightings of the metrics in Figure 4-11.

All of Avangrid’s Connecticut union employees, except for those covered by the CNG Hartford collective bargaining agreement, are entitled to cash-based incentive compensation. For UI, the union employees are able to earn up to 0.5% of their base salary based on the utility’s performance in various customer and safety metrics. CNG Greenwich union employees can earn up to 1% of their base salary based on the utility’s performance in various safety, quality, and customer service metrics. SCG’s Operations employees covered by the Local 12000 collective bargaining agreement can earn up to 0.5% of their base salary for performance in leak response, safety, and customer metrics. SCG’s billing and customer care union employees covered by the Local 12000-1 collective bargaining agreement can earn up to \$2,000 by meeting goals in billing metrics and call center metrics, respectively.^{47,48}

4.2.4. Internal Audits Relating to Incentive Compensation Plans

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁴⁵ Response to FTI-0530.

⁴⁶ Response to FTI-0530, Att. 1.

⁴⁷ Response to FTI-0173.

⁴⁸ Response to FTI-0503, Att. 1 (confidential).

⁴⁹ Response to FTI-0107, Att. 1.

⁵⁰ The audit included a review of the Central Maine Power Union Group Incentive Plan, the RG&E Union Added Pay Bonus Plan and the NYSEG Union Variable Pay Plan as well.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4.2.5. Employee Benefits

Avangrid's employee benefits include retirement income (contributions to pensions and 401(k) matching), health care, disability and life insurance, compensation for time away from work, and various other cash benefits, such as education reimbursement. As of January 1, 2019, all non-union Avangrid employees were integrated into the same medical, dental, vision, disability, and life insurance vendors and plan offerings. As of January 1, 2021, all non-union Avangrid 401(k) match formulas were made equal.⁵¹

Avangrid uses benchmarking data from Willis Towers Watson to compare its healthcare plans (medical and dental) against the utility industry and all companies in the U.S. In 2020, the database contained 1,887 companies across 18 industry groups. The results of the survey are summarized in the following bullet points.

⁵¹ Response to FTI-0528.

- As a percentage of total medical plan cost, Avangrid employees contribute 25%. This is higher than both the energy/utility industry and the overall average of 21% and 24%, respectively.⁵²
- As a percentage of total dental plan cost, Avangrid employees contribute 39%. This is higher than both the energy/utility industry at 36%, but lower than the overall average of 50%.⁵³

For benefits not related to healthcare, Avangrid uses Aon surveys to benchmark retirement benefit programs and other fringe benefits. Figure 4-12 compares the benefits that Avangrid employees received in 2022 to the industry benchmarks in the 2022 Aon benchmarking survey.

Avangrid Employee Benefit Benchmark Comparison (Salaried Employees)		
Employee Benefit	Avangrid's 2022 Benefit	Survey Participants (1)
Defined Contribution 401(k) match	150% on 8%	Average Defined Contribution match 6.22%; Median Defined Contribution match 6%.
Defined Benefit Plan (Pension)	All CT utility plans frozen 6/30/22	14% of survey participants have DB pension plans
ER Paid Basic Life Insurance	1x annual base salary	43% of survey participants have 1x annual base salary (most common level)
Additional EE Paid Life Insurance	Up to 5x salary	26% of survey participants have up to 5x annual base salary (most common level)
ST Disability paid at 100% of salary	12 weeks at 100%; 13 weeks at 66.67% (same for all EEs)	51% of survey participants in the 1-25 week range for all EEs (most common plan)
LT Disability % of Pay Replacement	66.67% Flat Percentage of Pay	5% of survey participants in the 61-69% flat percentage of pay range (64% of participants in the 60% or less range)

Note 1: Data is from the Aon Complimentary SpecSummary for 2022 Database Participants

Figure 4-12 Salaried Employee Benefit Benchmark, 2022^{54,55}

As shown in Figure 4-12, the benefits at Avangrid are in line with industry standards. In 2022, Avangrid moved to freeze all the pension plans for their Connecticut employees, which brought them in line with industry standards regarding defined benefit plans. To compensate for freezing the pension plans, Avangrid increased their 401(k) match for non-union salaried employees to 150% of the first 8% of employee salary contributions when compared to the surveyed companies, which comprise companies with actively accruing pension plans.⁵⁶

The same Aon survey was used to compare Avangrid's policy for PTO for non-union employees to the surveyed companies. Figure 4-13 below shows a comparison of Avangrid to the surveyed companies broken into segments based on years of experience.^{57,58}

⁵² Response to FTI-0613, Att. 2 (confidential).

⁵³ Ibid.

⁵⁴ Response to FTI-0615, Atts. 1-2 (confidential).

⁵⁵ Response to FTI-0170, Att. 8.

⁵⁶ The Aon Benefit SpecSelect 2022 survey included 1,027 participants, representing 68% of the Fortune 100 and 48% of the Fortune 500 companies.

⁵⁷ Response to FTI-0615 Atts. 1-2 (confidential).

⁵⁸ Response to FTI-0170, Att. 8.

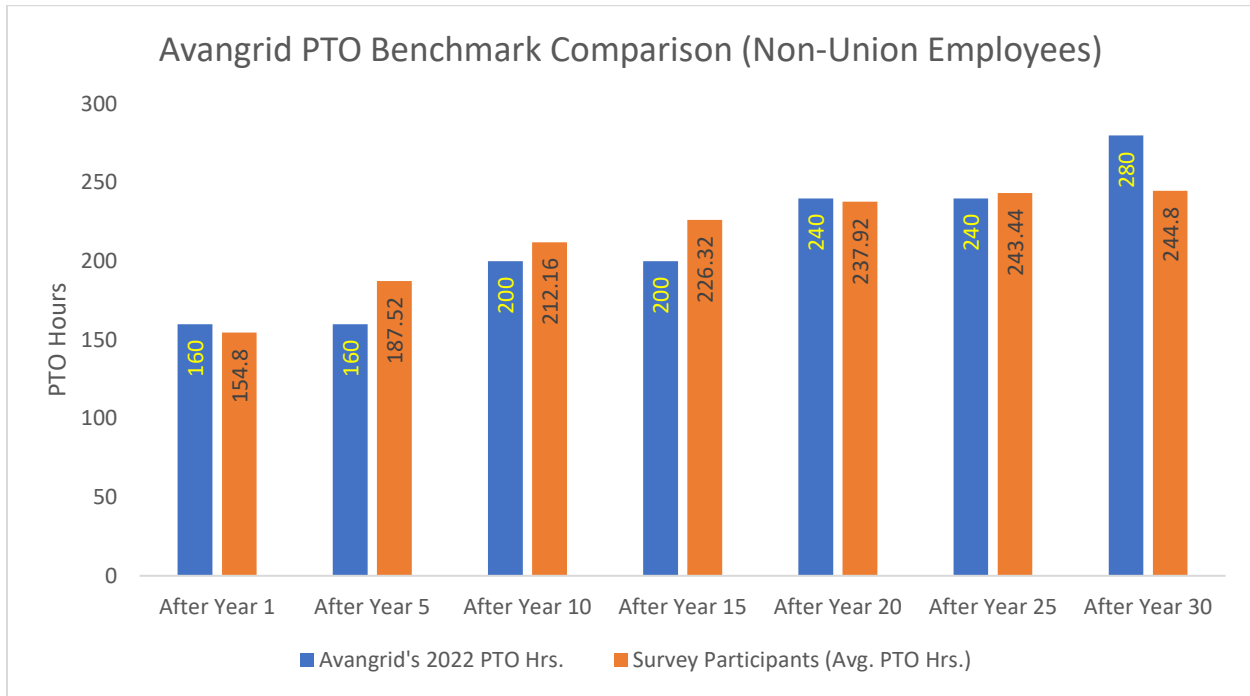


Figure 4-13 Avangrid Paid Time Off Benchmark, 2022⁵⁹

Avangrid provides employees with additional PTO for every 10 years of service. In general, Avangrid is in line with the Aon survey participants in the first five years of each decade of service time, and behind survey participants in the last five years of the decade. If Avangrid wants to improve its employee retention and attract more skilled job applicants, we recommend increasing PTO hours in the second half of each decade of service time to align more with other survey participants.

Recommendation: Avangrid should investigate revising its PTO policy to provide increases in PTO every five years so that the PTO available to employees in the second half of each decade of service time would be more aligned with benefits survey participants.

4.3. Labor Relations

4.3.1. Labor Contracts

Avangrid has entered into collective bargaining agreements with five union organizations. These are listed below in Figure 4-14 along with their contract expiration dates.

⁵⁹ Response to FTI-0615, Atts. 1-2; Response to FTI-0170, Att. 8.

Avangrid Summary of Unions, Company Organizations and Number of Employees							
Union Name	Companies	Organizations & Types of Employees Covered	Employee Counts, Year				Contract Term Ends
			2019	2020	2021	Oct-22	
Utility Workers Local 470-1	UI	Customer Care Rep, Billiing Rep, Operations Personnel	342	324	345	341	5/15/2025
Utility Workers Local 470-2	UI	Gas Controllers, Quality, 12 hr Shift Operations Personnel	38	45	36	N/A	(A)
United Steelworkers Local 12000	SCG	Construction & Maintenance, Gas Engineering, Transportation, Meter Shop, Stores, Collection Dept., Facilities, Meter Reading, Customer Service	218	184	191	183	3/23/2024
United Steelworkers Local 12000-1	SCG	Customer Care Rep, Billiing Rep	9	38	46	48	4/11/2024
Independent Utility Workers Local 12924	CNG	Operations Dispatchers, Tech Support, Engineering Technician	216	232	219	224	12/6/2026
Utilities Workers Local 380	CNG	Customer Service Dept., Distribution Dept.,	34	25	25	27	3/28/2027
Employee Count Totals			857	848	862	823	

Figure 4-14 Summary of Unions, Company Organizations, and Number of Employees^{60,61,62,63}

4.3.2. Recent History of Labor Relations

Avangrid appears to maintain effective working relationships with its CT Company labor unions. The Director of Employee and Labor Relations stated he believes the foundation for these relationships is mutual respect and transparency with respect to differences.⁶⁴

Avangrid typically begins the process for negotiating the contracts with its unions six months to a year before the expiration of the existing contract. The negotiations process begins with looking at the current contract and any issues that arose during the time the existing contract was in place. Then, Avangrid composes its strategy and exchanges proposals with the union. Avangrid reviews previously negotiated contracts in order to maintain consistency across its unions. Issues that have been high priority in recent negotiations include gross wage increases, pension plan impacts, and sign-on bonuses. In-person negotiations between Avangrid and the unions take place over the course of 12-14 meetings beginning about 6 weeks from the contract expiration. Avangrid’s collective bargaining agreements with the unions typically last four to five years.

4.3.3. Union Wage Increases and Benefit Changes

Avangrid reviews various wage studies and recent internal union settlements as well as external union settlements within the industry and geographic area to benchmark union-requested wage increases, employee benefits, job classifications, and work rules.⁶⁵ The majority of wage reviews found the wage increases to be between 2.5% and 3.5%. Avangrid provided the most recent general wage increases for each of its union contracts. The general wage increase was 3% for each union contract, except Utility Workers Local 470-2, which had a 3.25% general wage

⁶⁰ Response to FTI-0171.

⁶¹ Response to FTI-0501.

⁶² Interview with Director of Employee and Labor Relations, Connecticut, November 14, 2022.

⁶³ Utility Workers Local 470-2’s contract agreement expired on August 22, 2022. Per interview with the Director of Employee and Labor Relations, this union was merged into Utility Workers Local 470-1 at the end of August, 2022.

⁶⁴ Interview with Director of Employee and Labor Relations, Connecticut, November 14, 2022.

⁶⁵ Interview with Director of Employee and Labor Relations, Connecticut, November 14, 2022.

increase in 2022.⁶⁶ For comparison, according to the Bureau of Labor Statistics, the CPI-U in the Northeast Region increased by 6.9% for the rolling 12 months ending October 31, 2022.⁶⁷ This comparison shows a significant gap between inflation and the general wage increases negotiated in the most recent collective bargaining agreements. Therefore, Avangrid's ability to negotiate and agree to union general wage increases in subsequent contract negotiations is likely to become more challenging if the current, high level of consumer price inflation continues.

4.3.4. Changes in Union Benefits

Avangrid has implemented a pension plan freeze for all of its most recently negotiated union contracts.⁶⁸ The change follows the general business trend of moving away from pension plans to various, defined contribution plans. Freezing the pension plans was considered the most important item in Avangrid's recent contract negotiations with its Connecticut unions and is necessary to align the benefits of union and non-union employees. In addition, Avangrid froze the pension plans for all non-union employees in June 2022. To offset future increases in pension plans for eligible employees, Avangrid enhanced its 401(k) employee match and implemented a system of targeted payments over a period of several years. These payments are based on the amount of future pension benefit loss.

4.3.5. Labor Relations Metrics – Grievances

FTI reviewed the metrics Avangrid maintained for the Labor Relations function, which included data showing the number of union employee grievances, summarized in Figure 4-15.

⁶⁶ Response to FTI-0500, Att. 11.

⁶⁷ https://www.bls.gov/regions/mid-atlantic/news-release/ConsumerPriceIndex_Northeast.htm#tableA

⁶⁸ In our interview with the Director of Employee and Labor Relations, he stated that the union representing CNG-Hartford would be the last union of Connecticut employees to have pension plans frozen after their contract expired on November 30, 2022.

Avangrid Grievance Cases 2020-2022 (iSight System)									
Year	Utility	Bargaining Unit	Open Cases	Closed Case Status					Total Cases
				Step 1	Step 2	Step 3	Arbitration	Undocumented	
2020	CNG Greenwich	Utilities Workers Local 380	0	1	1	0	0	1	3
2020	CNG Hartford	Independent Utility Workers Local 12924	2	2	2	1	0	0	7
2020	SCG	United Steelworkers Local 12000	1	1	3	0	3	0	8
2020	UI	Utility Workers Local 470-1	1	6	3	0	0	4	14
2020 Total			4	10	9	1	3	5	32
2021	CNG Greenwich	Utilities Workers Local 380	2	0	2	0	0	0	4
2021	CNG Hartford	Independent Utility Workers Local 12924	0	0	0	1	0	0	1
2021	SCG	United Steelworkers Local 12000	3	1	0	1	0	0	5
2021	UI	Utility Workers Local 470-1	2	9	0	10	0	4	25
2021	UI	Utility Workers Local 470-2	0	2	1	0	0	0	3
2021 Total			7	12	3	12	0	4	38
2022	UI	Utility Workers Local 470-1	2	8	0	0	0	1	11
2022	CNG	Independent Utility Workers Local 12924	0	1	0	0	0	0	1
2022 Total			2	9	0	0	0	1	12
Overall Total			13	31	12	13	3	10	82

Figure 4-15 CT Companies' Grievance Cases, 2020-2022⁶⁹

As shown in Figure 4-15, Avangrid settled 96% of filed grievances before they reached arbitration. Being able to settle almost all grievances before reaching the arbitration stages shows a strong working relationship between Avangrid and union leadership at the CT Companies. Avangrid uses a progressive three-step procedure to settle grievances, with a goal to settle them as early in the process as possible. When a grievance is filed, it is sent to a team of employees in the Shared Services group called “The Hub”. The Hub is also where the first grievance hearing takes place. The hearing in Step 1 involves The Hub adviser, the employee supervisor, the union steward, and the Labor Relations Manager for that site. If the grievance is not settled in Step 1, it moves to Step 2 where the Labor Manager, a member of management, and the union steward attempt to reach a settlement. If the grievance is not settled in Step 2, it moves to Step 3 where the Director of Employee and Labor Relations meets with the union president or its executive board in an attempt to reach an agreement. The Director confers with senior management on any proposed settlements, especially if the settlement involves significant compensation from Avangrid. If a settlement is not reached after Step 3, then the case goes to arbitration. As shown in the table above, nearly half of the grievance cases since 2020 have been settled in Step 1 or 2.

In 2019, Avangrid changed the system of record for grievances from Neocase to iSight. The transition between systems has created a substantial loss of grievance data history. For the years 2017 through 2019, the only relevant data Avangrid was able to provide was the case number and the category of the grievance.⁷⁰ During our interview with the Director of Employee and Labor Relations, he mentioned the lack of historical data is an impediment to

⁶⁹ Response to FTI-0502, Att. 1 (confidential); response to FTI-0625, Att. 1 (confidential).

⁷⁰ Response to FTI-0175, Att. 1.

him and his team during negotiations when the union cites precedent on specific issues. The Director also mentioned during the interview that several people are still attempting to regain access to the Neocase grievance database. Avangrid does not benchmark its grievance data against other companies, citing differences in union contracts.⁷¹

As shown in Figure 4-15, Avangrid had a sharp decline in grievance cases filed for the first 10 months in 2022 when compared to the yearly totals from 2020 and 2021.⁷² During our interview with the Director of Employee and Labor Relations, he mentioned that the expected number of filed grievance cases in 2022 to be lower than in previous years due to the increase in contract negotiations for soon-to-be-expired contracts.

The current grievance database used by Avangrid, iSight, could be enhanced to include a more robust set of data. The Shared Services “Hub” advisor is responsible for entering the grievance data into iSight. A Labor Relations or an Employee Relations employee is responsible for closing the grievance in iSight. The iSight database does not retain the following information for each grievance case, which would be useful for reviewing general grievance trends and individual grievance outcomes.

- Date that the grievance is filed
- Date that the grievance is closed
- Whether the grievance was closed in favor of Avangrid or the union
- At what step in the process was the grievance closed or settled (some cases in the database are shown as closed without any documentation of at what step the case was closed)

Furthermore, there have been many times when Avangrid could not locate the hard copies of the grievance case information. We believe that having a more robust and consistent method of electronically tracking and recording grievance data as well as filing hard copies of grievance documentation would allow Avangrid to more effectively and efficiently manage and settle grievance cases with its unions.

Recommendation: Avangrid should implement a more robust and consistent method of electronically tracking and recording grievance data as well as filing hard copies of grievance documentation. This would allow Avangrid to more effectively and efficiently manage and settle grievance cases with its unions. In addition, Avangrid should work to recover the grievance files from the old grievance tracking system, Neocase.

4.4. Workforce Planning

4.4.1. Current Workforce Status

Authorized workforce levels at the CT Companies have remained stable over the past few years, with the only notable reduction occurring at UIL in 2020, where certain positions were transferred to the ASC. Staffing levels are summarized in Figure 4-16.

⁷¹ Interview with Director of Employee and Labor Relations, Connecticut, November 14, 2022.

⁷² Avangrid submitted the response to FTI-0502 showing the Neocase database in late November 2022.

Avangrid Networks Analysis of Open Positions 2019 to 2022 YTD												
	12/31/2019			12/31/2020			12/31/2021			10/31/2022		
	Active HC	Open Positions	Vancancy Rate	Active HC	Open Positions	Vancancy Rate	Active HC	Open Positions	Vancancy Rate	Active HC	Open Positions	Vancancy Rate
CNG	322	11	3.4%	331	8	2.4%	318	12	3.8%	316	25	7.9%
SCG	306	21	6.9%	317	11	3.5%	310	9	2.9%	300	47	15.7%
UI	644	22	3.4%	622	33	5.3%	631	17	2.7%	605	52	8.6%
UI Holdings	154	10	6.5%	127	9	7.1%	125	7	5.6%	129	9	7.0%
Avangrid Service Co.	466	51	10.9%	557	35	6.3%	611	62	10.1%	616	67	10.9%
Avangrid Networks	5,375	320	6.0%	5,699	354	6.2%	5,904	387	6.6%	5,968	544	9.1%

Figure 4-16 ASC, UIL, and CT Companies' Open Positions Analysis, 2019-2022 YTD⁷³

Vacancy rates at the CT Companies remained generally stable between 2019 and 2021. The CT Companies did not implement policies to restrict hiring during the pandemic. However, all CT Companies have experienced sharp increases in vacancies in 2022. Open positions at UI are highest in the Electric T&D Operations and Projects groups, while CNG's and SCG's vacancies are concentrated in the Gas Operations function.⁷⁴ Management attributed the increases to higher attrition rates and retirements.⁷⁵ The trends impacting the CT Company workforce mirror those seen across the nation. Despite these increases, the vacancy rates at CNG and UI remained below the average of all Networks utility companies.

4.4.2. Planning and Demand Forecasting

Avangrid's workforce requirements are created with established headcount targets that align with approved rate cases and the CT Companies' financial plans. The headcount targets govern requests for new internal positions and/or backfilling vacancies as they occur.⁷⁶

UI has an extensive workforce planning process that is based on project scheduling for the utility. Workforce planning is reviewed on a weekly basis to make decisions on how to allocate resources as well as to determine if external resources are required. Managers base their workforce planning decisions on:

- Availability of UI construction workforce by time period and skill set
- Total project construction labor requirements by time period and skill set

Cost-effectiveness is the top priority in project scheduling. Internal resources are preferred and used over outside or contractor resources. Project schedules are modified and revised as project needs and requirements change.⁷⁷ There have been no material constraints in workforce planning specific to financial constraints during the audit period.⁷⁸

For construction-related projects and programs, the project manager identifies the labor needed for all activities, including the design, planning, and execution phases. When the project schedule is developed, the project

⁷³ Response to FTI-0510, Att. 1.

⁷⁴ Response to FTI-0510.

⁷⁵ Response to FTI-0515.

⁷⁶ Response to FTI-0182.

⁷⁷ Response to FTI-0181.

⁷⁸ Response to FTI-0182.

manager then meets with representatives from construction operations, engineering, and project management and scheduling to review the scope, timing, and resource needs.⁷⁹

Line, Substation and Scheduling Managers determine whether electric infrastructure construction and maintenance work will be done internally or with third-party contractors. Those managers are responsible for acquiring external construction contractors when necessary and appropriate. When an outside contractor is required, a completed Union Notification Form is submitted to the operations manager 30 days before the start of construction. This provides time for management and union leadership to review the proposed contracted work prior to the start of the construction project.⁸⁰

SCG and CNG do not have a formal workforce resource planning process. Workforce planning and requirements are based on planned work and historical production rates. Resources are planned based on this analysis and supplemented as required for incremental or emerging business needs.

Recommendation: SCG and CNG should implement a formal workforce resource planning process that utilizes best practices from UI.

4.4.3. Contractor Workforce

Contractor spending at all CT Companies is heavily weighted to large capital construction projects (which account for 80% or more of contracted costs). In addition, CNG and SCG use third-party contractors to maintain workforce flexibility. Most primary operations and maintenance functions are performed using internal labor, while certain program work, such as leak-prone main replacement, is assigned to third-party contractors.

UI utilizes contractors based on its assessment of the capital construction forecast. When internal resources are not sufficient, or do not have the expertise required, resource demands are supplemented with external contractors to meet the construction plan.⁸¹ Contractor expenditures are summarized in Figure 4-17.

Contractor Expenditures			
2020 through 2022 YTD (through October)			
<i>(in thousands)</i>	UI	CNG	SCG
2019	\$ 121,800	\$ 38,730	\$ 57,766
2020	\$ 144,388	\$ 48,658	\$ 76,354
2021	\$ 94,749	\$ 49,286	\$ 83,076
2022 YTD	\$ 119,030	\$ 38,561	\$ 68,088

Figure 4-17 Contractor Expenditures, 2020-2022 YTD⁸²

Contractor spending at all three CT Companies has been relatively flat during the past three years. The pandemic did not materially affect completion of the CT Companies’ Capital Plans, nor were third-party contractors needed to supplement the internal workforce due to availability concerns.⁸³

⁷⁹ Response to FTI-0181.
⁸⁰ Ibid.
⁸¹ Response to FTI-0186.
⁸² Response to FTI-0514.
⁸³ Response to FTI-0190.

4.4.4. Connecticut Company Overtime

Avangrid and the CT Companies track overtime using dashboards derived from data extracted from the timekeeping system. Overtime data is analyzed several different ways, including year-over-year comparisons as well as budget to actual comparisons. The dashboard also tracks overtime hours in the areas of capital expenditures, operating expenses, storm, and unplanned outage.⁸⁴ Budget to actual overtime comparisons are calculated by taking the current budgeted overtime dollars divided by historical average hourly rates. In our analysis, we were unable to obtain any evidence that the information from the overtime dashboards, particularly the variances between budgeted and actual overtime, was being actively managed in a meaningful way. As the overtime dashboard tool, which was created in 2020, matures and management gains more familiarity with it, CT Company management should be able to utilize the tool to better manage the significant budget variances in the utility workforce.

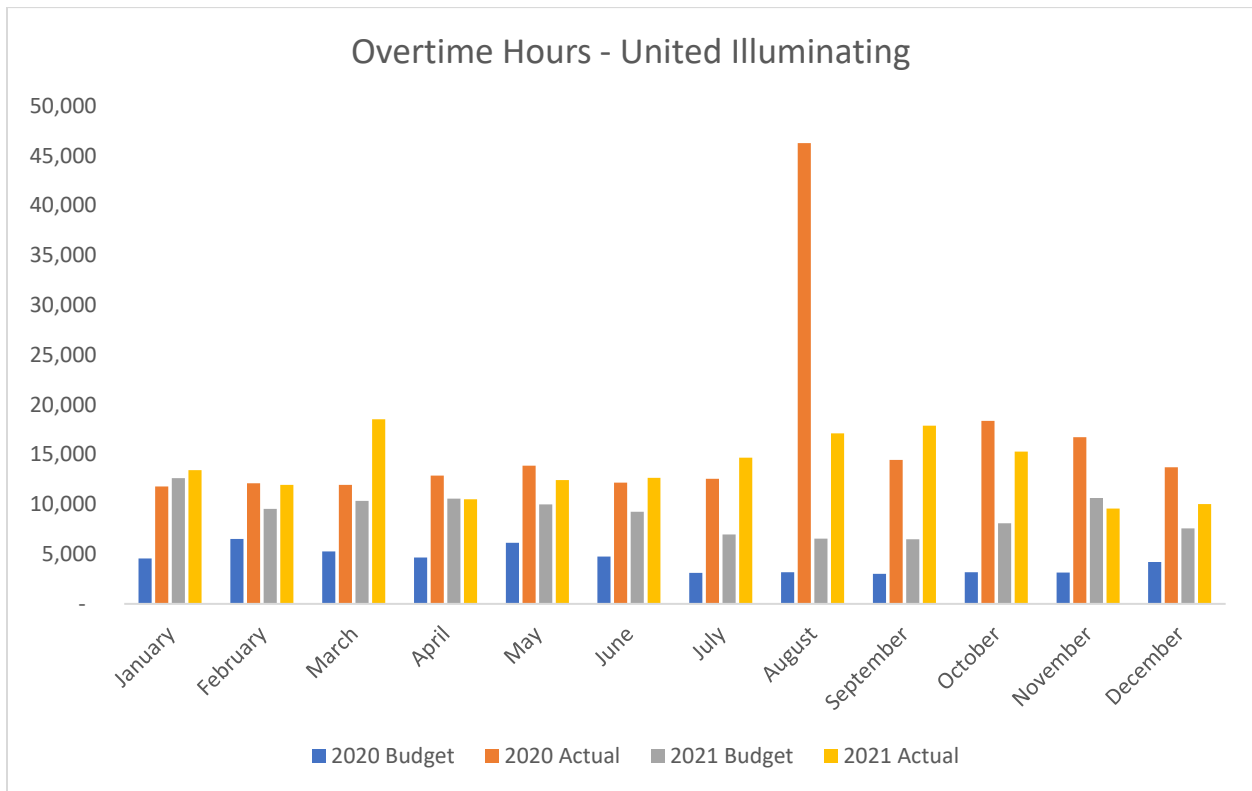


Figure 4-18 UI Overtime Hours, 2020-2021, Budget vs. Actual⁸⁵

Figure 4-18 shows a comparison of UI’s overtime hours in 2020 and 2021, and budgeted hours to actual hours during that timeframe. UI’s dashboard was not available in 2019. In 2020, the actual overtime hours were consistently and significantly higher than the budgeted hours for that year. There was also a spike in actual overtime hours in August 2020 caused by Tropical Storm Isaias. Isaias caused \$21 million in infrastructure damage and led to more than 750,000 power outages in Connecticut.⁸⁶

⁸⁴ Response to FTI-0188.

⁸⁵ Response to FTI-185, Atts. 1-2; Response to FTI-0506.

⁸⁶ Morga, Adriana. “Connecticut’s major hurricanes and tropical storms of the past decade” CT Insider August 20, 2021. <https://www.ctinsider.com/news/article/Connecticut-s-major-hurricanes-and-tropical-16400696.php>

In an interview with Charles Eves, the Vice President of Electric Operations, he stated that budgeting and tracking overtime using this tool was in its early stages in 2020 and not fully vetted.⁸⁷ In the tool’s early usage, the focus was more on how to share the data internally, specifically with operations or field managers, than on creating a perfect budget. Mr. Eves also stated that the 2020 budgeted overtime hours were not reasonable, especially in hindsight given the storms that occurred in August 2020, but in subsequent years, the budgeted overtime hours are more in line with actual overtime required.

For the gas companies, CNG and SCG, overtime is used to account for resource and work leveling (leak response, emergency response, AOCs, meter services, etc.) for peak demand period throughout the year.⁸⁸ In 2020 and 2021, CNG and SCG each had accumulated more overtime hours than any other Networks gas utility, including the larger gas utilities of NYSEG and RG&E (see Figure 4-19).

Avangrid Overtime Hours by Avangrid Gas Operation Company						
	NYSEG	RG&E	Maine Natural Gas	BGC	SCG	CNG
2020	47,104	25,370	724	12,810	72,191	54,707
2021	39,433	31,701	559	15,202	72,586	63,975

Figure 4-19 Overtime Hours by Networks Gas Company⁸⁹

SCG and CNG overtime hours are broken down by month in Figure 4-20 and Figure 4-21 with a comparison of actuals to budget.

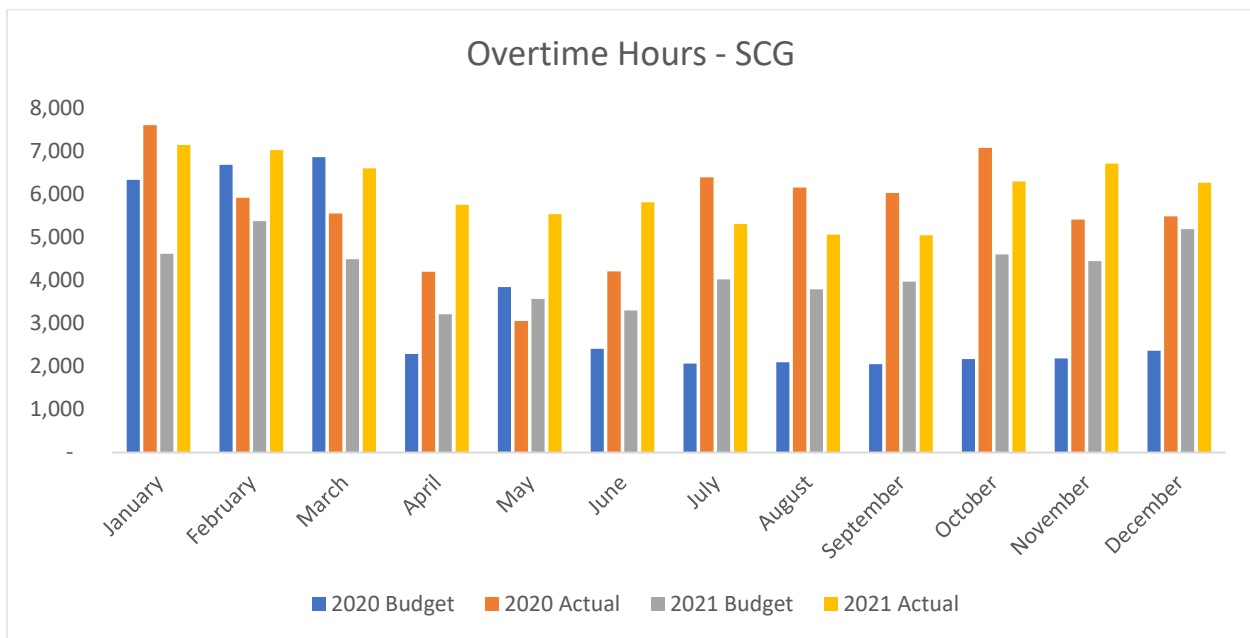


Figure 4-20 SCG Overtime Hours, 2020-2021, Budget vs. Actual⁹⁰

⁸⁷ Interview with Vice President of Electric Operations (Charles Eves), et al., November 16, 2022.

⁸⁸ Response to FTI-0181.

⁸⁹ Response to FTI-0185, Att. 2, p. 1.

⁹⁰ Response to FTI-0511, Atts. 3-4.

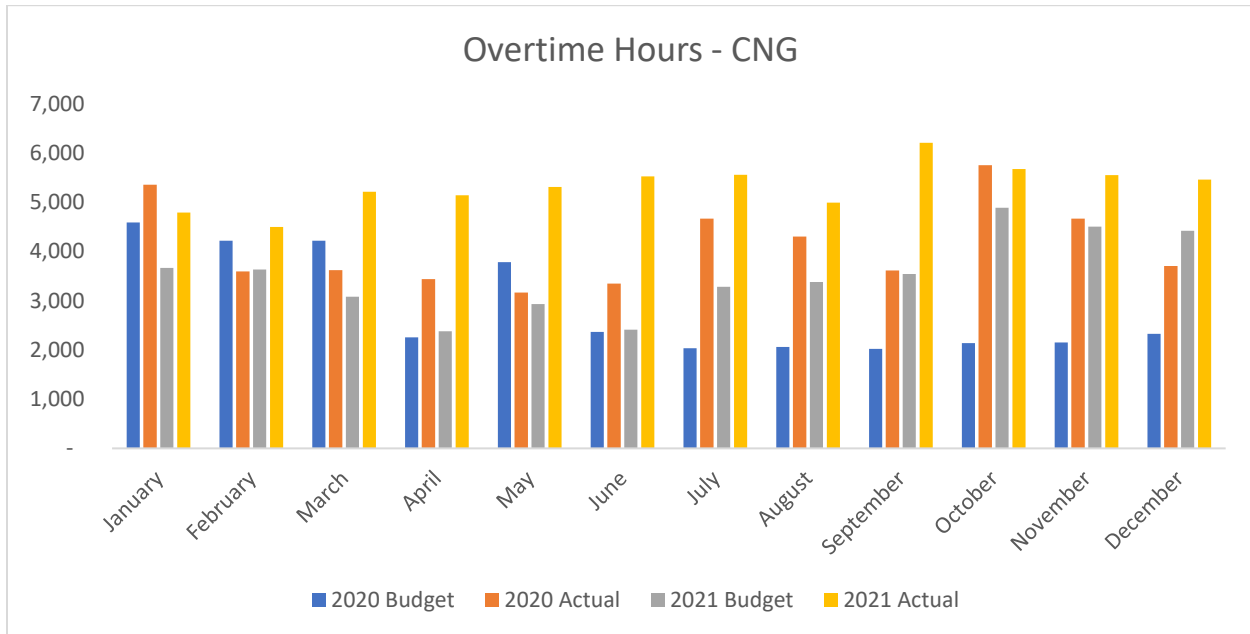


Figure 4-21 CNG Overtime Hours, 2020-2021, Budget vs. Actual⁹¹

During our Workforce Planning interview with the Vice President of Gas Engineering and Operations (Albert Langland), he mentioned that one of the reasons that the 2020 budgeted overtime was so low for both SCG and CNG compared to the 2020 actual overtime was due to a 25% decrease in 2020 overtime budget from the 2019 overtime actuals.⁹² Another reason included the erroneous inclusion of service on customer premise (“SOCP”) work, which is reimbursed by the customer. The final reason given for the variance was due to the COVID-19 pandemic. Many employees took sick leave and crews had to be separated due to pandemic protocols.

Networks does perform benchmarking activities concerning their usage of overtime and contractors. Instead they use industry forums such as Edison Electric Institute (“EEI”), the American Gas Association, and a consortium of utilities primarily located in the Northeast that regularly share information and best practices. When asked for these results Avangrid stated that these benchmarking activities are protected by non-disclosure agreements and are not available to be released through the discovery process for this audit.^{93,94}

4.4.5. Aging Workforce

A recent industry benchmarking report made several observations regarding the demographic characteristics of the utility workforce in the U.S. compared to general industry:⁹⁵

- The utility industry employs an older, longer-tenured workforce than general industry, as well as a higher concentration of employees approaching retirement age.
- The utility industry has experienced a shift toward a younger workforce. While still higher than the national average, the percentage of workers aged between 45 and 65 fell from 49% in 2018 to 44% in 2021.

⁹¹ Response to FTI-0511, Atts. 1-2.

⁹² Interview with Vice President of Gas Engineering and Operations, Networks (Albert Langland) et al., November 16, 2022.

⁹³ Response to FTI-0189.

⁹⁴ Response to FTI-0191.

⁹⁵ Response to FTI-0615, Att. 5 (confidential). *Retirement Benefit Programs in the Utility Industry*, AON, August 2022, p.22.

- The utility industry workforce has increased 1.3% between 2018 and 2021, despite a nationwide decline of 2.2%.
- The utility industry has fewer employees under the age of 25.

Avangrid has not implemented any formal policies to mitigate the impact of an aging workforce.⁹⁶ As noted earlier, increasing retirements are contributing to higher vacancy rates in 2022 which, in part, were due to economic conditions and higher interest rates. The CT Companies use succession planning, knowledge transfer, and talent development for critical roles with retirement-eligible incumbents. If no internal successors are ready, the CT Companies start the recruiting process for the critical role as soon as the incumbent employee communicates to management his or her intent to retire.⁹⁷

Recommendation: Avangrid should build a formal long-term workforce strategy that evaluates the continued risk posed by its workforce aging profile, specifically employees with retirement eligibility, and determine whether existing policies and procedures are sufficient to mitigate potential staffing shortages in critical positions. Pending the outcome of this evaluation, Avangrid should consider the implementation of programs such as expanding partnerships with colleges, trade schools, and area high schools to build a pipeline of trade employees. The Company should also consider strategies for attracting mid-career employees who can develop into and fill future leadership roles including expanding searches to other complimentary industries.

The average age of employees at the CT Companies is shown in Figure 4-22.

⁹⁶ Response to FTI-0194.

⁹⁷ Ibid.

Average Workforce Age by Company - 2019 through 2022 YTD (through April)				
Company / Department	Dec-19	Dec-20	Dec-21	Dec-22
Connecticut Natural Gas Corporation	47.84	47.88	48.04	47.43
Customer Service	49.04	49.40	50.43	49.21
Gas Operations (Note 1)	47.55	47.33	47.18	46.72
Energy Supply		58.11	58.67	54.09
Gas Engineering		45.88	46.31	49.00
Office of CEO	62.00	63.00	64.00	64.00
Planning & Coordination				40.00
Projects				46.42
Regulatory	45.00	46.00	47.00	48.00
Southern Connecticut Gas Company	48.37	47.86	47.52	47.49
Customer Service	46.12	45.82	46.98	47.00
Gas Operations (Note 1)	48.71	47.61	47.59	47.56
Energy Supply		59.50	43.33	49.50
Gas Engineering		52.07	49.65	40.00
Performance & Budgets		48.00		
Projects			23.50	49.52
Regulatory	60.67	62.50	67.00	
United Illuminating Company	47.38	47.14	46.68	46.96
Asset Management and Planning	43.78	42.76	44.10	46.89
Customer Service	47.26	47.99	47.72	47.56
Electric T&D Operations	47.39	47.01	46.40	46.81
Electric Transm&Dist	48.33			
Energy Supply		39.00	40.00	41.00
Gas Engineering		53.00	54.00	
Gas Operations	45.00			
Office of CEO		51.00	52.00	52.00
Operational Smart Grids		45.90	44.78	45.26
Performance & Budgets		40.50	38.50	39.00
Planning & Coordination				45.82
Planning & Investment	60.50	61.50	62.00	62.00
Process & Technology	49.55	48.63	49.00	49.95
Projects	48.27	47.59	47.93	46.86
Regulatory	45.50	46.50	41.25	41.67
Reliab & Emergency Prep				55.00
Smart Grids	46.20			
Smart Grids Innovation		53.00	55.00	56.00
UIL Holdings Corporation	49.30	48.87	48.23	47.99
Asset Management and Planning	31.50			
Customer Service	48.82	48.35	47.86	47.63
Gas Operations (Note 1)	56.00	57.00	58.00	58.00
Regulatory	53.63	50.59	49.41	49.00
UIL President Office	47.00	48.00	45.75	46.25
Grand Total	47.84	47.61	47.30	47.27

Figure 4-22 Average Age of CT Company Employees, 2019-2022 YTD⁹⁸

⁹⁸ Response to FTI-0193.

The average age of the CT Companies' employees is consistent with the broader utility industry. The overall averages have not changed significantly since 2019, and key operating functions, such as Electric T&D Operations and Gas Operations, have seen a slight decrease in average age during the period. This trend is consistent with recent increases in retirements that would lower these averages.

4.4.6. Succession Planning

Avangrid identifies hard-to-fill positions at the CT Companies as those which are open for more than 90 days, or that require a niche skill set and/or education.⁹⁹ The COVID-19 pandemic, the “Great Resignation,” and the resulting attrition have created a challenging labor market for companies throughout the country. In response, Avangrid had to expand its benefits offerings to attract and retain talent as well as conduct salary reviews to ensure the CT Companies are offering competitive compensation to current and prospective employees. Training and development programs and offerings have been expanded for some roles.¹⁰⁰

Succession planning is performed by HR in collaboration with business functions for critical and key roles in Avangrid. Avangrid considers critical and key roles as those with a high risk of vacancy and are difficult to fill (around 5% of positions). For these roles, Avangrid identifies potential successors and categorizes them based on a timeline for succession (“ready now,” “ready in 1-2 years,” and “ready in 3-5 years”).¹⁰¹ In 2020, Avangrid had succession plans for 38 critical roles. In 2021, Avangrid had 131 succession plans for critical and key roles, and roles are still being identified in 2022.¹⁰² Also for 2022, HR is extending succession planning to Avangrid’s important roles (entry-level manager roles other than key or critical), by transferring the responsibility for succession planning to the groups or business functions that contain them.¹⁰³

4.5. Training and Development

HR training plays an essential role in Avangrid through educating new hires on their job requirements and Avangrid culture, as well as providing and sharing knowledge that enables current employees to obtain new skills as they advance their Avangrid career. In acknowledging that people learn best in different ways, Avangrid advocates the “70/20/10 Model of Learning” where:¹⁰⁴

- 70% of learning comes from on-the-job experience
- 20% of learning comes from employee relationships
- 10% of learning comes from formal training sessions

4.5.1. Training Organization

Virtually all training is provided and managed through Avangrid’s HR group. Separate groups administer programs for technical training, EHS training, and general corporate training. Avangrid employs a total of 16 technical trainers and 3 EHS trainers. The technical training group is dispersed geographically by state, while the EHS training

⁹⁹ Response to FTI-0195.

¹⁰⁰ Response to FTI-0197.

¹⁰¹ Response to FTI-0199.

¹⁰² Response to FTI-0196 (as of May 31, 2022).

¹⁰³ Ibid.

¹⁰⁴ <https://www.avangrid.com/wps/portal/avangrid/peopleandtalent/careeradvancement/training>

staff supporting the CT Companies is based at the Avangrid corporate office and travels throughout Networks service territory to deliver in-person training.¹⁰⁵

	Trainers	Assigned to CT Utilities
Technical Training:		
Electric	6	1
Gas	5	2
Customer Service	5	1
Subtotal	16	4
EH&S	3	2 (1 part-time)

Figure 4-23 Technical Trainers Assigned to CT Companies¹⁰⁶

Management indicated that resources have been added for the CT Companies over the past five years to address technical training needs.¹⁰⁷

The technical training group is responsible for course content creation. The courses are developed in coordination with subject matter experts in the various technical disciplines and are updated to reflect changes in operating practices or regulatory requirements.¹⁰⁸ A team within the technical training organization develops and provides Operator Qualification (“OQ”) compliance training for SCG and CNG field employees (see Chapter 2 for more information on OQ Program). In addition, the group has partnered with a vendor, Encora, to provide a web-based training software platform in support of expanding remote learning initiatives.

4.5.2. Training Course Content

Training courses are assigned to field employees based on their job responsibilities. Electrical technical training employs Time Merit Programs (“TMP”), which is a framework for progression through competencies associated with each position. Similarly, natural gas technical training is composed of general knowledge courses available to all field gas employees as well as other role-specific knowledge courses. Annual standards training, conducted by the Gas Operations group, highlights changes to the standards from the prior year. Both electrical and natural gas technical training prominently feature on-the-job training, which management believes enhances the retention of best practice methods and principles.¹⁰⁹ While the content for technical courses is initially developed at the Avangrid level, each CT Company has its own training materials that are customized for their operating practices.¹¹⁰

Customer service training is taught through both virtual and in-person classes. Training consists of instruction, training materials, job aids and hands-on exercises. There are separate training programs for UI, CNG and SCG, although the gas company training sessions are combined. Any operating differences are noted by the training

¹⁰⁵ Joint Interview with Manager of Technical Training, Connecticut, and Manager of HRHS Health & Safety Compliance, Connecticut, October 31, 2022.

¹⁰⁶ Response to FTI-0677.

¹⁰⁷ Response to FTI-0204.

¹⁰⁸ Response to FTI-0677.

¹⁰⁹ Response to FTI-0200.

¹¹⁰ Joint Interview with Manager of Technical Training, Connecticut, and Manager of HRHS Health & Safety Compliance, Connecticut, October 31, 2022.

facilitator. The training courses are split into two phases and include topics such as billing, move-in/move-out, and credit and collections.¹¹¹

Mandatory technical, EHS and customer service training courses vary by company and discipline. As mentioned earlier, gas training is more focused on apprenticeship field training rather than classroom courses. The number of required training courses is summarized in Figure 4-24.

Company	Training Type	Required Courses
UI	Technical	29
CNG/SCG	Technical	3
CNG/SCG/UI	Technical	2
CNG/SCG/UI	EH&S	50 *
UI	Cust. Service	43
CNG/SCG	Cust. Service	41
* Several are job-dependent (i.e., forklift operator)		

Figure 4-24 CT Companies' Required Training Courses¹¹²

4.5.3. Training Software and Reporting

Avangrid uses multiple software platforms to administer training courses. The SAP Learning Solutions Module (“SAP-LSO”) is the system of record for employee training course completion per the Avangrid document retention policy.¹¹³ However, the actual technical and EHS training courses are delivered through a separate learning management system, GPILearn+. The GPILearn+ platform is used for course assignments, employee notifications, course completions and reporting.

Notifications of enrollment and outstanding training courses are sent to employees and managers automatically. The majority of course completions are automatically registered in the system as the content is delivered through the software application. In rare cases, completions are manually entered by trainers. All technical training courses necessary to qualify for union job classifications and all EHS courses require employees to obtain a passing test score.¹¹⁴

The EHS training group maintains the system and provides monthly dashboard reporting to operating group. The system is capable of reporting at the company, group, and manager levels. The EHS team also uploads employee course completions to SAP-LSO each month.¹¹⁵

4.5.4. Training Hours

All in-person training stopped as COVID-19 spread rapidly in the first half of 2020, although virtual training continued during that time. Avangrid has since returned to in-person trainings for all courses that were offered in such manner before the pandemic.¹¹⁶ Training hours at each of the CT Companies are shown in Figure 4-25.

¹¹¹ Response to FTI-0165.

¹¹² Response to FTI-0671, Att. 1.

¹¹³ Response to FTI-0201.

¹¹⁴ Joint Interview with Manager of Technical Training, Connecticut, and Manager of HRHS Health & Safety Compliance, Connecticut, October 31, 2022.

¹¹⁵ Response to FTI-0201.

¹¹⁶ Response to FTI-0205.

Training Hours by Company 2020, 2021 and 2022 (YTD through Sept.)					
2020					
Training Type	Company				Total
	UI	UI Hold.	CNG	SCG	
Technical	6,654	958	2,516	3,467	13,595
Health & Safety	2,576	347	1,813	1,415	6,151
Other	3,833	833	1,731	1,379	7,776
Total	13,063	2,138	6,060	6,261	27,522
2021					
Training Type	Company				Total
	UI	UI Hold.	CNG	SCG	
Technical	6,019	107	1,958	2,283	10,367
Health & Safety	6,169	235	1,836	1,427	9,667
Other	5,318	1,204	1,998	1,785	10,305
Total	17,506	1,546	5,792	5,495	30,339
2022					
Training Type	Company				Total
	UI	UI Hold.	CNG	SCG	
Technical	1,565	128	796	1,563	4,052
Health & Safety	4,592	214	1,788	2,530	9,124
Other	3,279	877	1,419	1,564	7,139
Total	9,436	1,219	4,003	5,657	20,315

Figure 4-25 Training Hours by CT Company, 2020-2022 YTD¹¹⁷

Training hours at SCG and CNG were below historical averages in both 2020 and 2021. Management expects training hours to normalize in 2022. The year-to-date numbers in the table above do not reflect the cyclical nature of employee training, where courses are taken closer to mandatory completion dates that typically occur in the 4th quarter of each year.¹¹⁸ Avangrid expects to improve the monitoring of training hours during 2023, including monthly forecasting of training hours as well as monthly reconciliation of budgeted and actual hours.¹¹⁹

Similar trends were noted in the training hours per employee, shown in Figure 4-26. The data was not provided at the individual CT Company level; however, for Networks, the reductions in training hours and expenses due to the pandemic are expected to normalize by the end of 2022.

¹¹⁷ Response to FTI-0672.

¹¹⁸ Response to FTI-0675.

¹¹⁹ Response to FTI-0672.

Avangrid Networks Employee Training Per FTE		
Year	Average Training Hours per FTE	Average Amount Spent per FTE
2019	23.25 hrs	\$105.25
2020	19.3 hrs	\$59.38
2021	23.12 hrs	\$97.60
2022 (Sept YTD)	14.81 hrs	\$80.51

Figure 4-26 Networks Employee Training per FTE, 2019-2022 YTD^{120,121}

Training costs represent only those incurred by the HR group. Training costs and hours are tracked by corporate entity and by major business units. Networks training costs were charged directly to UIL and then allocated to the CT Companies using the Massachusetts formula from 2019-2021 in the period prior to the SAP global integration. The 2022 training costs post SAP global integration are recorded in company-specific analytical orders in SAP global.¹²²

Management expects training costs per employee to remain below historical averages due to the expansion of virtual offerings. Avangrid has initiated a virtual e-learning strategy for several trainings that were previously instructor led or paid for on an individual basis.¹²³

¹²⁰ Response to FTI-0203.

¹²¹ Response to FTI-0675.

¹²² Response to FTI-0202.

¹²³ Response to FTI-0673.

Chapter 5: Customer Operations

Introduction

This chapter reviews Avangrid, Inc.'s ("Avangrid") customer operations in Connecticut. Topics covered include management and organization, customer contact operations, metering and billing, customer complaints, hardship programs, and account dunning and collections.

Over the past decade, utility customer service functions have become more efficient and more automated, but also more complex, particularly in areas such as customer contact operations, service billing, and payment and metering. Utilities have increased their focus on an improved customer experience, including keeping customers better informed, providing expanded digital access to accounts through websites and applications, refining complaint handling processes, implementing programs to better identify and assist lower-income customers, and improving programs to assist all customers with energy planning and conservation.

Findings

Management and Organization

1. Shortly after merging with UIL Holdings Corporation ("UIL") in 2015, the new parent entity Avangrid created a centralized organizational model with five functional Directors reporting to one Vice President of Customer Service for Avangrid Networks ("Networks") who supervises customer service operations for all of Avangrid's regulated utilities. In 2019, Avangrid's customer service function began a transition back to a more geographically focused organization when it hired a new state-level Vice President of Customer Service for Maine. Currently, New York, Maine, and Connecticut all have state-level Vice Presidents reporting to the Vice President of Customer Service for Networks. Three Directors (Customer Care, Customer Programs and Products, and Customer Experience and Digital Transformation) work on a functional level for all Networks utilities and also report to the Vice President of Customer Service for Networks.
2. The overall cost efficiency of Connecticut's customer service organization as a function of customers per employee has improved slightly in the last three years. However, it appears this is primarily due to higher employee attrition in the three Customer Relations Centers ("CRCs"), all of which have fallen below targeted staffing levels in the last two years.
3. Apart from external and internal customer satisfaction and customer perception surveys, Avangrid does not benchmark quantitative customer service performance metrics among its own utilities or against utilities outside of Avangrid.
4. UIL's three regulated gas and electric utilities in Connecticut, the United Illuminating Company ("UI"), the Southern Connecticut Gas Company ("SCG"), and the Connecticut Natural Gas Corporation ("CNG") (collectively the "CT Companies"), maintain metrics to measure various facets of customer service operations, including telephone, billing, metering, accounts receivables and collections, customer satisfaction, and customer experience. In Connecticut, Avangrid maintains three metrics known as Priority Targets, which are used in customer service employee performance reviews. These include the customer complaints rate, the contact satisfaction rate, and the telephone average speed of answer ("ASA").

5. A high-level organizational analysis shows that the CT Companies have approximately half the number of customers per employee in certain customer and technical support, marketing, and sales organizations compared with Avangrid's New York and Maine utilities. In commenting on our draft report Avangrid stated that this metric does not take into account that employees of the CT companies also perform customer work for other utilities outside Connecticut and code their time as such. It was beyond the scope of this audit to perform a detailed analysis of Avangrid customer service employee time attributable to individual utilities, however we acknowledge it could mitigate the relative efficiency levels suggested by a comparison of customers per employee based solely on the utilities employees work for.

Customer Contact Operations

6. The CT Companies use a mix of employee and contracted Customer Service Representatives ("CSRs" or "agents") to operate its CRCs. In recent years the CRCs have operated using a ratio of approximately 1/3 Avangrid employees and 2/3 contracted CSRs.
7. Each CT Company has its own CRC. Employee CSRs work only for the utility employing them. However, CNG's and SCG's CRCs are integrated to the extent that customer traffic for both utilities is merged into a single call queue for contracted CSRs.
8. Based on our experience, the CT Companies' telephone performance in the live agent communications channel appears below average. The ASA, average call hold times, and call abandonment rates all appear higher (poorer) than they should be for a utility of Avangrid's size and sophistication.
9. Only one Priority Target metric, the ASA, applies for performance evaluation purposes in the Connecticut CRCs. In our view, the current ASA target of 90 seconds does not represent a high or even necessarily adequate level of performance.
10. Avangrid stated it has experienced high employee attrition in its Connecticut CRCs and had difficulty maintaining adequate staffing in 2022. CRC staffing declined by 20 employees (15%) between the end of 2019 and September 2022. CNG experienced an annual CRC employee attrition rate of 63% in the nine months ending September 2022, compared with 11% attrition in 2020 and 16% in 2021. Authorized CRC staffing levels for the CT Companies were 20% higher than actual staffing at the end of September 2022. An inadequate employee force with an insufficient level of experience due to high attrition may be partly responsible for below average phone metrics noted above. It may also be that the experience level among contracted CSRs is currently below what it should be.
11. The CT Companies have made progress in eliminating paper bills, moving payments into an online, paperless system, and moving customer voice communication to digital channels. Between 2018 and 2022, the percentage of electronic bills increased from 32% to 45%, online payments increased from 61% to 78%, and the percentage of automatic debit and credit payments doubled, from 7% to 14%. From 2019 through 2022 the percentage of inbound customer calls completed (contained) in the digital channel increased from 56% to 62%.
12. The CT Companies appear to have adequate programs in place to ensure that customer contact employees are properly trained. There are separate training programs for UI and for SCG and CNG. Both sets of programs include two progression levels and contain modules covering the important aspects of customer service and customer interaction.

Metering and Billing

13. CT Company meters are nearly all automated. At the end of 2022, approximately 70% were smart meters using Advanced Metering Infrastructure (“AMI”) and the remaining 30% were Automated Meter Read (“AMR”) meters, which have radio devices that transmit energy usage data to a data collection device passing within range of the meter.
14. SCG’s meters are nearly all AMI meters. A majority of Avangrid’s AMR meters in Connecticut belong to CNG. Avangrid plans to replace these with AMI meters and stated that approval by the Connecticut Public Utilities Regulatory Authority (“PURA”) will be addressed in an upcoming rate case. Notwithstanding plans to convert CNG’s meters to AMI, during the years 2019 through 2022, Avangrid replaced approximately 27,000 of UI’s AMR meters with AMI meters and, at the end of 2022, UI had fewer than 50,000 AMR meters awaiting conversion to AMI.
15. Avangrid’s Connecticut meter read rates (meters read as a percentage of meters scheduled for reading) averaged approximately 98.5% for AMI meters and approximately 97.5% for AMR meters between 2019 and 2022.
16. Billing exceptions are bills flagged by the Customer Information System (“CIS”) due to either meter readings or billed amounts that fall outside of tolerance levels. Connecticut’s billing exceptions rates are declining, but appear relatively high (e.g., between 8% and 9% in 2020 and 2021) considering that meters are virtually all either smart meters that communicate usage and demand information directly to the utility, or automated meters not subject to human read errors.
17. Billing exceptions do not necessarily translate to billing reversals or adjustments. Avangrid’s Connecticut billing reversal/rebill rate is low and consistent with the high level of automation in the CT Companies’ metering systems.

Customer Complaint Management

18. Networks managed customer complaints on a centralized basis for a number of years. At the time of our audit, the employee in charge of the complaint process in Connecticut was an employee of Central Maine Power (“CMP”). Avangrid is moving the complaint management process to Connecticut state-level control beginning in 2023. A UIL employee recently assumed the newly created position of Manager of Customer Escalations and will manage complaints for the three CT Companies.
19. Connecticut maintains a complaint database, referred to internally as the SAP Complaint Module. The database tracks complaints by source and type and contains various other information including the dates complaints are received and closed, case notes, information about the complaint’s cause, whether it was preventable, and the Review Officer responsible for complaint handling. However, other relevant information, such as communication about the complaint between Avangrid and its customers or with the PURA, and other documentation relevant to the complaint is not linked to the database.
20. The number of customer complaints recorded by the CT Companies dropped significantly during 2020 and 2021 as collection activity decreased due to the COVID-19 pandemic. Information for the first nine months of 2022 indicates that complaints in Connecticut began to increase with the resumption of normal collection activities, however, the CT Companies have seen more modest increases than the Networks utilities in New York and Maine.

21. Based on available data, the CT Companies' complaint rate per 1,000 customers appears favorable by comparison with Networks utilities in New York and Maine.

Hardship and Medical Protection Programs

22. Avangrid's key Connecticut programs for low-income customers, known as hardship programs, include the Matching Payment Program ("MPP"), Bill Forgiveness Program ("BFP") available to UI customers only, and the Winter Protection Program ("WPP"). Avangrid also maintains a Medical Protection Program for customers with serious or life-threatening injuries.
23. Avangrid expects to launch a Low-Income Discount Program in December 2023. This program will offer billing discounts between 10% and 50% based on financial need.
24. Hardship and Medical Protection Programs are managed through the CT Companies' Revenue Recovery, Credit, and Collections Department. Day-to-day activities include training, education, and co-administration of programs with Community Action Agencies ("CAAs"), which assist with customer enrollment. Administration of the programs within Avangrid includes customer file management and outreach activities, including community education events.
25. Avangrid currently has only one employee fully dedicated to hardship program administration and customer outreach: the Lead Analyst of Hardship Programs. Avangrid is considering adding a second position due to current workload, and the workload increase expected when the Low-Income Discount Program is launched in the fall/winter of 2023.

Recommendations

Management and Organization

1. We recommend Avangrid develop a uniform set of metrics to compare customer service operational performance and establish performance targets across all of its major utilities. Avangrid provided a spreadsheet with Priority Targets metrics used internally for performance evaluation purposes. However, the CT Companies have only three Priority Targets metrics, two of which are not used by Networks utilities outside Connecticut, and therefore cannot be compared with them. To the extent Avangrid chooses not to benchmark its customer service performance (other than JD Power customer satisfaction) with utilities outside of Networks, it should develop a comprehensive set of internal metrics that can be used for comparison and performance targeting within its own seven utilities. It should be noted that this data is already being collected, but it is not currently set up in a way that can be compared across the Networks group of utilities.) Among the CRC metrics that should be included for Connecticut for comparison with other Networks utilities is agent service level.¹

Customer Contact Operations

2. We recommend the CT Companies lower their ASA target from 90 to 60 seconds.

¹ In addition, for benchmarking purposes, a 30-second service level should be measured in Massachusetts, given that the current service level is measured based on calls answered in 20 seconds, most likely due to regulatory requirements.

Customer Complaint Management

3. We recommend Avangrid develop an index to centralize all relevant information connected with individual customer complaints. Much of the factual information about complaints is maintained in the SAP Complaint Module. Most communication specific to complaints occurs through emails. Avangrid should link all information associated with individual complaints, including communications and relevant documents (customer bills, contracts, payment agreements, letters to the Better Business Bureau, etc.) with data in the Complaint Module, either directly if possible, or by adding a referential (locator) field to the database for information such as emails and documents that exist outside the Complaint Module and its database.

Hardship and Medical Protection Programs

4. We recommend the CT Companies add a metric measuring the “success” rate for the MPP to the Customer Experience Strategy section of its operating metrics. The PURA requested Avangrid meet a 65% success rate with customers enrolled in its MPP, which we recommend be established as a target for this metric.
5. We recommend Avangrid add a second Analyst position to administer its medical, winter, and other hardship protection programs. During our interview on December 6th, 2022, the Manager of Billing and Revenue Recovery noted that the Lead Analyst of Hardship Programs was spread thin, particularly with respect to keeping up with customer outreach responsibilities, and that a second Analyst position had been requested but not yet approved. Given the current Lead Analyst’s responsibilities and the additional workload that may come with the new Low Income Discount Plan scheduled for implementation in December 2023, we recommend Avangrid approve and seek to fill the second Analyst position if it has not already done so.
6. We recommend Avangrid resume in-person hardship program outreach events as public health conditions permit. Shortly after beginning hardship program outreach events early in 2020, the COVID-19 pandemic compelled Avangrid to convert its in-person events to remote Zoom events. Information provided during our hardship programs interview indicated that attendance for the remote events was about one-tenth that of the live events and it is unclear whether any were held in 2022. Based on much better expected attendance, a move back to live events appears advisable.

5.1. Management and Organization

5.1.1. Organizational Changes Since Acquisition

After being acquired by Avangrid in 2015, UIL had its own Vice President of Customer Service who reported to the Vice President of Customer Service for Networks. In 2017, this UIL Vice President retired, and the position was not backfilled. Connecticut’s Directors began reporting to the Vice President of Customer Service for Networks, which began the process of centralizing customer service management within Networks.²

In 2018, Networks furthered the centralization of customer service management by creating the following five Networks-level Director positions responsible for the Networks utilities in all states:³

- Director of Customer Care (CRC operations)

² Response to FTI-0158.

³ Ibid.

- Director of System Operations and Support (Back-office functions – billing, collections, remittance operations, claims, and systems support)
- Director of Customer Programs and Products (Conservation and Load Management, Product Development, Energy Efficiency, and Gas Programs)
- Director of Customer Metering and Field Operations (limited primarily to New York)
- Director of Customer Experience and Special Products, focused on customer service performance

In 2019, Avangrid began to move back to a decentralized structure by creating a new Vice President position for CMP, with four reporting managers overseeing contact center, billing, collections, compliance. The new Vice President of Customer Service for Maine reports to the Vice President of Customer Service for Networks. Finally, in December 2021, Avangrid created similar state-level Vice Presidents for New York and Connecticut. The new state Vice Presidents were given direct responsibility for key accounts management. Avangrid also transferred contact center responsibility from the Customer Care Director and returned it to the state Vice Presidents. It moved some centralized billing and collections responsibilities back to the state Vice Presidents and it eliminated the Networks Director of Customer Metering and Field Operations position.

As of the end of September 2022, the organization was headed by the Vice President of Customer Service for Networks with four functional Directors and three state-specific Vice President reports, as shown in Figure 5-1. The current division of responsibilities includes:

- Vice President of Customer Service for Networks – Customer service executive management for utilities in Maine, New York, and Connecticut
- Vice Presidents of Customer Service (Maine, New York, Connecticut) – Contact centers, billing, collections and customer service compliance in their respective states
- Senior Director of Customer Experience and Digital Transformation
- Director of Customer Care – Workforce Management and Quality Assurance
- Director of Customer Programs and Products – Conservation and Load Management (“CLM”), Product Development, Energy Efficiency, and Gas Programs
- Manager of Compliance and Budgeting

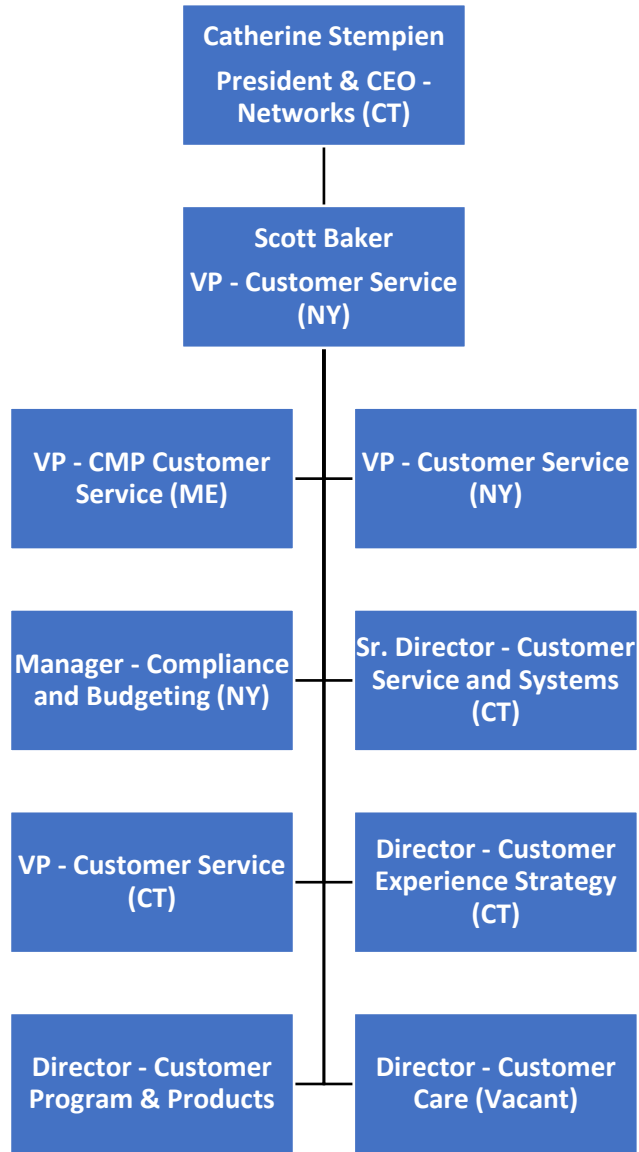


Figure 5-1 Customer Service Organizational Chart⁴

⁴ Response to FTI-0001, Att. 1.

5.1.2. Customer Service Staffing

The Networks customer service function consists of employees working in two service companies and eight utilities.

Avangrid Networks Customer Service Organization - Employees by Utility						
Company	12/31/2019			9/30/2022		
	Employees	Customers (1)	Cust. Per EE	Employees	Customers (1)	Cust. Per EE
Connecticut						
Avangrid Service Co. (2)	9			16		
UIL Holdings Co.	65			69		
Connecticut Natural Gas	53	181,527	3,425	45	184,880	4,108
Southern Connecticut Gas	52	203,269	3,909	51	208,024	4,079
United Illuminating	118	338,654	2,870	101	342,928	3,395
Total Connecticut	297	723,450	2,436	282	735,832	2,609
New York, Maine & Massachusetts						
Avangrid Service Co. (2)	8			24		
Berkshire Gas	22	40,500	1,841	21	40,741	1,940
Central Maine Power	137	636,341	4,645	151	646,818	4,284
Maine Natural Gas	-	4,974		5	5,200	1,040
NY State Electric & Gas	496	1,171,399	2,362	560	1,177,540	2,103
Rochester Gas & Electric	157	701,253	4,467	170	705,662	4,151
Total New York, Maine & Mass.	820	2,554,467	3,115	931	2,575,961	2,767
Total Avangrid Networks	1,117	3,277,917	2,935	1,213	3,311,793	2,730

Note 1: Electric and gas customers counted separately for NYSEG and RG&E.
Note 2: ASC Connecticut force level is based on employees working in Connecticut Facilities. Non-Connecticut force level is based on ASC employees in facilities in New York and Maine.

Figure 5-2 Customer Service Staffing by Utility^{5,6}

Over the past three years Connecticut’s customer service workforce has declined while the New York and Maine workforces have grown. Connecticut experienced unusually high attrition rates in its CRCs.

As Figure 5-2 indicates, Connecticut has significantly more employees in centralized service company positions than do other Networks utilities. This is at least partly because organizations that are housed within the utilities in New York and Maine are maintained in UIL in Connecticut, presumably so they can be more easily shared by CNG, SCG and UI.⁷ However, as discussed below, Connecticut’s customer service function appears inefficient, relative to New York and Maine, with respect to customer and technical support and marketing and sales functions maintained in UIL, even though these functions are shared by the three CT Companies.

5.1.2.1. Connecticut Functional Staffing

Figure 5-3 summarizes Connecticut customer service staffing by company and function.

⁵ Response to FTI-0480, Att. 1.

⁶ <https://www.avangrid.com/es/investors>

⁷ For example, as of September 30, 2022, UIL had 69 customer service employees in the areas of energy services, conservation and load management, customer business services, programs and products, quality, and field-based customer relationships. New York had over 84 equivalent positions, but they were housed within New York State Electric and Gas (“NYSEG”) and Rochester Gas and Electric Corporation (“RG&E”) rather than consolidated at the state level.

Avangrid Connecticut Customer Service Organization			
Employees by Company / Function			
Company	Org. Unit	Dec 31 2019	Sep 30 2022
ASC Connecticut Operations & Administration	VP Customer Service	1	-
	Dir. Customer Care	1	1
	Dir. Programs & Projects	1	1
	Manager Billing	1	
	Manager Tech Support	1	1
	Manager Vendor Mgt Tech	1	1
	Manager Workforce Mgmt / Quality	1	
	Manager Product Development	1	1
	Sr. Mgr Delivery CLM		1
	Other	1	10
	Total ASC	9	16
UILH Shared Support, Marketing and Sales Functions	VP Customer Service	-	1
	BKO Energy Services	-	11
	Conservation & Load Mgt.	1	4
	Cust. Bus. Svcs. / Regional Sales	40	22
	Customer Experience II (Marketing) Programs & Products	2	8
	Billing, 'Sundry Billing', C&C, Rev Control	6	5
	CS Quality / Customer Care	3	6
	Research & Strategic Comm (Marketing)	5	
	Field Relationships Mgt Team B (Sales)	5	6
	Other	3	3
	Total UILH	65	69
CNG CRC, Billing, Collections, Regional Sales	Customer Relations Ctr.	28	21
	Billing / Rev. Control	10	11
	Credit & Collections	11	11
	Regional Sales	4	2
	Total CNG	53	45
SCG CRC, Billing, Collections, Regional Sales	Customer Relations Ctr.	31	28
	Billing / Rev. Control	8	10
	Credit & Collections	8	9
	Regional Sales	5	4
	Total SCG	52	51
UI CRC, Billing, Collections, Regional Sales, Tech Support	Customer Call Center	69	55
	Customer Relations Ctr. CNG 2	16	19
	Billing / Rev. Control / Remittance Proc.	14	13
	Credit & Collections	2	4
	Credit & Collections SCG & UI	7	4
	Credit & Collections Total	9	8
	Technical Support / Solutions	3	3
	Cust. Bus. Svcs.	4	-
Other	3	3	
	Total UI	118	101
Total Avangrid Connecticut		297	282

Figure 5-3 Customer Service Staffing by Organization and Function⁸

Each CT Company has its own CRC. CRCs account for about half the customer service workforce on a combined basis, including CRC credit and collections organizations. UI's and SCG's CRCs are both located at 100 Marsh Hill Road in Orange, Connecticut, and CNG's is located at 76 Meadow Street in East Hartford, Connecticut.^{9,10}

⁸ Response to FTI-0480, Att. 1.

⁹ Ibid.

¹⁰ Response to FTI-0692-A.

5.1.2.2. *UIL Holdings Customer Support, Technical and Marketing and Sales*

Taking UIL into account, Connecticut has significantly more employees assigned to service companies than do the New York and Maine organizations. By itself this is not particularly relevant, since a number of the organizations and positions similar to those in UIL are housed in the utilities in New York and Maine, and regardless of whether they exist in the utility or a service company, functions can be shared by more than one division (e.g. by electric and gas in NYSEG) as they may be shared by CNG and UI in Connecticut. However, when specific customer service organizations housed in UIL are compared with equivalent utility organizations in New York and Maine, there appear to be some efficiency differences.

As of September 30, 2022, UIL had 69 employees in various customer support, technical support, and marketing and sales functions. As best we are able to determine by analyzing organizational data, New York had 87 employees in roughly similar functions and positions spread between NYSEG and RG&E.¹¹ In Maine, approximately 25 employees held similar positions in CMP.¹²

Based on the number of customers per employee, New York and Maine each appear to be more than twice as efficient (approximately 22,000 customers per position in New York, approximately 26,000 customer per position in Maine) with respect to customer support, technical support, and marketing and sales positions as Connecticut (approximately 10,500 customers per position).¹³ On an overall basis, Connecticut is only about 170 customers per employee below that of the other Networks utilities, but this includes employees working in the CRCs, where employee force levels are influenced by the individual utilities' use of contracted CSRs, and by difficulties Avangrid has had maintaining staffing levels in Connecticut.

5.2. Customer Relations Centers Operations

Each CT Company has its own CRC organization staffed with CSRs, Lead CSRs, and Supervisors, as summarized in Figure 5-4. Employee CSRs are dedicated to the utility they work for and do not answer phones or conduct customers relations work for other utilities under normal operating circumstances.¹⁴ However, contracted CSRs working for CNG and SCG work for both utilities, as customer calls are merged into a single queue.

5.2.1. Employee Customer Service Representatives

As of September 30, 2022, all three Connecticut CRCs reported to the Manager of Customer Relations Centers for Connecticut, an employee of UI. Figure 5-4 lists the Connecticut CRCs and staffing levels from the end of 2019 through September 30, 2022.

¹¹ Per employee data provided in response to FTI-0480, Att. 1, the New York organizations include 1) For NYSEG (46 employees): Business Support and Solutions, CBS Market and Business Development, CLM Programs and Products, CUC Collections, Customer Service Quality, Field Relationship Management, Marketing and Sales, New York Supplier Relations, Workforce Management and Quality, and Vendor Performance Technology, 2) For RG&E (41 employees): Business Support and Solutions, CBS Market and Business Development, CUC Customer Care, Customer Programs and Products, Field Relationship Management, Marketing and Sales, New York Billing, New York Supplier Relations and Vendor Performance Technology.

¹² The Maine organizations include Business Support and Solutions, Customer Service Quality, CMP Customer Service (Programs and Projects), Research and Strategic Communications (Maine and Connecticut), and Workforce Management and Quality.

¹³ As Figure 5-2 indicates, Connecticut also had sales employees in CNG and SCG, which we have not counted.

¹⁴ Response to FTI-0692.

Customer Relations Centers Managed by Avangrid Connecticut							
Company	Organizational Unit	Address		CSRs, CSR Leads and Supervisors			
				12/31/2019	12/31/2020	12/31/2021	9/30/2022
CNG	CUC Customer Relations Center CNG	76 Meadow Street	East Hartford	28	29	27	21
SCG	CUC Customer Relations Center SCG 1 & 2	100 Marsh Hill Road	Orange	30	32	32	28
UI	CUC Customer Relations Center UI	100 Marsh Hill Road	Orange	85	77	79	74
Total Staffing				143	138	138	123

Figure 5-4 CT Companies' CRCs¹⁵

Connecticut CRC levels declined by about 15% between the end of 2019 and September 30, 2022. We asked about CNG's CRC staffing level, which decreased more percentage-wise than the other two utilities. Avangrid stated that CNG had "experienced attrition rates significantly higher than both planned and historical rates," and noted that "to date in 2022, CNG's attrition rate is 63% (15 employees) compared to a 11% (3 employees) rate in 2020 and a 16% (4 employees) rate in 2021."¹⁶ Avangrid further noted that the targeted FTE staffing levels for 2023 for customer contact employees in the CRCs are CNG – 29, SCG – 32 and UI – 86 and that "the company will be actively seeking to hire to these levels."¹⁷ If attained, the targeted level of CRC employment will result in staffing of about 20% higher than actual staffing as of September 30, 2022.

5.2.2. Contracted Customer Service Representatives

The Connecticut CRCs use the Business Process Outsource company, iQor, to assist with inbound and outbound customer contact activities in the areas of credit and collections, customer financial assistance, service transfers, and disconnection, including disconnection for non-payment. Average annual contracted CSR staffing for the three CT Companies declined from 138 in 2019 to 97 in 2021, a reduction of nearly 40%.¹⁸ However, it is important to note that 2021 continued to reflect lower collection activity due to moratoriums on involuntary service disconnections.

5.2.3. Customer Relations Centers Performance Metrics

Figure 5-5 summarizes key telephone system metrics relating to customer contact activities.

¹⁵ Response to FTI-0480, Att. 1.

¹⁶ Response to FTI-0692-B.

¹⁷ Response to FTI-0692-C.

¹⁸ Response to FTI-0160.

Avangrid Connecticut Customer Service Center Performance Metrics											
Year	Total Calls Handled	Agent Calls Handled	Agent Calls % of Total	Avg. EE Agents	Avg. Total Agents	Calls / Avg. Agent	Average Hold Time		Abandon Rate		Agent Service Level
							All Calls	Agent Calls	All Calls	Agent Calls	
CNG											
2019	983,376	412,635	42%	15	69	5,980	1:33	3:42	6.4%	14.0%	48.7%
2020	776,085	304,847	39%	15	60	5,081	0:36	1:31	2.4%	5.8%	68.2%
2021	889,875	315,876	35%	13	71	4,449	0:49	2:19	3.1%	8.2%	62.6%
2022 (1)	718,285	253,888	35%	10	75	3,385	1:45	4:57	5.9%	15.0%	not avail.
SCG											
2019	1,046,707	477,790	46%	17	70	6,826	1:35	3:29	6.5%	13.2%	not avail.
2020	863,687	346,039	40%	17	65	5,324	0:35	1:27	2.4%	5.7%	not avail.
2021	929,173	328,034	35%	14	71	4,620	0:35	1:39	2.0%	5.6%	71.3%
2022 (1)	839,720	290,784	35%	12	78	3,728	1:13	3:32	4.5%	12.0%	not avail.
UI											
2019	1,764,981	783,275	44%	50	91	8,607	1:02	2:53	5.8%	12.2%	64.2%
2020	1,525,637	590,992	39%	47	69	8,565	0:31	1:20	2.6%	6.5%	74.1%
2021	1,363,331	497,022	36%	39	57	8,720	0:44	2:00	3.5%	9.1%	65.2%
2022 (1)	1,106,674	475,867	43%	30	56	8,498	1:09	3:03	5.0%	12.4%	not avail.

Note 1: 2022 data is through Sept. 30.

Figure 5-5 CT Companies' Customer Service Center Performance Metrics, 1/1/2019 – 9/30/2022¹⁹

Metrics indicating how quickly and successfully customers are able to reach live agents (average hold times, abandon rates, and service levels) improved in 2020 and 2021 due to decreased call volume, most likely because of much lower collection activity due to the moratorium on involuntary service disconnection.²⁰ With disconnection moratoriums mostly lifted in 2022 and the resumption of more normal collection activities, average hold times and call abandonment rates returned to pre-pandemic (2019) levels because staffing was not increased commensurate with added telephone traffic.

Avangrid stated that it does not have Connecticut performance targets for live agent service level, average call hold time, or call abandon rate, nor does it make comparisons of CRC performance metrics with Networks utilities in other states.^{21 22} Call abandonment rates in the double digits and average hold times for agent calls of three to five minutes indicate performance below that of a typical utility. The only phone metric on the Priority Target report that Avangrid maintains is a target for is ASA, which for 2022 was set at 90 seconds.²³

Live agent service level data was missing for all three CT Companies in 2022 and for SCG in 2019 and 2020. Avangrid stated this was because the companies are not required to report service-level data to the PURA.²⁴ Although 2022 service-level data is missing, given that the 49% service level shown for CNG in 2019 aligns with an

¹⁹ Response to FTI-0481, Atts. 1-12.

²⁰ Response to FTI-0693-C.

²¹ Response to FTI-0693-D.

²² In draft report comments Avangrid noted that although each utility's targets are different and there is no direct comparison, a report is published daily listing the CRC performance metrics of all Networks utilities.

²³ Response to FTI-0485, Atts. 10-12. The Priority Targets data shows average speed of answer for 2022 through September 30 was 105 seconds for CNG, 73 seconds for SCG and 69 seconds for UI.

²⁴ Response to FTI-0693-B. Avangrid did not explain why service level metrics were available for other periods shown in Figure 5-4.

average hold time of 3:42 and a call abandonment of 14%, it is likely that average service levels in 2022 were around 50% or less (at least for CNG and SCG if not UI), which is below the level targeted by most utilities.

5.2.3.1. Benchmarking Customer Relations Centers Performance with Other Utilities

Avangrid does not benchmark customer service performance against utilities outside of the Company. When asked why it did not find it necessary or useful to compare its customer service metrics with other utilities, the Company stated, “while we have no formal benchmarking studies in place outside of the Avangrid companies, we consider any comparison through our peer networks insightful and useful.”²⁵ However, we found it is difficult to compare CRC metrics among the Networks utilities. Even to the extent the utilities can all produce comparable metrics, which all modern phone systems do, Avangrid does not make CRC performance comparisons among its utilities except to the limited extent they are included in the Priority Targets report. For example, benchmarking the most basic measure of call center performance, agent service level, is not possible for the CT Companies because they currently are the only Networks utilities that do not use it as a Priority Targets metric. Figure 5-6 contains comparisons for key CRC performance indicators, to the extent data was available. It shows the difficulty in making performance comparisons among the Networks utilities.²⁶

Avangrid CRC Performance Metrics Comparisons							
2019	Connecticut Utilities			Other Avangrid Utilities			
	CNG	SCG	UI	BGC (1)	CMP	NYSEG	RG&E
Service Level (1)	not avail.	48.7%	not avail.	not avail.	80.0%	63.3%	75.7%
Avg. Speed of Answer (Seconds) (2)	94	96	77	30	not avail.	not avail.	not avail.
Call Abandonment Rate	14.0%	13.2%	12.4%	not avail.	5.0%	not avail.	not avail.
Avg. Hold Time (Agent)	3:42	3:29	2:53	not avail.	not avail.	not avail.	not avail.
2022 Thru Sept.	Connecticut Utilities			Other Avangrid Utilities			
	CNG	SCG	UI	BGC (1)	CMP	NYSEG	RG&E
Service Level (1)	not avail.	not avail.	not avail.	70.0%	81.3%	50.1%	51.1%
Avg. Speed of Answer (Seconds) (2)	140	88	74	not avail.	not avail.	not avail.	not avail.
Call Abandonment Rate	15.0%	12.0%	12.4%	not avail.	4.1%	not avail.	not avail.
Avg. Hold Time (Agent)	4:57	3:32	3:03	not avail.	not avail.	not avail.	not avail.
<p>Note 1: Service Level is the percentage of agent-requested calls answered in 30 seconds. For BGC it is 20 seconds. UI's service level for 2019 is presented for comparison. It is not a priority targets metric for UI.</p> <p>Note 2: The Connecticut utilities are the only utilities which use ASA as a priority targets metric. ASA can be used instead of service level, but service level is a more widely used benchmark of call center performance.</p>							

Figure 5-6 Networks Utilities CRC Performance Metrics, 2019 vs. 2022^{27, 28}

²⁵ Response to FTI-0706-D (confidential).

²⁶ We used 2019 and 2022 in this table because they reflect more normal levels of call center activity than do pandemic years 2020 or 2021. Amounts in normal script are priority targets, used in Avangrid’s performance evaluation process. Amounts in italics are additional metrics we obtained in the response to FTI-0481, which are not used for performance evaluation.

²⁷ Response to FTI-0481, Atts. 4, 8, 12.

²⁸ Response to FTI-0485, Atts. 1-4 and 9-12.

With respect to the Connecticut CRCs, in our experience, an ASA of over a minute and a call abandonment rate above 10% represent below average performance. We would expect a typical utility’s performance to be approximately as follows:²⁹

- Service level (calls answered in 30 seconds or less) – 70% or higher
- ASA – 45 seconds or less
- Call abandonment rate – below 10%

Recommendation: We recommend Avangrid develop a uniform set of metrics to compare customer service operational performance and establish performance targets across all of its major utilities. Avangrid provided a spreadsheet with Priority Targets metrics used internally for performance evaluation purposes. However, the CT Companies have only three Priority Targets metrics, two of which are not used by Networks utilities outside Connecticut, and therefore cannot be compared with them. To the extent Avangrid chooses not to benchmark its customer service performance (other than JD Power customer satisfaction) with utilities outside of Networks, it should develop a comprehensive set of internal metrics that can be used for comparison and performance targeting within its own seven utilities. It should be noted that this data is already being collected, but it is not currently set up in a way that can be compared across the Networks group of utilities. Among the CRC metrics that should be included for Connecticut for comparison with other Networks utilities is agent service level.

5.2.4. Progress in Moving Billing, Payments and Communications to Digital Channels

Most U.S. utilities have among their customer service operating goals the movement of customer billing and payments online and paperless, and the movement of customer voice interactions to digital channels when possible. The CT Companies have made steady progress in this area over the past several years.

Progress Automating Billing & Payments and Moving Customers to On-Line Communication Channels					
Connecticut Averages	2018	2019	2020	2021	2022 thru Oct. (1)
Paperless Bills	32.4%	32.5%	36.3%	40.5%	44.6%
On-Line Payments	61.1%	65.0%	74.3%	76.6%	77.9%
Automated Credit or Debit Pmts	6.7%	7.1%	8.4%	11.9%	14.0%
Calls Contained in the IVR (1)	not avail.	56.0%	61.0%	64.0%	62.0%

Note 1: Calls Contained in the IVR is based on phone metrics provided in response to FTI-481.
 Note 2: Calls Contained in the IVR for 2022 is based on data through September 2022.

Figure 5-7 Connecticut Averages for Automation and Online Channels, 2019-2022^{30, 31}

²⁹ For example, as far back as 2011, NYSEG was required by the New York State Public Service Commission (“NYSPSC”) to maintain a minimum service level (% of calls answered in 30 seconds) of 63%, below which negative revenue adjustments applied (Case 09-E-0715). NYSEG maintained service levels between 65% and 78% during the years 2009-2013, as shown in Performance Indicator Reports (PIRs) filed with the NYSPSC. At the same time, RG&E was required to maintain a service level of at least 77%, below which negative revenue penalties applied (Case 09-E-0715). RG&E maintained service levels of around 80% for the years 2009-2013, as shown in PIRs filed with the NYSPSC.

³⁰ Response to FTI-0481, Atts. 1-12.

³¹ Response to FTI-0688.

5.2.5. Customer Service Representatives Employee Training

Avangrid stated that its Networks Technical Training Organization provides training for all newly hired customer service employees using a combination of live instructor-led training and videos. Training includes instruction, various training materials, job aids, and hands-on exercises. Avangrid provided program lists showing two phases of CRC progression training for UI and CNG/SCG employees, each with modules including metering and revenue protection, billing, security deposits, payment, rates, disconnection and reconnection, financial and medical hardship, call handling and escalation, outage calls, and scripts.

5.3. Metering and Billing

5.3.1. Energy Usage Measurement

The CT Companies' meter operations consist almost entirely of AMI and AMR meters, as summarized in Figure 5-8.

Avangrid Connecticut Meter Status				
Meter Category	12/31/2019	12/31/2020	12/31/2021	9/30/2022
CNG Gas Meters(1)				
AMI	-	-	6,097	6,016
AMR	187,269	188,884	184,032	184,361
Total	187,269	188,884	190,129	190,377
SCG Gas Meters				
AMI	209,239	211,333	213,317	214,216
AMR	396	325	281	153
Total	209,635	211,658	213,598	214,369
UI Electric Meters				
AMI	268,093	275,441	286,082	301,212
AMR	77,409	71,781	63,292	49,994
Total	345,502	347,222	349,374	351,206
Connecticut Total				
AMI	477,332	486,774	505,496	521,444
	64%	65%	67%	69%
AMR	265,074	260,990	247,605	234,508
	36%	35%	33%	31%
Total	742,406	747,764	753,101	755,952
Note 1: In addition, CNG had appx. 250 manually-read meters.				

Figure 5-8 CT Company Meter Status, 2019-2022³²

The following bullet points summarize the status of Avangrid's Connecticut meter operations.

- Figure 5-8 shows that AMR meters were being replaced with AMI during the years 2020 through 2022. Almost 70% of Avangrid's Connecticut meters were AMI at the end of September 2022.
- Deployment of AMI for UI's remaining meters is underway, and for CNG's will be considered in the next rate case.³³

³² Response to FTI-0496, Att. 1.

³³ Response to FTI-0498-A.

- UI's AMI meters monitor customer energy usage and makes the information available to customers on the web. AMI meters monitor information at 15-minute intervals and a new web portal release scheduled for 2023 will make interval information available to customers.³⁴ UI's meters also monitor peak kW for each billing period depending on tariff.
- AMI data is used to manage demand response in UI's Demand Response ("DR") program. Past AMI data is being used to produce DR audits for prospective customers.³⁵
- CNG's and SCG's gas customers on Daily Demand Meter ("DDM") rates have hourly interval usage data collected and reported daily, made available to customers through the web. SCG's AMI meters for other non-DDM customers also measure daily usage, also made available on the web. At this time usage for non-DDM CNG customers (those not on AMI meters) is available only on customer bills.³⁶
- UI recently implemented electric vehicle tariffs and is proposing a residential time-of-use tariff with reduced on-peak hours.³⁷
- Avangrid stated that SCG has two meter readers and CNG has the equivalent of 4.5 full time equivalent meter readers to collect reading from AMR meters.³⁸ With the exception of approximately 250 meters at CNG, there are no longer any meters requiring manual reads.
- UI's read rates are high and within expectations, given that most reads are either supplied by the meters themselves (AMI meters) or by encode-recv-transmit ("ERT") devices (AMR meters). For the years 2019 through 2022, meter read rates average approximately 98.5% for AMI meters and 97.5% for AMR meters.³⁹

5.3.2. Billing

The Manager of Billing and Revenue Recovery is in charge of Connecticut's and Massachusetts' billing processes, revenue recovery, and hardship program administration. Billing process responsibilities include ensuring that vendor-produced bills are mailed, addressing billing errors, processing payments, and handling returned checks.⁴⁰ Key billing metrics are summarized in Figure 5-9.

³⁴ Response to FTI-0498-B.

³⁵ Response to FTI-0498-B.

³⁶ Response to FTI-0498-C.

³⁷ Response to FTI-0498-D.

³⁸ Response to FTI-0497.

³⁹ Response to FTI-0482, Att. 1.

⁴⁰ Joint Interview with Manager of Billing and Revenue Recovery, and Supervisor of Credit and Collections, December 6, 2022.

Avangrid Connecticut Bill Metrics				
Bill Metrics	2019	2020	2021	2022 (1)
CNG				
Bills Issued	2,155,831	2,187,253	2,209,410	1,578,644
Cost per Bill (2)	not avail.	\$0.38	\$0.44	\$0.45
Billing Exceptions (3)	not avail.	148,390	197,338	88,884
Billing Exception Rate	not avail.	6.8%	8.9%	5.6%
Adjusted Bills	not avail.	9,892	15,944	17,616
Adjusted Bill Rate	not avail.	0.5%	0.7%	1.1%
SCG				
Bills Issued	2,416,945	2,463,812	2,495,652	1,882,759
Cost per Bill (2)	not avail.	\$0.39	\$0.42	\$0.43
Billing Exceptions (3)	not avail.	179,959	197,338	121,535
Billing Exception Rate	not avail.	7.3%	7.9%	6.5%
Adjusted Bills	not avail.	13,736	18,115	21,317
Adjusted Bill Rate	not avail.	0.6%	0.7%	1.1%
UI				
Bills Issued	3,916,431	3,947,637	3,982,865	3,003,372
Cost per Bill (2)	not avail.	\$0.38	\$0.42	\$0.43
Billing Exceptions (3)	not avail.	428,614	388,883	258,220
Billing Exception Rate	not avail.	10.9%	9.8%	8.6%
Adjusted Bills	not avail.	13,759	19,582	21,422
Adjusted Bill Rate	not avail.	0.3%	0.5%	0.7%
Connecticut Total				
Bills Issued	8,489,207	8,598,702	8,687,927	6,464,775
Cost per Bill (2)	not avail.	\$0.38	\$0.43	\$0.43
Billing Exceptions (3)	not avail.	756,963	783,559	468,639
Billing Exception Rate	not avail.	8.8%	9.0%	7.2%
Adjusted Bills	not avail.	37,387	53,641	60,355
Adjusted Bill Rate	not avail.	0.4%	0.6%	0.9%
Note 1: 2022 thru Sept.30 except for adjusted bills, thru Dec. 27.				
Note 2: Per Avangrid, cost per bill is an average for electronic and paper bills. Cost includes printing and mailing costs.				
Note 3: Per Avangrid, billing exceptions in this table are limited to exceptions generated by implausible reads.				

Figure 5-9 CT Company Bill Metrics, 2019-2022^{41, 42}

5.3.2.1. Billing Exceptions

A billing exception is a bill screened by the CIS for further review and Figure 5-9 shows that the CT Companies' billing exception rates are declining.⁴³ Nevertheless, we consider the number and percentage of exceptions to be relatively high considering nearly all energy usage is either supplied directly to the billing system from AMI meters or is the result of automated reads.⁴⁴ Avangrid indicated that Connecticut billing exceptions arise from implausible meter readings and from billing or invoice out-sorts (bills rejected as outside of tolerance).⁴⁵ Avangrid described the following reasons for implausible meter readings:

⁴¹ Response to FTI-0483, Atts. 1-3.

⁴² Response to FTI-0711 (adjusted bills only).

⁴³ However, the accuracy of UI's 2022 metric, and the overall Connecticut total exception rate for 2022, are questionable given that UI's number and rate of exceptions is far out of line with 2020 and 2021 data.

⁴⁴ There could be several reasons for this, however, one might be that Avangrid has tolerances for implausible readings and billed amounts set narrowly enough that a relatively high number of bills are flagged. The number of billing exceptions is such that it is likely that the initial stage of review is automated, as it is highly unlikely Avangrid devotes employee resources needed to review hundreds of thousands of exceptions per month.

⁴⁵ Response to FTI-0710.

- No reading is received, usually indicating a meter failure.
- A read returns zero usage, indicating a customer moved without informing Avangrid or potential meter tampering.
- A read is outside tolerances measured using historical usage.

After an account is released from an implausible reading, it may be subject to a billing or invoice out-sort exception which requires manual review and a potential reset of the billing threshold.⁴⁶ Avangrid stated that it is focused on reducing the number of billing exceptions. The Company stated that exceptions are worked and monitored daily and that when a higher-than-normal volume is found it is investigated to “find the core issue and work . . . to correct it.”⁴⁷

5.3.2.2. *Adjusted Bills*

Avangrid stated that it stopped tracking bills that had been reversed and adjusted in Connecticut because the volume was low.⁴⁸ We agree that the adjusted bill rate is low and within expectations given that nearly all meter reading is automated. Even though adjusted bills are no longer tracked, Avangrid was able to pull the data shown in Figure 5-9 from the CIS system where it is maintained for three years.

5.4. Customer Complaint Management

The CT Companies’ customer complaints originate from a number of sources, including complaints made directly to the utility, complaints forwarded by the PURA, and complaints forwarded from other third parties, including the Better Business Bureau, Attorney General, Department of Consumer Protection, and others. 78% of the customer complaints recorded in the data provided for 2019 through 2021 were forwarded to Avangrid from the PURA.⁴⁹

Important metrics related to complaints for the CT Companies are shown in Figure 5-10:

⁴⁶ If a single meter reading can generate both an implausible read exception and a billing out-sort exception, it might explain why the number and percentage of exceptions in the table appears high. We did not have time to follow up on this possibility.

⁴⁷ Response to FTI-0710.

⁴⁸ Response to FTI-0711.

⁴⁹ Analysis of data from FTI-0163 (confidential).

Avangrid Connecticut Customer Complaints Summary			
By Type	2019	2020	2021
Billing	145	164	120
Deposit	4	5	1
General	251	193	242
Service Installation	61	31	36
Meter Test	1	2	2
Service Outage	7	42	8
Payment Arrangement	441	128	71
Service Quality	49	15	22
Rates	11	50	23
Service Termination	597	77	48
Totals	1,567	707	573
By Source	2019	2020	2021
PURA Reportable	1002	367	286
PURA Non-Reportable	302	116	151
Attorney General	31	15	20
Better Business Bureau	72	37	15
Customer Direct	58	82	39
Other	102	90	62
Totals	1,567	707	573
Avg Days	2019	2020	2021
Avg Days Open to Close	not avail.	1.19	1.59

Figure 5-10 Connecticut Customer Complaint Summary, 2019-2021⁵⁰

5.4.1. Customer Complaint Process Management

We performed a high-level analysis of the complaint management process, including interviewing the Connecticut Vice President of Customer Service (Tracey Pelella). For the past several years, Avangrid has managed customer complaints on a centralized basis.⁵¹ At the time of our interview, the employee in charge of complaint handling for Connecticut, a Manager of Customer Service Quality, was an employee of CMP. Avangrid stated it is moving its management focus from centralized (Networks-level) to local (state-specific) process control. The Program Manager of Customer Service Compliance, a UIL employee, is assuming responsibility for the Connecticut complaint process in 2023 under the title Manager of Customer Escalations. The previous process manager in Maine will therefore focus primarily on customer complaints for CMP.

Individual complaints are handled by employees referred to as Review Officers. Beginning in 2023, Avangrid will have three Review Officers in Connecticut, one of whom will be the Manager of Customer Escalations. Avangrid stated that Review Officers work in the Customer Escalations Department and spend all of their time on activities related to resolving complaints, including root cause analysis, determining whether the complaint was preventable, working on complaint fixes, and providing ‘voice of the customer’ insight regarding complaints.⁵²

⁵⁰ Response to FTI-0163, Revised Att. 1 (confidential).

⁵¹ Interview with Vice President of Customer Service, Connecticut (Tracey Pelella), Manager of Customer Service Quality, and Lead Analyst of Customer Satisfaction, December 1, 2022.

⁵² Response to FTI-0685.

5.4.1.1. SAP Complaints Module

Avangrid tracks complaints in a database referred to internally as the SAP Complaint Module, which Avangrid described as having “robust filtering and querying features.” Complaints are logged into SAP by Review Officers who record the source of the complaint, add intake notes, record the date the complaint was opened, and once resolved, the date closed. Review Officers also classify complaints by type, issue, “responsible entity” (normally the organization responsible for the activities that gave rise to the complaint), the “root cause” (sometimes with notes) ,and whether the complaint was preventable. Data exported from SAP into Excel is used to compile statistics and manage complaints. Currently, Avangrid is unable to export intake or root cause notes from SAP for review in spreadsheet format.⁵³

Avangrid’s SAP and the PURA’s complaint databases are not linked. Avangrid communicates with the PURA concerning regulatory complaints primarily through email, but these emails are not linked with the complaint case information in the SAP Complaint Module. The employees we interviewed were unsure of how the PURA closes its complaint files.

Avangrid stated it was working on a “fix tracker” to compile information in complaint cases where a “fix” can be implemented. The tracker is designed to document relevant points and what action might be taken to prevent additional, similar complaints.⁵⁴ In response to a follow-up data request, Avangrid stated that it was developed to track feedback that Review Officers provide to a manager or supervisor for an employee identified during the analysis of a complaint. Avangrid stated that once implemented, the fix tracker will include background of the complaint, root cause, feedback provided, and the manager or supervisor to whom feedback was communicated. Avangrid stated that “to date, it has not been populated with 100% of the feedback,” but it will be evaluated once the new Manager of Customer Escalations is in place.⁵⁵

Recommendation: Avangrid should develop an index to centralize all relevant information connected with individual customer complaints. Much of the factual information about complaints is maintained in the SAP Complaint Module. Most communication specific to complaints occurs through emails. Avangrid should link all information associated with individual complaints, including communications and relevant documents (customer bills, contracts, payment agreements, letters to the Better Business Bureau, etc.) with data in the Complaint Module, either directly if possible, or by adding a referential (locator) field to the database for information such as emails and documents that exist outside the Complaint Module and its database.

5.4.2. Complaint Rate Priority Target

The customer complaint rate is one of the three metrics used in Connecticut for customer service employee performance evaluations.⁵⁶ The CT Companies’ 2021 targeted and actual complaint rates are shown in Figure 5-11.

⁵³ Interview with Vice President of Customer Service, Connecticut (Tracey Pelella); Manager of Customer Service Quality; and Lead Analyst of Customer Satisfaction, December 1, 2022.

⁵⁴ Ibid.

⁵⁵ Response to FTI-0687.

⁵⁶ The three metrics include: average speed of answer, customer complaint rate, and a customer satisfaction rate.

Avangrid Priority Targeted and Reported Complaint Rates for 2021		
Utility	Complaint Rate	
	Targeted	Actual
CNG	2.87	2.37
SCG	2.93	2.20
UI	2.03	1.96

Figure 5-11 Priority Target Reports, 2021^{57,58}

We were unable to reproduce 2021 complaint rates using the complaints data provided by Avangrid during the audit. In commenting on our draft report, Avangrid stated that the Priority Targets report reflects total PURA reportable complaints minus credit and collections complaints

5.4.3. Complaint Comparisons Among Avangrid’s Utilities

Avangrid recently began keeping track of “regulatory complaints” recorded by each of its utilities for comparison and trend following purposes. In Connecticut, regulatory complaints consist of complaints reported to the PURA. Figure 5-12 covers regulatory complaints through week 39 of each 2021 and 2022.

Regulatory Complaint Comparisons by Avangrid Utility						
Utility	2021			2022		
	# of Complaints	Customers	Rate / 1,000	# of Complaints	Customers	Rate / 1,000
NYSEG (1)	513	1,177,540	0.44	1421	1,177,540	1.21
RG&E (1)	163	705,662	0.23	1034	705,662	1.47
CMP	461	646,818	0.71	826	646,818	1.28
CNG	51	183,446	0.28	90	184,880	0.49
SCG	43	206,096	0.21	71	208,024	0.34
UI	102	341,269	0.30	108	342,928	0.31

Source: Response to FTI-488, At. 1 (Complaints) and Avangrid SEC Form 10K (Customers).
Note 1: Customer totals for NYSEG and RG&E are gas and electric customers combined.
Ideally, for a metric such as the complaint rate it would be better to use total unique customers (such that customers with both gas and electric service are not counted twice), but these were not available.

Figure 5-12 Regulatory Complaints by Networks Utility, 2021 and 2022^{59,60}

The comparisons in Figure 5-12 reflect well on the CT Companies, which show relatively low complaint totals and rates. However, it is not clear the degree to which “regulatory complaints” means the same precise category in New York and Maine as they do in Connecticut. Complaint totals increased in 2022 compared with 2021, most likely due to the end of pandemic shut-off moratoriums and the resumption of normal collection activities. Increases in Connecticut were modest compared with increases in New York and Maine.

⁵⁷ Response to FTI-0681.

⁵⁸ Response to FTI-0485, Atts. 7-9 (“Complaints”).

⁵⁹ Response to FTI-0488, Att. 1 (“Complaints”).

⁶⁰ Avangrid SEC Form 10-K (“Customers”).

5.5. Hardship and Medical Protection Programs

Avangrid provided information on the following hardship and low-income programs maintained for its CT Companies.⁶¹

- Matching Payment Program (“MPP”) – Avangrid matches customer payments on outstanding, past due bills. Eligible customers are those that can prove financial hardship, qualify for Connecticut Energy Assistance Program (“CEAP”) funds, and heat with electricity or gas. Financial hardship is a household income of 60% or less of the Connecticut State Median Income (“SMI”), which varies depending on household size.
- Bill Forgiveness Program (“BFP”) – This program is limited to UI. Customers must have proven financial hardship, defined as 60% or less of the SMI, including arrears of \$100 or more over 60 days delinquent. CSRs will discuss arrears affordable budget amounts and the customer can enroll in the program.
- Winter Protection Program (“WPP”) – This program prevents service termination in the months of November through May 1st. Eligibility criteria include one or more of the following: household income less than 125% of the federal poverty level; receiving public income assistance; a serious, physician-certified illness; sole source of financial support is social security, veterans benefits or unemployment compensation; or unemployed with income below 3 times the poverty income.
- Medical Protection – Similar to Winter Protection, this program prevents shutoff: during the months of November through May 1st for customers with a “serious illness” designation, or year-round with a “life threatening” illness designation. Designation must be physician certified.

5.5.1. Hardship Program Processes

The programs listed above are administered by the Revenue Recovery/Credit and Collections department and are overseen by a Supervisor of Credit and Collections. A Lead Analyst of Hardship Program Administration is in charge of managing hardship programs on a day-to-day basis. Both employees oversee hardship programs statewide but are employees of UI. Key administrative responsibilities include:⁶²

- Provide training to assist CAAs, Operation Fuel,⁶³ and other consumer advocates to ensure customers are enrolled in programs for which they are eligible
- Attend community outreach events and conduct town hall meetings to provide information about hardship programs
- Provide appropriate training to newly hired Avangrid customer service employees
- Work with the IT group to ensure that programs are working as intended and that program changes are properly updated in the CIS

⁶¹ Response to FTI-0494-A.

⁶² Response to FTI-0494-B.

⁶³ Operation Fuel is a fuel bank which provides funding to assist customers with deliverable fuel, mainly fuel oil. They also provide emergency assistance from a fund, sometimes for people who are slightly over the income limits required for MPP eligibility.

- Take custody of customer commitment files (files of program-eligible applicants) from CAA for input into Avangrid's CIS
- Receive payments and promissory payment letters on behalf of enrolled customers
- Provide MPP reporting and analysis
- Assist Customer Service Review Officers with complaints related to hardship programs

5.5.1.1. Eligibility and Program Enrollment

Publicizing hardship programs and establishing customer eligibility is usually done by the CAAs and the utilities. CAAs take customer program applications, assist in getting approval for energy assistance funding, and send commitment files to Avangrid with lists of approved customers. Avangrid incorporates this into customer records to implement the program for the customers. Customers receive an enrollment confirmation letter confirming their program participation and explaining the requirements to remain in the program.⁶⁴ The largest five of the seven CAAs in Connecticut use an automated process to transmit customer information to the utility. Commitment information is uploaded and a table with customer eligibility information is updated in the SAP CIS.⁶⁵ Customer records are coded for program participation.

The Lead Analyst of Hardship Program Administration is responsible for monitoring MPP enrollment levels, monitoring MPP success rates, and managing communications with the CAAs which establish eligibility. The Lead Analyst is also responsible for helping to train the CAA in procedures needed to enroll customers in the programs. Success under the MPP is defined as a customer who is enrolled, receives CEAP funding, and makes required matching payments. During our interview, the Manager of Billing and Revenue Recovery noted that the PURA had requested Avangrid achieve a 65% success rate.

Recommendation: The CT Companies should add a metric measuring the “success” rate for the MPP to the Customer Experience Strategy section of its operating metrics. The PURA requested Avangrid meet a 65% success rate with customers enrolled in its MPP, which we recommend be established as a target for this metric.

5.5.1.2. Outreach Activities

The CT Companies began doing outreach events in 2020 at the PURA's request. Events were held in public spaces and consisted of providing material and answering questions about hardship and medical protection programs. A team from Avangrid Energy Solutions had participated in at least one of these events to provide information about energy conservation. Avangrid held four of these events in-person early in 2020, prior to COVID-19 lockdowns.⁶⁶ Since then, they have held them remotely through Zoom calls. Events are publicized with customer mailings, messages on the CT Companies' websites, and through municipalities. Avangrid stated that the in-person events have had as many as 150 attendees, but the virtual events have had only about 15 to 20.

Recommendation: Avangrid should resume in-person hardship program outreach events as public health conditions permit. Shortly after beginning hardship program outreach events early in 2020, the COVID-19 pandemic compelled Avangrid to convert its in-person events to remote Zoom events. Information provided during our hardship programs interview indicated that attendance for the remote events was about one-tenth

⁶⁴ Response to FTI-0494-D.

⁶⁵ Joint Interview with Manager of Billing and Revenue Recovery, Connecticut, and Supervisor of Credit and Collections, December 6, 2022.

⁶⁶ Ibid.

that of the live events and it is unclear whether any were held in 2022. Based on much better expected attendance, a move back to live events appears advisable.

The Lead Analyst of Hardship Program Administration is responsible for outreach activities, in addition to program administration responsibilities described above. The Manager of Billing and Revenue Recovery stated that between responsibilities for hardship program administration, CAA interface, and training and outreach programs, the Lead Analyst is stretched thin. On top of these responsibilities, Avangrid is adding a new Low-Income Discount program in 2023, which could result in a large increase in overall customer participation in assistance programs. As a result, the Manager of Billing and Revenue Recovery has requested an additional position to assist with hardship programs. At the time of our interview, the new position had not been approved.⁶⁷

Recommendation: We recommend Avangrid add a second Analyst position to administer its medical, winter, and other hardship protection programs. During our interview on December 6, 2022, the Manager of Billing and Revenue Recovery noted that the Lead Analyst of Hardship Programs was spread thin, particularly with respect to keeping up with customer outreach responsibilities, and that a second Analyst position had been requested but not yet approved. Given the current Lead Analyst's responsibilities and the additional workload that may come with the new Low Income Discount Plan scheduled for implementation in December 2023, we recommend Avangrid approve and seek to fill the second Analyst position if it has not already done so.

5.6. Account Dunning and Collection

Avangrid's account dunning processes were dramatically affected by the COVID-19 pandemic. The PURA ordered a temporary moratorium on involuntary shutoffs in March 2020. All electric and gas utility customer accounts were protected from shut-offs from March 12, 2020 until June 15, 2021, when the PURA allowed utilities to resume disconnections for non-residential accounts.⁶⁸ Avangrid resumed involuntary service terminations for commercial and industrial customers on July 26, 2021 and non-hardship residential accounts on October 25, 2021.⁶⁹ The PURA denied Avangrid's request in the summer of 2022 to approve a plan to resume involuntary disconnections for financial and medical hardship customers and deferred implementation of involuntary service terminations for these customers until May 2023.⁷⁰

Figure 5-13 summarizes some of the CT Companies' key account dunning and collection metrics for the period January 2019 through September 2022. It shows the growth of balances in arrears that occurred with the shut-off moratorium early in 2020, and the impact of the pandemic on the number of payment agreements, final notices prior to disconnection, and involuntary disconnections. The pandemic and shut-off moratoriums caused significant increases in the amount of debt over 90 days old at year-end, with the debt tripling in the case of UI, and doubling in the case of SCG between year-end 2019 and year-end 2020.

⁶⁷ Ibid.

⁶⁸ Decision, Docket No. 22-03-16, Petition of the Office of Consumer Counsel for an Investigation into the United Illuminating Company and Eversource Energy Regarding Collection Practices During the COVID-19 Moratorium, December 10, 2022, p. 8.

⁶⁹ Ibid, p. 9.

⁷⁰ Ibid, p. 9.

Avangrid Connecticut - Key Collections Metrics				
CNG	2019	2020	2021	2022 (thru 9/30)
Active acct debt >60 days (yr end, in \$000s)	\$ 13,178	\$ 20,112	\$ 17,489	\$ 20,615
Active & final acct debt > 90 days (yr end, in \$000s)	\$ 12,143	\$ 20,886	\$ 21,271	\$ 20,086
YTD % of \$ recovered by collection vendors	37.9%	32.9%	21.4%	38.0%
No. of customers > 60 day in arrears (end of yr)	54,123	57,719	27,654	not avail.
Payment Agreements Written for Year	13,542	-	2,197	23,441
Disconnect Notices Sent	119,546	43,907	176,300	119,546
Invol. Disconnects / Reconnects	9537 / 9142	2589 / 2054	2238 / 1452	9537 / 9142
SCG	2019	2020	2021	2022 thru 9/30
Active acct debt >60 days (yr end, in \$000s)	\$ 9,870	\$ 21,114	\$ 14,419	\$ 14,216
Active & final acct debt > 90 days (yr end, in \$000s)	\$ 8,417	\$ 19,295	\$ 15,679	\$ 16,346
YTD % of \$ recovered by collection vendors	51.2%	36.4%	21.6%	21.8%
No. of customers > 60 day in arrears (end of yr)	72,865	82,025	33,296	not avail.
Payment Agreements Written for Year	17,173	-	2,789	34,063
Disconnect Notices Sent	106,162	40,343	188,672	112,542
Invol. Disconnects / Reconnects	20685 / 19030	4843 / 3774	2120 / 1428	not avail.
UI	2019	2020	2021	2022 thru 9/30
Active acct debt >60 days (yr end, in \$000s)	\$ 14,123	\$ 37,603	\$ 51,058	\$ 68,384
Active & final acct debt > 90 days (yr end, in \$000s)	\$ 8,624	\$ 29,624	\$ 29,453	\$ 37,485
YTD % of \$ recovered by collection vendors	20.0%	38.2%	13.0%	18.9%
No. of customers > 60 day in arrears (end of yr)	55,812	66,381	46,132	not avail.
Payment Agreements Written for Year	14,213	2,304	7,665	418,187
Disconnect Notices Sent	318,779	88,595	388,373	170,437
Invol. Disconnects / Reconnects	63080 / 54170	15171 / 14040	6603 / 5433	not avail.

Figure 5-13 CT Companies' key account dunning and collection metrics, 2019-2022⁷¹

5.6.1. Notice of Violation and Assessment of Civil Penalty

On October 31, 2022, the PURA issued a Notice of Violation and Assessment of Civil Penalty to Avangrid for violations of the provisions of Title 16 of the General Statutes of Connecticut and assessed a civil penalty of \$4,481,650. During the COVID-19 pandemic, the PURA issued an Interim Decision requiring Avangrid and other utilities to establish a payment program for customers who requested assistance and to “proactively and directly contact any residential, commercial, or industrial customer after the customer’s first missed payment with information regarding [the program.]”⁷² After investigating, the PURA had reason to believe that the CT Companies had violated Order No. 5 of its Interim Decision by failing to contact customers “directly and proactively” prior to filing wage garnishment applications.

As part of its collection practices, Avangrid sometimes refers customers with overdue balances to a legal collections firm to make payment arrangements. Metrics shown in Figure 5-13 suggest that about a third of the unpaid balances turned over to third-party collectors are eventually recovered. If customers fail to make payments, the collection firm can file a lawsuit which can result in a court-ordered judgement. Failure to make payments in accordance with the judgement can result in wage garnishment. The Notice of Violation notes that Avangrid did not suspend all collection activities as a result of the pandemic or the PURA’s Interim Decision; rather, Avangrid asked the collections firm to use a “softer approach.”⁷³ The Notice of Violation states that the collections

⁷¹ Response to FTI-0483, Atts. 1-3, 4-6.

⁷² Notice of Violation and Civil Penalty, Docket No. 22-03-16RE01, p. 2.

⁷³ Notice of Violation and Civil Penalty, Docket No. 22-03-16RE01, p. 3.

firm had filed “at least 204 applications for wage garnishments against customers.” Although new lawsuits were suspended after March 19, 2020, the collections firm continued to pursue collection for lawsuits pending at the time, including applying for wage garnishments. Avangrid instructed its collections firm to provide enrollment information about the COVID-19 Payment Program to all customers except those with an existing judgement against them. Thus, the PURA found that Avangrid had failed to “proactively and directly contact” these customers with the required program information and found that “each application for a wage garnishment since April 29, 2020, is a violation.”⁷⁴

Following are relevant updates since the Decision and changes that Avangrid is making as a result of the PURA’s Notice of Violation:

- On December 29, 2022, the PURA approved a settlement agreement in which Avangrid’s penalty payment will be \$3.3 million instead of \$4.5 million. Payment will be made before the end of January 2023.⁷⁵
- Avangrid stated that the expense associated with the penalty will be recorded for regulatory account purposes in FERC Account 426.5 – Other Deductions.⁷⁶ However, it appears that the correct account for this expense is Account 426.3 – Penalties.⁷⁷
- As it relates to collection practices, the Decision in Docket 22-03-16 requires Avangrid to make certain procedural changes and changes in the information it provides to customers regarding the collection of unpaid amounts, including from third-party collectors. Avangrid stated that on December 14, 2022, the PURA approved revised language for Avangrid’s Final Bill Reminder. Avangrid stated the CT Companies were working with their bill print vendor to have this completed by January 13, 2023.⁷⁸
- The CT Companies have paused using wage garnishments as a means of enforcing collection judgements. Avangrid stated it is developing a cost-benefit analysis for the use of wage garnishments as a collection tool.⁷⁹

⁷⁴ Ibid.

⁷⁵ Response to FTI-0718.

⁷⁶ Ibid.

⁷⁷ CFR Title 18, Subchapter C, Part 101 – FERC Uniform System of Accounts, defines Account 426.3 – Penalties as follows: “This account shall include payments by the company for penalties or fines for violation of any regulatory statutes by the company or its officials.”

⁷⁸ Response to FTI-0719-A.

⁷⁹ Response to FTI-0719-B.

Chapter 6: External Relations

Introduction

This chapter addresses the External Relations organization and the activities performed to support the communities served by United Illuminating (“UI”), Southern Connecticut Gas Company (“SCG”), Connecticut Natural Gas Company (“CNG”) (collectively, the “CT Companies”), and the CT Companies’ parent, the UIL Holdings Corporation (“UIL”). The Sections below specifically focus on the interactions between the CT Companies and external stakeholders, including the development and delivery of relevant communications, relationship management between the state and communities served, regulatory relations, emergency response activities, and how charitable funding is considered and funded to support both the CT Companies and stakeholder needs.

Findings

Organization Design

1. Corporate Communications is the responsibility of the Senior Vice President of Corporate Communications and State Government Affairs, Kim Harriman.
2. Franklyn Reynolds, the President and Chief Executive Officer of UIL Holdings (“UIL CEO”), is ultimately responsible for all activities and interactions between the CT Companies and the state, regulator, and communities the CT Companies serve.
3. The Director of Government and Community Relations is responsible for coordinating the activities necessary to deliver programs and corporate communications for each community and state entity. This allows for a single point of coordination to align company messaging and programs with the strategy of Mr. Reynolds’ office.
4. The Government and Community Relations group also manages the interactions with their communities during Emergency Response Events; however, these interactions are coordinated through an Incident Commander (“IC”).

Charitable Giving

5. The CT Companies maintain a Connecticut-specific charitable giving program that is responsive to local needs. The 2015 Merger Order Condition required UIL and the UIL Utilities to maintain “charitable giving and corporate philanthropy programs for at least four years (based upon historical annual contribution levels of between \$500,000 to \$800,000).” The current charitable giving budget is \$120,000.

Recommendations

Charitable Giving

1. The Corporate Communications group should measure and monitor the effectiveness of External Relations messaging to assist with future improvements. This should take the form of measuring click rates and click-through rates for emails, monitoring number of clicks for press releases, the use of social media impressions

and engagement, and others. The data obtained should help inform future messaging decisions and appropriate channel selection and usage.

6.1. Introduction to External Relations

“External Relations” is an umbrella term that covers several activities used for managing relationships for a wide stakeholder group, including investors, government and regulatory entities, community members, and customers. This is achieved through the delivery of a combination of communications, marketing, and public relations, which are the primary responsibilities of the Avangrid, Inc. (“Avangrid”) Corporate Communications group, and locally by the Government and Community Relations group.

Corporate Communications is the responsibility of the Chief Sustainability Officer; however, this position was vacant at the time of this report’s publication, see Figure 6-1. Reporting to this role are several leaders who manage a variety of communications activities and channels used to distribute messaging and promote the CT Companies’ brand. The Regulatory Affairs group, which interacts regularly with the Connecticut Public Utilities Regulatory Authority (“PURA”), is managed through the Vice President of Regulatory Affairs, Daniel Canavan. Relations at the state government and community level are the responsibility of the Director of Government and Community Relations, who reports directly to Franklyn Reynolds, the UIL CEO. Mr. Reynolds is ultimately responsible for all activities and interactions between the CT Companies and the state, regulatory bodies, and communities they serve.¹

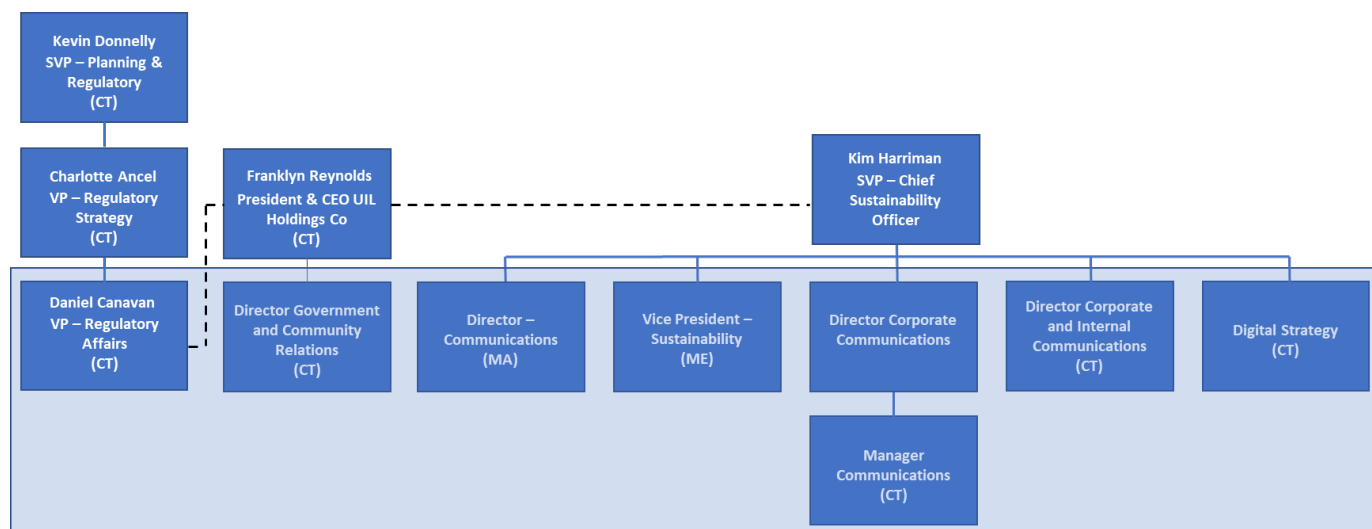


Figure 6-1 External Relations Organizational Structure²

6.1.1. Organization Overview

There are several activities and individuals responsible for supporting and delivering External Relations. The “Corporate Communications” group is responsible for overseeing all communications activities, including those related to media and sustainability, at the Avangrid level. This group is also responsible for communications for

¹ Interview with Director of Government and Community Relations, October 11, 2022.

² Response to FTI-0001, Att. 1.

the Avangrid Foundation, which is the charitable arm of Avangrid.³ Corporate Communications is led by the Senior Vice President of Corporate Communications and State Government Affairs

which was a vacant role at the time of this report.

The “Brands and Channels” activity within Corporate Communications is responsible for managing all Avangrid and its subsidiary Companies’ brands and reputations through initiatives both internal and external. This activity does not have dedicated Connecticut employees since this service is a shared service among all Avangrid Companies.⁴

The “Business Communications” activity is responsible for all internal and external communications for Avangrid Networks and Avangrid Renewables. This includes a Director of Communications who serves both the Connecticut and Massachusetts Companies and a Manager of Communications who specifically serves Connecticut.⁵ These individuals are responsible for the development of a strategic communications plan and its delivery, and is also responsible for media inquiries, the Manager of Communications also serves in a Public Information Officer role during emergency response events.⁶

The “Sustainability and the Avangrid Foundation” activity is led by a Vice President of Sustainability. The Avangrid Foundation is the corporate-level charitable group for Avangrid, which provides pro-bono investments aligning to the corporate strategy. This team is not responsible for the local charity that is driven by UIL and managed under Mr. Reynolds. UIL’s charitable program is evaluated later in this chapter.⁷

The “Government and Community Relations” group is responsible for managing several communications channels, interactions, and programs deployed to advance the CT Companies’ interests, and also for providing philanthropic funds to selected charities. The individual leading this activity maintains a close link to the communities served and is the direct link, along with Mr. Reynolds, between the CT Companies and the communities, regulators, and state officials. This team is in a period of growth, growing from four to 10 employees by adding six Key Account Managers.⁸

6.1.2. Organization Design and Coordination

The Director of Government and Community Relations is responsible for coordinating the activities necessary to deliver programs and corporate communications for each community and state entity. This allows for a single point of coordination to align company messaging and programs with the strategy of Mr. Reynolds’ office. This ensures that local needs are a primary consideration when selecting the charitable donations and sponsorships that are funded.⁹

Mr. Reynolds’ office conducts weekly meetings with all the key business function leaders for the three CT Companies to discuss key issues and challenges within the communities they serve. This, for example, may include a discussion about a mayor of one city raising a concern about construction activities, or discussion about a new construction project and the resulting community impact. During this meeting, the Director of Government and

³ Ibid.

⁴ Response to FTI-0052.

⁵ The CT Companies are directly owned by UIL, which also owns the Berkshire Gas Company in Massachusetts.

⁶ Response to FTI-0052.

⁷ Ibid.

⁸ Interview with Director of Government and Community Relations, October 11, 2022.

⁹ Ibid.

Community Relations will also share their interactions to obtain input and feedback so a response or action can be properly developed. The Director is also responsible for interactions at the state level through regular interactions with the Governor’s office and other state offices.¹⁰

The Key Account Managers, who report to the Director of Government and Community Relations, are responsible for the interactions with the communities they are assigned to. These can include attending regular meetings with leaders, practicing in public meetings, or any other forum as deemed necessary. These interactions are monitored through goals that are set to ensure that regular touchpoints occur within communities they serve. Mr. Reynolds also meets with each community on a regular basis to reinforce the interactions between the CT Companies and communities.

Regulatory activities are coordinated through the Regulatory Affairs group. The Vice President of Regulatory Affairs, Daniel Canavan, is responsible for regulatory affairs in Connecticut and Massachusetts. This includes maintaining regular interactions with PURA that are coordinated through Mr. Reynolds office, including through their regular interactions at the Connecticut Regulatory, Planning, Operations and Customer Council (“RPOCC-CT”).¹¹ The Key Account Manager team is currently deploying Salesforce, with a go-live date of late 2022, which will support the tracking of interactions and other activities such as charitable requests.^{12,13}

Corporate Communications is regularly consulted, whether to promote CT Company sponsorships or to provide more specific and targeted messaging for new projects, products, or other initiatives. The Manager of Corporate Communications is assigned to support this team by determining the most effective method(s) for delivering communications. This can include using methods and channels such as social media, newsletters, or press releases. However, regardless of what is suggested by this Manager, Mr. Reynolds’ team ultimately makes the final decision on the content and the channels used to communicate.¹⁴

However, FTI observed a lack of measuring communication effectiveness. The CT Companies stated that this only occurs at the Avangrid Foundation level.¹⁵ The CT Companies should adopt a practice of regularly measuring the effectiveness of communications and channels used so future decisions on messaging can be based on effectiveness data.

Recommendation: The Corporate Communications group should measure and monitor the effectiveness of External Relations messaging to assist with future improvements. This should take the form of measuring click rates and click-through rates for emails, monitoring number of clicks for press releases, the use of social media impressions and engagement, and others. The data obtained should help inform future messaging decisions and appropriate channel selection and usage.

6.1.2.1. Emergency Response

The Government and Community Relations group also manages the interactions with their communities during Emergency Response Events; however, these interactions are coordinated through an IC. The goal is to provide a coordinated set of messaging and reporting while utilizing the existing relationships maintained throughout the year. While the responsibilities are similar to their blue-sky roles, they become Municipal Liaisons (“Liaisons”)

¹⁰ Ibid.

¹¹ Interview with Director of Government and Community Relations, October 11, 2022.

¹² Response to FTI-0459.

¹³ Interview with Director of Government and Community Relations, October 11, 2022.

¹⁴ Interview with Manager of Corporate Communications, October 25, 2022.

¹⁵ Ibid.

during an Emergency Response Event and report directly to each community impacted. The Director of Government and Community Relations serves in a Liaison role at the state level working with the Governor’s office while the Vice President of Regulatory interacts with PURA.¹⁶

The coordination of messaging is managed through a combination of regularly provided (every 4 hours) reports and interactions between the Liaisons in the field and the Municipal Coordinators, who provide back-office support during an Emergency Response Event. Should a community have a need, such as a specific Estimated Times of Restoration (“ETRs”), or a restoration priority outside of the prioritization lists, which are detailed in Chapter 2 - System Operations, the Liaisons relay that information, which moves through the chain of command to the IC for a response.¹⁷ Additional details about this role and their interactions are provided in Chapter 2 – System Operations.

6.1.3. Charitable Giving

The CT Companies maintain a Connecticut-specific charitable giving program that is responsive to local needs. The 2015 Merger Order Condition required UIL and the UIL Utilities to maintain “charitable giving and corporate philanthropy programs for at least four years (based upon historical annual contribution levels of between \$500,000 to \$800,000).” The current charitable giving budget is \$120,000.¹⁸

The goal of the program is to support organizations through the following six areas: workforce development, housing, youth, arts, municipalities, and other (serving in board of director positions, volunteer opportunities). There are also economic development funds available, funded by ratepayers, through a statutory rule to encourage utilities to invest in the state to attract business. Example fundings include an electric vehicle study, economic development studies supporting improvements such as street refurbishment, and sponsoring events.

The Government and Community Relations team meets monthly to review the 200-300 solicitations per year, which are received through applications from uinet.com. There is a dedicated monitored mailbox where completed applications are received and then logged into a funding spreadsheet. The goal is to evaluate each solicitation to identify the requests that provide the greatest positive mutual benefit to both the solicitors and the CT Companies. Additionally, this review focuses on the solicitations that align to the greatest number of the six goals previously detailed. This team also meets with the Avangrid Foundation to review their funding activities.^{19,20}

FTI observed a good mix of sponsorships, programs, and charitable foundations funded through the CT Companies. It also includes diversity of geographic locations where funding was provided, which assists with the reach of the programs and ensures that no one area or type of program is favored for funding.²¹

¹⁶ Interview with Director of Government and Community Relations, October 11, 2022.

¹⁷ Ibid.

¹⁸ Interview with Director of Government and Community Relations, October 11, 2022.

¹⁹ Response to FTI-0054.

²⁰ Interview with Director of Government and Community Relations, October 11, 2022.

²¹ Response to FTI-0053.

Chapter 7: Support Services

Introduction

In this Chapter, we will review the Support Services provided to the United Illuminating Company (“UI”), the Southern Connecticut Gas Company (“SCG”), and the Connecticut Natural Gas Corporation (“CNG”) (collectively, the “the CT Companies”) which include Enterprise Risk Management (“ERM”), Legal, Asset Management, Information Technology (“IT”) and Cybersecurity, and Regulatory Compliance.

Findings

ERM

1. Avangrid’s ERM function is led by the Vice President and Chief Risk Officer, who reports to the Avangrid Chief Financial Officer. Enterprise risks for Avangrid Networks (“Networks”) and Avangrid Renewables (“Renewables”) are tracked and managed separately by individual groups, each led by a Director of Risk Management.
2. Networks uses a Key Risk Register to document, assess, and mitigate enterprise risks. Approximately 30 key risks are tracked in a risk management software solution, GRC-Archer, that is used by all of the Iberdrola S.A. (“Iberdrola”) companies.
3. At least quarterly, enterprise risks are reviewed by the Networks Risk Committee, comprised of senior executives including the Networks Vice Presidents of Electric Operations, Gas Operations, and Customer Service, as well as the UIL President and Chief Executive Officer (“UIL CEO”). Top risks are also reported on a semiannual basis to the Networks Audit and Compliance Committee.
4. Because enterprise risks are evaluated at the Networks level, most of the top risks relate to larger utility subsidiaries outside of Connecticut.
5. The Risk Management Department is responsible for collecting and reporting on key performance indicators to senior management and the Networks Audit and Compliance Committee.

Legal

6. The legal group uses a combination of internal employees and outside counsel to support the CT Companies’ legal workload. The decision to outsource versus use internal counsel is driven primarily by skillset and the frequency of the subject area being considered.
7. FTI requested the CT Companies to provide the hours worked for both internal and external counsel to determine the split of resources, however, Avangrid does not track internal counsel’s hours.
8. The CT Companies had not performed any formal cost studies to determine if their resourcing model is the most cost effective, however, they noted that Avangrid performs regular performance evaluations through benchmarking.
9. The CT Companies recently implemented a competitive bid process to source law firms’ responses.

10. The five-year budget review indicates a high degree of variation between budget and actuals for most years.

Asset Management

11. The Real Estate group's five-year historical budget versus actuals indicates challenges with developing and managing a budget that aligns to annual spending needs.

12. The CT Companies currently source their vehicles through a purchase rather than leasing strategy, which allows for extending the useful life of a vehicle beyond a typical lease duration. Purchases, however, have slowed down because of COVID-19-driven supply chain shortages.

13. Each CT Company's vehicle and equipment expenses varied significantly over the past five years, which was primarily caused by extending the service life of existing vehicles to manage supply chain shortages.

14. The CT Companies are making cautious progress on utilizing alternatively fueled vehicles.

15. Current Preventable motor vehicle incident ("PMVI") key performance indicators ("KPIs") highlighted recent increases in incidents for UI and SCG.

Inventory Management

16. The CT Companies manage inventory levels through a Material Requirement Planning ("MRP") approach that defines a minimum and maximum level which is optimized based on actual usage.

17. UI has continued issues with sourcing poles and transformers.

Information Technology and Cybersecurity

18. IT demand is created by the business who identifies the projects necessary to solve business problems which are identified through the CT Companies' Business Strategy Framework.

19. The proposed IT budget is reviewed and projects are prioritized to ensure that the CT Companies operate within rate case approvals.

20. The CT Companies' IT group has generally demonstrated good budget management performance over the last five years.

21. FTI noted a high level of priority placed on local, state, and regulatory-driven IT projects based on the CT Companies' project scoring criteria.

22. A key benefit to the CT Companies' Cybersecurity's organizational design is the close alignment of physical security and cybersecurity which allows for efficient information sharing.

23. The intelligence gained through various sources are used to inform key cybersecurity risk areas, which is managed through Avangrid Group's Enterprise Risk Management System.

24. Once risk is identified the Corporate Security group develops the initiatives necessary to support mitigation through the deployment of strategic security programs.

25. The CT Companies track training results, including completion rates at the employee level. This assists with identifying employees who have not completed required training within a designated timeframe so their supervisor can be notified for follow up.

Recommendations

Legal

1. The CT Companies should implement a more robust budget development process that considers both bottom-to-top and top-to-bottom approaches to arrive at an annual budget. The CT Companies should also consider implementing a budget management process that prioritizes work and can either stop lower priority work or receive additional allocations from other budgets to continue to fund overruns. This should also include appropriate governance to monitor and manage the process.

Asset Management

2. The Real Estate group should not include current year unplanned expenses in future year budgets without conducting the necessary analysis/inspections to determine the likelihood of a reoccurrence. Instead, the group should only consider expenses that are based on known and demonstrable data, i.e., asset condition inspections for facilities.
3. The CT Companies should conduct a study to determine current vehicle and equipment utilization to identify opportunities to right-size the fleet. They should also implement tracking systems for rentals to ensure that utilization is maximized and within the guidelines of the study.
4. The CT Companies should conduct an evaluation to develop a warehousing/supply chain strategy that considers implementing a consolidated centralized warehouse, or a consolidation of geographically co-located warehouses in an effort to promote efficiency and cost control/containment.

Information Technology and Cybersecurity

5. The CT Companies should implement a robust IT project alternatives analysis methodology that considers a wide range of solutions that balance cost and benefit and opens the business to alternative approaches. This approach should include the development of new analysis templates, an activity within the Software Development Process (“SDP”) likely at Gate 1, and appropriate governance and sign offs to support this analysis.
6. There is an opportunity to improve the structure and usability of the Cybersecurity Unified Incident Response Plan to serve as an effective reference document. This includes the use of process flows and decision trees to help the user make appropriate decisions regarding classification and activation. Checklists should also be included to ensure that appropriate steps are taken and completed.
7. The CT Companies should conduct regular training for the Avangrid Board that is consistent with the latest policies, threats and relevant materials. This should be conducted at least annually and should reinforce the role of the Avangrid Board before, during and after any event.

7.1. Risk Management

ERM comprises a set of robust processes for the identification and mitigation of key risks. In this section we review Avangrid’s ERM in relation to industry practices, risks specific to the CT Companies, and mitigation process to determine if key risks have been identified and quantified.

7.1.1. Risk Management Organization

Networks' risk management responsibility resides within Avangrid's Finance function. The leader of the ERM function, the Vice President and Chief Risk Officer (Nacho Arronte Arroyuelos), ultimately reports to Avangrid's Chief Financial Officer. There are two Directors responsible for ERM – one for Renewables and the other for Networks, including all regulated utility subsidiaries, as shown below in Figure 7-1.

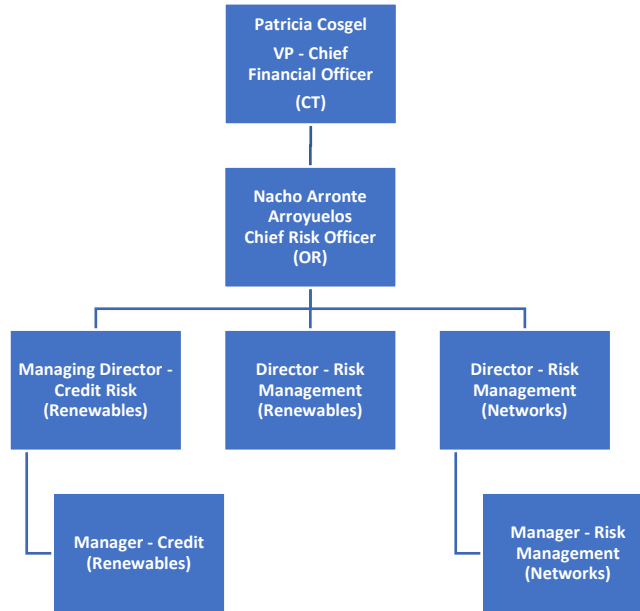


Figure 7-1 Avangrid Risk Management Organization Chart¹

Networks' Risk Management Director has been with Avangrid since 2000, with experience in the customer service, operations, Business Transformation, and training fields, and is well qualified to lead the ERM function. In addition to risk management, the Director and her direct report also collect and report on KPIs for the Networks utility companies as part of the Avangrid's performance management process. The Risk and Credit Manager is partially dedicated to ERM, but also oversees counterparty credit analysis and KPI data collection.²

Risk management is governed internally through the Networks Risk Committee (discussed in more detail below) and at the Networks Board level through the Networks Audit and Compliance Committee. Networks' Risk Management Director provides detailed reports on the top risks to the Audit and Compliance Committee twice per year.³

7.1.2. Networks Risk Committee

The Networks Risk Committee, originally formed in 2012, was reorganized in 2015 when UIL was acquired. The Connecticut and Massachusetts companies were fully integrated into the Committee's oversight and framework at that time.⁴

¹ Response to FTI-0001.

² Interview with Director of Risk Management, Networks, October 27, 2022.

³ Response to FTI-0207.

⁴ Comprehensive Management and Operations Audit of New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation, Case 16-M-0610, p. 6-3.

The Committee has a formal charter, which states,

*The purpose of the Networks Risk Committee is to properly align the basic principles and general framework for the control and management of risks facing the Networks Group in accordance with the mission, vision and values approved by the Board of Directors. The primary responsibility of the Networks Risk Committee is to oversee the risk management practices for the Networks Group.*⁵

The Networks Risk Committee membership has expanded since 2019 to include executive leaders in customer service and operations. The Committee is currently comprised of the following individuals:⁶

- Networks President and CEO
- Avangrid COO (added in February 2020)
- CMP CEO
- New York State Electric and Gas (“NYSEG”) and Rochester Gas & Electric (“RG&E”) CEO
- UIL CEO
- Networks Vice President – Electric Operations
- Networks Vice President – Gas Operations (added in February 2021)
- Networks Vice President – Customer Service (added in February 2021)
- Networks Vice President – Human Resources
- Networks Vice President – Control
- Networks Vice President – Regulatory Strategy
- Networks Vice President – Risk Management/Chief Risk Officer
- Networks Vice President – General Counsel
- Networks Non-Executive Participants:
 - Director – Cyber Security
 - Director – Internal Audit
 - Director – Compliance (added in February 2021)
 - Director – Risk Management
 - Manager – Risk Management

The Committee receives risk reports and recommends actions to mitigate risks. It has the authority to request supplementary risk analyses, conduct investigations, obtain relevant information from employees, officers, directors, or external parties, and retain special legal, accounting, or other advisors, as necessary, to perform its duties and responsibilities. The Committee’s scope of governance includes enterprise risk, credit risk, and market risk. The Committee meets at least quarterly, but typically it meets more frequently.

7.1.3. Risk Policies

The Avangrid Board has set forth ERM requirements and expectations in the document entitled, “General Risk Control and Management Policy.” This policy assigns the following duties and responsibilities to all operating companies within the Avangrid Group:⁷

⁵ Response to FTI-0208, Att. 4.

⁶ Ibid.

⁷ Response to FTI-0582, Att. 3 (confidential), General Risk Control and Management Policy, February 16, 2022, p. 7-8.

- The establishment of a structure of policies, guidelines and risk limits and indicators, as well as the corresponding mechanisms for their approval and deployment, with annual reviews to establish the risk appetite assumed annually in a qualitative and quantitative manner, in accordance with the objectives established in the multi-year plan and the corresponding annual budgets for the Avangrid Group.
- The ongoing identification of significant risks and threats, taking into account their possible impact on key management objectives and the accounts (including contingent liabilities and other off-balance sheet risks).
- The analysis of such risks, both at each corporate business or function and taking into account their combined effect on the Avangrid Group as a whole.
- The measurement and control of risks following homogenous procedures and standards common to the entire Avangrid Group.
- The analysis of risks associated with new facilities, as an essential element in risk/return-based decision-making.
- The maintenance of a system for internal monitoring of compliance with policies, guidelines, and limits, by means of appropriate procedures and systems, including the contingency plans needed to mitigate the impact of the materialization of risks.
- The periodic monitoring and control of profit and loss account risks that might have a significant impact in order to control the volatility of the annual income of the Avangrid Group.
- The ongoing evaluation of the suitability and efficiency of applying the system and the best practices and recommendations in the area of risks for eventual inclusion thereof in the model.
- The audit of the comprehensive risk control and management system by the Internal Audit Division.

The general principles above are supplemented at the Networks level with fourteen additional risk policies that govern a wide array of financial, operating and IT topics, including:⁸

- Corporate credit risk
- Treasury risk
- Health & Safety risk
- Purchasing risk
- Cybersecurity risk

7.1.4. Risk Identification and Assessment

Networks Risk Management uses top-down and bottom-up approaches to identify risks. The Networks Risk Committee discussions may identify emerging risks that are further evaluated by risk management staff. In addition, the Risk Management Director conducts risk interviews annually with key stakeholders.⁹ The Risk Management Director also attends other Networks standing committee meetings, such as the Gas Compliance Committee and Energy Services Risk Oversight Committee, among several others.¹⁰

Networks has also implemented a “three-lines model” that is detailed in the General Risk and Control Management Policy. This governance model assigns shared responsibility for risk management to the ERM, Internal Audit, and Compliance functions, which is coordinated through monthly meetings attended by these

⁸ Response to FTI-0207.

⁹ Ibid.

¹⁰ Response to FTI-0206.

department’s directors. The Risk Management Director also attends internal audit planning interviews with executive management.¹¹

Risks are evaluated based on their likelihood of occurrence and potential financial impact. Two impact scores are determined: one for short term impact over the upcoming 12 months, and a longer-term impact over the next three years. The scales are shown in Figure 7-2 below. An overall “relevance” score is assigned to the risk, usually corresponding to the highest probability or impact score.

Avangrid Networks Risk Rating Scales			
Rating	Probability of Occurrence	Impact	
		Short-Term	Long-Term
Low	< 15%	< \$1M	< \$10M
Medium	15% to 50%	\$1M to \$10M	\$10M to \$50M
High	50% to 85%	\$10M to \$25M	\$50M to \$100M
Very High	> 85%	> \$25M	> \$100M

Figure 7-2 Risk Rating Scales¹²

The risk rating is determined through discussions between the risk management team and the risk owner. In addition, analytical tools such as scenario analysis, Monte Carlo simulations, bow-tie diagrams, and statistical analysis are used to assist, if necessary.¹³ The ratings are based on residual risk which is the level of risk that remains after the effectiveness of mitigation activities have been assessed.¹⁴

Approximately 30 enterprise risks are documented in the GRC Archer software system, which is used globally by Iberdrola companies. The GRC Archer system tracks risk descriptions, ratings, mitigation activities, and risk owners. Risk owners have access to the platform and are expected to review and update the risk descriptions and mitigation activities on a regular basis. A system-generated activity log is used by the risk management team to monitor changes.

Each quarter the data in GRC Archer is extracted and manually formatted into a Key Risk Register (“KRR”) for distribution to management, with new information highlighted in red. The KRR is divided into two sections – one for structural risks and one for current “hot topic” risks. The top 10-15 risks, those with “high” or “very high” relevance ratings, are summarized in a written report to senior executives which is provided twice per year to the Networks Audit and Compliance Committee.

7.1.4.1. Networks Key Risks

The most recent KRR lists four structural risks, which have relevance ratings from “low” to “medium”:

- Gas Distribution System
- Electric Distribution System
- Counterparty Credit Risk
- Collective Bargaining Agreement Expirations

¹¹ Interview with Director of Risk Management, Networks, October 27, 2022.

¹² Response to FTI-0579, Att. 1.

¹³ Response to FTI-0207.

¹⁴ Interview with Director of Risk Management, Networks, October 27, 2022.

The KRR prescribes programs and procedures to mitigate these risks.

In addition to the risk reports described above, the KRR is summarized using heat maps using both the short-term and long-term impact ratings. The heat maps for the first quarter of 2022 are shown in Figure 7-3 and Figure 7-4 below.



Figure 7-3 Enterprise Short-Term Risk Heat Maps (as of 1Q 2022)¹⁵

¹⁵ Response to FTI-0207, Att. 4 (confidential).

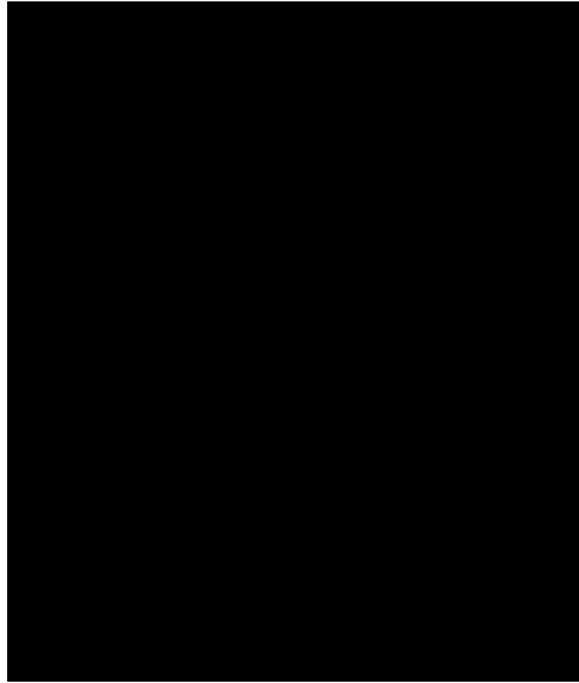


Figure 7-4 Enterprise Long-Term Risk Heat Maps (as of 1Q 2022)¹⁶

[Redacted Table Content]

Enterprise risk management is conducted for Networks at a consolidated level. Management does not perform risk assessments for individual utilities. The KRR lists the following current “hot topic” risks as of the first quarter of 2022 with direct relevance to the CT Companies:¹⁸

[Redacted Table Content]

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid.



7.1.5. Performance Metrics

The Networks Risk Management Department is also tasked with collecting and reporting KPIs to executive management and the Networks Audit and Compliance Committee on a quarterly basis. The metrics are developed through collaboration between the Risk group, business functions, and the Networks Risk Committee. Performance targets and actual results are documented in GRC Archer, providing underlying support for the “Limits and Indicators” report.¹⁹ Items measured at the consolidated Networks level include policy compliance, financial metrics such as internal rate of return, and regulatory compliance actions. Many other KPIs are measured for each utility. CT Company KPIs are shown in Figure 7-5 below.

¹⁹ Response to FTI-0206.

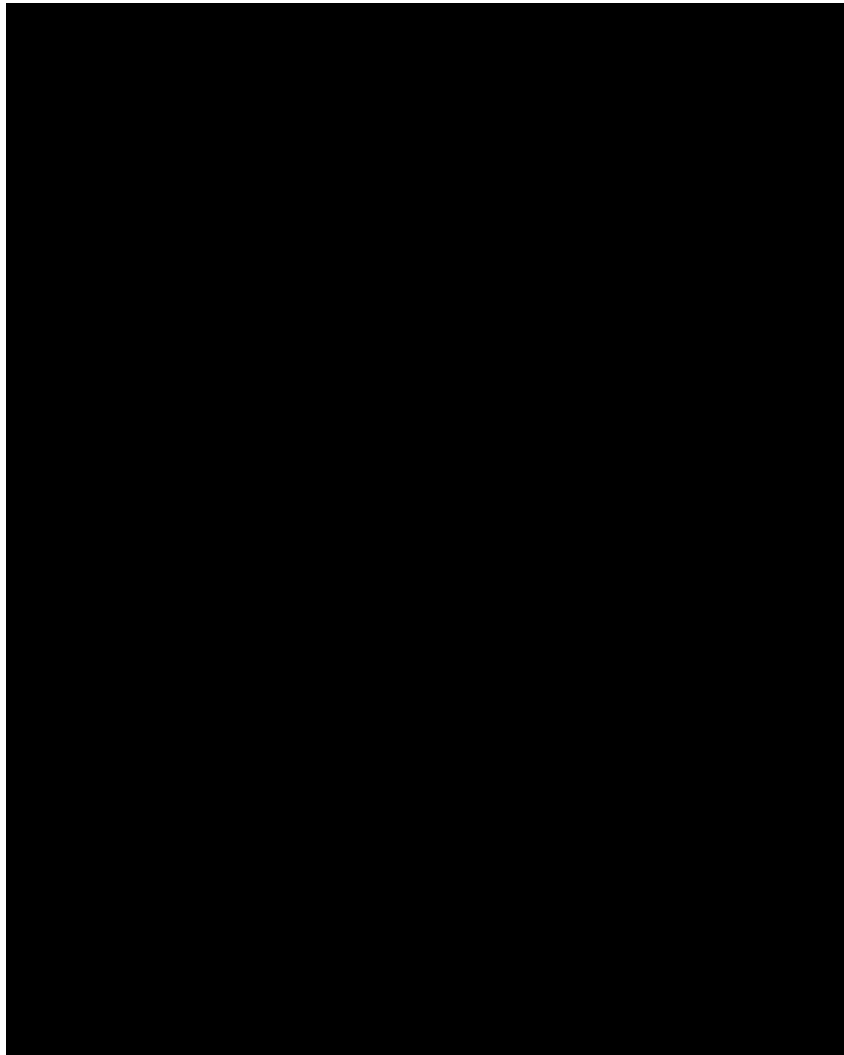


Figure 7-5 Key Performance Indicators for the CT Companies, 2020-2022^{20, 21}

The CT Companies have generally met their non-financial targets for the past three years. Certain metrics in the Limits and Indicators Report are also factored into incentive compensation calculations. Risk Management provides the KPI's to HR annually and Internal Audit periodically audits KPI's based on their annual planning risk assessment and audit plan development. These KPIs are audited annually by the Internal Audit Department.²²

The Limits and Indicators report does not break out the six metrics for gas safety, which are:

- Leak Management Year End Backlog - Class 2
- Leak Management Year End Backlog - Class 3
- Leak Prone Pipe Replacement

²⁰ Response to FTI-0228, p. 220-225 and p. 850-855.

²¹ Response to FTI-0580, Att. 1 (confidential).

²² Interview with Director of Risk Management, Networks, October 27, 2022.

- Prevention Excavation Damages per 1,000 tickets
- Percentage of Emergency Response within 30 minutes of notification
- Percentage of Emergency Response within 60 minutes of notification

As of September 30, 2022, CNG and SCG were behind on both Class 2 and Class 3 backlog targets.

7.2. Legal

Legal matters at the Networks level are managed by Noelle Kinsch, a Vice President who serves in the role of General Counsel. Ms. Kinsch is based in New York and reports to the Senior Vice President and General Counsel of Avangrid, R. Scott Mahoney. Reporting to Ms. Kinsch is the General Counsel for UIL (“UIL GC”), who leads a team responsible for providing legal services to the CT Companies. Figure 7-6 details the Legal team’s organizational structure. Ms. Kinsch provides oversight and strategic guidance for the UIL GC and provides advisory services to the UIL CEO. The UIL GC is responsible for managing the day-to-day activities necessary to support the CT Companies.²³ This organizational structure provides support to the CT Companies through the combination of design along with the location of the team.

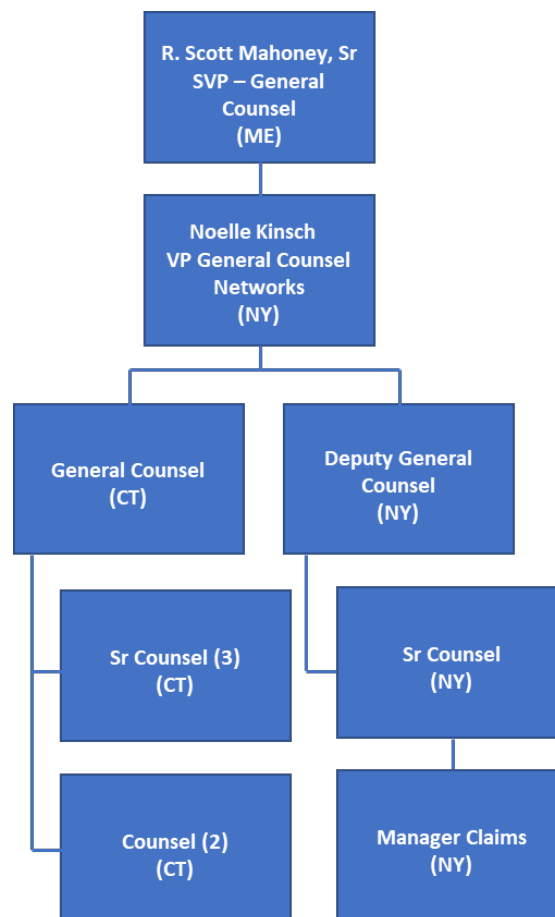


Figure 7-6 Legal Group Organizational Structure²⁴

²³ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), October 18, 2022.

²⁴ Response to FTI-0001.

7.2.1. Resourcing Strategy

The Legal group uses a combination of internal employees and outside counsel to support the CT Companies' legal workload. The decision to outsource rather than use internal counsel is driven primarily by skillset and the frequency of the task. If a matter requires a specialized skillset that occurs on an infrequent basis the work is outsourced, since it is unlikely to be cost-efficient to build and maintain internal capability. The CT Companies routinely perform analysis to determine the cost-effectiveness of building internal capability versus outsourcing for specific tasks.²⁵

FTI requested the CT Companies to provide the hours worked for both internal and external counsel to determine the division of resource utilized, however, the CT Companies do not track internal counsel's hours. Instead, they track their time on an 8-hour-a-day basis and only directly bill capital work.²⁶ FTI determined the estimated number of hours worked by internal resources by assuming six internal Full Time Equivalents ("FTEs") and estimating that Legal FTEs work 40 hours a week, 50 weeks a year for a total of approximately 12,000 hours worked annually. External counsel billed 5,889 hours in 2019, 4,933 hours in 2020, and 5,258 hours in 2021.²⁷ This represents about one-third to one-half of the total hours for Legal work for the CT Companies.

7.2.2. Cost Management

The CT Companies had not performed any formal cost studies to determine if their resourcing model is the most cost-effective, however, they noted that Avangrid performs regular performance evaluations through benchmarking, with the most recent performed in 2019. This effort was part of a larger initiative called the Darwin Project, which provided several recommendations, including the move towards a competitive bid process (Request for Proposals, or "RFP") for legal services.²⁸

To support this recommendation, the CT Companies recently implemented a competitive bid process which is used to evaluate and award most external legal work. While procurement practices typically award work to the firm with the lowest cost, the CT Companies also consider the experience and capabilities of a firm. This is important for several reasons. For one, there is higher risk to the CT Companies should they select a least-cost firm that may be less experienced in the subject matter. There is also a benefit to selecting a firm with deep prior experience with the CT Companies, even if not at the lowest cost. Such firms are able to effectively understand and navigate the CT Companies' needs quickly. Prior experience can also result in lower costs and less time needed for orientation purposes.

The competitive bid process can also be used to identify firms which the CT Companies may not ordinarily work with. Thus, the CT Companies may have more options for future matters and can promote more competitive bids.²⁹

The RFP process also requires the bidding firms to identify methods and approaches for alternative pricing, including discounted rates, success fees, and blended rates. The CT Companies may request that firms maintain their rates throughout the engagement period.³⁰

²⁵ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), October 18, 2022.

²⁶ Response to FTI-0057.

²⁷ Ibid.

²⁸ Ibid.

²⁹ Interview with Vice President, General Counsel, Networks (Noelle Kinsch), October 18, 2022.

³⁰ Ibid.

The RFP evaluations are reviewed by the requesting counsel and are further evaluated by Ms. Kinsch to determine if appropriate decisions were made. Once a firm is engaged, it is the responsibility of the requesting counsel to provide supervisory oversight for the work being performed and to evaluate timesheets for accuracy.

The CT Companies uses a system called Serengeti to track outside counsel invoices and corresponding budgets. Serengeti includes trackers that allow for a comparison of actual spending against an established budget. This analysis is used to determine alignment with the budget throughout the year. Once an engagement is concluded, the supervising counsel will evaluate the performance of the firm which is retained for future reference.³¹

Overall, the methods and approaches used apply best practices and uses industry-recognized tools.

7.2.3. Budget Management

The Legal group develops their budget using a bottom-up approach that considers all projects and matters that are either underway or will be started, to develop their annual budget. This approach is best used to develop a detailed budget that considers all known and measurable sources; however, a five-year budget review indicates a high degree of variation between budget and actuals for most years, see Figure 7-7. No specific reasons for this variation were given.

Legal Budget vs Spend in millions (5 years)														
2017			2018			2019			2020			2021		
Budget	Actuals	Variance	Budget	Actuals	Variance	Budget	Actuals	Variance	Budget	Actuals	Variance	Budget	Actuals	Variance
\$ 2.102	\$ 2.129	1.29%	\$ 1.430	\$ 2.671	86.73%	\$ 0.987	\$ 1.109	12.36%	\$ 1.235	\$ 0.566	-54.17%	\$ 1.148	\$ 1.329	15.77%

Figure 7-7 Legal Group, 5-year Budget vs. Actuals, 2017-2021³²

Recommendation: The CT Companies should implement a more robust budget development process that considers both bottom-to-top and top-to-bottom approaches to arrive at an annual budget. The CT Companies should also consider implementing a budget management process that prioritizes work and can either stop lower priority work or receive additional allocations from other budgets to continue to fund overruns. This should also include appropriate governance to monitor and manage the process.

7.3. Asset Management

Asset Management is a broad term that in the context of this section is related to the real estate, fleet, and inventory management services provided to support UI, SCG, and CNG’s ability to build, operate, and maintain their electric and gas systems.

7.3.1. Real Estate

The management of real estate is the responsibility of the Director of Buildings Asset Management, who reports to the Vice President of General Services. The Director of Buildings Asset Management has three direct reports who are responsible for Building Projects, Building Analytics and Building Operations, see Figure 7-8.³³ This group provides services to all Networks utilities, including the three CT Companies.

³¹ Ibid.

³² Response to FTI-0548, Att. 1.

³³ Response to FTI-0059.

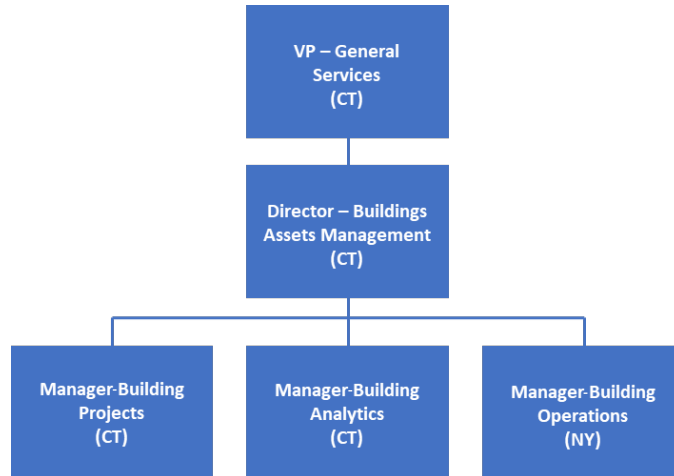


Figure 7-8 Real Estate Group Organizational Structure³⁴

The annual real estate budget is prepared by evaluating current and planned expenses, including existing leases, operating expenses, equipment replacement cost, and expenses for external contracts such as lawn care and technical needs, among others. This group stated they prioritize their investments based on “Director’s Plan, the Long-Term Outlook (LTO), and rate case submissions.” Additional budget input is based on long-term plans that are developed and reprioritized during the annual budget planning process.³⁵ The group also includes forecasted expenses based on a 24-month look-ahead for any pending lease renewals, and a “break and fix” review for existing facilities based on historical data.³⁶

For leases that are expiring, or for new facility needs, the CT Companies compare a lease to a purchase by considering business and company initiatives “several times a year,” through a review of headcount changes and needed space. Depending on market conditions, the group will then decide the appropriate approach while considering cost.³⁷

The Real Estate group’s five-year historical budget versus actuals indicates challenges with developing and managing a budget that aligns to annual spending needs, see Figure 7-9. Several reasons for this were highlighted, including unexpected major repairs.³⁸ However, FTI’s analysis indicates a major contributor is due to incorporating “unexpected major repairs” expenses from previous years into future forecasts, when the likelihood of similar expenses reoccurring is uncertain.

³⁴ Response to FTI-0001.

³⁵ Response to FTI-0061.

³⁶ Response to FTI-0060.

³⁷ Response to FTI-0698.

³⁸ Response to FTI-0592.

Building Asset Management OpEx 2017-2021 (Thousands)										
	2017		2018		2019		2020		2021	
	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals
CNG	212	834	1,130	923	911	718	721	628	930	702
SCG	227	221	1,194	885	1,014	758	778	995	1,288	911
UI	3,870	3,530	3,807	3,679	3,158	2,764	2,446	2,635	3,330	3,681
Total	4,309	4,585	6,131	5,487	5,083	4,240	3,945	4,258	5,548	5,294
Building Asset Management CapEx 2017-2021 (Thousands)										
	2017		2018		2019		2020		2021	
	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals
CNG	373	636	156	670	640	724	301	1,183	550	193
SCG	3,350	602	3,067	347	6,075	444	1,752	974	1,170	692
UI	4,700	675	766	-107	3,769	1,157	0	3,231	4,025	3,441
Total	8,423	1,913	3,989	910	10,484	2,325	2,053	5,388	5,745	4,326

Figure 7-9 Real Estate 5-year OpEx and CapEx Budget vs. Actuals, 2017-2021³⁹

Recommendation: The Real Estate group should not include current year unplanned expenses in future year budgets without conducting the necessary analysis/inspections to determine the likelihood of a reoccurrence. Instead, the group should only consider expenses that are based on known and demonstrable data, i.e., asset condition inspections for facilities.

7.3.1.1. Cost Containment

The Real Estate group demonstrated several methods to contain costs, including sourcing “several” brokerage firms to assist with “market evaluation, location assessments, and financial analysis” to determine if the most competitive lease arrangements were in place. For services such as lawn care, technical services, and other work, the group uses the CT Companies’ procurement practices to create “framework agreements.” This approach generates competitive bids to secure the best price, while also ensuring the availability of alternative vendors for additional flexibility.⁴⁰

The CT Companies’ cost control methods are generally sound and utilize practical methods that promote flexibility while also containing costs.

7.3.2. Fleet

Fleet Management is led by the same Vice President as the Real Estate group, with the Director of Fleet Planning and Operations directly responsible for the organization, see Figure 7-10. The Director has two direct reports, which include the Manager of Fleet Services East and a Project Manager who are both based in New York but provide services to the CT Companies. Local management is achieved through two Connecticut-based supervisors who are responsible for fleet services and garages for both the electric and gas companies.⁴¹

³⁹ Response to FTI-0060.

⁴⁰ Response to FTI-0062.

⁴¹ Response to FTI-0699.

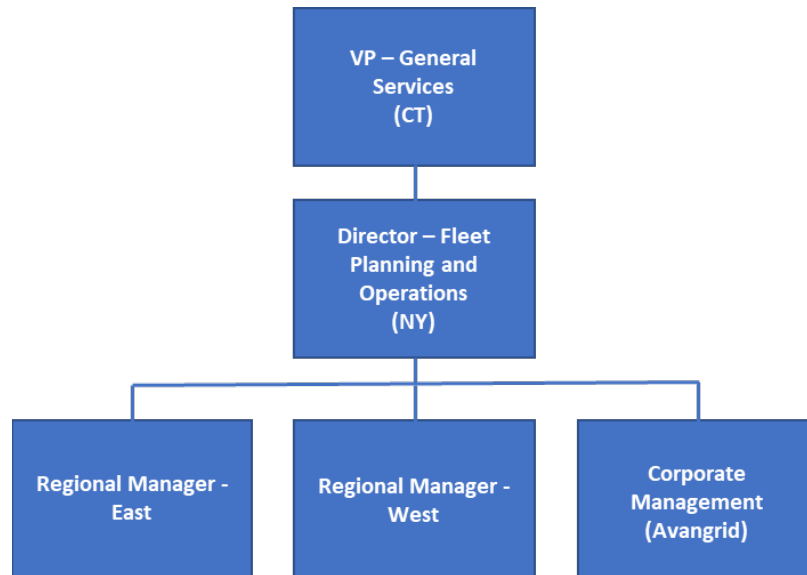


Figure 7-10 Organization Responsible for Fleet Management⁴²

Fleet develops their budget by utilizing a combination of historical spending with forecasted business needs to develop the annual budget. Budget needs may include any future business plans for specific fleet projects, existing vehicle counts and their driven mileage, and any specific need as identified by the Operations group.⁴³ Fleet’s ability to develop and effectively manage their budget is evaluated in the following section.

Cost control and containment is implemented through a combination of strategies and oversight, which, if effectively implemented, can assist with containing unplanned expenses and can mitigate any impacts of rising costs. FTI evaluated these strategies and the oversight used by the CT Companies through the following areas:

- **Vehicle/Equipment sourcing strategy:** How do the CT Companies consider and optimize their purchase vs. lease vs. rental decisions? Also, do they consider carbon reduction and fuel saving goals for vehicle purchases?
- **Vehicle/Equipment utilization optimization:** How do the CT Companies monitor the utilization of vehicles to support decisions concerning the elimination of underutilized vehicles/equipment, or when to use rental vehicles for temporary demand?
- **Preventable Accident Damage:** What methods do the CT Companies use to monitor and mitigate damage caused by preventable motor vehicle incidents or other preventable damage?
- **Maintenance:** How do the CT Companies manage maintenance costs, including how age, mileage and other factors are considered when deciding to purchase new vehicles or keep older vehicles with greater maintenance costs?
- **COVID-19 driven supply chain issues:** How do the CT Companies manage vehicle/equipment purchases, including the methods used to manage rising costs and poor availability?

⁴² Response to FTI-0001.

⁴³ Response to FTI-0700.

7.3.2.1. *Vehicle/Equipment sourcing and maintenance strategy*

The CT Companies currently source their vehicles through a purchasing rather than leasing strategy, which allows for extending the useful life of a vehicle beyond a typical lease duration. This is preferable because vehicles can last a number of years beyond lease periods, and depreciation is most rapid in the first few years of a vehicle's useful life.⁴⁴ The CT Companies also stated that they rent vehicles for situations that require an additional or specialized vehicle/equipment; however, the Operations group makes these decisions, not the Fleet group.⁴⁵

When purchasing, the company is agnostic to brand but focuses on major original equipment manufacturers ("OEMs"), which allows for availability while promoting wide serviceability when compared to niche vehicle brands. The CT Companies also source long-lead heavy vehicle chassis well in advance of need to mitigate against supply chain issues.⁴⁶

However, a key issue with this approach is that major OEMs are now just beginning to introduce widely available alternatively fueled and hybrid vehicles. The CT Companies stated that they are evaluating offerings so they can ramp up alternatively fueled vehicles purchases.⁴⁷ Each CT Company has one or no hybrid vehicles and one or no electric vehicles. Both gas CT Companies have Compressed Natural Gas vehicles for a total of 16, and UI does not have any. UI does have 10 vehicles and 7 on order with Jobsite Energy Management Systems ("JEMS") technology, which allows hydraulic equipment to operate without using a traditional Power Take Off drive system that requires constant diesel idling to operate.⁴⁸ The CT Companies overall are making cautious progress on utilizing alternatively fueled vehicles.

7.3.2.2. *Vehicle/Equipment utilization optimization*

The CT Companies stated that they do not track the utilization of vehicles and equipment. Utilization information could be used to identify opportunities to optimize the fleet.^{49,50} For example, rental equipment could remain on company property well beyond their need if not properly tracked.⁵¹ Also if there is a long-term equipment need, it may be more advantageous to purchase than rent, however, this analysis cannot be performed if tracking data is not available.

FTI recognizes that managing vehicle utilization within a utility requires a careful balance, since some groups may have an inconsistent need, while other alternatives such as requiring employees to use their own vehicle can be more costly or less desirable due to their nature of work. However, FTI believes that the CT Companies should implement a vehicle/equipment utilization tracking mechanism and use this data to conduct a study that optimizes vehicle/equipment utilization.

Recommendation: The CT Companies should conduct a study to determine current vehicle and equipment utilization to identify opportunities to right-size the fleet. They should also implement tracking systems for rentals to ensure that utilization is maximized and within the guidelines of the study.

⁴⁴ <https://www.carfax.com/blog/car-depreciation>

⁴⁵ Response to FTI-0063.

⁴⁶ Response to FTI-0065.

⁴⁷ Response to FTI-0063.

⁴⁸ Response to FTI-0595.

⁴⁹ Response to FTI-0064.

⁵⁰ Response to FTI-0596.

⁵¹ Response to FTI-0293.

7.3.2.3. Preventable motor vehicle incident damage

Preventable motor vehicle incident (“PMVI”) damage is a significant source of unplanned expense, which is costly for both the repair and additional costs due to property damage or injured persons, if a CT Company is at fault. Implementing programs to reduce PMVI damage can reduce this expense and potential reputational risk.

The CT Companies stated that PMVI performance management is achieved through documenting the damage, distributing data to all relevant parties, and implementing cost control for damage repair.⁵² The Safety group ultimately tracks all incidents and reports them through a KPI, PMVI per million miles driven, provided within their standard monthly reporting.

Current PMVI KPIs highlighted increases in incidents for UI and SCG, see Figure 7-11. The CT Companies stated these increases are being mitigated through a Smith Driving course program, online driver safety tools, and supervisor ridealongs.^{53, 54} Since these initiatives were implemented last year, it is difficult to determine the impact until more data is available, however, past experiences with similar initiatives have proven effective when coupled with a good measurement system, which the CT Companies demonstrated.

Preventable Motor Vehicle Incident KPIs						
	Company	2017	2018	2019	2020	2021
Preventable Motor Vehicle Incidents (PMVI)	CNG	11	8	5	9	3
	SCG	12	8	7	11	11
	UI	12	17	19	18	23
Preventable Motor Vehicle Incident Rate (PMVIR)	CNG	5.22	3.77	2.50	4.22	1.54
	SCG	5.50	4.02	3.42	5.60	5.27
	UI	4.04	5.78	7.40	7.38	8.99
Miles Driven	CNG	2,108,432	2,123,053	2,001,625	2,134,990	1,945,065
	SCG	2,181,975	1,989,024	2,049,168	1,965,805	2,089,061
	UI	2,970,533	2,939,209	2,566,865	2,438,022	2,559,157
PMVIR = PMVIs/Miles Driven * 1,000,000						

Figure 7-11 Preventable Motor Vehicle Incident KPIs⁵⁵

7.3.2.4. Budget Performance

Fleet cost containment was evaluated through a five-year historical spend analysis. The CT Companies had a significant decrease in CapEx spend in 2021 due to COVID-19 related supply chain issues. Correspondingly, the Fleet group increased their maintenance budget around the same period, but consistently remained within a tolerance of less than 10 percent. However, when examined at the individual CT Company level, budget variances were greater than 10 percent, see Figure 7-12.⁵⁶ The CT Companies stated that this was due to COVID-19 supply chain related issues, vehicle accidents, and failures that could not be repaired.⁵⁷

⁵² Response to FTI-0066.

⁵³ Interview with Vice President, HRHS & Safety (Raquel Mercado), October 20, 2022.

⁵⁴ Interview with Senior Director of Gas Operations, November 11, 2022.

⁵⁵ Response to FTI-0295, Att. 1.

⁵⁶ Response to FTI-0594.

⁵⁷ Response to FTI-0700.

Each CT Company’s vehicle and equipment expenses varied significantly over the past five years, see Figure 7-13, which was primarily caused by extending the service life of existing vehicles to manage supply chain shortages. This resulted in more costly maintenance and repair which was exacerbated by part cost increases of over 7 percent and tire cost increases of 20 percent.⁵⁸ CapEx and Operating Expenditures (“OpEx”) have both been directly impacted by COVID-19 driven supply chain issues and while they will likely improve with time, there will likely be sustained increases based on these external factors.

Fleet CapEx Spend (5 years)					
Company	2018	2019	2020	2021	2022 as of 11/21/2022
UI	\$ 2,135,220	\$ 3,082,237	\$ 2,190,242	\$ 1,540,228	\$ 368,374
SCG	\$ 1,081,979	\$ 1,804,501	\$ 810,580	\$ 678,387	\$ 346,705
CNG	\$ 455,484	\$ 2,178,361	\$ 1,623,508	\$ 642,242	\$ 250,588
Total	\$ 3,672,683	\$ 7,065,099	\$ 4,624,330	\$ 2,860,857	\$ 965,667

Figure 7-12 Fleet 5-year CapEx Budget, 2018-2022 ⁵⁹

⁵⁸ Ibid.

⁵⁹ Response to FTI-0594.

Fleet Maintenance Costs 2018-2022										
Company	2018		2019		2020		2021		2022	
CNG	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals
Repair & Maint	454,296	419,278	387,534	479,262	295,938	537,421	327,977	529,984	533,467	419,502
Fuel	751,844	677,122	889,279	575,535	886,519	590,152	1,002,280	669,793	745,348	758,549
Other Costs	45,312	49,335	51,321	31,590	57,643	13,599	57,403	52,054	49,327	3,788
Employee Exp	13,799	5,564	10,656	1,793	10,656	3,626	8,789		3,460	1,136
Telematics			55,449							
COVID-19						958	21,441	9,440	19,152	
Total	1,265,251	1,151,299	1,394,239	1,088,180	1,250,756	1,145,756	1,417,890	1,261,271	1,350,754	1,182,975
Variance	-9.0%		-22.0%		-8.4%		-11.0%		-12.4%	
SCG	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals
Repair & Maint	499,428	445,906	446,430	575,168	332,669	490,090	250,860	623,061	497,304	511,256
Fuel	801,256	768,337	889,911	639,658	892,671	584,214	892,521	744,351	720,222	837,601
Other Costs	45,840	197,184	60,505	61,886	79,904	272,806	105,257	41,950	43,712	872
Employee Exp	13,728	5,165	12,015	4,769	12,015	5,931	7,523	13,225	2,685	-7,330
Telematics			59,388	42,495						
COVID-19						1,027	7,834	13,798	27,835	
Total	1,360,252	1,416,592	1,468,249	1,323,976	1,317,259	1,354,068	1,263,995	1,436,385	1,291,758	1,342,399
Variance	4.1%		-9.8%		2.8%		13.6%		3.9%	
UI	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals	Plan	Actuals
Repair & Maint	919,860	1,126,434	916,595	1,137,143	569,909	1,684,143	689,952	1,415,046	1,360,814	1,140,062
Fuel	1,076,286	1,187,054	1,192,689	1,027,082	1,192,689	567,542	1,230,412	1,125,295	833,826	1,154,980
Other Costs	130,322	144,549	163,471	87,388	347,510	11,802	322,596	92,886	126,829	46,359
Employee Exp	22,212	15,912	23,423	3,953	23,717	-28				6,696
Telematics				148,101						
COVID-19						75,539	28,793	53,982	108,791	5,322
Total	2,148,680	2,473,949	2,296,178	2,403,667	2,133,825	2,338,998	2,271,753	2,687,209	2,430,260	2,353,419
Variance	15.1%		4.7%		9.6%		18.3%		-3.2%	
All Total	4,774,183	5,041,840	5,158,666	4,815,823	4,701,840	4,838,822	4,953,638	5,384,865	5,072,772	4,878,793
Variance	5.6%		-6.6%		2.9%		8.7%		-3.8%	

Figure 7-13 Fleet 5-year Maintenance Budget vs. Actuals, 2018-2022⁶⁰

7.3.3. Inventory Management

Inventory Management for UI is the responsibility of the Manager of Logistics, who reports to the Senior Director of Electric Operations, see Figure 7-14. Both leaders work in and are dedicated to UI in Connecticut. Inventory Management for SCG and CNG is the responsibility of the Director of Gas Operations, Workforce Planning and Schedule who reports to the Vice President of Gas and Engineering Operations for Networks, Albert Langland. Day-to-day operations are managed by the Lead Supervisor of Logistics, who reports the Manager of Meter Services and Logistics, see Figure 7-14. Most individuals within this organization are located in Connecticut, but also provide services to other Networks utilities.⁶¹

⁶⁰ Response to FTI-0594.

⁶¹ Response to FTI-0001, Att. 2 Supplement.

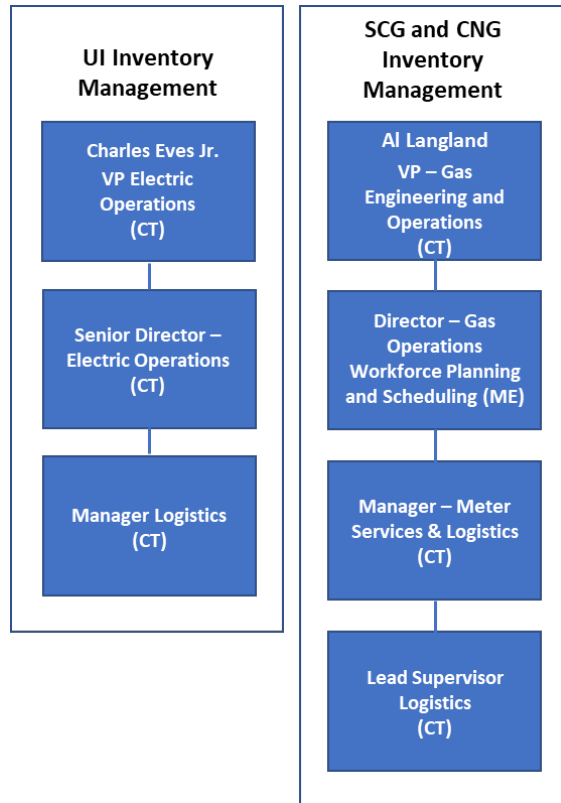


Figure 7-14 Organizations Responsible for Inventory Management ⁶²

The CT Companies manage inventory levels through a Material Requirements Planning (“MRP”) approach that defines minimum and maximum inventory levels, optimized based on actual usage. The Stores group manages real-time levels, so once minimum levels set by the MRP are met, an order is created called a Purchase Requisition (“PR”). The PRs are then sent to vendors, with whom the CT Companies have entered into three-year framework agreements, to fill these orders. Based on lead time provided by the vendor, the Stores group will determine if the material will be delivered to warehouses or site delivered in order to maintain a construction schedule. The CT Companies also maintain multiple vendors for certain material so they can effectively shop for the best price while ensuring they meet timeline requirements.⁶³ This practice was recently expanded during the COVID-19 pandemic as detailed in the following section.

Avangrid recognizes the advantage of consolidating material standards across Networks utilities to minimize supply complexities and to realize synergistic savings. This resulted in a program to actively reduce the variability of material standards across all Networks utilities.^{64, 65} It was unclear if this initiative was started due to the COVID-19 pandemic, however, this is an appropriate action that can yield significant supply chain improvements.

⁶² Response to FTI-0001, Att. 2 Supplement.

⁶³ Response to FTI-0067.

⁶⁴ Interview with Senior Director of Process and Systems, November 11, 2022.

⁶⁵ Interview with Director of Gas Engineering, November 11, 2022.

Other recent cost containment and control activities include identifying any discrepancies between materials requirements and what was actually delivered. This is managed through the CT Companies' Goods Issue process and should deliver more consistent material sourcing for future work.⁶⁶

The CT Companies stated that they have not performed any sort of analysis to determine the most effective warehousing/logistics method for cost containment/control purposes.⁶⁷ They currently maintain independent warehouses with no consolidation or centralization between the Companies. This presents an opportunity for the CT Companies to conduct the necessary study to determine an optimum warehousing strategy, which allows for efficient and cost-effective storing and distribution of material.

Recommendation: The CT Companies should conduct an evaluation to develop a warehousing/supply chain strategy that considers implementing a consolidated centralized warehouse, or a consolidation of geographically co-located warehouses in an effort to promote efficiency and cost control/containment.

7.3.3.1. COVID-19 pandemic supply chain mitigation plan

The CT Companies detailed nine actions used to mitigate supply chain issues that resulted from COVID-19 impacts, which include several known sourcing issues, especially for wire, cable, and transformers, where lead times of over a year are not uncommon.⁶⁸ While effective material planning for long-term projects can account for lead times, unplanned events such as storms response can have serious consequences if material cannot be sourced in a timely manner. The nine actions to mitigate supply chain issues include:⁶⁹

1. The CT Companies created a material "War Room": this is staffed by cross-functional team that meets regularly to discuss status and actions.
2. They regularly meet with suppliers to keep up with the status on pending orders and to prioritize where necessary.
3. They expanded their supplier base to be able to source alternative options for supply. This included adding suppliers with shorter lead times.
 - a. Transformers: 6 suppliers
 - b. Poles: 4 suppliers
 - c. Wire and Cable: 9 suppliers
 - d. Recloser and Regulators: 4 suppliers
4. Required suppliers to ship poles at their own expense
5. Reviewed their internal technical specification to determine and approve materials that have shorter lead times.
6. Discussed material availability and sharing with peer utilities
7. Increased the minimum quantity levels for materials with longer lead times

⁶⁶ Interview with Senior Director of Process and Systems, November 11, 2022.

⁶⁷ Response to FTI-0658.

⁶⁸ <https://www.reuters.com/business/energy/us-power-companies-face-supply-chain-crisis-this-summer-2022-06-29/>

⁶⁹ Response to FTI-0067.

8. Implemented capacity planning to improve the long-term view of material needs, so items with long lead times can be ordered in advance
9. Assessed the availability of new products and technologies for consideration

While these actions include several opportunities and approaches to mitigate delays, UI still has issues with sourcing poles and transformers. This has been addressed through continued monitoring, working to find new suppliers, and evaluating new types of poles (i.e., concrete and steel) to expand their supply chain. Similarly, they are implementing new practices for transformers including sourcing refurbished transformers to meet their needs.⁷⁰ FTI believes these steps are reasonable and continued monitoring of these issues should help promote the necessary oversight to address any critical need.

7.4. Information Technology and Cybersecurity

This section examines the IT and Cybersecurity practices within the CT Companies, specifically focusing on the IT program management and cybersecurity activities used to implement new projects and protect the CT Companies IT systems and data.

7.4.1. Organization Overview

IT at Avangrid is managed under a single leader, Carl Young, who serves in the role of Chief Information Officer (“CIO”). Mr. Young, who recently stepped into the role after Sergio Merchan’s departure, reports to the Chief of Staff, Manuel Gonzalez, who reports to Avangrid’s Chief Executive Officer, Pedro Azagra, see Figure 7-15.⁷¹ Mr. Young has a total of six direct reports who support three primary “IT activities,” including Business Applications, Infrastructure, and Governance/Compliance. The Chief Security Officer is responsible for cybersecurity, which reports outside of the IT organization as detailed in the Cybersecurity Section.

IT’s “Business Applications activity” is focused on developing IT-based business solutions to solve specific, business-derived opportunities. This activity receives guidance and requirements from the business to create “Demand,” which is included in Avangrid’s investment management process. Upon receiving investment approval, this activity is responsible for leading programs/projects so they remain within scope, schedule, quality, and budget. This activity is also responsible for consolidating similar applications across the Networks utilities to a common platform when possible.⁷² The “Business and Corporate Digital Applications” and the “Business Applications” groups are the organizations responsible for managing this activity, Figure 7-15.

The “Infrastructure activity” is responsible for supporting active applications and hardware assets by providing maintenance, upgrades, and user support. This activity is also responsible for ensuring the performance of applications and their continued usability, and the management of system architecture for cost control purposes.⁷³ The organizations responsible for this activity include the “IOC” and the “IT Architecture Digital and Innovation” groups, see Figure 7-15.

The “Governance and Compliance activity” is focused on defining and integrating a governance model that supports transparency and drives compliance to applicable industry rules and regulations. The activity also maintains internal compliance for the applicable rules and processes that are used to develop and manage

⁷⁰ Response to FTI-0653.

⁷¹ Response to FTI-0068, Att. 1.

⁷² Ibid.

⁷³ Ibid.

Avangrid IT applications.⁷⁴ The organizations responsible for this activity includes the IT Financial, Vendor Management Office (“VMO”), and Project and IT Security and Compliance groups, see Figure 7-15.

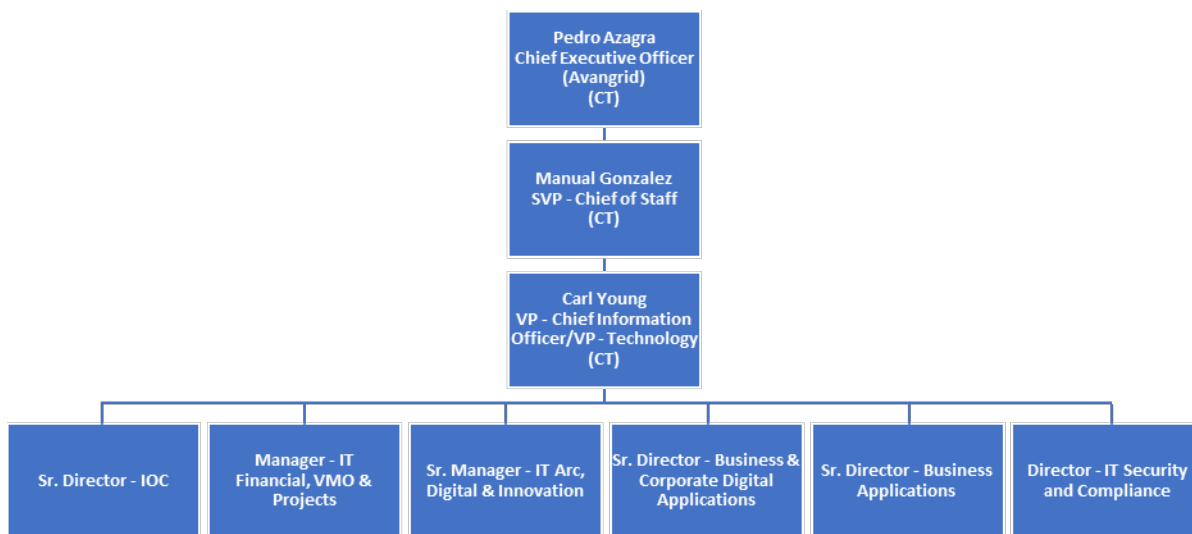


Figure 7-15 IT Group Organizational Structure⁷⁵

Governance for IT is managed through a series of meetings that are responsive to the various activities and are addressed in the sections below.

7.4.2. IT Budget Process and results

Avangrid’s IT budget development practice is typical of the industry, which begins with the collection of "Demand" from each business function lead. Demand is essentially the new programs/projects (“projects”) that the business identifies as necessary to solve business problems, which are identified through Avangrid’s Business Strategy Framework. The framework defines the business functions and the Corporate strategic pillars the project aligns to.⁷⁶ The Business Function Coordinator serves as a representative for each business, where they align Demand with existing IT resource capacity. The Business Process Owner then develops specific business level Demand as informed by each Business Process Area.⁷⁷

Demand requests are formalized through the identification and development of each project’s objectives, scope, and need date. These projects are then cost-estimated and combined with costs for ongoing projects carried over from past years, the costs for lifecycle projects used to manage existing IT infrastructure, subscription renewals cost for subscription-based applications, and the expenses necessary to provide IT services for the business. These consolidated results are used to create a proposed IT budget request, which Figure 7-16 details.⁷⁸

⁷⁴ Ibid.

⁷⁵ Ibid.

⁷⁶ Response to FTI-0076.

⁷⁷ Ibid.

⁷⁸ Response to FTI-0070.

Annual Demand Plan Schedule

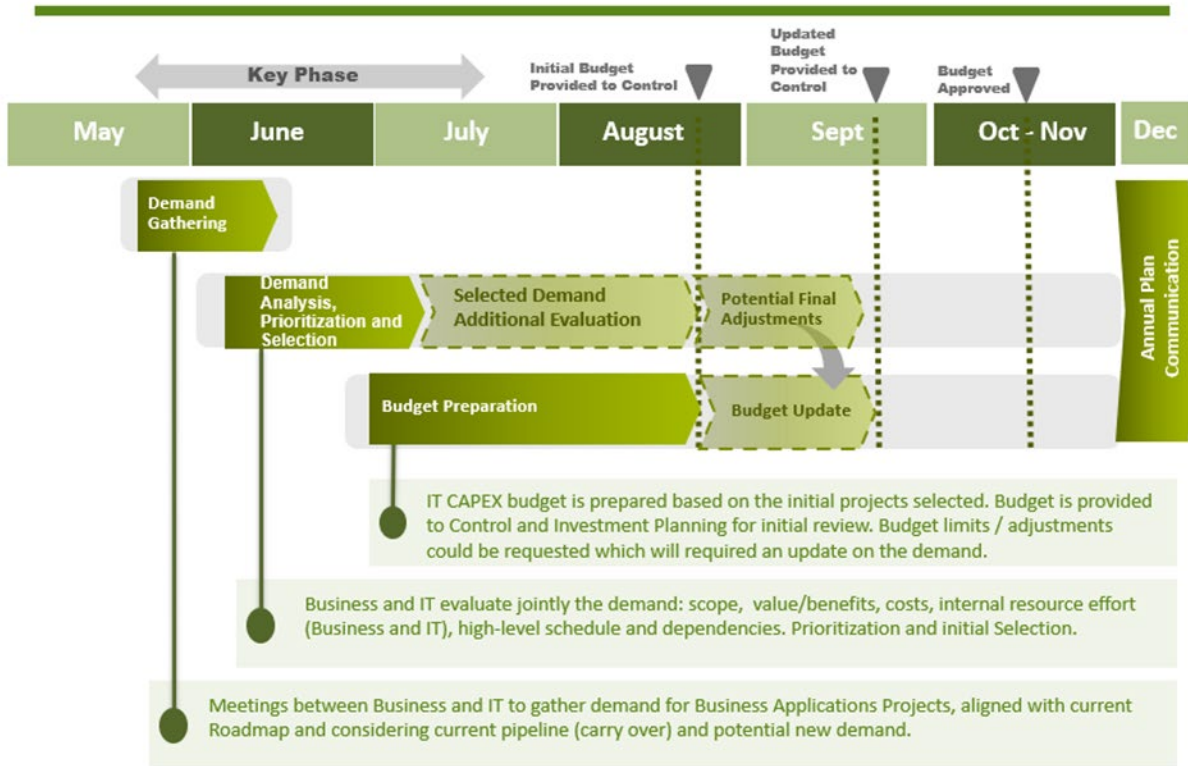


Figure 7-16 Annual Demand and Budget Development Schedule ⁷⁹

The proposed IT budget is reviewed and projects are prioritized to ensure that the CT Companies operate within rate case approvals.⁸⁰ The budget undergoes various levels of development, refinement, and approvals until a finalized budget and a list of projects are approved through governance. This approval includes the Control group, the Investment Planning group, and an acknowledgement by the IT Global review group.⁸¹

Once approval is achieved, project implementation is the responsibility of IT project managers who manage costs to achieve delivery within budget authorizations. Should a forecasted budget overrun occur, the CT Companies can either re-prioritize their portfolio by either stopping or eliminating projects, or they can reallocate budget from another non-IT business areas to maintain their existing portfolio.⁸²

7.4.2.1. IT historical budget evaluation

The CT Companies generally demonstrated good budget management performance over the last five years. Their budget against actual spending remained within a 10 percent or less variance for both CapEx and OpEx for all years with the exception of 2017, see Figure 7-17 and Figure 7-18. This consistent performance is better than many peers based on other similar audits conducted by FTI and typically indicate good budget planning, effective investment and project management practices, and good controls.

⁷⁹ Response to FTI-0069.

⁸⁰ Interview with Chief Information Officer, Avangrid (Sergio Merchan), August 10, 2022.

⁸¹ Response to FTI-0070.

⁸² Interview with Chief Information Officer, Avangrid (Sergio Merchan), August 10, 2022.

FTI’s review highlighted a CapEx budget and expenditure increase in 2020 which Avangrid stated was driven by the implementation of a global SAP platform which provided a common cross-company platform. 2017’s CapEx spend, however, was less than half of the plan amount due to the formation of Avangrid which led to a broad realignment of IT projects.⁸³

The O&M planned budget decreased over the past five years, see Figure 7-17 and Figure 7-18. These decreases were driven by two primary factors, including the shift of OpEx to the Avangrid Management Company (“AMC”) and Avangrid Service Company (“ASC”) from the individual CT Companies for projects which benefited all Networks utilities, including those outside of Connecticut. Therefore, O&M charges reflected in Figure 7-17 and Figure 7-18 are for those that directly benefit the three CT Companies. The Accounting Chapter (Chapter 3) provides additional detail about allocations. The second factor for the reduction includes the removal of \$9 million over five years through efficiency gains achieved through the “Every Day Better” initiative.⁸⁴

CapEx IT Budget vs Actuals (5 years)							
	Company	Actuals	Annual Plan (PAP)	Var Actuals vs Plan	Var to Plan %	Rev 3	Var Actuals vs Rev 3
2017*	UI	\$ 1,228,502.17	\$ 957,960.00	\$ 270,542.17	22.0%	\$ 741,000.00	\$ 487,502
	UIL	\$ 7,582,402	\$ 17,409,336	\$ (9,826,935)	-129.6%	\$ 11,935,150	\$ (4,352,748)
2017 Total		\$ 8,810,904	\$ 18,367,296	\$ (9,556,393)	-108.5%	\$ 12,676,150	\$ (3,865,246)
2018	CNG	\$ 343,710	\$ 75,000	\$ 268,710	78.2%	\$ 225,000	\$ 118,710
	SCG	\$ 274,339	\$ 75,000	\$ 199,339	72.7%	\$ 225,000	\$ 49,339
	UI	\$ 589,890	\$ 205,000	\$ 384,890	65.2%	\$ 620,549	\$ (30,659)
	UIL	\$ 15,062,936	\$ 15,552,372	\$ (489,436)	-3.2%	\$ 15,774,344	\$ (711,407)
2018 Total		\$ 16,270,875	\$ 15,907,372	\$ 363,503	2.2%	\$ 16,844,893	\$ (574,017)
2019	CNG	\$ 19,614	\$ 100,000	\$ (80,386)	-409.8%	\$ 100,000	\$ (80,386)
	SCG	\$ 19,123	\$ 25,000	\$ (5,877)	-30.7%	\$ 25,000	\$ (5,877)
	UIL	\$ 19,752,249	\$ 17,554,722	\$ 2,197,528	11.1%	\$ 20,691,526	\$ (939,276)
2019 Total		\$ 19,790,986	\$ 17,679,722	\$ 2,111,265	10.7%	\$ 20,816,526	\$ (1,025,539)
2020	CNG	\$ 2,799,712	\$ 121,105	\$ 2,678,607	95.7%	\$ 2,576,176	\$ 223,536
	SCG	\$ 3,158,337	\$ 128,825	\$ 3,029,512	95.9%	\$ 2,898,213	\$ 260,124
	UI	\$ 16,708,531	\$ 29,764,604	\$ (13,056,073)	-78.1%	\$ 17,778,458	\$ (1,069,927)
	UIL	\$ 5,489,423	\$ 458,542	\$ 5,030,881	91.6%	\$ 4,791,636	\$ 697,787
2020 Total		\$ 28,156,003	\$ 30,473,076	\$ (2,317,073)	-8.2%	\$ 28,044,483	\$ 111,520
2021	CNG	\$ 2,449,115	\$ 2,744,620	\$ (295,505)	-12.1%	\$ 2,742,584	\$ (293,469)
	SCG	\$ 2,849,010	\$ 2,782,418	\$ 66,592	2.3%	\$ 2,971,911	\$ (122,901)
	UI	\$ 11,771,051	\$ 11,875,790	\$ (104,739)	-0.9%	\$ 12,143,652	\$ (372,601)
2021 Total		\$ 17,069,176	\$ 17,402,828	\$ (333,652)	-2.0%	\$ 17,858,148	\$ (788,971)

* 2017 was reported only at the UI and UIL Holding company level

Figure 7-17 CapEx IT Budget vs. Actuals (5 years), 2017-2021⁸⁵

⁸³ Response to FTI-0371.

⁸⁴ Ibid.

⁸⁵ Response to FTI-0298.

OpEx IT Budget vs Actuals (5 years)							
	Company	YTD Actuals	Plan	Rev 3	Var to Plan	Var to Plan %	Var to Rev 3
2017*	UIL	\$ 20,734,328	\$ 23,361,898	\$ 23,568,583	\$ 2,627,570	12.7%	\$ 2,834,255
2017 Total		\$ 20,734,328	\$ 23,361,898	\$ 23,568,583	\$ 2,627,570	12.7%	\$ 2,834,255
2018	CNG	\$ 5,992	\$ 17,948	\$ 8,011	\$ 11,956	199.6%	\$ 2,019
	CNG/SCG	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -
	SCG	\$ 99,473	\$ 126,081	\$ 107,533	\$ 26,608	26.7%	\$ 8,060
	UI	\$ 700,045	\$ 742,672	\$ 782,411	\$ 42,627	6.1%	\$ 82,366
	UIL	\$ 18,022,564	\$ 20,118,395	\$ 19,836,451	\$ 2,095,830	11.6%	\$ 1,813,886
2018 Total		\$ 18,828,074	\$ 21,005,096	\$ 20,734,406	\$ 2,177,022	11.6%	\$ 1,906,332
2019	CNG	\$ 8,647	\$ 8,505	\$ 9,464	\$ (142)	-1.6%	\$ 817
	CNG/SCG	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -
	SCG	\$ 109,502	\$ 109,219	\$ 111,012	\$ (283)	-0.3%	\$ 1,510
	UI	\$ 586,525	\$ 749,753	\$ 588,411	\$ 163,228	27.8%	\$ 1,887
	UIL	\$ 17,172,481	\$ 18,841,497	\$ 17,011,198	\$ 1,669,015	9.7%	\$ (161,283)
2019 Total		\$ 17,877,155	\$ 19,708,974	\$ 17,720,085	\$ 1,831,819	10.2%	\$ (157,069)
2020	CNG	\$ (247)	\$ -	\$ -	\$ 247	-100.0%	\$ 247
	CNG/SCG	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -
	SCG	\$ 95,040	\$ 95,534	\$ 87,634	\$ 494	0.5%	\$ (7,406)
	UI	\$ 515,593	\$ 462,500	\$ 522,763	\$ (53,092)	-10.3%	\$ 7,171
	UIL	\$ 13,466,489	\$ 14,881,197	\$ 13,661,786	\$ 1,414,708	10.5%	\$ 195,297
2020 Total		\$ 14,076,875	\$ 15,439,232	\$ 14,272,184	\$ 1,362,356	9.7%	\$ 195,309
2021	CNG	\$ 52,293	\$ 921,114	\$ 50,902	\$ 868,820	1661.4%	\$ (1,392)
	CNG/SCG	\$ -	\$ -	\$ -	\$ -	0.0%	\$ -
	SCG	\$ 49,506	\$ 920,714	\$ 50,000	\$ 871,207	1759.8%	\$ 494
	UI	\$ 1,200,562	\$ 1,303,380	\$ 1,185,931	\$ 102,818	8.6%	\$ (14,631)
	UIL	\$ 11,885,377	\$ 10,628,314	\$ 12,022,779	\$ (1,257,063)	-10.6%	\$ 137,402
2021 Total		\$ 13,187,739	\$ 13,773,521	\$ 13,309,611	\$ 585,782	4.4%	\$ 121,872

* 2017 was reported only at the UI and UIL Holding company level

Figure 7-18 OpEx IT Budget vs. Actuals (5 years), 2017-2021 ⁸⁶

7.4.3. IT Program and Project Management

IT project delivery is complex and requires the coordination of multiple internal and external teams through well designed governance, processes, and transparent reporting. Additionally, projects must be aligned to a clear business need and prioritized in a manner that considers each project’s importance so that finite resources are allocated to the projects with the greatest business impact. Effective project delivery methods must be in place using industry best practices so projects are delivered within scope, cost, and schedule as committed to the business, regulators, and customers.

As previously discussed, the Demand process identifies project needs based on business requirements, for example, the Avangrid’s Process and Systems team identifies key business issues then develop initiatives to improve them. These initiatives may result in a recommendation for a new application or IT tool to support

⁸⁶ Ibid.

improvements. This approach ensures the alignment between operational objectives, strategic business plans, and local business needs.⁸⁷

The business reviews and selects IT projects through a project prioritization process which considers every Avangrid investment option including, for example, real estate and capital construction projects. This is governed through the “Avangrid Capital Project Prioritization & Governance Review Process” document which details the steps and the governance approvals necessary to move capital projects from the review phase to the approval phase. The document also defines project categorization, which supports project ratings and scoring, and narrates how to develop the project portfolio.⁸⁸

The Capital Project Prioritization process begins with the categorization of each project through one of five categories: Customer Focus, Reliability, Asset Condition, Safety, and Strategic and Efficiency. These categories are automatically assigned priority and weight with Customer Focus and Safety achieving the highest priority, and Strategy and Efficiency the lowest, see Figure 7-19. The projects are then given a prioritization category rating, which includes Mandated, Significant, Moderate, Low, and None. The mandated rating has two subcategories: Regulated and Operational, which are applied to projects that are mandated by regulators, required by new business, serve the public interest, or meet another operational need. These two scores are multiplied together to generate the “Absolute Project Score”.⁸⁹ FTI noted a high level of priority placed on local, state, and regulatory-driven projects based upon this scoring criteria.

Capital Project Category Prioritization				
Capital Project Category	Priority	Weight		
Customer Focus	P1	4		
Safety	P1	4		
Reliability	P2	3		
Asset Condition	P3	2		
Strategic and Efficiency	P4	1		

Prioritization Category Rating				
Mandated	Significant	Moderate	Low	None
9	6	3	1	-

Figure 7-19 Capital Project Category Prioritization⁹⁰

The Absolute Project Score created for each project is included in the annual budget process, which is managed through governance reviews that evaluates, monitors, and approves the scoring results. Project review and approvals are managed either individually or as a portfolio through a multi-gate process, see Figure 7-20. Both gas and electric projects undergo review before the Electric/Gas Strategic Planning and Approval Group (“ESP/GSP”) which either approves, places a hold on, or rejects investments that are greater than or equal to \$500,000. Electric

⁸⁷ Interview with Chief Information Officer, Avangrid (Sergio Merchan), August 10, 2022.

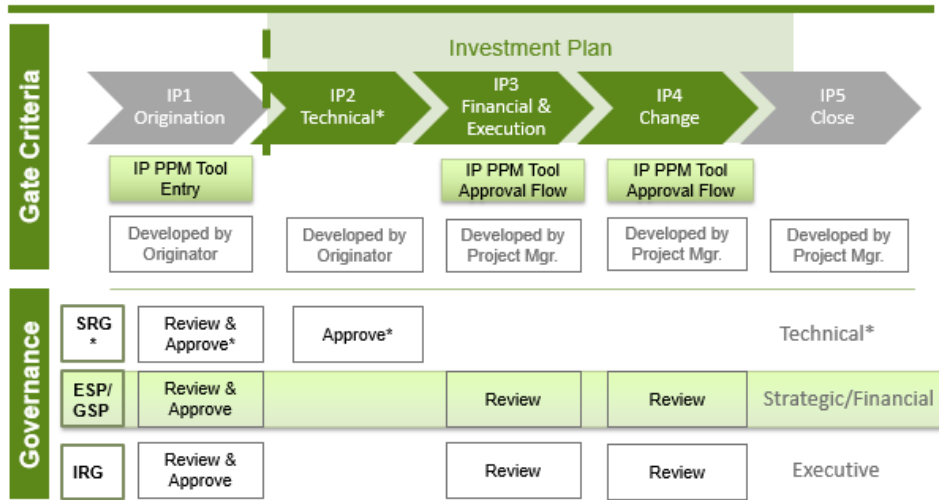
⁸⁸ Response to FTI-0464, Attachment 1.

⁸⁹ Response to FTI-0021.

⁹⁰ Response to FTI-0021.

projects undergo an electric-specific review through the Strategic Review Group (“SRG”), which focuses on the technical aspects of each project. The final level of review occurs at the Investment Review Group (“IRG”), where the CT Companies’ senior leaders review and approve or reject projects greater than or equal to \$1 million.⁹¹

Planning/Approval Process



*Currently the IP2 phase and SRG is designed strictly for Electric. This may be extended to other areas in the future.

Figure 7-20 Capital Project Planning and Approval Process⁹²

Missing from the earliest stage of this process, however, is the review and consideration of project alternatives. During the project selection phase, best-in-class utilities ensure that potential alternatives are considered during the investment funding phase using a solution agnostic approach that ensures that proposed solutions fully meet business requirements and consider cost containment. Avangrid stated they have an analysis step within their SDP to promote the review of alternatives using a document called the Solution Architecture Diagram. This document essentially guides software solution development based on “predefined processes, guidelines and best practices,” however, it is not considered an alternative development and analysis methodology.⁹³

Recommendation: The CT Companies should implement a robust IT project alternatives analysis methodology that considers a wide range of solutions that balance cost and benefit and opens the business to alternative approaches. This approach should include the development of new analysis templates, an activity within the SDP likely at Gate 1, and appropriate governance and sign offs to support this analysis.

7.4.3.1. Project Management

As previously stated, once a solution is developed and approved, the implementation of each project is the responsibility of an IT program manager and a Business Process Owner (“BPO”). The BPO typically resides within the business impacted by the project and serves as a business expert during development. IT Project Management activities are defined through a series of documents that describe project requirements and procedures to drive consistency for all IT projects.⁹⁴

⁹¹ Ibid.

⁹² Ibid.

⁹³ Response to FTI-0071.

⁹⁴ Response to FTI-0644.

Project Control is achieved through the CT Companies' stage gate process, defined in their SDP, which is an industry practice where requirements must be met prior to proceeding to the next stage of project development. The CT Companies' smallest projects do not follow the gate process due to their shorter duration, but they use the same process as larger projects. A detailed review of the CT Companies' stage gate process indicates that relevant activities are included within each gate. Cybersecurity is also accounted for in the gates to drive the appropriate oversight and cybersecurity review for all projects.⁹⁵

Compliance to the Project Management processes is monitored and reported by the IT Financial VMO and Projects team, who is responsible for developing and distributing reporting that details progress and other pertinent project details. This includes a PMO scorecard, which is produced weekly and includes details about project type, status, development methodology, key schedules, and budget. The Master List is a biweekly report that provides additional project-level details such as the business case and other requirements. The Portfolio report is a scorecard that is distributed monthly which tracks budget attainment along with project delivery at the portfolio level.⁹⁶

FTI noted good overall IT project control over a five-year review period with no major changes to scope, Cost overruns and schedule impacts were limited.⁹⁷ They also stated they have not had any reauthorization due to cost overruns.⁹⁸ Avangrid also maintains reasonable reporting and controls.

7.4.4. Cybersecurity

Avangrid's cybersecurity activities are managed by Brian Harrell, who serves as the CSO reporting to Kyra Patterson, the Chief Human Resources ("HR") Officer. The responsibility for day-to-day management of Cybersecurity falls under the Director of Cybersecurity, see Figure 7-21. This Director has several direct reports who have specific roles that support cybersecurity projects and tactical cybersecurity response. The group also interacts regularly with the other organizations including, for example, the HR group for the people side of cybersecurity and the IT group for new IT projects to ensure cybersecurity practices are applied.⁹⁹

⁹⁵ Response to FTI-0073, Att. 2.

⁹⁶ Response to FTI-0647.

⁹⁷ Response to FTI-0075.

⁹⁸ Response to FTI-0299.

⁹⁹ Interview with Vice President, Chief Security Officer (Brian Harrell), August 19, 2022.

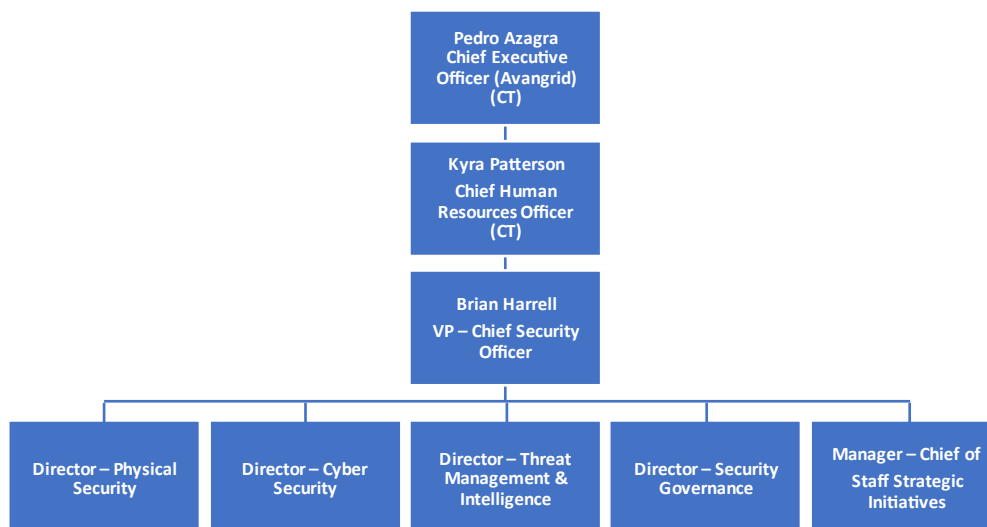


Figure 7-21 Cybersecurity Group Organizational Structure ¹⁰⁰

A key benefit of this particular organizational design is the close alignment of physical security and cyber security, which allows for efficient information sharing. This also places threat management responsibilities at the same organizational level as the Physical and Cyber Directors, which fosters an environment of information sharing and collaboration. While Avangrid does not have a designated Chief Information Security Officer (“CISO”), which is typical of the industry, discussions with the CSO and the review of Avangrid provided information indicates that the CSO also serves in a CISO capacity. The CSO appears to be tightly aligned with leadership which supports the management of some of the industry’s greatest cybersecurity risk, a risk which will only expand as the Avangrid becomes more digital and IT-dependent. ^{101, 102}

Resourcing is accomplished through a combination of internal staff, contractors, and vendor-provided services. The CSO’s philosophy is to have “proprietary” staff close to be responsive to the particular needs of Avangrid. ¹⁰³ Currently, Avangrid maintains 27 internal and one external cybersecurity FTE positions, growing significantly from 18 FTEs in 2021. However, we were unable to determine the number of contracted resources used based on data provided and could not determine actual internal headcount for cybersecurity due to Avangrid’s inclusion of open positions in supplied data. ¹⁰⁴

7.4.4.1. Budget Development, Threat Management, and Initiative Development

The Cybersecurity budget development process is similar to the IT budgeting process by starting with the current-year budget as the baseline for the upcoming year’s budget. The baseline budget includes day-to-day cybersecurity activities such as monitoring and responding to threats, identifying and mitigating risks, compliance to policies and regulations, training, any carryover projects, and others.

¹⁰⁰ Response to FTI-0077.

¹⁰¹ <https://techcrunch.com/sponsor/logrhythm/why-its-time-for-the-cso-to-report-directly-to-the-ceo/#:~:text=If%20companies%20intend%20to%20take,directly%20report%20to%20the%20CEO.>

¹⁰² <https://www.utilitydive.com/news/the-10-greatest-challenges-the-utility-industry-faces-today/151500/>

¹⁰³ Interview with Vice President, Chief Security Officer (Brian Harrell), August 19, 2022.

¹⁰⁴ Response to FTI-0363.

Any additions to the baseline budget are submitted with their respective priority/justification based on their strategic and tactical priorities driven by current and emergent risks and threats.¹⁰⁵ These risks and threats are sourced through Intelligence-gathering activities that utilize several sources of information, both internal and external. This begins with maintaining a close relationship with the Central Intelligence Agency, Department of Homeland Security, having regular conversations with other national security partners, other utilities, and with the state regulatory agencies in the states Avangrid operates in. For example, these relationships and touchpoints resulted in the development of a third-party risk management program.

Avangrid also uses specialized cybersecurity resources such as IronNet and Dragos to help monitor and identify threats that are real and require a response. They also receive intelligence data directly from their employees through their “Shield” program which provides employees a venue to say something if they see something through a 24-hour, 7-day-a-week phone number or a phone application called “LiveSafe.” While this program is mostly used for physical safety threats, cyber and physical threats can be linked.¹⁰⁶

The intelligence gained through these sources are used to inform key cybersecurity risk areas, which is managed through Avangrid Group’s Enterprise Risk Management System (detailed in Section 7.1). Risk is formally identified through a process detailed in Avangrid’s Cyber Security Risk Policy which describes the “risk identification and detection, prevention and defense, threat detection, incident response, and monitoring and reporting.” The tools and methods used to support this process include:¹⁰⁷

- Third Party PEN (Penetration) testing and associated findings
- Telecommunication & Infrastructure Security Patch Management Processes
- Phishing campaigns and associated results
- Threat and intelligence gathering
- Daily update briefing calls to discuss key risk and threats
- Vulnerability scanning

Avangrid’s risk identification process uses many of the same best practices currently employed by other utilities and also aligns to Avangrid’s corporate risk management framework detailed in section 7.1, which ensures that significant risk is visible to senior leadership through a structured and transparent process.

Once risk is established, the Security group develops the initiatives necessary to support mitigation through the development of a security strategy document, which defines the key risk areas and specific goals/actions. The completed strategy includes a five year plan that details the initiatives and timeline for implementation, which is prioritized based on risk and resource availability. The strategy, which integrates both physical and cyber initiatives, is then used as the input for consolidated investment requests which aligns to industry practices.¹⁰⁸

A recent initiative example includes the development of a new scorecard that monitors third-party risk and licensing security to help manage the performance of day-to-day cybersecurity activities. Another example includes the implementation of a tool that automates Avangrid’s privacy program to support their compliance to various rules and regulations. There is also an initiative to obtain intelligence for supply chain risks, which is an

¹⁰⁵ Interview with Vice President, Chief Security Officer (Brian Harrell), August 19, 2022.

¹⁰⁶ Ibid.

¹⁰⁷ Response to FTI-0364.

¹⁰⁸ Response to FTI-0362, Atts. 1-3.

often overlooked threat vector where a bad actor could infiltrate through a third-party supplied product or service.¹⁰⁹

We reviewed the Cybersecurity group’s 5-year historical budget used to support initiatives and resourcing. The budget remained mostly flat but with a notable increase in 2021 driven by the new CSO, who has been focused on driving improvements within Avangrid’s cybersecurity approach, see Figure 7-22.¹¹⁰ The year-over-year increase was 13.66 percent from 2020 to 2021. Budget attainment over the same period remained within a 10 percent budget tolerance, with the exception of an underspend of 18 percent in 2017.¹¹¹ The CT Companies did not provide details for the CNG portion of the budget, despite multiple requests.

Avangrid Cybersecurity Budget vs Actuals (amounts in millions)													
Year	Total Budget	YoY increase	Total Actuals	Var %	UI Budget	UI Actuals	Var %	SCG Budget	SCG Actuals	Var %	CNG Budget	CNG Actual	Var %
2017	\$8.064	-	\$6.608	-18.06%	-	-	N/A	-	-	N/A	-	-	-
2018	\$6.891	-14.55%	\$6.982	1.32%	\$0.508	\$0.079	-84.47%	0.187	0.280	49.73%	-	-	-
2019	\$7.124	3.38%	\$6.617	-7.12%	\$0.878	\$0.687	-21.75%	0.194	0.252	29.90%	-	-	-
2020	\$7.088	-0.51%	\$6.253	-11.78%	\$0.864	\$0.707	-18.17%	0.192	0.225	17.19%	-	-	-
2021	\$8.056	13.66%	\$7.767	-3.59%	\$1.049	\$1.185	12.96%	0.218	0.175	-19.72%	-	-	-

Figure 7-22 Cybersecurity IT Budget vs. Actuals (5 years), 2017-2021 ¹¹²

7.4.4.2. Effectiveness of Activities

Quantitative measurement without subjectivity is best used to measure the performance of an initiative or activity. The Security group accomplishes this through the use of metrics and associated scorecards for both physical and cyber security for the following metrics: Network Security, DNS Health, Patching, Endpoint Security, IP Reputation, Application Security, Cubit Score, Hacker Chatter, Information Leak, and Social Engineering. These metrics constitute a wide range of performance monitoring, that, if properly managed, can protect against cyber threats. Metric results are monitored and scored by an independent third-party “Security Scorecard,” which provides an aggregate balanced score along with aggregated industry averages to assist with benchmarking.¹¹³

Scorecard results demonstrated high performance across all topics, including when compared to their peers. This trend continued over the past year, with all metrics receiving an “A,” the highest category. While this shows that the initiatives, process, policies, and organizational design are effective, as with any cybersecurity program, vigilance must always remain.

7.4.4.3. Emergency Response Plans, Drills and Reporting

Threats or intrusions that escalate to a level that requires a response are managed through the Avangrid Unified Incident Response Plan (“UIRP”), which details seven phases of incident response. The earliest phases of the plan define the activities necessary to plan and prepare for an incident. The later phases provide details on detection,

¹⁰⁹ Response to FTI-0081.

¹¹⁰ Interview with Vice President, Chief Security Officer (Brian Harrell), August 19, 2022.

¹¹¹ Response to FTI-0572.

¹¹² Response to FTI-0077.

¹¹³ Response to FTI-0367.

escalation and response, containment, and returning to normal operations. Specifically, the seven phases include:¹¹⁴

- **Phase 1:** Planning and Preparation
- **Phase 2:** Detection and Classification
- **Phase 3:** Escalation and Communication
- **Phase 4:** Collection and Analysis
- **Phase 5:** Containment and Eradication
- **Phase 6:** Remediation and Recovery
- **Phase 7:** Assessment and Reporting

The Plan follows a logical flow which allows for quick reference as an event develops. All non-critical but still useful information is placed in sections outside of the incident response phase sections. It also maintains contact flows that helps determine who to notify and engage for a variety of needs and concerns. The Plan also defines the communication channels to authorities, so they are notified pursuant to North American Electric Reliability Corporation Critical Infrastructure Protection (“NERC-CIP”) requirements, the Connecticut Public Utilities Regulatory Authority (“PURA”) rules, and other applicable rules and regulations.

However, there was limited use of process flows and other clear visuals which can be helpful during an evolving event. The Plan is very text-heavy and is formatted in a bulleted style, which can lead to confusion for new employees or employees in a high-pressure scenario attempting to determine necessary steps. Checklists should also be included for required activities so that all critical steps are considered and completed. There should also be references associated with each process step to provide users additional details when necessary. Additionally, the Plan should include decision trees to help determine the type and/or severity of a response, otherwise known as “Impact,” for consistent results.

Recommendation: There is an opportunity to improve the structure and usability of the Cybersecurity Unified Incident Response Plan to serve as an effective reference document. This includes the use of process flows and decision trees to help the user make appropriate decisions regarding classification and activation. Checklists should also be included to ensure that appropriate steps are taken and completed.

Conducting regular drills supports readiness and Plan awareness so that an actual response is accomplished more through rote actions. The CT Companies stated they achieve this through their participation in annual drills, including their annual storm response drill, NERC-CIP, and Grid-Ex.¹¹⁵ We believe that these drills should serve as the minimum to ensure readiness, and encourages the CT Companies to continue to seek opportunities to test and drill to ensure readiness and train any new team members to the response process.

We also evaluated the effectiveness of communication to PURA and other entities such as NERC for any reportable violations or drilling or actual incidents. The CT Companies stated that they report annually to PURA and supplied their reports for the past two years. They also stated that they have not had any reportable events.

The annual reports submitted to PURA summarize the past year’s activities, including the results of the Cybersecurity Capability Maturity Model (“C2M2”), a discussion of the security road map, and the tools used. Performance results are also included to show the health and progress of the various programs and initiatives

¹¹⁴ Response to FTI-0077, Att. 2 (confidential).

¹¹⁵ Interview with Vice President, Chief Security Officer (Brian Harrell), August 19, 2022.

underway.¹¹⁶ The information reviewed details key activities underway and provides certain detail and analysis that should be useful to the audience at PURA.

7.4.4.4. *Cybersecurity Training*

An IBM report noted that 60 percent of all cybersecurity attacks are perpetrated by someone inside of a company. Of that number, one quarter were due to inadvertent access by an employee, or 15 percent of all cybersecurity attacks.¹¹⁷ Therefore, the primary goal of any security team should be to work on the people side of cybersecurity, always starting with the Avangrid Board so they not only understand their role and key cyber risks, but to also set the tone from the highest levels of the CT Companies.

The CT Companies stated they provide the Board with specific information, which includes an overview of their Cybersecurity Strategy.¹¹⁸ While details on the content and discussion were not provided, it is assumed that the Board received information that is in alignment to the strategy. We believe that this information should be delivered in a consistent and regular format covering not only key topics related to the Plan, but to also provide regular and topical training every year. The CT Companies did not demonstrate any annual or any other ad-hoc training outside of brief decks that discuss Avangrid's Cybersecurity strategy.

Recommendation: The CT Companies should conduct regular training for the Avangrid Board that is consistent with the latest policies, threats and relevant materials. This should be conducted at least annually and should reinforce the role of the Board before, during and after any event.

For training purposes, each employee within the CT Companies is provided topical and relevant training aligned to key risk areas identified by the Security group.¹¹⁹ Some of the provided examples are similar to material that is deployed by peers which include:¹²⁰

- Third-Party Risk Targeted Training Sessions
- Annual PII Employee Training (includes new hires)
- New Hire Acceptable Use Training
- Cyber6 Webinar Series - (2Q, 3Q, 4Q)
- Grid-Ex Training and Exercise
- Monthly Phishing Campaign Exercises
- Weekly and Ad-hoc Awareness communications

The CT Companies also track training results, including completion rates at the employee level.¹²¹ These identify employees who have not completed required training within a designated timeframe so their supervisor can be notified for follow-up. The CT Companies also provides regular topical communications to employees to reinforce key themes such as keeping Wi-Fi safe at home and messaging about phishing awareness and response.¹²²

¹¹⁶ Response to FTI-0078, Att. 1 (confidential), Att. 2 (confidential).

¹¹⁷ <https://hbr.org/2016/09/the-biggest-cybersecurity-threats-are-inside-your-company>.

¹¹⁸ Response to FTI-0082, Atts. 1-2.

¹¹⁹ Interview with Vice President, Chief Security Officer (Brian Harrell), August 19, 2022.

¹²⁰ Response to FTI-0083, Atts. 3, 5-6.

¹²¹ Response to FTI-0083, Atts. 3, 5-6.

¹²² Response to FTI-0083, Att. 1.

7.5. Regulatory Compliance

This audit report provides details throughout concerning the CT Companies' regulatory compliance and reporting activities. This includes but is not limited to: System Performance, Accounting and Finance, and Emergency Response. Details about the organization and governance for the Regulatory Affairs group are detailed in Chapter 1.

Appendix 1: Rates Handbook

The United Illuminating Company (“UI”), the Southern Connecticut Gas Company (“SCG”), and the Connecticut Natural Gas Corporation (“CNG”) (“the CT Companies”) are regulated electric and natural gas utilities. The Connecticut Public Regulatory Authority (“PURA”) authorizes and determines the electric and gas rates for these CT Companies.

When the CT Companies want to request a new revenue requirement and change their underlying general/base customer rates, they file a rate case before the PURA. By law, these general rate cases are required at least every four years.¹ Major utilities in Connecticut rarely undergo interim rate case proceedings unless a financial emergency arises. In a general/base rate case proceeding before the PURA, a CT Company requests an updated revenue requirement and new tariffs/rates for their various customer classes. The CT Companies provide testimony to support their request for a new revenue requirement and tariffs/rates. PURA staff and the Commission as well as intervenors cross-examine CT Company witnesses and provide their own testimony to support their positions versus the CT Company’s. The PURA makes a final determination on the CT Companies’ revenue requirement request, including the final allocation (via rates) of the revenue requirement to the various customer classes.

In addition to general rate case filings/proceedings some rate components are adjusted via the Rate Adjustment Mechanism (“RAM”) filing, which is an annual true-up exercise calculating the CT Company’s over- or under-recovery of certain cost categories and modifying those rate components accordingly.

Below, by CT Company, are key components of their electric and gas rates.

United Illuminating

UI is an electric distribution company (“EDC”). UI is the transmission and distribution infrastructure owner for their service territory and is regulated by PURA. UI does not own generation resources or participate in the competitive supply market. Instead, electricity supply is a competitive market with many different suppliers. UI conducts competitive auctions for electricity supply on behalf of PURA. Customers may opt for UI-provided “standard service,” or they may select one of many alternate electric suppliers. If an alternate supplier exits the electricity market for any reason, UI becomes the provider of “last resort service for those customers.”

In Connecticut, electricity bills are divided into two parts: electric supply, and electric delivery. Some charges are fixed monthly, while others are volumetric and depend on a customer’s electricity usage.

1. Electric Supply

- a. **Generation Service Charge (“GSC”):** Volumetric (per kWh) fee for electric energy procured by UI for standard or last resort service. Generation service is open to competition from all electric suppliers who qualify under the ISO-New England rules. Customers can choose their electric supplier or opt for UI’s “Standard Service.” PURA regulates the standard and last resort service auctions on UI’s behalf and approves the final results. Once the auction results

¹ Chapter 277, Connecticut Department of Energy and Environmental Protection Public Utilities Regulatory Authority Office of Consumer Counsel Miscellaneous Provisions, Sec. 16-19a.

are published, UI bills and collects estimated supply costs from customers, subject to a true-up. Electricity supply costs are fully recovered from customers as a direct pass-through cost.

2. Electric Delivery

- a. **Distribution Basic Service:** A monthly fixed customer fee for delivery of electricity over its poles and wires to a customer home or business covering costs related to billing, meter reading, and customer service.
- b. **Distribution per kW or kWh:** A volumetric (per kW/kWh) fee for delivery of electricity over its over poles and wires to a customer home or business covering the cost of owning and maintaining the distribution infrastructure.
- c. **Transmission Adjustment Charge (“TAC”):** A volumetric (per kW/kWh) fee that allows UI to fully recover the transmission costs billed to it by ISO-New England to deliver electricity over ISO-New England’s high-voltage power lines.
- d. **Revenue Decoupling Adjustment (“RDM”):** A volumetric (per kW/kWh) fee that allows UI to recover or pass back to customers the difference between actual revenues received versus the approved allowed revenue requirement. The mechanism is fully reconciling and results in either a charge for under-collections or credit on customer bills for over-collections.
- e. **Combined Public Benefits Charge:** A volumetric (per kW/kWh) fee that collects the costs of the following three programs:
 - i. Conservation & Load Management: Programs that promote energy conservation and efficiency.
 - ii. Renewable Energy Investment: Funds investment programs that promote the use of renewable (or environmentally friendly) fuel sources, such as solar power, wind power, fuel cells, methane gas from landfills, biomass, trash-to-energy, and hydropower.
 - iii. System Benefits Charge: Funds public-interest costs such as public education, hardship protection, and nuclear plant decommissioning.

All program costs for i. through iii. are pre-approved by the PURA for recovery prior to spending.

- f. **Non-Bypassable Federally Mandated Congestion Charge (“NBFMCC”):** A volumetric (per kW/kWh) fee imposed by the Federal Energy Regulatory Commission (“FERC”) for congestion along transmission lines. These non-bypassable costs can also include ISO-New England’s reliability-related actions, costs to avoid congestion on the transmission system, renewable energy incentives, the Millstone contract and other initiatives required by state law.

Figure A1-1 summarizes each rate component, method of, and frequency of adjustments.

Supply/Delivery	Rate Component	Adjusted Via	Frequency
Supply	Generation Service Charge	RAM filing	Biannual (standard service) Quarterly (last resort service)
Delivery	Distribution Basic Service	General Rate Case	Not more than every 4 years
Delivery	Distribution per kW or kWh	General Rate Case	Not more than every 4 years
Delivery	Transmission Adjustment Charge	RAM filing	Annual true-up
Delivery	Revenue Decoupling Adjustment	RAM filing	Annual true-up
Delivery	Combined Public Benefits Charge	RAM filing	Annual true-up
Delivery	Non-Bypassable Federally Mandated Congestion Charge	RAM filing	Annual true-up

Figure A1-1 Rate Component Adjustments, UI

Note that distribution charges are changed through a general rate case proceeding based on a final PURA approved revenue requirement. The final PURA approved annual revenue requirement targets are then reconciled with actuals through the annual RDM reconciliation as part of the annual RAM filing.

Southern Connecticut Gas and Connecticut Natural Gas

SCG and CNG (“the Gas Utilities”) are local gas distribution companies (“LDCs”) that own and maintain infrastructure for delivery of end-use natural gas. SCG and CNG’s gas delivery to customers is regulated by PURA, but gas supply is a competitive market. Customers may opt for LDC-provided gas supply, or they may select an alternate supplier. SCG and CNG purchase and store natural gas supplies to help buffer price fluctuations and provide customers with stable and affordable bills.

In Connecticut, natural gas bills consist of volumetric supply and delivery charges, monthly fixed customer charges, and additional charges for system maintenance and special programs.

1. Gas Supply
 - a. **Purchased Gas Adjustment (“PGA”):** A fee that collects the total cost of gas purchased by the Gas Utility, subject to market price, such that gas supply is a direct pass-through cost to ratepayers.
2. Gas Delivery
 - b. **Customer Charge:** A monthly fixed customer fee designed to recover the Gas Utility’s basic administrative expenses associated with maintaining and servicing a customer account.
 - c. **Delivery Rate:** A monthly fee for moving natural gas across the Gas Utility’s distribution lines to a customer’s home or business.
 - d. **Demand Charge:** A monthly charge for providing local pipeline space to accommodate the customer’s highest daily usage.
 - e. **Daily Demand Metering:** A fixed monthly charge for the cost of providing daily usage information. The charge is prorated based on the percentage of successful daily reads as compared to the number of days in the customer’s billing cycle.
 - f. **Conservation Adjustment Mechanism (“CAM”):** A fee that collects the costs of natural gas conservation programs available to customers.

- g. Distribution Integrity Management Program (“DIMP”) Charge:** A charge to recover expenses related to any pipeline replacement for cast iron and bare steel mains and services each year. The costs recovered under this program for a given year are pre-approved by the PURA annually.
- h. Decoupling Mechanism (“RDM”):** A charge or credit that collects or refunds the difference between the approved annual revenue requirement with actual distribution revenues collected.
- i. Sales Service Charge:** A fee designed to recover unique costs specific to those customers that receive their gas supply directly from the Gas Utility.
- j. TSC Onsite Demand Cost:** A transportation service charge that is designed to recover unique administrative costs specific to those customers that receive their gas supply from a third-party supplier.
- k. TSC Shifted Cost:** A transportation service charge that is designed to recover supplier of last resort costs from those customers that receive their gas supply from a third-party supplier.

New natural gas customers are subject to a “System Expansion” rate structure, denoted in the tariff by the suffix “-SE” (e.g., RSH-SE denotes a Residential Service Heating customer under the System Expansion rate structure). System Expansion customers are subject to higher charges for the same rate components; however, some System Expansion program costs are borne by existing customers through the following mechanism:

- **System Expansion Reconciliation Mechanism (“SER”):** A charge or credit applied to existing customers to further collect expenses not covered by System Expansion (“SE”) rates related to expanding the natural gas system and converting customers to natural gas.

Figure A1-2 illustrates the avenues through which each rate component is adjusted.

Supply/ Delivery	Rate Component	Adjusted Via	Frequency
Supply	Purchased Gas Adjustment	PGA Filing	Rates change monthly based on market conditions Invoices reconciled in annual true-up
Delivery	Delivery Charges (Customer Charge, Delivery Rate, Demand Charge, Daily Demand Metering)	General Rate Case	Not more than every 4 years
Delivery	Conservation Adjustment Mechanism	CAM Filing	Annual true-up
Delivery	Distribution Integrity Management Program Charge	DIMP Filing	Annual true-up
Delivery	Decoupling Mechanism	RDM Filing	Annual true-up
Delivery	Sales Service Charge	General Rate Case	Not more than every 4 years
Delivery	TSC Onsite Demand Cost	General Rate Case	Not more than every 4 years
Delivery	TSC Shifted Cost	General Rate Case	Annual true-up in PGA filing
Delivery	System Expansion Reconciliation Mechanism	SER Filing	Annual true-up

Figure A1-2 Rate Component Adjustments, SCG and CNG

Appendix 2: Merger Order Conditions

Items marked with a checkmark symbol (✓) are complete.¹

Figure A2-1 lists ring-fencing conditions which are actively tracked by the Treasury Department and are submitted to the PURA as part of the CT Companies' annual compliance filing.^{2,3} These requirements are marked with an arrow (→) symbol below.

Conditions Tracked in Annual Compliance Filings	Orders Tracked in Annual Compliance Filings
→ 19. No Cross-Default	→ 10. No later than ten business days following a rating agency presentation made by IUSA or any of its affiliates, the presentation shall be filed with the Authority.
→ 21. No Commingling of Funds	
→ 22. Separate Debt/Preferred Stock	
→ 23. No Assumption of Debt	→ 12. No later than six months after the closing of the Proposed Transaction, and every six months thereafter, each UIL Utility shall file, under an officer's certificate, each payment of a dividend, the equity level at the time the board of directors considered payment of the dividend, and the calculations to demonstrate that the common equity ratio immediately after the dividend payment did not fall below the minimum common equity ratio of 300 basis points below the equity percentage used to set rates in such UIL Utility's most recent rate proceeding.
→ 24. Money pools	
→ 25. Registration with Credit Rating Agencies	
→ 26. Rating Agency Presentations	
→ 33. Minimum Common Equity Ratio	
→ 34. Limitations on Dividends	→ 13. Within 60 days of a rating event, the UIL Utility affected by the rating event shall file a plan, with the Authority, explaining the actions that are planned to rectify the rating event.
→ 35. Ratings Event	

Figure A2-1 Ring-Fencing Conditions Tracked by the Treasury Group

Settlement Agreement⁴

AUTHORITY APPROVAL

✓ 1. Merger Approval – The Settling Parties agree that the Proposed Transaction, as supplemented, modified or superseded by this Settlement Agreement, is consistent with Connecticut law and the public interest and should be approved by the Authority without additional conditions. This Settlement Agreement is contingent upon the Authority's approval of this Settlement Agreement.

¹ Response to FTI-0412, Att. 1.

² Response to FTI-0423.

³ Response to FTI-0696, Att. 1.

⁴ Docket No. 15-07-38.

MERGER-RELATED DIRECT ECONOMIC BENEFITS

- ✓ 2. Customer Rate Credits – The Applicants will provide \$20 million in customer rate credits in the aggregate to customers of The United Illuminating Company (“UI”), Connecticut Natural Gas Corporation (“CNG”) and The Southern Connecticut Gas Company (“SCG” and collectively with CNG and UI, the “UIL Utilities”) in the first year following the closing.
- ✓ a. OCC recommends the following approach for allocating the \$20 million among the three UIL Utilities: A one-time, \$20 million rate credit to customers will be allocated to UI, SCG and CNG based on the total number of retail customers at each utility in proportion to the total number of retail customers of the three UIL Utilities. Each Company’s rate credit will be allocated to firm retail customer classes (i.e., residential, commercial and industrial) based upon their proportional share of the monthly customer charges, and will appear on the bill as a uniform dollar amount credit for each separate customer class as a separate line item, along with an explanatory bill message. All customers within a retail customer class shall receive the same rate credit dollar amount. The rate credits will be applied to billing cycles in or before the third full billing month following the closing of the Proposed Transaction.
3. Additional Ratepayer Benefits for CNG Customers – The Applicants will provide \$12.5 million in rate credits to customers of CNG over the ten-year period of 2018-2027 (\$1.25 million per year).
4. Additional Ratepayer Benefits for SCG Customers – The Applicants will provide the following benefits to customers of SCG:
- ✓ a. \$1.6 million in ratepayer savings associated with doubling SCG’s bare steel/cast iron main replacement (from \$11 million per year to \$22 million per year) over a three-year period without seeking recovery until the next SCG rate case.
- b. \$7.5 million in rate credits over the ten-year period of 2018-2027 (\$0.75 million per year).
- ✓ 5. Base Rate Freezes – The Applicants commit to distribution base rate freezes for the UIL Utilities, which will result in significant customer savings. Specifically:
- a. UI’s current distribution base rates will remain with no new distribution base rates in effect before at least January 1, 2017; and
- b. CNG’s and SCG’s respective current distribution base rates will remain with no new distribution base rates in effect before at least January 1, 2018.
- ✓ 6. Clean Energy Fund – The Applicants will provide \$2 million per year for a three-year period following closing to the State of Connecticut Department of Energy and Environmental Protection (“DEEP”) to be used to stimulate public and private investment in energy efficiency, renewable generation, storage, alternative transportation, electric vehicles and other clean technologies.
- ✓ 7. Storm Resiliency – Within 6 months after closing, UI will submit a multi-year plan and cost recovery mechanism to the Authority for spending on additional distribution system resiliency. The program will be subject to the Authority’s review and approval. Subject to such approval UI commits that all investment will be made in a timeframe approved by the Authority. UI will commit to seeking the following rate treatment for the first \$50 million in such spending: UI will be allowed to recover the revenue requirements associated with the investment through the system benefits charge, federal

mandated congestion charge or similar mechanism, but for the period of two years following completion of the investment, for the equity portion of the investment, UI will not recover the difference between (a) the cost of equity and (b) the cost of debt, which will result in an estimated UI customer benefit of \$5 million.

8. Customer Disaster Relief – The Applicants commit to provide \$1 million for disaster relief needs for Connecticut residents through entities such as the Connecticut Coordinated Assistance and Recovery Endowment (CT CARE).

✓ 9. Charitable Contributions – UIL and the UIL Utilities will maintain their current charitable giving and corporate philanthropy programs for at least four years (based upon historical annual contribution levels of between \$500,000 to \$800,000).

✓ 10. Hirings – During the three years following closing, the Applicants commit to hire 150 people in the State of Connecticut (to the extent such people are hired as contractors, such contracts will be multi-year).

11. English Station – UI has signed a Proposed Partial Consent Order (“Consent Order”) that, when approved by the Commissioner of DEEP and subject to the closing of the Proposed Transaction and other terms and conditions in the Consent Order, requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. To the extent that the investigation and remediation is less than \$30 million, UI will remit to the State of Connecticut the difference between such costs and \$30 million for a public purpose as determined in the discretion of the Governor, the AG, and the Commissioner of DEEP. The remediation will benefit the City of New Haven, and will further the State’s broader goals of revitalizing contaminated sites. Accordingly, this would provide a public interest benefit estimated at \$30 million.

✓ 12. Litigation –

a. OCC will withdraw its appeal of Docket No. 13-06-08 upon the expiration of the time period for appeal of the order approving the settlement agreement if no appeal has been taken, or such earlier date as all docket participants agree that no appeal will be taken. The Authority will issue a supplemental decision in Docket No. 13-06-08 to remove the requirement that CNG file a private letter ruling request by CNG with the Internal Revenue Service as all issues have been resolved.

b. UI will withdraw its appeals of Docket Nos. 99-03-35RE20 and 14-02-01 upon the expiration of the time period for appeal of the order approving the settlement agreement if no appeal has been taken, or such earlier date as all docket participants agree that no appeal will be taken.

c. The Authority’s approval of this Settlement Agreement shall resolve all issues related to the transaction approved by the Authority in Docket No. 10-07-09.

CUSTOMER SERVICE QUALITY BENEFITS

✓ 13. Customer Service Quality – The UIL Utilities will improve the following customer service metrics by 5% by the end of the third calendar year following closing: (a) average answering times; (b) % abandoned calls; and (c) % appointments met. In the event that such commitments are not met, the Authority will hold a regulatory proceeding and determine any penalties to be imposed.

14. Safety and Reliability Quality – The Applicants will maintain the high level of safety and reliability (determined as the average of the four preceding calendar years) as measured by SAIDI and SAIFI for UI and by gas leak response and third-party damage for SCG and CNG. In the event that such commitments are not met, the Authority will hold a regulatory proceeding and determine any penalties to be imposed.

MAINTAINING LOCAL MANAGEMENT

✓ 15. Local Management

a. There will be no changes to the day-to-day management and operation of the UIL Utilities as a result of the Proposed Transaction.

b. The UIL Utilities will retain their current authority and decision-making.

c. There will be no reductions to any of the Grants of Authority currently in effect for UIL and the UIL Utilities.

d. A new management position will be created, the President of Connecticut Operations, who will come from the existing management team of UIL or the UIL Utilities.

e. The President of Connecticut Operations will be headquartered in Connecticut, along with people involved in the management of UIL and the UIL Utilities (regardless of the entity at which they will ultimately be employed).

f. There will be no involuntary terminations, except for cause or performance, in the State of Connecticut for at least three years after closing.

g. A Connecticut resident will be named to the Networks board of directors. This person will be an independent (i.e., non-management) director.

h. The Applicants will support a management audit of any of the UIL Utilities following closing of the Proposed Transaction and note that any such audits may be most useful if initiated following the integration of the UIL Utilities, or shortly before the end of the second year following closing of the Proposed Transaction.

i. The Applicants commit to include the service territories of the UIL Utilities in the group of locations where meetings of IUSA's and Networks' boards of directors and management are held.

j. The Applicants commit that the interests of UI and the State of Connecticut will be given substantial consideration in the ISO-NE stakeholder processes. Either the Applications' member or alternate on the NEPOOL Participants Committee will be from the State of Connecticut.

k. IUSA intends to maintain its ownership of UIL and the UIL Utilities and is committed to the State of Connecticut. The Applicants have no plans to sell the UIL Utilities and acknowledge that any such sale in the future would require approval by the Authority.

RING-FENCING MEASURES AND ADDITIONAL LOCAL MANAGEMENT COMMITMENTS

✓/→ 16. Special Purpose Entity – Following the consummation of the Proposed Transaction, the Applicants will create a tax neutral special purpose entity (“SPE”) that is a direct, wholly-owned subsidiary of Networks. The SPE will have four directors appointed by IUSA. One of the four SPE directors will be an

independent director, who will be an employee of an administration company in the business of protecting SPEs and must meet the other independence criteria set forth in the SPE governing documents. One other Director will be appointed from among the officers or employees of UIL or a UIL subsidiary. The other two SPE directors may be officers or employees of IUSA or its affiliates, including UIL and its subsidiaries. The SPE will directly own 100% of the ownership interests in UIL and function as the intermediate holding company separating UIL and its subsidiaries, including the UIL Utilities from the IUSA Affiliates. The SPE will operate so as to provide protection to UIL and the UIL Utilities from bankruptcy proceedings of the IUSA Affiliates. The SPE will have no other operational functions, and none of the cost of establishing, operating or modifying the SPE will be recovered from the UIL Utilities' customer.

17. Separate Corporate Existence – At all times, the SPE will maintain its separate existence as a separate corporate subsidiary of Networks. UIL will maintain its separate existence as a separate corporate subsidiary of the SPE and each of the UIL Utilities will maintain their separate existences as separate corporate of UIL with their separate utility franchises, obligations and privileges. At all times, each of UIL and the UIL utilities will hold themselves out as an entity separate from its affiliates, will conduct business in its own name through its duly authorized directors and officers, comply with all organizational formalities to maintain its separate existence and shall use commercially reasonable efforts to correct any known misunderstanding regarding its separate identity.

18. Separate Books and Records; Authority Access to Books and Records – UIL, the UIL Utilities and the SPE will each maintain separate books, records, bank accounts and financial statements reflecting its separate assets and liabilities. Upon request the Applicants agree to provide the Authority and its Staff and OCC access in the State of Connecticut to UIL's and the UIL Utilities' original books and records as maintained in the ordinary course of business within twenty working days after such request.

→ 19. No Cross-Default – None of the UIL Utilities will include a condition in their debt agreements that would cause a default as a result of the default of an affiliate's debt, other than the existing limited provisions (or similar successor provisions) as required by bondholders related to ERISA compliance.

20. Arm's-Length Relationships – UIL, the UIL Utilities and the SPE will maintain arm's-length relationships with each of their affiliates and observe all necessary, appropriate and customary formalities in their dealings with their affiliates.

→ 21. No Commingling of Funds – The SPE will not commingle its funds or other assets with the funds or other assets of any other entity and shall not maintain any funds or other assets in such a manner that it will be costly or difficult to segregate, ascertain or identify its individual funds or other assets from those of its owners or any other person.

→ 22. Separate Debt/Preferred Stock – Each of the UIL Utilities will maintain separate debt, and, for CNG, separate preferred stock, so that none will be responsible for the debts or preferred stock of affiliated companies.

→ 23. No Assumption of Debt – With respect to any acquisition by any affiliated companies, none of UIL or the UIL Utilities will incur or assume any debt, including the provision of guarantees, pledges or collateral support. UIL and its operating utilities will not incur or assume any debt, including the provision of guarantees or collateral support, related to this merger or any future IUSA or Iberdrola acquisition. The

SPE will not incur or assume any debt, including the provision of guarantees, pledges or collateral support, unless otherwise approved by the Authority.

→ 24. Money pools – The UIL Utilities may only participate in money pools where the other participants in such money pools are other regulated utility affiliates in the United States unless otherwise authorized by the Authority. Notwithstanding the foregoing UIL may participate in such money pool as a lender but not as a borrower.

→ 25. Registration with Credit Rating Agencies – Each of IUSA and the UIL Utilities shall register with at least two out of the three major nationally and internationally recognized bond rating agencies, such as Standard & Poor’s, Moody’s Investor Service, and Fitch Ratings, and intend to maintain at least an investment grade credit rating.

→ 26. Rating Agency Presentations – Copies of all presentations made to credit rating agencies by IUSA or any of its affiliates that relate to UIL or the UIL Utilities must be provided, within ten business days of the presentation, to the Authority’s Staff and OCC on a continuing basis, subject to appropriate confidentiality protections including a protective order.

27. Internal Corporate Reorganization – IUSA shall not engage in an internal corporate reorganization relating to UIL, the UIL Utilities or the SPE for which the Authority’s approval is not required without 90 days prior written notification to the Authority. Such notification shall include: (a) an opinion of reputable bankruptcy counsel that the reorganization does not impact the effectiveness of UIL’s existing ring-fencing; or (b) a letter from reputable bankruptcy counsel describing what changes to the ring-fencing would be required to ensure UIL is at least as effectively ring-fenced following the reorganization and a letter from IUSA committing to obtain a new non-consolidation option before the reorganization and to take any further steps necessary to obtain such an opinion. None of IUSA or its affiliates will object if the Authority elects to open an investigation into the matter if the Authority deems it appropriate. Notwithstanding the above language in this Paragraph, the Applicants shall not alter the ring-fencing plan described in these ring-fencing requirements without first obtaining approval in a written order from the Authority.

28. GAAP – The SPE and UIL will comply with U.S. generally accepted accounting principles (“GAAP”) in all material respects (subject in the case of unaudited financial statements, to the absence of footnotes and to normal year-end audit adjustments) in all financial statements and reports required of it and issue such financial statements and reports separately from any financial statements or reports prepared for its affiliates; provided, however, that such financial statements or reports may be consolidated with those of its affiliates if the separate existence of UIL and its assets and liabilities are clearly noted therein.

29. Independent Board Members – Networks will have a board of directors consisting of seven or more people. At least three of the members of the Networks board must be independent (as defined by New York Stock Exchange rules). At least one of the independent directors will be a Connecticut resident. UIL’s seven-member Board of Directors will include one Director from the electric utility in Connecticut and one Director from one of the gas utilities in Connecticut. The UIL Board of Directors will select the Board of Directors of the three regulated operating utilities, and those boards select the Board of Directors of the three regulated operating utilities, and those boards will choose the officers of each operating company.

30. Golden Share

a. The SPE will issue a non-economic interest (a “Golden Share”) in the SPE to an administration company in the business of protecting special purpose entities and separate from the administration company retained to provide the person to serve as the independent Director for the SPE. The holder of the SPE’s Golden Share will have the right to vote on matters specified in the SPE governing documents, as described in this Paragraph.

b. A voluntary petition for bankruptcy by the SPE will require the affirmative consent of the holder of the Golden Share as well as the affirmative vote of the SPE’s board of directors, including the vote of the independent Director on the SPE’s board of directors. A voluntary petition for bankruptcy by UIL will require the affirmative consent of the holder of the Golden Share, the unanimous vote of the SPE’s board of directors (including the independent director), and the unanimous vote of UIL’s board of directors. A voluntary petition for bankruptcy for any of UIL’s subsidiaries will require the unanimous vote of the UIL board of directors and the unanimous vote of the board of directors of the relevant UIL subsidiary.

c. Any amendment to the organizational documents of the SPE that would remove or alter the voting or other ring-fencing requirements set forth in this document will require the affirmative vote of the SPE’s board of directors and the affirmative consent of the holder of the Golden Share.

✓ 31. Non-consolidation Opinion – IUSA will obtain a legal opinion in customary form and substance, to the effect that, as a result of the ring-fencing measures it has implemented for UIL and its subsidiaries, a bankruptcy court would not consolidate the assets and liabilities of the SPE with those of IUSA, in the event of an IUSA bankruptcy, or the assets and liabilities of UIL or its subsidiaries with those of either the SPE or IUSA, in the event of a bankruptcy of the SPE or IUSA. In the event that such opinion cannot be obtained, IUSA will promptly implement such measures as are required to obtain such opinion.

32. SPE and Non-consolidation Opinion Costs – None of the cost of establishing, operating, or modifying the SPE will be borne by UIL or the UIL Utilities or the customers of the UIL Utilities. The cost of obtaining the opinion of legal counsel referred to in Paragraph 31 (or any future opinion) will not be borne by UIL or the customers of the UIL Utilities.

→ 33. Minimum Common Equity Ratio – Each of the UIL Utilities is permitted to pay dividends in any year up to an amount equal to the sum of: (i) income available for common dividends generated in that year; (ii) the cumulative amount of retained earnings accrued in prior years starting with the closing date of this Proposed Transaction; and (iii) that portion of paid-in capital that was recorded on their respective books as unappropriated retained earnings, unappropriated undistributed earnings, and accumulated other comprehensive income immediately prior to the closing date of the Proposed Transaction, to the extent that those earnings have not already been paid out as dividends in years following the closing date of the Proposed Transaction; however, no dividends may be paid by a UIL Utility if payment would result in that UIL Utility being unable to maintain a minimum common equity percentage in its capital structure that is no lower than 300 basis points (3%) below the equity percentage used to set rates in the UIL Utility’s most recent distribution rate proceeding (measured using a trailing 13-month average calculated as of the most recent quarter end), exclusive of goodwill. In addition to the aforesaid 300 basis point limitation, for the first six months after the closing date of the Proposed Transaction, a UIL Utility is precluded from paying dividends in excess of \$10 million that is funded from paid-in capital. Isolated events, such as

mandated changes in accounting, that temporarily affect equity will be reported to the Authority and excluded from the common equity ratio calculation. This minimum equity ratio requirement will not have any impact on the Authority's right to establish equity ratios used for ratemaking purposes in future rate cases, and all parties as well as the Authority's Staff shall retain all rights to take positions, submit evidence and make arguments in those future rate cases about the appropriate equity levels for ratemaking purposes.

→ 34. Limitations on Dividends

→ a. No UIL Utility shall make any distribution to its parent if the UIL Utility's corporate issuer or senior unsecured credit rating, or its equivalent, is rated by any of the three major credit rating agencies below investment grade.

→ b. No UIL Utility shall issue any dividend to its parent if such UIL Utility's corporate issuer or senior unsecured credit rating, or its equivalent, falls to the lowest investment grade rating and there is a negative watch or review downgrade notice for the company as determined by two of the three major credit rating agencies or, alternatively, if such credit rating falls below investment grade without such notice ("Ratings Event"). The UIL Utilities retain the right to petition the Authority for the ability to issue a dividend if such a Ratings Event occurs. This restriction will end when the Ratings Event ends, such that the relevant credit rating is restored, the negative watch or review notice is removed with no negative action taken, or the Authority or its designee specifically approves the payment of dividends or transfer of items of value.

→ c. Each UIL Utility shall file with the Authority an officer's certificate twice a year certifying that for that six-month period, each payment of a dividend, the calculations that it used to determine the equity level at the time the board of directors considered payment of the dividend and the calculations to demonstrate that the common equity ratio immediately after the dividend payment did not fall below the Minimum Common Equity Ratio defined in Paragraph 33 above, as equity levels are calculated under the ratemaking precedents of the Authority. The calculations used by each UIL Utility will also be filed with the officer's certificate.

→ 35. Ratings Event – If a Ratings Event described in Paragraph 34 occurs with respect to a UIL Utility:

→ a. The company affected by that Ratings Event may not transfer, lease, or lend any moneys, assets, rights, or other items of value to any affiliate without first obtaining the Authority's approval. These provisions exclude payments for goods, services, and assets related to reasonable commitments made 180 days or more before the Ratings Event, routine transactions required in the regular course of business pursuant to contracts or other arrangements in existence 180 days or more before the Rating Event, corporate taxes, and payments, if not accelerated, of principal or interest on loans.

→ b. The UIL Utility affected by that Ratings Event must file a plan with the Authority within 60 days explaining the actions that are planned to address and rectify the situation.

36. UIL Senior Management – UIL senior management will continue to establish priorities and respond to local conditions as it does today. UIL will continue to have the authority and responsibility to provide input into the development of the UIL Utilities' capital and operating and maintenance expense budgets and implement the approved budgets. While the UIL Utilities' budgets will be reviewed by Networks, they must also be approved by the UIL Board of Directors.

37. Access to Senior Management – As a member of the IUSA management team, UIL will meet with the IUSA CEO at least monthly and have direct and frequent access to him and other members of IUSA’s senior management team.
38. Connecticut Operations – The UIL Utilities will continue to operate within the State of Connecticut as public utilities subject to the continuing jurisdiction of the Authority pursuant to the State of Connecticut’s applicable statutes regulating public utilities, and without any reduction in the Authority’s existing oversight or authority over the UIL Utilities.
- ✓ 39. Corporate Governance Principles and Delegation of Authority – The authority and responsibility delegated to local management will be clearly delineated in formal written documents including a statement of Corporate Governance Principles and a Delegation of Authority (“DOA”). The DOA will demarcate, among other things, levels of expenditures and defined categories of decisions that can be authorized solely by the management of UIL and its regulated operating utilities with utility Board of Directors’ approval. UIL’s existing Grants of Authority document satisfies this DOA commitment. The references to the “Board” in UIL’s Grants of Authority mean UIL’s Board of Directors. After closing, UIL’s Board of Directors will ratify the existing Grants of Authority.
40. Board and Shareholder Meetings – IUSA’s Board of Directors will include the UIL Utilities’ service territories among the regular locations of IUSA’s board and shareholder meetings.
41. Management Meetings – IUSA and Networks will include the UIL Utilities’ service territories among the locations of their regular periodic management meetings.
- ✓ 42. Delegations of Authority – Delegations of authority will be established setting forth the authorizations of officers of UIL and its utility subsidiaries to act on behalf of UIL and its utility subsidiaries without further authorization from Networks of IUSA. The proposed delegations of authority for UIL and its utility subsidiaries will be set forth in that document. The delegations of authority for the regulated subsidiaries adopted by UIL will not be amended to reduce authorization levels of the regulated subsidiaries officers without prior notice to the Authority.
- ✓ 43. SPE’s Title to Real and Personal Property – The SPE shall ensure that title to all real and personal property acquired by it is acquired, held and conveyed in its name.
- ✓ 44. Timing, Implementation and Review – The Applicants agree to implement the commitments set out above within 180 days of the consummation of the Proposed Transaction and will not modify or terminate any such commitments without first obtaining the Authority’s approval. Ten years after the closing of the Merger, the Applicants shall have the right to review the provisions contained in this document, and to make a filing with the Authority requesting authority to modify or terminate those provisions. Notwithstanding such right, Applicants agree not to proceed with any such modification or termination without first obtaining the Authority’s approval in a written order. The Applicants recognize that the Authority at any time may initiate its own review or investigation regarding ring-fencing measures (or upon petition by any party) and order modifications that it deems to be appropriate, in the public interest and in the best interest of the UIL Utilities’ customers.
45. Annual Compliance Report – UIL will file with the Authority annual compliance report with respect to the ring-fencing and other requirements certified by an executive thereof under penalty of perjury.

46. Officer's Certificate – At the time the SPE is formed and every year thereafter, UIL shall provide the Authority with a certificate from an officer of IUSA certifying that: (a) IUSA shall maintain the requisite legal separateness in the corporate reorganization structure; (b) the organization structure serves important business purposes for IUSA; and (c) UIL and its regulated subsidiaries will be kept separate to avoid substantive consolidation of UIL or its regulated subsidiaries with Networks or IUSA.

47. Tracking Mechanisms – UIL and the UIL Utilities will create internal tracking mechanisms to ensure compliance with these ring-fencing requirements and file with the Authority an annual compliance report with respect to such ring-fencing requirements.

AUTHORITY APPROVAL AND OTHER CONDITIONS

✓ 48. Settlement Approval – The Settling Parties assert that, if the Authority does not approve this Settlement Agreement in its entirety this filing shall be deemed to be withdrawn and shall not constitute a part of the record in any proceeding or used for any other purpose. If the Authority does not approve this Settlement Agreement, the Settling Parties reserve their respective rights to pursue approval of the Application and/or their respective positions thereon as if this Settlement Agreement never existed.

✓ 49. The provisions of this Settlement Agreement are not severable. This Settlement Agreement is conditioned on its full approval by the Authority without additional conditions or requirements.

✓ 50. If, for any reason, the Proposed Transaction is not consummated, the terms of this Settlement Agreement shall be null and void and no longer apply even if already approved by the Authority subject to the terms set forth herein.

✓ 51. This Settlement Agreement shall not be deemed in any respect to constitute an admission by any party that any allegation or contention in this proceeding is true or false. Except as specified in this Settlement Agreement to accomplish the customer benefit intended by this Settlement Agreement, the entry of an order by the Authority approving the Settlement Agreement shall not in any respect constitute a determination by the Authority as to the merits of any other issue raised in this proceeding.

✓ 52. The making of this Settlement Agreement establishes no principles and shall not be deemed to foreclose any party from making any contention in any proceeding or investigation, except as to those issues and proceedings that are resolved and terminated by approval of this Settlement Agreement.

✓ 53. This Settlement Agreement is the product of settlement negotiations. The Settling Parties agree that the content of those negotiations (including any workpapers or documents produced in connection with the negotiations) are confidential, that all offers of settlement are without prejudice to the position of any party or participant presenting such offer or participating in such discussion and except to enforce rights related to this Settlement Agreement, comply with the Connecticut Freedom of Information Act or defend against claims made under this Settlement Agreement, that they will not use the content of those negotiations in any manner in these or other proceedings involving one or more of the parties to this Settlement Agreement or otherwise.

✓ 54. Any number of counterparts of this Settlement Agreement may be executed, and each shall have the same force and effect as an original instrument, as if all the parties to all the counterparts had signed the same instrument.

Orders

Items marked with a checkmark symbol (✓) are complete.⁵ Ring-fencing conditions which are actively tracked by the Treasury Department and are submitted to the PURA as part of the CT Companies' quarterly compliance filing are marked with an arrow (→) symbol below.⁶

For the following Orders, the Company shall submit one original of the required documentation to the Executive Secretary, 10 Franklin Square, New Britain, Connecticut 06051 and file an electronic version through the Authority's website at www.ct.gov/pura. Submissions filed in compliance with the Authority's Orders must be identified by all three of the following: Docket Number, Title and Order Number. Compliance with orders shall commence and continue as indicated in each specific Order or until the Company requests and the Authority approves that the Company's compliance is no longer required after a certain date.

- ✓ 1. Effective immediately, any changes to the existing UIL Grants of Authority document shall be filed with the Authority.
- ✓ 2. No later than December 16, 2015, the Applicants and the OCC shall jointly submit a revised Settlement Agreement that acknowledges the commitment to maintain the UIL Utilities' headquarters in Connecticut for the duration of the IUSA ownership.
- ✓ 3. No later than December 16, 2015, the Applicants and the OCC shall jointly submit a revised Settlement Agreement that acknowledges the basis to determine the 5% improvement to average answering times shall be the average of the last 18 months of the three calendar year period following the close of the Proposed Transaction.
- ✓ 4. No later than December 16, 2015, the Applicants and the OCC shall jointly submit a revised Settlement Agreement that includes a commitment to:
 - a. An arms-length business relationship between IUSA, Networks and any other Iberdrola business unit and UIL and its Connecticut utility companies, which will be governed by Authority's affiliate transaction rules and regulations;
 - b. Upon 60 days advanced notice, and subject to resolution of confidentiality and privilege issues to the books and records, in English, of Iberdrola and its subsidiaries that may have a direct or indirect controlling interest in the UIL Utilities, and other Iberdrola affiliates where such books and records are relevant to PURA's exercise of authority, and necessary to audit and monitor any transactions that have occurred between any of the UIL Utilities and such subsidiaries or affiliates;
 - c. IUSA shall report to the Authority, subject to resolution of confidentiality and privilege issues, within 60 days of any final determination of: (a) fraud, corruption, or noncompliance with the Foreign Corrupt Practices Act of 1974, committed by any affiliate of Iberdrola, as determined by a court of competent jurisdiction; or (b) noncompliance by any affiliate of Iberdrola with the rules and regulations of the World Bank or a relevant regional development bank, as determined by the World Bank or a regional development bank;

⁵ Response to FTI-0412, Att. 1.

⁶ Response to FTI-0696, Att. 1.

- d. An annual attestation by the chief executive officer of IUSA or Networks that IUSA or Networks and its subsidiaries are in full compliance with the rules, regulations and requirements set forth in the Foreign Corrupt Practices Act of 1974; and
 - e. Designation and appointment by IUSA of a regulatory compliance officer for fulfilling the above referenced requirements.
- ✓ 5. The Applicants shall abide by the terms and conditions set forth in the revised Settlement Agreement.
 - ✓ 6. No later than ten business days following the Closing, the Applicants shall notify the Authority that no material modifications were made to the terms and conditions of the Purchase Agreement and whether the Proposed Acquisition has or has not taken place.
 - ✓ 7. No later than ten business days following IUSA becoming a member of the NYSE, the Applicants shall notify the Authority.
 - 8. No later than ten business days following the filing of Form 8-K, 10-Ks or any required reports with the SEC, IUSA shall file such reports with the Authority.
 - ✓ 9. No later than ten business days following the completion of the accounting for the Proposed Transaction, the Applicants shall file with the Authority all journal entries resulting at that point.
 - 10. No later than ten business days following a rating agency presentation made by IUSA or any of its affiliates, the presentation shall be filed with the Authority.
 - 11. No later than ten business days following IUSA obtaining a non-consolidation opinion, a copy shall be filed with the Authority.
 - 12. No later than six months after the closing of the Proposed Transaction, and every six months thereafter, each UIL Utility shall file, under an officer's certificate, each payment of a dividend, the equity level at the time the board of directors considered payment of the dividend, and the calculations to demonstrate that the common equity ratio immediately after the dividend payment did not fall below the minimum common equity ratio of 300 basis points below the equity percentage used to set rates in such UIL Utility's most recent rate proceeding.
 - 13. Within 60 days of a rating event, the UIL Utility affected by the rating event shall file a plan, with the Authority, explaining the actions that are planned to rectify the rating event.
 - ✓ 14. IUSA shall notify the Authority within 180 days of the consummation of the Proposed Transaction as to the status of implementation of the provisions of the Settlement Agreement.
 - 15. UIL shall file with the Authority an annual filing certifying compliance with the ring-fencing provisions and other requirements in the Settlement Agreement.

16. At the time the SPE is formed and every year thereafter, UIL shall provide a certificate from an officer of IUSA certifying that: (a) IUSA shall maintain the requisite legal separateness in the corporate reorganization structure; (b) the organization structure serves important business purposes for IUSA; and (c) UIL and its regulated subsidiaries will be kept separate to avoid substantive consolidation of UIL or its regulated subsidiaries with Networks or IUSA.
- ✓ 17. No later than June 30, 2016, UI shall meet with the Authority in a technical meeting to establish a methodology for determining its SAIDI and SAIFI reliability commitments.
- ✓ 18. No later than July 1, 2016, each UIL Utility shall file a more comprehensive hiring plan pursuant to its commitment in Section 10 of the Settlement.
- ✓ 19. No later than December 30, 2016, and each calendar year thereafter, each of the UIL Utilities shall file a report detailing the number and cost of hiring outside contractors for work done in each of the Company's respective franchise areas.

Appendix 3: 2021 and 2022 Networks Strategic Plan Objectives

2021 Strategic Plan¹

Figures A3-1 through A3-4 detail the numbered long-term goals and objectives associated with each theme of the 2021 Networks Strategic Plan.

Theme	Engage, Develop and Support our People: Safety as our top priority, collaboration, accountability & agility in learning while achieving a healthy work-life balance
Long-Term Goals	1.Develop a Risk Centric Culture of Health & Safety 2.Be Recognized as a Best-in-Class Employer
Objectives	1.A. Improvement in telematics results 1.B. Reduce Total Recordable Incidents 1.C. Enhance Skilled safety panels 2.A. Enhancement of the Leadership Development Program 2.B. Enable work life balance Programs to improve quality of life 2.C. Attract, Retain and develop Key Talent 2.D. Improve communications flow from employee to Human Resources 2.E. Improve technical training for employees

Figure A3-1 Long-Term Goals 1 and 2, 2021 Networks Strategic Plan

Theme	Innovate and Accelerate to improve business and operational performance
Long-Term Goals	3.Be Recognized as Best in Class Ethics, Compliance, Governance 4.Modernization of the Electric & Gas Networks
Objectives	3.A. Increase Leadership Accountability 3.B. Meet all customer, business, and regulatory commitments 3.C. Increase State Presidents operating company financial and operational visibility 3.D. Ensure compliance with NERC Regulatory Standards 4.A. Develop and implement 3 – 5 major improvement initiatives for the Networks businesses per year 4.B. Execute 1Networks transformation plan 4.C. Execute Transforming Energy Resiliency Plan 4.D. Execute process enhancements to Improve Quality measures across Gas Business 4.E. Develop gas networks resiliency plan (infrastructure & fuel supply) 4.F. Prepare our business to work as a distribution system operator

Figure A3-2 Long-Term Goals 3 and 4, 2021 Networks Strategic Plan

¹ Response to FTI-0234, Att. 3 (confidential).

Theme	Provide Safe, Cost Effective and High Quality services with a Customer First focus
Long-Term Goals	5.Achieve Top Quartile Reliability Metrics: SAIFI; SAIDI and CAIDI 6.Achieve Top Quartile Customer Satisfaction through exceptional service
Objectives	5.A. Reduce asset health risk through the execution of the investment portfolio 5.B. Electrification of the economy - transportation, heat pumps, storage etc. 5.C. Explore new emerging technologies through pilots 6.A. Reduce the number of regulatory Complaints 6.B. Develop end to end customer journey metrics across business processes; customer service, electric operations and gas operations 6.C. Execute process enhancements to Improve Quality measures across Gas Business 6.D. Develop and deliver a Customer First approach across the whole organization 6.E. Improve Customer Experience by providing innovative new products and services

Figure A3-3 Long-Term Goals 5 and 6, 2021 Networks Strategic Plan

Theme	Enable our Clean Energy Future by delivering on our Financial, Operational and Environmental Commitments
Long-Term Goals	7.Predictable and Sustainable Annual Earnings Growth 8.Meet Sustainability Objectives
Objectives	7.A. Deliver Regulated CAPEX Plan and Plant Additions Forecast 7.B. Align and execute OPEX with Rate Agreements and Business needs 7.C. Improve Federal and State Regulatory Relationships and outcomes 7.D. Develop Investment opportunities outside of Rate Plans 7.E. Ensure Performance is in line with State Regulatory Requirements 8.A. Create defined Sustainability Goals and Action Plans 8.B. Develop and Align Customer, Business System and Technology Plans

Figure A3-4 Long-Term Goals 7 and 8, 2021 Networks Strategic Plan

2022 Strategic Plan²

Figures A3-5 through A3-7 detail the non-numbered objectives associated with each theme of the 2022 Networks Strategic Plan.

² Response to FTI-0734, Att. 1 (confidential).

Strategic Objective (Theme)	Customer Service Reshape + reputation rebuild
Strategic Outcomes/ Priority	Reshape Customer Experience Strengthen Customer energy value Trusted Energy Partner Superior Customer Service Transformation of the Electric Grid & Gas Network Excellent Reliability System Resilience Outstanding Emergency Response
Objectives	Redesign of customer Journey Better Measurement of Customer Satisfaction Local Stakeholder Development Meet and Exceed Customer Service Targets Accelerate Grid Modernization Gas system reliability Improved Reliability and Resiliency of the System Execute Emergency Response Plans

Figure A3-5 Customer Service Objectives, 2022 Networks Strategic Plan

Strategic Objective (Theme)	Sustainability
Strategic Outcomes/ Priority	Innovative, Affordable & Sustainable Clean Energy Solutions Use of technology to gain efficiencies Strong Ethics and Governance Growth Meeting Operational Commitments Meeting Financial Commitments
Objectives	Comply with State policies and vision the future for clean energy solutions Adopt new / Innovative Technology Compliance with ethics and governance standards Transmission Growth Budget Management analysis and reporting Execute Capital Investment Plan

Figure A3-6 Sustainability Objectives, 2022 Networks Strategic Plan

Strategic Objective (Theme)	Engage Employees
Strategic Outcomes/ Priority	Attracting, Retaining & Developing Top Talent Safe, Diverse and Inclusive Culture High level of employee Engagement and Enablement High performing teams
Objectives	<i>No objectives, only initiatives.</i>

Figure A3-7 Employee Engagement Objectives, 2022 Networks Strategic Plan

Appendix 4: Avangrid's Impact and Probability Criteria Matrix

Grading of Findings: Global Internal Methodology

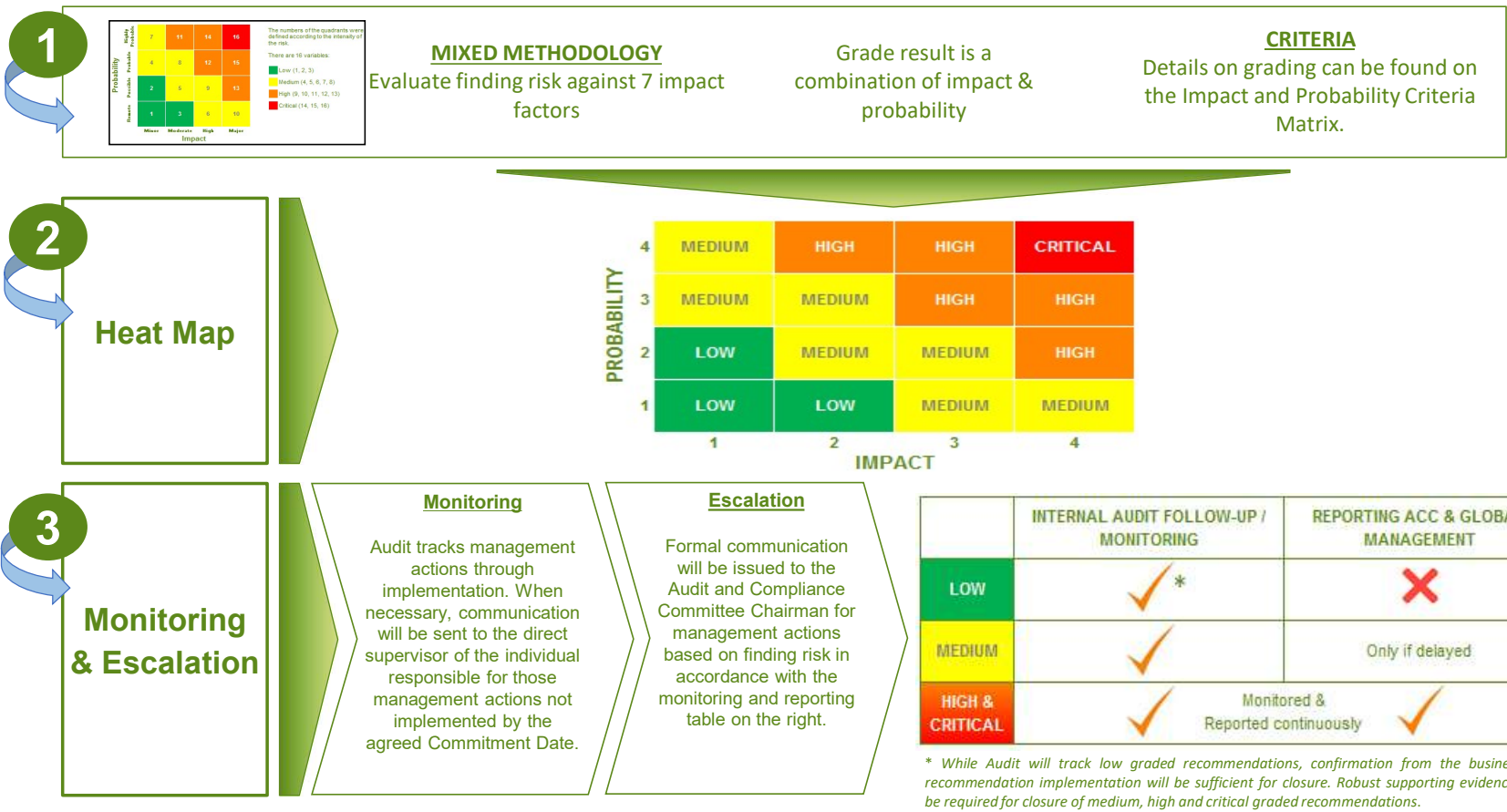


Figure A4-1 Methodology for Grading Audit Recommendations, Avangrid

Grading of Findings: Impact and Probability Criteria Matrix

	Risks	LOW (1)	MEDIUM (2)	HIGH (3)	Critical (4)
IMPACT	Financial Risk / Quantification	<\$1.M	Between \$1-10.M	Between \$10 – 25.M	> \$25.M
	Operational Risks	Problems in the operation of the systems, development of projects or delivery of benefits of little relevance. No exceptions but opportunities for improvement in procedures or efficiencies identified.	Problems in the operation of the systems, development of projects or delivery of benefits of certain relevance.	Problems in the operation of systems, development of projects or delivery of benefits that put at risk the achievement of strategic objectives at the country level.	Problems in the operation of the systems, development of projects or delivery of benefits that put at risk the achievement of the strategic objectives of the group.
	H&S and Social Risks	Low impact on H&S. Minor social impact.	Moderate impact on H&S. Discontent and working environment worsened.	H&S at risk. Labor dispute (strikes, protests, etc.).	Death or severe injury to employees or population.
	Environmental Risk	Minor environmental damages.	Medium environmental damages.	Administrative sanction and moderate economic penalties.	Penal sanctions and/ or substantial economic penalties. Loss of operating license, loss of public listing.
	Legal & Compliance risk	Non-compliance with internal Policies and Procedures.	Disciplinary proceedings or infringement procedure.	Administrative sanction and moderate economic penalties.	Penal sanctions and/ or substantial economic penalties. Loss of operating license, loss of public listing.
	Reputational Risk	Internal impact / coverage.	Local media / coverage.	National media coverage.	International media coverage.
	Identified Fraud				YES*
	PROBABILITY	Low (1)	Probability less than 10%		
Medium (2)		Probability between 10% - 49%			
High (3)		Probability between 50% - 85%			
Critical (4)		Probability is greater than 85%			

The risk with highest value is used to determine Impact rating for finding.

While both qualitative and quantitative factors are used to establish the finding grading, an element of professional judgement will still be required.

*A finding of theft of funds or assets over \$10k, or of any amount by employees at the management level or higher, will be automatically be deemed "Critical" and reported to the Audit and Compliance Committee

Figure A4-2 Methodology for Grading Audit Recommendations, Avangrid, codd.