Report to the Connecticut Siting Council on Loads and Transmission Resources

March 19, 2013

The United Illuminating Company
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Section I. Load Forecast Update

This section presents the results and a summary of the methodology for The United Illuminating Company's ("UI" or "Company") most recent ten-year energy sales forecast ("Sales Forecast") and ten-year system peak load forecast ("Peak Load Forecast"). The Sales Forecast is used for budgeting and financial planning purposes. The Peak Load Forecast is used by the Connecticut Siting Council ("Council" or "CSC") for resource planning purposes in Connecticut. The two forecasts use different forecasting methodologies chosen to fulfill their intended purpose.

<u>Sales Forecast Purpose & Methodology</u>

The primary purpose of the Sales Forecast is to accurately project monthly sales-by-class that is then converted to a revenue forecast using electric service rates by class. The principal output of the Sales Forecast is monthly energy sales. UI utilizes the ten-year Sales Forecast for a number of purposes. A key use of the Sales Forecast is to project the energy sales as the basis for predicting revenue over the next 12 to 24 months. The UI Sales Forecast produces monthly forecasted energy sales weather-adjusted to "normal weather" or average weather conditions.

Weather has a large impact on both sales and peak load. Any analysis of the actual historical sales and peak load must consider the weather conditions under which those sales and peak loads occurred. The Company's sales forecasting process begins by weather-adjusting the actual, customer-class specific, historical sales data to the sales that would have been experienced under normal weather, using heating degree days ("HDD") and cooling degree days ("CDD") based on a standard of 65 degrees Fahrenheit for the transition from heating-based to cooling-based sales.

The sales forecasting process then moves to the creation of a Base Energy Sales Forecast which reflects the projected sales from UI's existing base of customers. The Base Sales Forecast development employs focused analytical processes that weather-adjusts and evaluates the most recent energy sales history of its customers, trends in the local and state economies and the sales forecast team's interpretations of how these factors are likely to impact UI's future monthly sales.

The impact to sales from Conservation and Load Management ("C&LM") and Distributed Generation ("DG") currently on the UI system are embedded in the historical data used to develop the Base Energy Sales Forecast, and therefore, the future impact of these resources is accounted for in the Base Energy Sales Forecast results. UI adds to the Base Energy Sales Forecast the projected future annual impact of incremental additions of new C&LM and DG to account for the future additions of these resources.

In addition, UI adds an estimate of sales resulting from specific, new customers projected by UI's Economic Development group. The addition of new customers is another variable that can materially impact sales and peak loads. UI's Economic Development group creates regular projections of new customer additions and deletions to the system based on their interaction with municipalities, Account Managers, potential developers and businesses. These new loads include expansions of existing UI customers, redevelopment of existing areas and new "green field" construction. UI's final Sales Forecast results from the summation of the normal weather-adjusted Base Energy Sales Forecast and new large customer sales along with the decrement to sales due to projected C&LM and DG.

Peak Load Forecast Purpose & Methodology

The purpose of the peak load forecast shown in Exhibit I is to allow the Council to effectively forecast and evaluate the demand and supply balance in Connecticut. The primary output of UI's Peak Load Forecast is the forecast of system peak loads under both normal and extreme weather conditions. Normal weather or average weather, also referred to as a 50/50 forecast, means the data provides a 50% confidence, from a statistical perspective, that the forecasted normal weather-adjusted system peak will be exceeded 50% of the time on the peak load day, due to weather conditions. Extreme weather, also referred to as a 90/10 forecast, means the data provides a 90% confidence, from a statistical perspective, that the forecasted extreme weather-adjusted system peak will be exceeded only 10% of the time on the system peak day, due to weather conditions. In other words, the forecasted 90/10 peak load will be exceeded once every ten years.

The UI Peak Load Forecast is a derivative of a quarterly sales forecast and forecasted customer class-level load factors. The forecast of quarterly sales used for the Peak Load Forecast is strictly an interim calculation step that utilizes a different forecasting methodology than the revenue-focused Sales Forecast described above. The Peak Load Forecast is derived from weather-adjusted sales that use an average monthly temperature methodology to weather-adjust the sales. This is different than the method used in the revenue-focused Sales Forecast described in the prior section. For the Peak Load Forecast development, the Company first uses customer-class specific regression models to weather-adjust the historic sales data to equivalent sales that would be seen under normal weather conditions based on 30-years of historical weather data. The normal weather-adjusted sales data is then used to develop a series of econometric models for each major customer class which relates the sales to economic and demographic drivers, obtained from independent sources. The parameters used in the individual econometric models vary by the customer class. The models are then used to produce forecasts of quarterly sales for each major customer class under normal weather conditions.

Next, UI calculates the weather-adjusted historical system peak loads for both normal weather and extreme weather conditions. The weather-adjustment for historic peak loads is based on a model that relates the twelve-hour average Temperature Humidity Index (the output of a mathematical formula that combines temperature and humidity into a single number) to historical summer weekday peak loads (THI Model). The THI Model is then used to adjust historic peak loads to the loads that would have been seen under normal or average temperature and humidity conditions and for extreme conditions.

The weather-adjusted sales and peak loads in conjunction with load research data are used to calculate historical class-level load factors and forecast class-level load factors for both normal and extreme weather conditions. The forecasted class-level load factors are then used to translate the class-level annual sales into a Base Load Forecast for both normal and extreme weather-adjusted conditions. The Base Load Forecast reflects the forecasted peak load resulting from UI's existing levels of C&LM, DG and existing base of customers. Similar to the Sales Forecast, the Company accounts for projected new C&LM, DG and new or removed large customer loads separately. UI's final Peak Load Forecast results from the summation of the Base Load Forecast and new or removed large customer loads along with the impact due to incremental additions of new C&LM and DG.

Normal Weather-Adjusted Historical and Forecasted Data

The data shown in Exhibit 1 includes actual historical data for system energy requirements, sales and peak load. Exhibit 1 also includes historical and forecasted sales and peak load adjusted to normal weather conditions. UI is a summer peaking utility primarily due to the air conditioning loads on its system. During recent history, between 2003 and 2012, UI has experienced a decline in normal weather-adjusted sales of 5.3% as compared to a simultaneous decline in its normal weather-adjusted peak load of only 2.4%. This is attributed to changes in customer behavior regarding energy usage and the economic recession. It should be noted that in four of the last ten years of historical data (2006, 2010, 2011, and 2012), the actual peak load has exceeded the normal weather-adjusted peak load. This exceedance is consistent with the design of the normal weather adjustment in that typical variations in weather alone will cause the normal weather-adjusted value to be exceeded 50% of the time on the peak load day. This recent history of peak loads reinforces the need for the Company to consider extreme weather in its Peak Load Forecasts. The forecast of the normal weather-adjusted peak load projects a growth of 13.4% between 2012 and 2022.

Extreme Weather-Adjusted Historical and Forecasted Data

In addition to the normal weather-adjusted data, Exhibit 1 also shows historical and forecasted peak loads adjusted to extreme weather conditions. The 2003 to 2012 historical data in Exhibit 1 shows a decline in the extreme weather-adjusted historical Peak Loads of 0.9%. The Company's extreme weather-adjusted Peak Load Forecast shows a growth of 12.5% during the period from 2012 to 2022. This forecasted growth is less than last year's due to the continued impacts of the economic recession and an expected slower recovery. The extreme weather-adjusted Peak Load Forecast percentage growth is slightly less for this year's forecast than last year's forecast (for the full ten-year period of the respective forecast). The forecasted extreme weather peak in year 2021 is 63 MW less than last year's forecast due to the economic impact on the short term forecast peak load and the actual 2012 peak load.

The ability to predict when extreme weather will occur or the exact amount of economic activity that will be realized is always problematic. Therefore, prudent planning requires that the possibility of the effects of extreme weather (i.e., high temperatures and high humidity) within the forecast time period be recognized, as well as appropriate assumptions of future economic development activity. Plans must be formulated to meet this possible demand. The bounds of the Company's forecasts from the normal and extreme weather-adjusted scenarios are intended to provide a plausible range of futures. No single forecast will be accurate throughout the forecast period. When extreme weather occurs, regardless of the timing, the system infrastructure must be in place to serve the load safely and reliably.

Distributed Generation

The Connecticut General Assembly passed a landmark legislative initiative in 2005: Public Act 05-01, June Special Session, *An Act Concerning Energy Independence* ("PA 05-01"). The implementation of the Act, carried out by the former DPUC, provided monetary grants to offset the capital cost of installing DG, but the program was discontinued for all projects that submitted applications on or after October 14, 2008. The program has so far successfully added about 36 Megawatts of DG capacity in the UI service territory. The program has also successfully added 7.6 MW of Emergency Generation capacity required to operate in the Independent System Operator – New England ("ISO-NE") demand response programs.

On July 1, 2011, Governor Malloy signed into law Public Act 11-80, *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future* ("PA 11-80"). Section 103 of PA 11-80 establishes a three year pilot program to promote the development of combined heat and power projects, a three year pilot program for anaerobic digestion projects to generate electricity and heat, and a Low & Zero Emission Renewable Energy Credit (LREC/ZREC) program that is expected to drive the development of Class 1 Renewable Resources through a five year solicitation program administered by both utilities in CT. The PA 11-80 DG pilot program offers significantly lower dollar incentives than those provided through the earlier program established in PA 05-01, capped at $200 per kilowatt of capacity. Capacity built via the LREC/ZREC program is dependent on the outcome of the solicitation program. UI will continue to monitor the development of the DG pilot program established through PA 11-80.

All grants approved through the PA 05-01 DG program totaling 8.5 Megawatts[1] of capacity that have not been built have expired. There is no reason to believe that customers who

[1] Operational DG output is based on capacity listed on grant application and not the actual generator output.

had approved grants and chose not to construct a DG unit will decide to do so with current incentives. Tracking will commence following any new projects potentially submitted after the Department of Energy and Environmental Protection ("DEEP") re-energizes the program. Even with the grants made available, each customer must decide for themselves, within the timeframe allotted, whether the installation is economically attractive. Because many of the best DG opportunities have been installed, the monetary grants offered through the new program are not expected to create a significant increase in the installed base of DG.

In development of the sales forecast shown in Exhibit 1, those projects no longer anticipated have been excluded from the sales forecast. In development of the peak load forecasts presented in Exhibit 1, all of the operational units have been included as offsets to load (utilizing actual generator output).

Conservation & Load Management

The C&LM 2013 programs continue to experience enthusiastic participation in response to UI's commitment to maximize the benefits our customers receive from every dollar spent. The existing 3 mill Combined Public Benefits Charge provides most of the funding for the C&LM programs. Additionally, the Electric Distribution Companies ("EDCs") actively pursue and secure additional sources of program dollars, including the Regional Greenhouse Gas Initiative ("RGGI"), the ISO-NE Forward Capacity Market ("FCM"), the Connecticut Class III Renewable Energy Credits ("RECs") program, and grants such as a two year $3 million grant from the U.S. Department of Energy ("DOE"). In a time of economic uncertainty, the 2013 C&LM Programs further expand UI's solid record of delivering value, showcasing new technologies, and cultivating positive relationships with communities (including the financial community), leading to the explosion of the energy efficiency and conservation market.

A federal grant in the amount of $3 million over two years was awarded in 2012 through the DOE Weatherization Innovation Pilot Program ("WIPP"). No funding from The American Recovery and Reinvestment Act of 2009 ("Stimulus Act" or "ARRA") was included as part of the current load forecast.

Funds from the Regional Greenhouse Gas Initiative ("RGGI") and Class III RECs remain to augment the three-mill Public Benefits Charge on customers' electric bills. RGGI is the first mandatory, market-based effort in the United States to reduce greenhouse gas emissions. The participating RGGI states cap allowable CO_2 emissions, sell emissions allowances through auctions, and use the auction proceeds to fund energy efficiency, renewable energy, and other clean energy programs and technologies.

In 2010, the transition period for the Forward Capacity Market ("FCM") ended, and the permanent FCM was put in place beginning June 1, 2010 by the ISO-NE. As New England's energy markets continue to develop and evolve, the Company continues to be an active participant in the development of the ISO-NE stakeholder process to refine the markets. The FCM allows market participants to bid their peak demand savings into the capacity market. Market participants earn capacity payments for qualifying resources, such as distributed generation, energy efficiency, load management or load response. This was the first time in the United States that reduction in demand through energy efficiency and demand response programs was considered as electrical capacity equivalent to supply-side generation sources. Additional electrical capacity "produced" through the implementation of efficiency and load management measures becomes a resource, which can then be bid to ISO-NE similar to new generation. UI has entered peak demand savings from energy efficiency and load management projects into the transition period FCM on behalf of the Connecticut Energy Efficiency Fund and has successfully bid capacity in the first seven capacity auctions, with an eighth auction scheduled for February, 2014. PA 11-80 assigned the responsibility for development of the 2012 Integrated Resource Plan ("IRP") to the DEEP. PA 07-242, *An Act Concerning Electricity and Energy Efficiency* ("2007 Act"), established the initial integrated resource planning process, which resulted in the EDCs preparing the three previous IRPs. DEEP produced the report in consultation with the EDCs and with analytical assistance from The Brattle Group, an economic consulting firm. The 2012 IRP presents a long-term, "Expanded EE" resource scenario for Demand Side Management ("DSM"). The Expanded EE forecast reflects a major expansion of current programs and was constructed based on the 2010 Connecticut energy efficiency potential study completed by the Energy Conservation Management Board ("ECMB")[2]. The IRP predicts that achieving this potential would cause Connecticut's energy consumption to decline by 0.4% per year while supporting a growing economy.

[2] In 2010 the ECMB changed its name to the Energy Efficiency Board ("EEB").

The 2012 IRP provided input into Governor Malloy's Comprehensive Energy Strategy (CES). In support of the CES the EDC's prepared a 3-year (2013 through 2015) C&LM plan that included two scenarios, an "Increased Savings" scenario and a business-as-usual "Base Budget" projection. The Increased Savings scenario results in more than doubling both the annual savings and the associated budget. Although the amount of funding required has been identified, the source of that funding has not been established. Pending approval of this major expansion of the energy efficiency programs, the increased level will put the state on the right path to have 80% of the state's homes to be weatherized by 2030, another goal established in PA 11-80.

The 2013 through 2015 proposed Base and Increased Savings Budgets are currently under PURA review as Docket No. 12-11-04, *PURA Review of the Connecticut Energy Efficiency Fund's Electric Conservation and Load Management Plan for 2013 through 2015.*

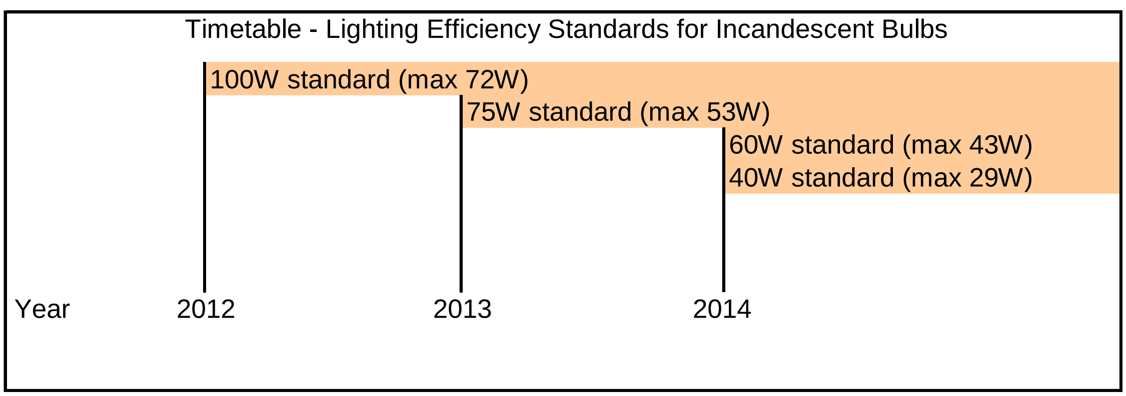
Until regulatory review is completed the programs are maintained at the "Base Budget" funding. The peak load forecasts presented in Exhibit 1 reflects the funded Base Budget projections while the sales forecast includes the Increased Savings scenario. In this unusual instance of having two different proposed CLM budgets, the two forecasts utilize the most conservative CLM budget appropriate to the forecast.

Legislation has effected substantial change to the lighting portion of C&LM programs. Beginning in 2012, pursuant to the Energy Independence and Security Act of 2007, nationwide lighting efficiency standards ("Lighting Efficiency Standards") were implemented. The purpose of the Lighting Efficiency Standards is to introduce minimum energy performance standards for General Service incandescent bulbs that will, over a period of time, remove inefficient lighting products from the marketplace. The timetable for compliance is set forth in Table 1 below. Incandescent bulbs will continue to be available in 2013 and beyond if they meet the Lighting

Efficiency Standards guidelines. Non-standard bulbs will likewise not be affected by the 2012-2014 standards.

These federal standards lower the energy consumption of a standard incandescent bulb, effectively reducing the energy savings of general service Compact Fluorescent Light bulbs ("CFLs") in the C&LM programs. As lighting makes up a significant portion of the program offerings and savings in every sector, particularly concerning CFLs in the residential programs, UI continues to monitor the development of lighting products that meet the new standard to determine what savings may be achieved from the installation of CFLs. In addition to determining the role of CFLs as an energy saving technology, UI continues to investigate non-CFL technologies that achieve savings beyond the standard such as LED or induction lighting. Many LED bulbs have been ENERGY STAR qualified for replacement of typical 60-Watt and lower incandescent bulbs and are being promoted through special pricing from the CT Energy Efficiency Fund.

Table 1 – Lighting Efficiency Standards for Incandescent Bulbs Timetable



The strategic focus of UI's programs is the result of a multi-level collaborative process involving UI and a diverse group of stakeholders. These stakeholders include: the DEEP, the EEB, Connecticut state government, consumer and business interests, national and regional environmental and energy efficiency organizations, design professionals and energy services providers.

UI participates in national and regional activities to develop a long-range focus for energy efficiency. UI partners with the Consortium for Energy Efficiency ("CEE"), the American Council for an Energy-Efficient Economy ("ACEEE"), Northeast Energy Efficiency Partnerships ("NEEP"), and other utility and public benefit fund organizations. Together with these partners, UI is involved in regional or programmatic evaluations, market baseline research, development of efficiency standards, exchange of programmatic ideas and concepts, and the assessment of the need for incentives. These efforts have produced many of the energy efficiency concepts and measures upon which the programs are based.

Section II. Transmission Planning

The UI projects included in this report help UI fulfill its obligation to provide reliable service to its customers and to meet the reliability standards mandated by national and regional authorities responsible for the reliability of the transmission system, i.e., the North American Electric Reliability Corporation ("NERC"), the Northeast Power Coordinating Council ("NPCC") and ISO-NE.

Transmission Planning – National and Regional Reliability Standards

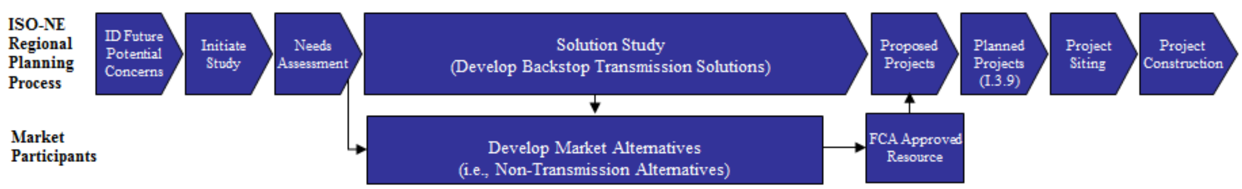
In 2006, the Federal Energy Regulatory Commission ("FERC") designated NERC as the nation's Electric Reliability Organization ("ERO"). FERC approved mandatory reliability standards developed by NERC in 2007. These mandatory reliability standards apply to UI as a transmission owner ("TO") and as a transmission planner ("TP") of the bulk power system, as designated by NERC through its compliance registry procedures. In addition to satisfying NERC reliability standards, UI must also satisfy NPCC and ISO-NE reliability standards. Both monetary and non-monetary penalties may be imposed for violations of the NERC, NPCC, and ISO-NE Reliability Standards.

Transmission Planning Process

ISO-NE, as the registered NERC reliability authority, along with UI and Connecticut Light & Power ("CL&P"), as the TOs in Connecticut, must comply with NERC and NPCC planning standards by performing reliability assessment studies of the transmission system. Needs Assessments in sub-areas such as Southwestern Connecticut ("SWCT") are performed to identify system needs over a ten year horizon. If a reliability problem is identified from a Needs

Assessment, ISO-NE, and the TO's develop transmission alternatives to ensure NERC, NPCC, and ISO-NE reliability standards are met. The developed transmission alternatives provided by the TO's and ISO-NE are considered the "backstop" solution to ensure future system reliability and compliance if market conditions do not change in the future. Viable transmission alternatives are compared for their construction feasibility, environmental impact, overall cost, longevity along with their operational and reliability performance and effectiveness. Following study completion, TO's recommend a preferred transmission solution to ISO-NE, the Planning Advisory Committee ("PAC"), and the New England Power Pool ("NEPOOL") Reliability Committee. The Needs Assessments, Solution Studies, and approval of preferred transmission solutions are the basis for ISO-NE's Regional System Plan ("RSP"). Figure 1 below depicts the ISO-NE Regional Planning process.

Figure 1



UI Proposed Transmission Projects

To address future reliability needs and consistent with the process described above, UI has multiple reliability projects at various stages in the process. UI's current transmission system projects are listed in Exhibit 2. These projects as well as recently completed projects are outlined below.

To address reliability, substation capacity, voltage support, aging infrastructure, and fault duty limitation issues in the UI service territory, UI requested Declaratory Rulings from the

Council that no Certificates of Environmental Compatibility and Public Need are required for the following projects:

- Grand Avenue 115-kV Switching Station Modernization Project – In 2009, the Council issued a Declaratory Ruling regarding UI's proposed Grand Avenue 115-kV Switching Station Modernization Project, which addresses reliability compliance issues in the greater New Haven area. The project went into service May 2012.
- Union Avenue – Metro North 115/26.4-kV Substation Project– UI completed the 115-kV supply portion of the project in November 2011. Metro North is expected to complete the 26.4-kV substation portion of the project by June 2013.
- East Shore 115/13.8-kV Substation Capacity Upgrade Project - In 2011, the Council issued a Declaratory Ruling for the project which is an upgrade to the existing 115/13.8-kV East Shore Substation needed to address distribution substation capacity and voltage related concerns in the greater New Haven area. UI anticipates completing this project by June 2013.
- 8300 Line Reconfiguration Project – Also in 2011, UI made a filing to the CSC and received a Declaratory Ruling regarding the Grand Avenue 8300 115-kV Line Reconfiguration project, which addresses several transmission line thermal overloads in the greater New Haven area. The in service date of this project is expected to be July 2013.
- East Shore 115-kV Switching Station Modernization Project – the Council issued a Declaratory Ruling in 2010 for the project, which addresses aging infrastructure and short circuit issues at East Shore 115-kV Substation in New Haven. The project is expected to be in service by November 2013.

Other Identified Reliability Concerns

The Shelton Substation Project, a new 115/13.8-kV substation, is needed to address distribution reliability and capacity issues related to substation thermal overloads and voltage collapse concerns in the greater Shelton area. In 2013, UI received a certificate of environmental compatibility and public need for this project, which is projected to be in service by June 2015.

The Fairfield Substation Project is a new 115/13.8-kV substation with a projected need in 2019 to address distribution reliability and capacity issues related to substation thermal overloads in the greater Fairfield area. UI will periodically review the need and timing for this project and make a filing with the Council when appropriate.

UI, along with ISO-NE and CL&P, completed a long term (2018) reliability Needs Assessment of the Southwest Connecticut (SWCT) area in 2011. PAC has been updated several times in 2010, 2011 and 2012 regarding the findings associated with this ISO-NE SWCT Needs Assessment. This assessment's objective is to evaluate the reliability performance of SWCT in meeting NERC, NPCC, ISO-NE, CL&P and UI standards and criteria. The study was conducted in accordance with the regional planning process as outlined in Attachment K of the ISO-NE Open Access Transmission Tariff ("OATT"). This study identified reliability transmission needs in the greater New Haven, greater Bridgeport, and Naugatuck Valley areas of UI's service territory related to capacity limitations, unacceptable voltage performance, and high short circuit current levels. Additional details of specific reliability concerns/needs are provided in the SWCT Needs Assessment report, dated July 13, 2011, which is posted on the ISO-NE website[3].

An active second study, the ISO-NE SWCT Area Transmission Solution Study, commenced in 2011 to develop and analyze transmission solutions to address the needs

[3] https://smd.iso-ne.com/committees/comm_wkgrps/prtcpnts_comm/pac/ceii/reports/2011/final_swct_needs_report.pdf

identified in the 2011 SWCT Needs Assessment. As a result of ISO-NE SWCT Area Transmission Solution Study, at the June 19, 2012 PAC meeting, ISO-NE presented the SWCT Preferred Solutions for the New Haven and Bridgeport Areas. UI subsequently performed various System Impact Studies associated with the proposed New Haven and Bridgeport Preferred Solutions. After discussion and approval of the proposed New Haven and Bridgeport Preferred Solutions with various NEPOOL stakeholders, UI received ISO-NE Proposed Plan Application approval of the proposed solutions/projects in 2012. In January 2013, ISO-NE announced the commencement of a re-assessment of the SWCT sub-area; ISO-NE expects to complete this re-assessment by mid-2013. UI anticipates making the following New Haven and Bridgeport Area project filings to the CSC in either 2013 or 2014 for a projected in-service date of 2015, recognizing there may be changes resulting from ISO-NE's re-assessment:

- Pequonnock 115-kV Fault Duty Mitigation – To address the fault duty equipment limitation at Pequonnock Substation in Bridgeport, 115-kV disconnect switches and bus system upgrades will be required. In addition, a new 115-kV control house with modern microprocessor relaying will also be installed.
- Mix Avenue 115-kV Substation Modifications – This substation upgrade includes the addition of two 20 MVAr 115-kV capacitor banks, a 115-kV series reactor and upgrades to a 115-kV terminal at Mix Avenue in Hamden.
- Glen Lake Junction to Mix Avenue 115-kV Line Upgrade - The 2.9 mile 115-kV 1610 overhead line between Glen Lake Junction, Woodbridge and Mix Avenue, Hamden will be re-conductored to provide increased thermal capability. As part of this project, approximately nine transmission structures will require replacement.

- North Haven to Walrec 115-kV Line Upgrade - The 1.67 mile 115-kV overhead 1630 line between North Haven Substation, North Haven and Walrec Junction, Wallingford will be re-conductored to provide increased thermal capability. This CSC application is expected to be a joint application with CL&P and Wallingford Electric Division (WED).
- Sackett 115- kV Substation Modifications - This substation upgrade includes the addition of a 20 MVAr 115-kV capacitor bank, upgrades to 115 kV terminals and removal of an existing 42 MVAr 115- kV capacitor bank and a 115-kV phase angle regulator at Sackett Substation in North Haven.
- Grand Avenue 115-kV Capacitor Addition – The Grand Avenue 115-kV Capacitor Addition project is a 42 MVAr 115-kV capacitor bank at Grand Avenue Switching Station in New Haven.
- Hawthorne 115-kV Capacitor Bank Additions – This substation upgrade includes the addition of two 30 MVAr 115-kV capacitor banks at Hawthorne Substation in Fairfield.
- Milford 115-kV Railroad Line Upgrades – The 115-kV overhead lines between Milvon Substation, Milford and Devon Tie Switching Station, Milford require increased thermal capability. Due to the physical condition of structural support system for the lines (Metro North railroad catenary system), new transmission structures are recommended along this 1.4 mile transmission line corridor.
- Bridgeport - Stratford 115-kV Railroad Line Upgrades – The 115-kV overhead lines between Congress Substation, Bridgeport and Baird Substation, Stratford require increased thermal capability. Due to the physical condition of the structural support system for the lines (Metro North railroad catenary system),

new transmission structures are recommended along this 2.4 mile transmission line corridor. In addition, alternatives are currently under evaluation for upgrading the 115-kV line terminals at Baird Substation in Stratford for increased thermal capability. A preferred project is expected to be identified later in 2013.

A prior SWCT related project contemplated by UI, namely the Naugatuck Valley 115-kV Reliability Improvement Project, remains listed in Exhibit 2, "Transmission System Planned Modifications," and will be updated in subsequent filings based on the results of the ISO-NE SWCT Area Transmission Solution Study.

Please note that Exhibit 2 includes only those planned transmission projects that UI is responsible to undertake. It does not include any plans or proposed actions by third parties that would require transmission system modifications in UI's service territory. It would be the responsibility of such third parties to provide the CSC with a report of their plans as appropriate. Any such proposed modifications would require notification and coordination with UI so the Company can assess the impacts on its transmission system and ensure the system's continued reliability.

<u>Connecticut-Wide and Region-Wide Transmission Issues</u>

On June 14, 2012, DEEP published the Draft 2012 Integrated Resource Plan ("IRP") for Connecticut. The 2012 IRP suggests Connecticut will support the development of the recently announced conceptual ISO-NE NTA process. This process is part of ISO-NE's Strategic Planning Process, which is described in an ISO-NE October 27, 2011 whitepaper[4].

In the recently published ISO-NE 2013 regional Electricity Outlook, ISO-NE identified three key Challenges for the region:

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[4] http://www.iso-ne.com/committees/comm_wkgrps/strategic_planning_discussion/materials/alignment_of_markets_and_planning_white_paper.pdf

- Challenge 1: Increasing reliance on natural gas as a fuel source for power plants and the potential for reduced operational performance during stressed system conditions.
- Challenge 2: The large number of aging, economically-challenged oil- and coal-fired generators that provide fuel diversity to the resource mix.
- Challenge 3: Greater future needs for flexible supply resources to balance variable, renewable resources that have operating characteristics markedly different from those of traditional generating resources.

Similarly at a recent NEPOOL Participants Committee meeting, ISO-NE revealed and reviewed its 2013 updated work plan. The work plan covers many initiatives, but it can be broken into three broad parts:

- Planning /Operational related activities
- Market related priorities
- Capital project priorities

Public Policy Issues

As part of the region's efforts to comply with FERC Order 1000 on "Transmission Planning and Cost Allocation," the New England States Committee on Electricity ("NESCOE") put forth their "New England States' Preferred Framework – Order 1000 Public Policy Projects for Discussion.[5]"

The region's FERC Order 1000 filing made by ISO New England Inc. and the Participating Transmission Owners Administrative Committee on October 25, 2012, included a process intended to incorporate public policy into Transmission Planning. The process is similar

[5] http://www.nescoe.com/uploads/Order_1000_Framework_Jan_12_2012.pdf

to that previously suggested by NESCOE. An upcoming FERC Order 1000 filing will address inter-regional planning issues and procedures.

Section III EXHIBITS

EXHIBIT 1 System Energy Requirements, Annual Sales, and Peak Load Table

The United Illuminating Company

System Energy Requirements, Annual Sales, and Peak Load

History

Year	Total Sys. Req. (GWh)	Annual Change (Pct.)	Actual Sales (GWh)	Annual Change (Pct.)	Actual System Peak (MW)	Annual Change	Load Factor (Pct.)	Normal Weather Adjustment: Weather Adjusted Sales (GWh)	Annual Change (Pct.)	Weather Adjusted System Peak (MW)	Annual Change	Load Factor (Pct.)	Extreme Weather Adjustment: Weather Adjusted System Peak (MW)	Annual Change	Load Factor (Pct.)
2003	6,071	-	5,763	-	1,281	-	54%	5,716	-	1,280	-	54%	1,351	-	51%
2004	6,205	2.2%	5,952	3.3%	1,201	-6.3%	59%	5,952	4.1%	1,297	1.3%	55%	1,364	0.9%	52%
2005	6,360	2.5%	6,106	2.6%	1,346	12.1%	54%	5,995	0.7%	1,349	4.0%	54%	1,428	4.7%	51%
2006	6,149	-3.3%	5,919	-3.1%	1,456	8.2%	48%	5,979	-0.3%	1,374	1.9%	51%	1,456	2.0%	48%
2007	6,119	-0.5%	5,917	0.0%	1,298	-10.9%	54%	5,929	-0.8%	1,389	1.1%	50%	1,464	0.6%	48%
2008	5,912	-3.4%	5,729	-3.2%	1,301	0.3%	52%	5,709	-3.7%	1,375	-1.0%	49%	1,467	0.2%	46%
2009	5,673	-4.0%	5,493	-4.1%	1,253	-3.7%	52%	5,593	-2.0%	1,280	-6.9%	51%	1,395	-4.9%	46%
2010	5,950	4.9%	5,735	4.4%	1,369	9.2%	50%	5,587	-0.1%	1,252	-2.2%	54%	1,366	-2.1%	50%
2011	5,783	-2.8%	5,576	-2.8%	1,398	2.2%	47%	5,485	-1.8%	1,272	1.6%	52%	1,386	1.5%	48%
2012	5,679	-1.8%	5,431	-2.6%	1,317	-5.8%	49%	5,411	-1.3%	1,249	-1.8%	52%	1,339	-3.4%	48%
2003 - 2012 growth		-6.5%		-5.8%		2.8%			-5.3%		-2.4%			-0.9%	

Forecast

Year	Total Sys. Req. (GWh)	Annual Change (Pct.)	Normal Weather Scenario: Weather Adjusted Sales (GWh)	Annual Change (Pct.)	System Peak (MW)	Annual Change	Load Factor (Pct.)	Extreme Weather Scenario: System Peak (MW)	Annual Change	Load Factor (Pct.)
2013	5,632	-0.8%	5,359	-1.0%	1,272	1.8%	51%	1,362	1.7%	47%
2014	5,544	-1.6%	5,275	-1.6%	1,301	2.3%	49%	1,392	2.2%	45%
2015	5,450	-1.7%	5,186	-1.7%	1,335	2.6%	47%	1,426	2.4%	44%
2016	5,443	-0.1%	5,179	-0.1%	1,359	1.8%	46%	1,450	1.7%	43%
2017	5,403	-0.7%	5,141	-0.7%	1,372	1.0%	45%	1,463	0.9%	42%
2018	5,380	-0.4%	5,119	-0.4%	1,379	0.5%	45%	1,469	0.4%	42%
2019	5,406	0.5%	5,144	0.5%	1,385	0.5%	45%	1,475	0.4%	42%
2020	5,449	0.8%	5,185	0.8%	1,394	0.7%	45%	1,484	0.6%	42%
2021	5,475	0.5%	5,209	0.5%	1,405	0.8%	44%	1,496	0.8%	42%
2022	5,518	0.8%	5,250	0.8%	1,416	0.8%	44%	1,507	0.8%	42%
2012 - 2022 growth		-2.8%		-3.0%		13.4%			12.5%	

1. System Requirements are sales plus losses and Company use.
2. Load Factor = System Requirements (MWh) / (8760 Hours X System Peak (MW)).
3. All forecasts include C&LM, DG & potential new large customer planned loads identified by UI Economic Development.

EXHIBIT 2 Transmission System Planned Modifications

Report to the Connecticut Siting Council

List of Planned Transmission Projects for which Certificate Applications are being contemplated, may be subject to Declaratory Ruling, or have already been filed

Projects for which Certificate Applications are being Contemplated	kV	Date of Completion
1. Pequonnock 115-kV Fault Duty Mitigation Project	115	2015
2. Mix Avenue 115-kV Substation Modification Project	115	2015
3. Glen Lake Junction to Mix Avenue 115-kV Line Upgrade Project	115	2015
4. North Haven to Walrec 115-kV Line Upgrade Project	115	2015
5. Sackett 115-kV Substation Modification Project	115	2015
6. Grand Avenue 115-kV Capacitor Addition Project	115	2015
7. Hawthorne 115-kV Capacitor Addition Project	115	2015
8. Milford 115-kV Railroad Lines Upgrade Project	115	2015
9. Bridgeport-Stratford 115-kV Railroad Lines Upgrade Project	115	2015
10. Naugatuck Valley 115-kV Reliability Improvement Project	115	2016
11. Installation of a new 115/13.8-kV substation in Fairfield	115	2019

Projects which have Received CSC Declaratory Ruling Approval	kV	Date of Completion
1. East Shore 115/13.8-kV Substation Capacity Upgrade Project	115	2013
2. East Shore 115-kV Switching Station Modernization Project	115	2013
3. 8300 115-kV Line Reconfiguration Project	115	2013