
Exhibit C

Investment-Grade Energy Audit and Project Development Proposal

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Introduction

This exhibit sets forth the interactive approach that QESPs will use when working with a Department to conduct an Investment-Grade Energy Audit (IGEA) and shall be the form that QESPs will use to issue a corresponding IGEA Report and subsequent Project Development Proposal. If the QESP identifies a Project Development Proposal that meets the Department's needs, the requirements of the ESPCP and the Act, then the parties will begin negotiations for an Energy Savings Performance Project Statement of Work ("SOW"). However, nothing in this Exhibit should be construed as an obligation on any of the parties to execute the SOW, the terms and provisions of which are set forth in Exhibit A.

The Department shall provide such reasonable assistance as the QESP may need to complete the IGEA in accordance with this Exhibit. Department agrees to work diligently to provide full and accurate information. QESP shall work diligently to assess the validity of information provided and to confirm or correct the information as needed. This will be an interactive process throughout the time that the QESP is working to complete the IGEA, such that the parties will each have a reasonable amount of time to review issues as they arise and respond to the other.

The QESP shall deliver to the Department the IGEA Report within __ calendar days from the date that the last party signs this Final Exhibit.

QESP Responsibilities

QESP shall use an interactive approach in working with Department, following the steps outlined below.

1) Follow Process

- a) Preliminary Assessment of Needs and Opportunities
 1. Meet with Department to establish interests, plans, problems, etc. related to facilities and operation of facilities.
 2. Collect data and background information on buildings, equipment and facilities operation.
 3. Perform a preliminary walk-through of facilities and interview staff and occupants to identify potential ESMs.
 4. Meet with Department to present preliminary findings and establish agreement on ESMs to analyze.

- b) Preliminary Analysis of ESMs
 1. Establish baseline energy and water consumption and reconcile with end-use consumption estimates.
 2. Conduct a preliminary analysis of potential ESMs.
 3. Meet with Department to present preliminary findings and establish agreement on ESMs requiring further analysis.

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- c) Further Analysis and IGEA Report
 - 1. Further analyze ESMs.
 - 2. Perform IGEA, ensuring that QESP's project team includes staff who are licensed by the State of Connecticut as Professional Engineers. Develop a preliminary IGEA Report.
 - 3. Meet with Department to present results.
 - 4. Prepare final IGEA Report that incorporates the input from Department and DEEP.

 - d) Project Development Proposal
 - 1. Based on the interactive process with the Department and the IGEA Report, develop a Project Development Proposal for an Energy Savings Performance Project.
 - 2. Meet with Department to present results and negotiate final terms.

 - e) Coordination with third-party technical support provider(s) throughout the process
 - 1. The Department and/or DEEP may engage third-party technical support for part or all of the processes listed in this section in accordance with the Act and relevant competitive procurement procedures.
 - 2. Prior to QESP's commencement of the IGEA, the Department may request that the costs for third-party technical support be incorporated into the total project costs to be covered by project financing. However, some or all technical support costs may be eligible for incentives through the Connecticut Energy Efficiency Fund and/or DEEP.
 - 3. At the request of the Department or DEEP, the QESP shall include in document reviews, meetings and other events or tasks, any individual or company engaged to provide technical support to the Department.
 - 4. The input from the technical support provider shall result in review reports stating that, in the professional opinion of the reviewer, the concepts and principles, assumptions and methodologies proposed and presented are consistent with sound engineering practices and optimize cost-effective savings and deep energy retrofits or enumerate specific concerns and the justification for said concerns. The Department shall be responsible for coordinating feedback from the technical support provider to the QESP.

2) Adhere to ESPCP Guidelines and Requirements

- a) The Project Development Proposal shall specify the term of the SOW, which shall not exceed 20 years from the Commencement Date.
- b) Annual Energy Cost Savings Guarantee (the Annual Guarantee): The Annual Guarantee consists of the Operation and Maintenance Cost Savings and the Utility Cost Savings, as defined in the Act. The Annual Guarantee shall be based on cost savings attributable to all ESMs and must equal or exceed all project costs each year during the SOW term. QESP shall develop Annual Guarantees that are

specific to each ESM for each year of the term of the SOW. The Annual Guarantee may differ for different years for any given ESM.

c) Excess Savings: As required by the Act, annual cost savings beyond the Annual Guarantee will be retained by the Department and will not be allocated to shortfalls in other years.

d) Allowable cost and savings factors approved for consideration in developing the Annual Guarantee: Department will provide QESP with sufficient guidance to develop savings projections.

1. Annual project costs include QESP fees, maintenance services, monitoring services, and all other services (such as third-party technical support), including, but not limited to the following:

- Itemized costs of design
- Engineering
- Equipment
- Materials
- Installation
- Maintenance
- Repairs
- Debt service

QESP shall incorporate all potentially eligible rebate and incentive funds from the CT Energy Efficiency Fund, CT Clean Energy Finance and Investment Authority, and other incentive and grant programs, to reduce overall project costs.

2. Annual project savings include, but are not limited to the following:

- Operation and Maintenance Costs (energy and water), including future replacement expenditures
- Material/commodity savings, including scheduled replacement of parts (only for years that these cost savings are applicable)
- Outside labor cost savings, including maintenance contracts
- In-house labor costs
- Deferred maintenance cost
- Offset of future capital costs

Any savings related to maintenance and operation of the facilities will be limited to those that can be thoroughly documented.

3. Additional factors that impact cost savings, which may be incorporated:

- Escalation rates that apply to each payment source. These are rates to be used in cash flow projections for project development purposes. As requested, the QESP will provide projections without utility rate escalations and projections with utility rate escalations using federal government guidelines.
- Interest rates (for municipal tax-exempt leases and loans, bonds).
- Department cash outlay (at Department's sole discretion).

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4. The maximum audit costs, markups, and fees as provided in the Final Exhibit D Cost and Pricing will be used in the IGEA and subsequent SOW.

3) Collect data and background information

- a) QESP shall collect the following data from the Department concerning facility operation and energy use for the most recent three years immediately preceding the effective date of this Final Exhibit:
- Building square footage
 - Construction date of buildings and major additions including building envelope
 - Utility company invoices
 - Occupancy and usage information
 - Description of all energy-consuming or energy-saving equipment used on the premises, as available
 - Description of energy management procedures utilized on the premises
 - Description of any energy-related improvements made or currently being implemented
 - Description of any changes in the structure of the facility or energy-using or water-using equipment
 - Description of future plans regarding building modifications or equipment modifications and replacements
 - Drawings, as available (may include mechanical, plumbing, electrical, building automation and temperature controls, structural, architectural, modifications and remodels)
 - Original construction submittals and factory data (specifications, pump curves, etc.), as available
 - Operating engineer logs, maintenance work orders, etc., as available
 - Records of maintenance expenditures on energy-using equipment, including service contracts
 - Prior energy audits or studies, if any
- b) Department agrees to work diligently to furnish QESP, upon request, accurate and complete data and information as available. Where information is not available from Department, QESP will make a diligent effort to collect such information through the facility inspection, staff interviews, and utility companies.
- c) QESP shall work diligently to assess validity of information provided and to confirm or correct the information as needed.

4) Identify potential ESMs

- a) Interview the facility manager, maintenance staff, subcontractors and occupants of each building regarding:
- Facility operation, including energy management procedures
 - Equipment maintenance problems

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- Comfort problems and requirements
 - Equipment reliability
 - Projected equipment needs
 - Occupancy and use schedules for the facility and specific equipment
 - Facility improvements – past, planned and desired
- b) Survey major energy-using equipment, including:
- Lighting (indoor and outdoor)
 - Heating and heat distribution systems
 - Cooling systems and related equipment
 - Automatic temperature control systems and equipment
 - Air distribution systems and equipment, outdoor ventilation systems and equipment
 - Exhaust systems and equipment
 - Hot water systems
 - Electric motors
 - Transmission and drive systems
 - Special systems (kitchen/dining equipment, etc.)
 - Renewable energy systems
 - Other energy using systems
 - Water consuming systems (restroom fixtures, water fountains, irrigation systems, etc.)
- c) Perform "late-night" surveys outside of normal business hours or on weekends to confirm building system and occupancy schedules, as the Department may direct.
- d) Develop a preliminary list of potential ESMs. Consider the following for each system that will be replaced or impacted by potential ESMs:
- Passive measures (such as daylighting) to reduce load
 - Comfort and maintenance problems
 - Energy use, loads, proper sizing, efficiencies and hours of operation
 - Current operating condition
 - Remaining useful life
 - Feasibility of system replacement
 - Hazardous materials and other environmental concerns
 - Department's future plans for equipment replacement or building renovations
 - Facility operation and maintenance procedures that could be affected
 - Synergies between and among systems
 - Capability to monitor energy performance and verify savings
- e) Department will allow QESP reasonable access to facility staff to ensure understanding of existing systems and opportunities.

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- f) QESP shall work diligently to assess validity of information provided and to confirm or correct the information as needed.

5) Establish baseline energy and water consumption and reconcile with end use consumption estimates

- a) Establish baseline energy and water consumption by examining utility bills for the three years immediately preceding the effective date of this Final Exhibit:
- Present baseline consumption in terms of energy units (kWh, kW, ccf, Therms, gallons, or other units used in bills), in terms of dollars, and in terms of dollars per square foot.
 - Describe the process used to determine the baseline (averaging, selecting most representative contiguous 12 months, etc.).
 - Consult with facility personnel to account for any anomalous schedule or operating conditions on billings that could skew the baseline representation.
 - Account for periods of time when equipment was broken or malfunctioning in calculating the baseline.
- b) Estimate loading, usage and/or hours of operation for all major energy and water use of total facility consumption including, but not limited to: lighting, heating, cooling, motors (fans and pumps), plug loads, and other major energy and water using equipment. Where loading or usage are highly uncertain (including variable loads such as cooling), QESP will use its best judgment, spot measurements or short-term monitoring. QESP shall not assume that equipment run hours equal the operating hours of the building(s) or facility staff estimates.
- c) Reconcile annual end-use estimated consumption with the annual baseline consumption. This reconciliation will place realistic limits on potential savings.
- d) Based on this analysis, QESP shall define a baseline for each ESM.

6) Develop preliminary analysis of potential ESMs

This list of potential ESMs shall be compiled and submitted to the Department within ____ calendar days of the date of execution of the SOW.

- a) Determine the technical potential for the lowest possible energy consumption of the Project Site(s). List all potential ESM opportunities, whether cost effective or not, including but not limited to:
- Replacement or modification of lighting and electrical components, fixtures or systems including daylighting systems, improvements in street lighting efficiency or computer power management software
 - Class I renewable energy or solar thermal systems
 - Cogeneration systems that produce steam or forms of energy, such as heat or electricity, for use primarily within a building or complex of buildings
 - Automated or computerized energy control systems
 - Heating, ventilation or air conditioning system modifications or replacements
 - Indoor air quality improvements that conform to applicable building code requirements

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- Water-conserving fixtures, appliances and equipment or the substitution of non-water-using fixtures, appliances and equipment, or water-conserving landscape irrigation equipment;
 - Changes in operation and maintenance practices
 - Replacement or modification of windows or doors
 - Installation or addition of insulation
- b) Consider technologies in a comprehensive approach and address the synergies and interaction between and among potential technologies including, but not limited to:
- Lighting systems
 - Heating/ventilating/air conditioning equipment and distribution systems
 - Controls systems
 - Building envelope
 - Motors
 - Kitchen equipment
 - Pools
 - Renewable energy systems
 - Other special equipment
 - Irrigation systems
 - Energy and water saving devices
- c) Identify potential ESMs which appear likely to be cost effective and therefore warrant detailed analysis.
- d) For each ESM, prepare a preliminary estimate of Operation and Maintenance Cost Savings and Utility Cost Savings, including description of analysis methodology, supporting calculations and assumptions used to estimate savings.
- 7) Meet with Department to present preliminary findings**
- a) After preliminary analysis completed in section 6, meet with Department to describe how the projected project economics meet the conditions set forth in this Final Exhibit.
- b) Discuss assessment of energy use, savings potential, project opportunities, and potential for developing the SOW.
- c) Develop a list of recommended ESMs for further analysis. The Department shall have the option to reject calculations of savings, potential savings allowed, or project recommendations.
- 8) Analyze savings and costs for each ESM**
- a) Follow the methodology of the American Society of Heating, Refrigerating and Air-Conditioning Engineers or other nationally-recognized authority for the engineering principle(s) identified for each ESM.
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- b) Utilize assumptions, projections and baselines which best represent the true value of future Operation and Maintenance Cost Savings. Include accurate marginal costs for each unit of savings at the time the IGEA is performed, documentation of material and labor cost savings, adjustments to the baseline to reflect current conditions at the facility, and calculations which account for the interactive effects of the recommended ESMs. Use best judgment regarding the employment of instrumentation and recording durations so as to achieve an accurate and faithful characterization of energy use. In estimating project costs, adhere to the the maximum audit costs, markups, and fees as provided in Final Exhibit D Cost and Pricing.
 - c) Develop a preliminary measurement and verification plan for each ESM.
 - d) Follow additional guidelines for analysis and IGEA Report format given in Section 9.
 - e) Include cost to provide services and complete applications for Energy Star Label, US Green Building Council's Leadership in Energy and Environmental Design certification for Existing Buildings (LEED-EB), and other certifications as requested by Department. Also, for K-12 schools, include cost to provide services and complete application for EPA's Tools for Schools and other programs related to indoor air quality, as requested by Department.

9) **Prepare preliminary IGEA Report**

The IGEA Report will be the basis for negotiating the SOW between the Department and the QESP. The preliminary IGEA Report shall be completed within calendar days of the date of execution of this Final Exhibit. The preliminary IGEA Report shall include:

- a) Overview
 - Contact information
 - Summary of existing or baseline annual energy and water use (by fuel type) and costs
 - Summary table of recommended ESMs, including the following for each ESM: description of ESM, total design and construction cost, annual maintenance costs, the first year estimated Operation and Maintenance Cost Savings (in dollars and energy units), simple payback, and equipment service life
 - Calculation of total Operation and Maintenance Cost Savings expected if all recommended ESMs are implemented and total percentage savings based on entire Project Site(s) operation and maintenance costs
 - Description of the existing mechanical and electrical systems in each building of the Project Site(s).
 - Discussion of ESMs considered but not investigated in detail
 - Conclusions and recommendations
- b) Baseline energy use
 - Description and itemization of current billing rates, including schedules and riders
 - Summary of all utility bills for all fuel types and water

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- Identification and definition of baseline consumption and description of how established
 - Reconciliation of estimated end use consumption (i.e. lighting, cooling, heating, fans, plug loads, etc) with baseline. Include discussion of any unusual findings.
- d) Full description of each ESM, including:
- Written description of
 1. Existing conditions
 2. Description of equipment to be installed and how it will function
 3. Discussion of facility operations and maintenance procedures that will be affected by installation/implementation.
 4. The plan for installing or implementing the recommendation.
 5. Energy Cost Savings, including detailed calculations and description. Ensure that maintenance savings are only applied in the applicable years and only during the lifetime of the particular equipment.
 6. Baseline energy use and cost
 7. Post-installation energy use and cost
 8. Energy Cost Savings estimates including analysis methodology, supporting calculations and assumptions used.
 9. Energy Cost Savings estimates must be limited to savings allowed by the Department as described above.
 10. Annual Energy Cost Savings estimates. The cost savings for all ESMs must be estimated for each year during the SOW period. Energy Cost Savings must be able to be achieved each year (cannot report average annual savings over the term of the SOW).
 11. Percent cost-avoidance projected
 12. Description and calculations for any proposed rate changes
 13. Explanation of how Energy Cost Savings interactions between retrofit options are accounted for in calculations.
 14. If computer simulation is used, include a short description and state key input data. If requested by Department, access will be provided to the program and all assumptions and inputs used, and/or printouts shall be provided of all input files and important output files and included in the IGEA with documentation that explains how the final Energy Cost Savings figures are derived from the simulation program output printouts
 15. If manual calculations are employed, formulas, state assumptions and key data.
 16. Conclusions, observations, caveats
- e) Project cost estimate
- Scope of the construction work, suitable for estimating costs
 - All anticipated costs associated with installation and implementation
 - Specifications for major mechanical components and detailed lighting and water fixture counts
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- Engineering/design costs
 - QESP/vendor estimates for labor, materials and equipment; include special provisions, overtime, etc., as needed to accomplish the work with minimum disruption to the operations of the facilities.
 - Permit costs
 - Construction management fees
 - Environmental costs or benefits (disposal, avoided emissions, handling of hazardous materials, etc.)
 - Do not exceed the markups and fees as provided in Final Exhibit D Cost and Pricing.
 - Conclusions, observations, caveats
 - Other cost categories as defined under “markups” in Cost and Pricing (Final Exhibit D).
- f) Other
- Estimate of average useful service life of equipment
 - Preliminary commissioning plan that follows the requirements outlined in SOW Schedules (Exhibit A, Attachment 1).
 - Preliminary measurement and verification (M&V) plan, following the International Performance Measurement and Verification Protocol (IPMVP), explaining how savings from each ESM is to be measured and verified (stipulated by SOW, utility bill analysis, end-use measurement and calculation, etc.). The preliminary M&V plan shall follow the format and requirements provided in Savings Measurement and Verification Plan (Exhibit A, Schedule C).
 - Discussion of impacts that facility would incur after SOW ends. Consider operation and maintenance impacts, staffing impacts, budget impacts, etc.
 - Compatibility with existing systems. Include the name of the existing controls system and any requirements for the seamless interface with new components.
 - Complete appendices that document the data used to prepare the analyses. Describe how data were collected.

10) Energy Star Ratings and Cash Flow Opportunity Calculator

Develop a EPA Energy Star Cash Flow Opportunity Calculator spreadsheet for the total project (including all facilities to be improved), with variables inserted that represent the most likely financing options available to the Department. This will enable the QESP and the Department to have an agreed-upon format for discussing project financing options and the potential costs of project delays.

11) Meet with Department

Meet with Department to present and review the preliminary IGEA Report, including recommendations, savings calculations and impact of the ESMs on the operations of the facility. Describe how the projected project economics meet the input that the Department has provided during the interactive development of the IGEA. Discuss the

willingness and capability of Department to make capital contributions to the project to improve the economics of the overall project.

12) Revise IGEA Report as directed by Department

The final IGEA Report shall include fixed prices, identification of all ESMs and Energy Cost Savings, final Energy Cost Savings Guarantee, and all of the information necessary to develop the Project Development Proposal.

13) Prepare an Energy-Savings Performance Project Development Proposal

In anticipation of QESP and Department entering into a SOW to design, install, and monitor the ESMs proposed in the IGEA Report, QESP shall develop a project development proposal that proposes terms for possible incorporation into the a SOW. These terms shall include, but are not limited to the following:

- a) The total amount that QESP asks the Department to pay for the SOW project and QESP's services. The price must be at or below the maximum markups, margins and fees for services as provided in Final Exhibit D Cost and Pricing. Costs may include but are not limited to: engineering, designing, procuring and installing ESMs; performance/payment bond costs; construction management fees; commissioning costs; maintenance fees; measurement and verification fees; training fees; legal and other professional services; and overhead and profit.
- b) A list of services and costs related to each ESM.
- c) As requested, incorporate potential financing options with the best available rates and terms for the SOW.
- c) Expected term of the SOW.
- g) Description of how the project will be financed including available interest rates and financing terms, based on interest rates likely available to Department or rates provided by the Department.
- h) Explanation of how the savings will be calculated and adjusted due to weather (such as heating and cooling degree days), occupancy or other factors. Monitoring and verification methods must be consistent with the latest version of the *International Performance Monitoring and Verification Protocol* and follow the template and requirements of the Savings Measurement and Verification Plan (Exhibit A, Schedule C).
- i) Analysis of annual cash flow for Department during the term of the SOW.

14) Delivery and Acceptance of Investment-Grade Energy Audit Report and Project Development Proposal

The following shall appear at the end of the final IGEA Report as a signature page. The QESP shall sign at least two original copies first and then forward the two signed original copies of the IGEA Report to the Department for acceptance. If the Department accepts the IGEA Report, the Department shall sign the two originals where indicated and then forward one original to the QESP.

The dated signatures of the QESP and the Department below shall have the stated effects applicable to the corresponding party:

The QESP affirms, represents and warrants, by its signature and date below, that this IGEA Report and the Project Development Proposal, concerning [REDACTED] project, follows the IGEA template of Exhibit C of the Contract and complies fully with Exhibit C.

[QESP NAME]

By: _____

Print or Type Name

Title: _____

Date: _____

Furthermore, the QESP affirms, represents and warrants, through signature below of employed staff who is licensed by the State of Connecticut as a Professional Engineer, that this IGEA Report and the Project Development Proposal, concerning [REDACTED] project, complies with the International Energy Conservation Code portion of the Connecticut State Building Code.

By: _____

Print or Type Name

CT PE License Number:

Title: _____

Date: _____

[DEPARTMENT NAME] accepts the Investment-Grade Energy Audit Report and Project Development Proposal presented by [INSERT NAME OF QESP], dated _____, concerning _____ project.

Department Name

By _____

Name:

Title:

Date:

QESP Compensation

QESP shall be compensated as follows:

- 1. Basis and Maximum Amount.** Department shall pay QESP a sum not to exceed \$ [redacted] based on a maximum of [redacted] gross square feet at cost of \$ [redacted] per square foot of audited square-footage, as specified in Cost and Pricing Final Exhibit D. Department shall pay only for square-footage actually audited.
- 2. Payment for IGEA.** If a Department decides not to execute the SOW within [redacted] calendar days after the issuance of the Notice of Acceptance of the IGEA Report and Project Development Proposal and the scope of the project described in the IGEA is not materially different from the Feasibility Analysis, then the Department shall pay the QESP the costs of the IGEA. In all other instances, the costs of the IGEA shall be deemed to be part of the costs of the SOW and be paid through the project financing mechanism.
- 3. Project With Insufficient Savings.** Department shall have no payment obligations for the development of the IGEA and Project Development Proposal performed in accordance with this Final Exhibit if QESP's final IGEA Report and Project Development Proposal does not contain a package of ESMs which, if implemented, will provide the Department with cash savings sufficient to fund Department's payments of all costs and fees associated with the SOW, including 1) the fee associated with the IGEA , 2) all monthly payments required under the project financing agreement, 3) any annual fees for monitoring and maintenance incurred by the QESP. Should the QESP determine at any time during the IGEA that savings cannot be attained to meet these terms, the IGEA will be terminated by written notice by the QESP to Department. In this event this Final Exhibit shall be cancelled and Department shall have no obligation to pay, in whole or in part, the amount specified in Section 1.

The parties are signing this Final Exhibit Investment-Grade Energy Audit and Project Development Proposal on the date below their respective signatures.

[QESP NAME]

[DEPARTMENT NAME]

By: _____

By: _____

Print Name

Print Name

Title: _____

Title: _____

Date: _____

Date: _____