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SAVINGS GUARANTEE SCHEDULES

SCHEDULE A. SAVINGS GUARANTEE

Fully describe all provisions and conditions of the ESCO's energy saving guarantee. The guarantee should be defined in units of energy to be saved for the duration of the contract term. Reference to the annual reconciliation of achieved vs. guaranteed savings should be included (there is also language in the body of the contract regarding annual reconciliation See **Section 3.2 (Annual Review and Reimbursement/Reconciliation**).

SCHEDULE B. BASELINE ENERGY CONSUMPTION; METHODOLOGY TO ADJUST BASELINE

The baseline energy consumption is the "yardstick" by which all savings achieved by the installed project will be measured.

B.1. BASELINE ENERGY CONSUMPTION

Present the methodology and all supporting documentation used to calculate the baseline including unit consumption and current utility rates for each fuel type. Also include baseline documentation regarding other cost savings such as material savings (e.g. bulbs, ballasts, filters, chemicals etc.), and cost savings associated with the elimination of outside maintenance contracts.

Energy and Water Baseline Development - Describe in general terms how the baseline for this ECM is defined.

- Describe variables affecting baseline energy or water use. Include variables such as weather, operating hours, set point changes, etc. Describe how each variable will be quantified, i.e., measurements, monitoring, assumptions, manufacturer data, maintenance logs, engineering resources, etc.
- Define key system performance factors characterizing the baseline conditions. Include factors such as comfort conditions, lighting intensities, temperature set points, etc.
- Define requirements for Institution's witnessing of measurements if different than whole project data requirements.
- Provide details of baseline data collected, including: Parameters monitored, Details of equipment monitored, i.e., location, type, model, quantity, etc., Sampling plan, including details of usage groups and sample sizes, Duration, frequency, interval, and seasonal or other requirements of measurements, Personnel, dates, and times of measurements, Proof of Institution's witnessing of measurements (if required), Monitoring equipment used, Installation requirements for monitoring equipments (test plug for temperature sensors, straight pipe for flow measurement etc.), Certification of calibration/calibration procedures followed, Expected accuracy of measurements/monitoring equipment, Quality control

procedures used, Form of data (.xls, .cvs, etc.), Results of measurements (attach appendix and electronic forma as necessary), Completed data collection forms, if used.

- Provide details of baseline data analysis performed, including: Analysis using results of measurements, Weather normalized regressions, Weather data used and source of data

B.2 METHODOLOGY TO ADJUST BASELINE.

Periodically (at least on an annual basis), the baseline will be adjusted to account for the prevailing conditions (e.g., weather, billing days, occupancy, etc.) during the measurement period. All methodologies y used to account for any adjustments to the baseline needs to be clearly defined.

SCHEDULE C. SAVINGS MEASUREMENT AND VERIFICATION PLAN; POST-RETROFIT M&V PLAN; ANNUAL M&V REPORTING REQUIREMENTS

The monitoring and verification (M&V) process is divided into three phases:

C.1 Savings Measurement and Verification Plan
C.2 Post-Installation M&V Plan
C.3 Annual M&V Reporting Requirements
Also see **Schedule B (Baseline Energy Consumption; Methodology to Adjust Baseline**.

The latest version of the *International Performance Monitoring and Verification Protocol (IPMVP)* is used as the basis of the savings calculation and verification methodology.

To help ensure plans and reports are complete and consistent, use the process and tables provided.

C.1 SAVINGS MEASUREMENT AND VERIFICATION PLAN.

A preliminary monitoring and verification plan would typically have been developed in the Investment Grade Audit process. In the Energy Savings Performance Contract process this plan is finalized.

Include a description of the energy savings measurement, monitoring and calculation procedures used to verify and compute the savings performance of the installed equipment. Include methods to compare the level of energy that would have been consumed without the project referred to as the "Baseline") with the amount of energy that was actually consumed during a specific time period (monthly, quarterly, etc.). Explicitly describe all methods of measuring savings including engineered calculations, metering, equipment run times, pre- and post-installation measurements, etc. for all equipment installed. Provide a clear methodology for converting energy savings into energy cost savings. Define the utility rates to be used for the baseline and actual energy costs. Clearly describe how the calculations are affected by rising or lowering utility rates. Clearly predictable annual variations are usually handled through established procedures for each identified factor (e.g., weather, billing days, occupancy, etc.) in the savings formulas. Explicitly define any routine adjustments that will be made during the performance period. Non-routine adjustments may be required for issues such as changes in production shifts, facility closures, adding new wings or loads (such as computer labs) require a conceptual approach versus a method to cover each eventuality. Specify how permanent changes, such as changes in square footage, will be handled. Options include use of agreement clauses that allow predictable or expected changes and/or through a “re-open” clause that allows either party to renegotiate the baseline. A Facility Changes Checklist or other method may be provided by the ESCO for the Institution to notify the ESCO of any changes in the facility that could have an impact on energy use (occupancy, new equipment, hours of use, etc.).

Prepare the M&V Plan as presented below.

List of Processes and Tables:

Risk, Responsibility and Perfomance Matrix.

M&V Plan and Savings Calculation Methods

- Proposed Annual Savings Overview
- Site Use and Savings Overview (Optional)
- M&V Plan Summary
- Schedule of Verification Reporting Activities
- Proposed Annual Savings For ECM
- Expected Year 1 Savings for ECM
- ENERGY STAR Ratings

Risk, Responsibility and Performance Matrix.

The ESCO shall complete and include the matrix below to summarize the allocation of responsibility for key items related to M&V.

RISK, RESPONSIBILITY AND PERFORMANCE MATRIX

RESPONSIBILITY/DESCRIPTION	CONTRACTOR PROPOSED APPROACH
1. Financial	
a. Interest rates: Neither the contractor nor the Institution has significant control over prevailing interest rates. Higher interest rates will increase project cost, financing/project term, or both. The timing of the TO signing may impact the available interest rate and project cost.	
b. Construction costs: The contractor is responsible for determining construction costs and defining a budget. In a fixed-price design/build contract, the Institution assumes little responsibility for cost overruns. However, if construction estimates are significantly greater than originally assumed, the contractor may find that the project or measure is no longer viable and drop it before TO award. In any design/build contract, the Institution loses some design control. **Clarify design standards and the design approval process (including changes) and how costs will be reviewed.**	
c. M&V confidence: The Institution assumes the responsibility to determine the confidence that it desires to have in the M&V program and energy savings determinations. The desired confidence will be reflected in the resources required for the M&V program, and the ESCO must consider the requirement prior to submittal of the final proposal. **Clarify how project savings are being verified (e.g., equipment performance, operational factors, energy use) and the impact on M&V costs.**	

d. Energy Related Cost Savings: The Institution and the contractor may agree that the project will include savings from *recurring* and/or *one-time* costs. This may include one-time savings from avoided expenditures for projects that were appropriated but will no longer be necessary. Including one-time cost savings before the money has been appropriated may involve some risk to the Institution. Recurring savings generally result from reduced O&M expenses or reduced water consumption. These O&M and water savings must be based on actual spending reductions. **Clarify sources of nonenergy cost savings and how they will be verified.**	
e. Delays: Both the contractor and the Institution can cause delays. Failure to implement a viable project in a timely manner costs the Institution in the form of lost savings, and can add cost to the project (e.g., construction interest, re-mobilization). **Clarify schedule and how delays will be handled.**	
f. Major changes in facility: The Institution controls major changes in facility use, including closure. **Clarify responsibilities in the event of a premature facility closure, loss of funding, or other major change.**	
2. Operational	
a. Operating hours: The Institution generally has control over operating hours. Increases and decreases in operating hours can show up as increases or decreases in "savings" depending on the M&V method (e.g., operating hours multiplied by improved efficiency of equipment vs. whole-building/utility bill analysis). **Clarify whether operating hours are to be measured or stipulated and what the impact will be if they change.** If the operating hours are stipulated, the baseline should be carefully documented and agreed to by both parties.	
b. Load: Equipment loads can change over time. The Institution generally has control over hours of operation, conditioned floor area, intensity of use (e.g., changes in occupancy or level of automation). Changes in load can show up as increases or decreases in "savings" depending on the M&V method. **Clarify whether equipment loads are to be measured or stipulated and what the impact will be if they change**. If the equipment loads are stipulated, the baseline should be carefully documented and agreed to by both parties.	
c. Weather: A number of energy efficiency measures are affected by weather. Neither the contractor nor the Institution has control over the weather. Should the Institution agree to accept risk for weather fluctuations, it shall be contingent upon aggregate payments not exceeding aggregate savings. **Clearly specify how weather corrections will be performed.**	

d. User participation: Many energy conservation measures require user participation to generate savings (e.g., control settings). The savings can be variable and the contractor may be unwilling to invest in these measures. **Clarify what degree of user participation is needed and utilize monitoring and training to mitigate risk.** If performance is stipulated, document and review assumptions carefully and consider M&V to confirm the capacity to save (e.g., confirm that the controls are functioning properly).	
3. Performance	
a. Equipment performance: The contractor has control over the selection of equipment and is responsible for its proper installation, commissioning, and performance. The contractor has responsibility to demonstrate that the new improvements meet expected performance levels including specified equipment capacity, standards of service, and efficiency. **Clarify who is responsible for initial and long-term performance, how it will be verified, and what will be done if performance does not meet expectations.**	
b. Operations: Performance of the day-to-day operations activities is negotiable and can impact performance. However, the contractor bears the ultimate risk regardless of which party performs the activity. **Clarify which party will perform equipment operations, the implications of equipment control, how changes in operating procedures will be handled, and how proper operations will be assured.**	
c. Preventive Maintenance: Performance of day-to-day maintenance activities is negotiable and can impact performance. However, the contractor bears the ultimate risk regardless of which party performs the activity. **Clarify how long-term preventive maintenance will be assured, especially if the party responsible for long-term performance is not responsible for maintenance (e.g., contractor provides maintenance checklist and reporting frequency). Clarify who is responsible for performing long-term preventive maintenance to maintain operational performance throughout the contract term. Clarify what will be done if inadequate preventive maintenance impacts performance.**	
d. Equipment Repair and Replacement: Performance of day-to-day repair and replacement of contractor-installed equipment is negotiable, however it is often tied to project performance. The contractor bears the ultimate risk regardless of which party performs the activity. **Clarify who is responsible for performing replacement of failed components or equipment replacement throughout the term of the contract.** Specifically address potential impacts on performance due to equipment failure. Specify expected equipment life and warranties for all installed equipment. Discuss replacement responsibility when equipment life is shorter than the term of the contract.	

M&V PLAN AND SAVINGS CALCULATION METHODS OUTLINE

Fill in the following tables or provide equivalent information.

PROPOSED ANNUAL SAVINGS OVERVIEW

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

ECM	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)*	Natural gas savings (MBtu/yr)**	Water savings (gallons/yr)	Other energy savings (MBtu/yr) **	Total energy and water cost savings, Year 1 ($/yr)	Other energy-related O&M cost savings, Year 1 ($/yr)	Total cost savings, Year 1 ($/yr)
Total savings									
First Year Guaranteed Cost Savings: $									

Notes
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
MBtu=10^6 Btu.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

SITE USE AND SAVINGS OVERVIEW

	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)*	Natural gas savings (MBtu/yr)**	Water savings (gallons/yr)	Other energy savings (MBtu/yr)**
Total proposed project savings						
Usage for entire site**						
% Total site usage saved						
Project square footage (KSF)						
Total site square footage (KSF)						
% Total site area affected						
Notes						

MBtu=10^6 Btu
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).
***Define usage period.
KSF = 10^3 square feet.

M&V PLAN SUMMARY

ECM No.	ECM Description	M&V Option Used*	Summary of M&V Plan

*M&V options include A, B, C, and D of the International Performance Measurement and Verification Protocol (IPMVP).

SCHEDULE OF VERIFICATION REPORTING ACTIVITIES

Item	[a]Recommended time of submission	[a]Institution's review and acceptance period
Post-Installation Report	30 to 60 days after acceptance	30 days
Annual Report	30 to 60 days after annual performance period	30 days

[a]Times are recommended based on industry practice; modify as needed.

PROPOSED ANNUAL SAVINGS FOR EACH ECM

[Include all applicable fuels/commodities for project, such as: electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

	Total energy use (MBtu/yr)	Electric energy use (kWh/yr)	Electric energy cost, Year 1 ($/yr)	Electric demand* (kW/yr)	Electric demand cost, Year 1 ($/yr)	Natural gas use (MBtu/yr)**	Natural gas cost, Year 1 ($/yr)	Water use (gallons/yr)	Water cost, Year 1 ($/yr)	Other energy use (MBtu/yr)**	Other energy cost, Year 1 ($/yr)	Other energy-related O&M costs, Year 1 ($/yr)	Total costs, Year 1 ($/yr)
Baseline use													
Post-installation use													
Savings													

Notes
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
MBtu = 10^6 Btu.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

ECM-SPECIFIC M&V PLAN AND SAVINGS CALCULATION METHODS

Develop section for each ECM.

- Summarize the scope of work, location, and how cost savings are generated. Describe source of all savings including energy, water, O&M, and other (if applicable).
- Specify the M&V guideline and option used from the International Performance Measurement and Verification Protocol (IPMVP).
- Provide an overview of M&V Activities for ECM. Explain intent of M&V plan, including what is being verified.
- Provide an overview of savings calculations methods for ECM. Provide a general description of analysis methods used for savings calculations.

Proposed Energy and Water Savings Calculations and Methodology

- Provide detail description of analysis methodology used. Describe any data manipulation or analysis that was conducted prior to applying savings calculations.
- Detail all assumptions and sources of data, including all stipulated values used in calculations.
- Include equations and technical details of all calculations made. (Use appendix and electronic format as necessary.) Include description of data format (headings, units, etc.).
- Details of any savings or baseline adjustments that may be required.
- Detail energy and water rates used to calculate cost savings. Provide post-acceptance performance period energy and water rate adjustment factors.
- Detail proposed savings for this energy conservation measure for post-acceptance performance period. Include table - Proposed Annual Savings for Each ECM.

Operations and Maintenance Cost Savings

- Provide justification for O&M cost savings. Describe how savings are generated. Detail cost savings calculations.
- Provide post-acceptance performance period other cost savings adjustment factors.

Details of other savings (if applicable)

- Provide justification for cost savings. Describe how savings are generated. Detail cost savings calculations.
- Provide post-acceptance performance period other cost savings adjustment factors.

Post-Installation M&V Activities - Describe the intent of post-installation verification activities, including what will be verified.

- Describe variables affecting post-installation energy or water use. Include variables such as weather, operating hours, set point changes, etc. Describe how each variable will be quantified, i.e., measurements, monitoring, assumptions, manufacturer data, maintenance logs, engineering resources, etc.
- Define key system performance factors characterizing the post-installation conditions such as lighting intensities, temperature set points, etc.
- Define requirements for Institution witnessing of measurements if different than whole project data requirements.

- Provide details of post-installation data to be collected, including: Parameters to be monitored, Details of equipment to be monitored (location, type, model, quantity, etc.), Sampling plan, including details of usage groups and sample sizes, Duration, frequency, interval, and seasonal or other requirements of measurements, Monitoring equipment to be used, Installation requirements for monitoring equipment, Calibration requirements/procedures, Expected accuracy of measurements/monitoring equipment, Quality control procedures to be used, Form of data to be collected (.xls, .cvs, etc.), Sample data collection forms (optional)
- Detail data analysis to be performed.

Post-Acceptance Performance Period Verification Activities

- Describe variables affecting post-acceptance performance period energy or water use. Include variables such as weather, operating hours, set point changes, etc. Describe how each variable will be quantified, i.e., measurements, monitoring, assumptions, manufacturer data, maintenance logs, engineering resources, etc.
- Define key system performance factors characterizing the post-acceptance performance period conditions. Include factors such as comfort conditions, lighting intensities, temperature set points, etc.
- Describe the intent of post-acceptance performance period verification activities – what will be verified.
- Provide detailed schedule of post-acceptance performance period verification activities and inspections.
- Define requirements for Institution witnessing of measurements if different than whole project data requirements.
- Provide details of post-acceptance performance period data to be collected, including: Parameters to be monitored, Details of equipment to be monitored (location, type, model, quantity, etc.), Sampling plan, including details of usage groups and sample sizes, Duration, frequency, interval, and seasonal or other requirements of measurements, Monitoring equipment to be used, Installation requirements for monitoring equipment, Calibration requirements/procedures, Expected accuracy of measurements/monitoring equipment, Quality control procedures to be used, Form of data to be collected (.xls, .cvs, etc.), Sample data collection forms (optional)
- Detail data analysis to be performed.
- Define O&M and repair reporting requirements. Detail verification activities and reporting responsibilities of Institution and contractor on operations and maintenance items. Define reporting schedule.

ENERGY STAR: For each building included in the project, ESCO will provide a Portfolio Manager rating. Also, for applicable buildings, ESCO includes the cost to provide services and complete the annual application for a building ENERGY STAR label. ESCO shall provide a Portfolio Manager rating and energy performance target score estimate. For each eligible building, ESCO shall provide a pre-retrofit Energy Performance Rating using EPA ENERGY STAR's Portfolio Manager, the weather normalized energy intensity in kBtu/SF, and an estimated post-retrofit Energy Performance Rating. If the building type is not eligible for rating in Portfolio Manager, then the normalized source EUI will suffice. ESCO shall provide a completed Cash Flow Opportunity Calculator (CFO Calculator) for the project, with variables inserted that represent the most likely options available to the customer. This will enable the ESCO and the customer to have an agreed-upon format for discussing project financing options and the potential costs of project delays. The CFO Calculator will be provided in both hard copy and electronic format, so that the agency can run its own analyses on financing options in the agreed format. ESCO will

submit a completed Cash Flow Opportunity spreadsheet using the Cash Flow Opportunity Calculator (CFO Calculator) for the total project which shall include all facilities to be improved.

C.2 POST-INSTALLATION M&V PLAN.

The Post-Installation M&V Plan updates the M&V Plan and includes detailed measurements, monitoring, and inspections.

List of Processes and Tables:

- Proposed Annual Savings Overview
- Expected Savings Overview for First Performance Year
- Impact to Energy Cost Savings from Changes between Final Proposal and As-Built Conditions for ECM
- Expected Year 1 Savings for ECM
- ENERGY STAR Ratings

POST-INSTALLATION REPORT OUTLINE

Post-Acceptance Performance Period Dates Covered: _____ to_____

EXECUTIVE SUMMARY

Project Background - Provide an overview of project background, including:

- Dates of relevant contract modifications
- Post-acceptance performance period dates covered
- Project acceptance date (actual or expected)

Brief Project and ECM Descriptions

- Provide an overview what was done and how savings are generated.
- Note any changes in project scope between the final proposal (including any relevant contract modifications) and as-built conditions.

Proposed and expected energy and cost savings for Year 1 of the post-acceptance performance period

- Proposed Annual Savings Overview.
- Compare expected savings for first performance year to first year guaranteed cost savings. State whether guarantee is expected to be fulfilled for first year.

Note: Expected savings are prediction for first year based on post-installation M&V activities. Verified savings for first year of post-acceptance performance period will be documented in annual report. The proposed savings for each ECM are included in TO-4 of the contract.

Proposed Annual Savings Overview

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

ECM	Total energy savings	Electric energy savings	Electric demand savings	Natural gas savings (MBtu/yr)**	Water savings (gallons/yr)	Other energy savings	Total energy and water cost	Other energy-related	Total cost savings, Year 1

	(MBtu/yr)	(kWh/yr)	(kW/yr)*			(MBtu/yr)**	savings, Year 1 ($/yr)	O&M cost savings, Year 1 ($/yr)	($/yr)
Total savings									

Notes
MBtu=10^6 Btu.
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

Expected Savings Overview for 1st Performance Year

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

ECM	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)*	Natural gas savings (MBtu/yr)**	Water savings (gallons/yr)	Other energy savings (MBtu/yr)**	Total energy and water cost savings, Year 1 ($/yr)	Other energy-related O&M cost savings, Year 1 ($/yr)	Total cost savings, Year 1 ($/yr)
Total savings									

Notes
MBtu=10^6 Btu.
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

Guaranteed Cost Savings for First Performance Year

First Year Guaranteed Cost Savings:	$

Energy, Water, and O&M Rate Data

- Detail energy and water rates used to calculate cost savings for this period.
- Provide post-acceptance performance period rate adjustment factors for energy, water, and O&M cost savings, if used.
- Report actual energy and water rates at site for same period (optional).

Savings Adjustments

- Provide summary of any energy and/or cost savings adjustments required between final proposal (including any relevant contract modifications) and as-built conditions.
- Describe the impact in changes between the final proposal (including any relevant contract modifications) and as-built conditions based on post-installation M&V results.

Construction Period Savings

- Provide a summary of construction period savings, if applicable.
- Provide overview of how construction period savings are calculated.

Status of Rebates - Include if applicable.

- Provide a summary of the source of any third-party rebates or incentives provided on this project.
- Provide status of any third-party rebates or incentives.

ECM-SPECIFIC M&V ACTIVITIES AND EXPECTED FIRST YEAR SAVINGS

Develop section for each ECM.

Overview of ECM, M&V Plan, and Savings Calculation for ECM

- Summarize the scope of work, location, and how cost savings are generated.
- Describe source of all savings including energy, water, O&M, and other (if applicable).
- Provide an overview of M&V activities for ECM. Explain the intent of M&V plan, including what is being verified.
- Provide an overview of Savings Calculation Methods for ECM. Provide a general description of analysis methods used for savings calculations.

Installation Verification

- Detail any changes between final proposal (including any relevant contract modifications) and as-built conditions.
- Provide details of energy and cost savings impact from changes between final proposal (including any relevant contract modifications) and as-built conditions based on post-installation M&V results. Include Impact to Energy and Cost Savings from Changes between Final Proposal and As-built Conditions for each ECM.

Impact to Energy and Cost Savings from Changes between Final Proposal and As-built Conditions for Each ECM

	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric energy cost savings, Year 1 ($/yr)	Electric demand savings * (kW/yr)	Electric demand cost savings, Year 1 ($/yr)	Natural gas savings (MBtu/yr) **	Natural gas cost savings, Year 1 ($/yr)	Water savings (gallons/yr)	Water cost savings, Year 1 ($/yr)	Other energy savings (MBtu/yr) **	Other energy cost savings, Year 1 ($/yr)	Other energy-related O&M cost savings, Year 1 ($/yr)	Total cost savings, Year 1 ($/yr)
Proposed													
Expected													

Variance													

Notes
MBtu = 10^6 Btu.
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

Note: Expected savings are prediction for first year based on post-installation M&V activities. Verified savings for first year of post-acceptance performance period will be documented in the annual M&V report. The proposed savings for each ECM are included in the contract.

- Describe construction period savings (if applicable). Include date ECM was in effect, and reference acceptance documentation.
- Detail savings calculations for construction period savings.

Post-Installation M&V Activities Conducted - Detail measurements, monitoring, and inspections conducted in accordance with M&V plan (include all that apply for each one):

- Measurement equipment used.
- Equipment calibration documentation.
- Dates/times of data collection or inspections, names of personnel, and documentation of Institution witnessing.
- Details to confirm adherence to sampling plan.
- Include all post-installation measured values. Include periods of monitoring and durations and frequency of measurements. (Use appendix and electronic format as necessary). Include description of data format (headings, units, etc.).
- Describe how performance criteria have been met.
- Detail any performance deficiencies that need to be addressed by ESCO or Institution.
- Note impact of performance deficiencies or enhancements on generation of savings.

Expected Savings Calculations and Methodology

- Provide detailed description of analysis methodology used. Describe any data manipulation or analysis that was conducted prior to applying savings calculations.
- Detail all assumptions and sources of data, including all stipulated values used in calculations.
- Include equations and technical details of all calculations made. (Use appendix and electronic format as necessary.) Include description of data format (headings, units, etc.).
- Details of any baseline or savings adjustments made.
- Detail energy and water rates used to calculate cost savings. Provide post-acceptance performance period energy and water rate adjustment factors, if used. Report actual energy and water rates at site for same period (optional).
- Detail expected savings for this energy conservation measure for first year. Include Expected Year 1 Savings for ECM.

Details of O&M Savings (if applicable)

- Describe source of savings.
- Describe verification activities.
- Provide post-acceptance performance period O&M cost savings adjustment factors, if applicable.

Details of other savings (if applicable)

- Describe source of savings.
- Describe verification activities.
- Provide post-acceptance performance period adjustment factors, if applicable.

Note: Expected savings are prediction for first year based on post-installation M&V activities. Verified savings for first year of post-acceptance performance period will be documented in the annual report. The proposed savings for each ECM are included in Schedule TO-4 of the contract.

Expected Year 1 Savings for ECM

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

	Total energy use (MBtu/yr)	Electric energy use (kWh/yr)	Electric energy cost ($/yr)	Electric demand * (kW/yr)	Electric demand cost ($/yr)	Natural gas use (MBtu/yr)**	Natural gas cost ($/yr)	Water use (gallons/yr)	Water cost ($/yr)	Other energy use (MBtu/yr)**	Other energy cost ($/yr)	Other energy-related O&M costs ($/yr)	Total costs ($/yr)
Baseline use													
Post-installation use													
Savings													

Notes
MBtu = 10^6 Btu.
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

ENERGY STAR Ratings: For each building included in the project, ESCO will provide an updated Portfolio Manager rating. Also, for applicable buildings, ESCO includes the cost to provide services and complete the annual application for a building ENERGY STAR label.

C.3 ANNUAL M&V REPORTING REQUIREMENTS

Summarize the project including energy, water and operational cost savings (in dollars and MMBTUs) for the annual reporting period, annual emission reductions and ENERGY STAR rating (if applicable). This summary information is useful for tracking and reporting on annual project performance.

Prepare the Annual Report as presented below.

List of Processes and Tables:

- Annual Report Overview
- Proposed Annual Savings Overview
- Verified Savings Overview for Performance Year # _____
- Verified Savings for Performance Period to Date
- Verified Annual Savings for ECM for Performance Year #_____

Annual Report Overview

Institution Name/Institution Contact (Include Email and Phone Number)	
Facility Name/Facility Contact (Include Email and Phone Number)	
ESCO Name/ESCO Contact (Include Email and Phone Number)	
Total Square Footage of Project Site/Contract Start Date/Contract End Date	
Current Repayment Year (ex. Yr. 3/ 2005)	
Reporting Timeframe (ex. Jan 1-Dec. 31)	
Installed Project Cost (no financing costs)	
Total Contract Value of Guaranteed Savings	
Annual Value of Guaranteed Savings	
Measured Energy Savings	
Operational Savings	
Avoided Capital Cost (if applicable)	
Annual Dollar Value of Achieved Savings	
Total Annual Achieved Energy Savings (MMBTU)	
Electric	
Natural Gas	
Oil	
Coal	
Steam	

Other	
Annual Water Savings (kgal)	
Annual Avoided NOx Emissions (Tons)	
Annual Avoided SOx Emissions (Tons)	
Annual Avoided CO2 Emissions (Tons)	
ENERGY STAR Rating	

ENERGY STAR Ratings: For each building included in the project, ESCO will provide an updated Portfolio Manager rating to be included in the Measurement and Verification report at the conclusion of each year of project operation (alternately, at the conclusion of each of the first xx years of project operation). Also, for applicable buildings, ESCO includes the cost to provide services and complete the annual application for a building ENERGY STAR label.

ANNUAL MEASUREMENT AND VERIFICATION REPORT OUTLINE

Post-Acceptance Performance Period Dates Covered: _____ to_____

Contract year #: _____

EXECUTIVE SUMMARY

Project Background - Provide an overview of project background, including:

- Date of Contract Execution and primary parties to the contract
- Dates of relevant contract modifications
- Post-acceptance performance period dates covered
- Project acceptance date (actual or expected)

Brief Project and ECM Descriptions - Provide an overview including what was done and how savings are generated.

Summary of proposed and verified energy and cost savings. Compare verified savings for Performance Year # to Guaranteed Cost Savings for Year #. State whether guarantee is fulfilled for year. If not, provide detailed explanation.

- Define post-acceptance performance period.
- Include Proposed Annual Savings Overview.

Proposed Annual Savings Overview

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

ECM	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)*	Natural gas savings (MBtu/yr)**	Water savings (gallons/yr)	Other energy savings (MBtu/yr)	Total energy and water cost savings, Year # ($/yr)	Other energy-related O&M cost savings, Year # ($/yr)	Total cost savings, Year # ($/yr)
Total Savings									

Notes
MBtu = 10^6 Btu.
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

Note: The proposed savings for each ECM are included in the contract as well as the guaranteed savings.

Verified Savings for Performance Year #

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

ECM	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)*	Natural gas savings (MBtu/yr)**	Water savings (gallons/yr)	Other energy savings (MBtu/yr)	Total energy and water cost savings, Year # ($/yr)	Other energy-related O&M cost savings, Year # ($/yr)	Total cost savings, Year # ($/yr)
Total savings									

Notes
MBtu = 10^6 Btu.
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

Savings Adjustments - Provide summary of any energy and/or cost savings adjustments required.

Performance and O&M Issues

Note impact of operating deficiencies or enhancements on generation of savings.
Note impact of maintenance deficiencies on generation of savings.
Detail any deficiencies needed to be addressed by contractor or Institution.

Energy, Water, and O&M Rate Data

Detail energy and water rates used to calculate cost savings for this period.
Provide post-acceptance performance period rate adjustment factors for energy, water and O&M, if used.
Report actual energy and water rates at site for same period (optional).

Verified Savings To Date - Include Table 3**.**

Verified Savings for Post-Acceptance Performance Period to Date

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

Year #	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)*	Natural gas savings (MBtu/yr)**	Water savings (gallons/ yr)	Other energy savings (MBtu/yr)	Total energy and water cost savings, Year # ($/yr)	Other energy-related O&M cost savings, Year # ($/yr)	Total cost savings, Year # ($/yr)	Guaranteed cost savings for year
Total savings										

Notes
MBtu = 10^6 Btu.
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

DETAILS FOR EACH ECM

Develop section for each ECM.

Overview of ECM, M&V Plan, and Savings Calculation for ECM

- Summarize the scope of work, location, and how cost savings are generated. Describe source of all savings including energy, water, O&M, and other (if applicable).
- Provide an overview of M&V Activities for ECM. Explain the intent of M&V plan, including what is being verified.
- Provide an overview of savings calculation methods for ECM. Provide a general description of analysis methods used for savings calculations.

M&V Activities Conducted This Period - Detail measurements, monitoring and inspections conducted this reporting period in accordance with M&V plan (include all that apply for each one):

- Measurement equipment used.
- Equipment calibration documentation.
- Dates/times of data collection or inspections, names of personnel, and documentation of Institution witnessing.
- Details to confirm adherence to sampling plan.
- Include all measured values for this period. Include periods of monitoring and durations and frequency of measurements. (Use appendix and electronic format as necessary). Include description of data format (headings, units, etc.).
- Describe how performance criteria have been met.
- Detail any performance deficiencies that need to be addressed by ESCO or Institution. Note impact of performance deficiencies or enhancements on generation of savings.

Verified Savings Calculations and Methodology

- Provide detailed description of analysis methodology used. Describe any data manipulation or analysis that was conducted prior to applying savings calculations.

- Detail all assumptions and sources of data, including all stipulated values used in calculations.
- Include equations and technical details of all calculations made. (Use appendix and electronic format as necessary.) Include description of data format (headings, units, etc.).
- Details of any baseline or savings adjustments made.
- Detail energy and water rates used to calculate cost savings. Provide post-acceptance performance period energy and water rate adjustment factors, if used. Report actual energy and water rates at site for same period (optional).
- Detail verified savings for this energy conservation measure for performance year.

Details of O&M Savings (if applicable)

- Describe source of savings.
- Describe verification activities.
- Provide post-acceptance performance period O&M cost savings adjustment factors, if applicable.

Details of other savings (if applicable)

- Describe source of savings.
- Describe verification activities.
- Provide post-acceptance performance period adjustment factors, if applicable.

Verified Annual Savings For ECM for Performance Year #

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

	Total energy use (MBtu/ yr)	Electric energy use (kWh/yr)	Electric energy cost, Year # ($/yr)	Electric demand* (kW/yr)	Electric demand cost, Year # ($/yr)	Natural gas (MBtu/ yr)**	Natural gas cost, Year # ($/yr)	Water use (gallons/ yr)	Water cost, Year # ($/yr)	Other energy use (MBtu/yr)	Other energy cost, Year # ($/yr)	Other energy-related O&M costs, Year # ($/yr)	Total costs, Year # ($/yr)
Baseline use													
Perform-ance Year # use													
Savings													

Notes
MBtu = 10^6 Btu.
*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.
**If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

O&M Activities

Operating requirements

1. State organization(s) responsible for equipment operations. If appropriate, detail how responsibilities are shared.
2. Detail any deficiencies needed to be addressed by contractor or Institution.
3. Note impact of operating deficiencies or enhancements on generation of savings.

Preventive Maintenance requirements - State organization(s) responsible for performing maintenance. If appropriate, detail how responsibilities are shared.

Verification of scheduled maintenance items completed by ESCO or Institution

1. Detail any deficiencies needed to be addressed by contractor or Institution.
2. Note impact of maintenance deficiencies on generation of savings.

Repair and replacement requirements

1. State organization(s) responsible for performing maintenance. If appropriate, detail how responsibilities are shared.
2. Summary of activities conducted this period by contractor or Institution.
3. Detail any deficiencies needed to be addressed by contractor or Institution.
4. Note impact of maintenance deficiencies on generation of savings.

SCHEDULE D. Left blank for optional schedule related to Savings Guarantee
SCHEDULE E. Left blank for optional schedule related to Savings Guarantee
SCHEDULE F. Left blank for optional schedule related to Savings Guarantee
SCHEDULE G. Left blank for optional schedule related to Savings Guarantee

PAYMENTS SCHEDULES

SCHEDULE H. FINAL PROJECT COST & PROJECT CASH FLOW ANALYSIS

This schedule contains a spreadsheet depiction of the expected financial performance of the project throughout the entire contract term. The documentation should clearly identify all financial components of the project, including interest rates, current fuel prices, any escalation rates, guaranteed savings figures, ESCO compensation figures, cash-flow projections, and projected Net Present Value of any cumulative positive cash flow benefits to the Institution. Savings projections should be delineated by utility/fuel type and should identify ongoing annual service fees provided over the contract term. Project cost breakdowns should identify both hard costs (labor costs, subcontractor costs, cost of materials and equipment, and miscellaneous costs like permits, bonds taxes, insurance, mark-ups, overhead and profit, etc.).

SCHEDULE I. FINANCING AGREEMENT AND PAYMENT SCHEDULE

This schedule contains a copy of the project financing agreement or terms and conditions of whatever financing vehicle is used (lease, COPs, bank financing etc.). An amortization and payment schedule should also be included as well as the progress payment disbursement schedule that will be used to pay the ESCO during the Interim Period (construction and installation) for the agreed-upon percentages of work completed.

SCHEDULE J. COMPENSATION TO ESCO FOR ANNUAL SERVICES

This should contain the amount and frequency of any payments that may be made to the ESCO for maintenance, monitoring or other services negotiated as part of the contract. It should contain information about how the compensation is calculated (e.g. a percentage of savings above and beyond the guarantee, flat fee etc.), and if an annual inflation index is to be used to escalate fees over the duration of the contract term. An hourly fee structure will also likely be included to cover ESCO costs for any services provided beyond the scope agreed to at the time of contract execution.

SCHEDULE K. REBATES, INCENTIVES AND GRANTS

List and describe any rebates, incentives and grants related to this project.

SCHEDULE L. Left blank for optional schedule related to Payments and Schedule
SCHEDULE M. Left blank for optional schedule related to Payments and Schedule
SCHEDULE N. Left blank for optional schedule related to Payments and Schedule
SCHEDULE O. Left blank for optional schedule related to Payments and Schedule
SCHEDULE P. Left blank for optional schedule related to Payments and Schedule

DESIGN, AUDIT AND CONSTRUCTION PHASE SCHEDULES

SCHEDULE Q. DESCRIPTION OF PROJECT SITE(S); PRE-EXISTING EQUIPMENT INVENTORY

This schedule contains basic information about the condition of the Project Site(s) at the time of contract execution. Such information would include facility square footage, building construction, use, occupancy, hours of operation etc., and any special conditions that may exist.

The inventory is important to include for the purpose of identifying what equipment was in place and how it was configured at the time of contract execution. This schedule is important to the accurate

establishment of baseline, savings measurement and may need to be referred to in the later years of the contract.

SCHEDULE R. EQUIPMENT TO BE INSTALLED BY ESCO

Schedule H: This schedule should specify all of the newly installed equipment including manufacturer, quantity, location and warranties (you can also have a separate schedule for warranties). This schedule should also describe any modifications that may have been made to existing equipment, if applicable.

SCHEDULE S. CONSTRUCTION AND INSTALLATION SCHEDULE

Include the timetables and milestones for project construction and installation. If so desired, document required insurance, subcontractor lists and any MBE/WBE required subcontracts or break out into a separate schedule. NOTE: It is important that the construction/installation phase of the project be treated in compliance with individual institutional requirements and the appropriate governing statutes. Since construction is just one component of the overall project, a separate construction contract may be desirable and in some cases necessary. The construction contract would then be referred to in the body of the contract and attached as an exhibit, appendix or other type of attachment. Another approach would be to consolidate the appropriate construction language for inclusion in the body of the final contract. This will need to be decided as appropriate on a case-by-case basis.

SCHEDULE T. SYSTEMS START-UP AND COMMISSIONING OF EQUIPMENT; OPERATING PARAMETERS OF INSTALLED EQUIPMENT

Specify the performance testing procedures that will be used for start-up and commissioning of the installed equipment and total system. Define procedures for developing and implementing a commissioning plan and specify any requirements for the Institution and/or third party review and approvals, pre-functional inspections, use of manufacturers' start-up procedures, and for executing functional performance tests. Include operating parameters should for the operation of the installed equipment such as temperature setbacks, equipment run times, load controlling specifications and other conditions for the operation of the equipment.

Provide a general commissioning schedule, including any seasonal testing, and outline commissioning tracking and reporting requirements, including periodic and final commissioning reports, and any other required submittals such as a systems manual. Prescribe any requirements for warranty walk-through or other commissioning follow-up procedures.

Include specific provisions on how the Institution's project requirements or design intent for each measure or system will be defined. Define any requirements for certification that the tests followed the specified procedures and met or exceeded the expected results.

Define the qualifications and affiliation of the commissioning agent, and provide an overview of the roles and responsibilities of the commissioning agent, ESCO and the Institution in the commissioning process. Provide for the Institution to be notified of and present during all commissioning procedures. Include a provision for the documentation of the Institution's attendance at the various tests and the Institution's approval that the tests followed the specified procedures and met or exceed the expected results.

Because of the design-build nature of ESPCs, the details of the commissioning activities are developed along with the project scope, rather than being explicitly defined at the beginning of the project. Commissioning requirements must be: 1) specified in the contract, 2) defined explicitly after design, 3) implemented during construction, 4) completed prior to final project acceptance, and 5) followed-up on after acceptance.

Specify commissioning that will be completed during the following stages:

- Commissioning Process Defined at the Time of Contract Execution
- Defining Commissioning Activities During Project Design
- Implementing Commissioning Activities During Construction
- Completing Commissioning Activities Prior to Project Acceptance

PHASE 1 – CONTRACT DEVELOPMENT

Outline the project's specific commissioning requirements including:

- Qualifications and affiliation of the Commissioning Agent (CxA);
- Roles and responsibilities of CxA, ESCO and Institution, including witnessing of Cx activities;
- Process that will be followed to document the design intent or Institution's project requirements for each energy conservation measure (ECM) or system;
- Requirements for Institution or 3rd party design reviews or submittal approvals;
- Schedule for developing and approving a Cx plan, including expected content such as:
    - Pre-functional inspections,
    - Functional testing procedures,
    - Required use of manufactures' start-up procedures,
- Plan for seasonal testing and conditional acceptance, if needed;
- Contents and timing of periodic project reports, Final Cx Report, and
- Systems Manual;
- Requirements for CxA oversight of O&M training; and
- Plan for warranty walk-though or other follow-up procedures.

Designate both the affiliation and qualifications of the Commissioning Agent (CxA) that will lead the commissioning process for the project. The key responsibilities of the CxA are: 1) Directing the commissioning team in the completion of the commissioning requirements; 2) Overseeing or performing the commissioning tests; and 3) Verifying the adequacy of the commissioning results.

Develop a written design intent for each system or ECM installed documenting the Institution's project requirements. Specific operational parameters, design details, performance requirements (conditions in addition to energy savings), or other provisions that are established by a design intent are:

- Operational parameters, such as temperature setback capabilities or operator interface features;
- Requirements for design details or ancillary items, such as sensors, valves, access, electrical, existing equipment demolition, etc.;
- Performance requirements, such as equipment efficiencies, or ton-hours of chilled water to be delivered.

PHASE 2 – PROJECT DESIGN

Commissioning related activities performed by the Cx team in the design phase include:

- ESCO completes project design;
- Institution and CxA review design and approve equipment submittals;

- ESCO and Institution document the design intent for each ECM or system;
- CxA develops a draft Cx Plan, including the specifics of all pre-functional inspections and functional performance tests;
- CxA develops Cx specifications for project (if needed);
- Institution and ESCO review and accept Cx documents;
- CxA issues Final Commissioning Plan and specifications.

PHASE 3 – CONSTRUCTION

Commissioning related activities that occur during the construction phase include:

- Construction observation by Institution's Cx representative and
- Commissioning Agent;
- Periodic Cx meetings are held with the project team;
- Cx progress reports are submitted by the CxA;
- Pre-functional inspections are completed and certified by the ESCO prior to equipment start-up and functional testing;
- Manufactures' start-up procedures are completed by the ESCO or manufacturer's representative.

PHASE 4 – PROJECT ACCEPTANCE

In this phase the functional performance tests are executed and the procedures are documented by the CxA, explicitly including how the Institution's project requirements or design intent prescribed for each system were met. Any items that did not pass shall be tracked and presented to the project team in a deficiency log. The ESCO will rectify the items and then perform a retest in the presence of the CxA to confirm that the items have been fixed. The deficiency log is then updated by the CxA, noting the date and corrective action taken. The Institution may choose to specify consequences for multiple failed re-tests to limit the possibility of excessive use of the CxA's time. The ESCO then assembles the Final Commissioning Report or a Systems Manual including, at minimum, the following:

- Commissioning summary report;
- ESCO certified pre-functional checklists;
- Completed manufacturers start-up sheets;
- Results of functional testing and verification of system performance;
- Detailed operating procedures / sequences of operations;
- Closed out deficiency log;
- Overview of training provided to O&M staff.
- Some Agencies may prefer to receive a more comprehensive Systems Manual, which is
- required for LEED certification. A systems manual typically brings together
- comprehensive project documentation:
- Institution's project requirements or design intent;
- Schematic system drawings;
- Approved submittals;
- Recommended record keeping procedures;
- Maintenance procedures & schedules;
- Test requirements for ongoing commissioning.

PHASE 5 – POST-ACCEPTANCE PHASE

Commissioning activities that typically extend beyond Project Acceptance include deferred functional testing and warranty verification. Some functional testing may be postponed until seasonal conditions are

appropriate to evaluate the system. When some functional testing has been deferred, acceptance of the project is conditional upon the success of the scheduled tests. Most equipment installed will have a one-year warranty provided by the manufacturer. A warranty check-out with the ESCO after 8 to 10 months of operation is a recommended commissioning activity. Reviewing the equipment warranties and performing a site walkthough at this time can identify any problems that may still be covered by a manufacturer's or contractor's warranty.

SCHEDULE U. STANDARDS OF COMFORT

Explicitly describe the standards of comfort to be maintained for heating, cooling, lighting levels, hot water temperatures, humidity levels and/or any special conditions for occupied and unoccupied areas of each building.

SCHEDULE V. ESCO'S TRAINING RESPONSIBILITIES

Describe the ESCO's training program or sessions for facility personnel including the duration and frequency of the specified training. Describe any provisions for on-going training, commitments to train newly hired facility personnel, and training with respect to possible future equipment or software upgrades. Also specify any fees associated with the Institution's request for training beyond what the ESCO is contractually bound to provide.

SCHEDULE W. Left blank for optional schedule related to Design and Construction Phase
SCHEDULE X. Left blank for optional schedule related to Design and Construction Phase
SCHEDULE Y. Left blank for optional schedule related to Design and Construction Phase
SCHEDULE Z. Left blank for optional schedule related to Design and Construction Phase
SCHEDULE AA. Left blank for optional schedule related to Design and Construction Phase

POST-CONSTRUCTION SCHEDULES

Also see Schedule T: Start-Up Commissioning

SCHEDULE BB. ESCO'S MAINTENANCE RESPONSIBILITIES

Include a complete description of the ESCO's specific operations and maintenance responsibilities along with the time intervals for their performance of the stated O&M activities.

The description shall include but is not limited to:

1. Description of ESCO's operations and maintenance responsibilities.
2. Performance period for ESCO's performance of the stated operating and maintenance activities.
3. Period of time for Maintenance during or after warranty period.
4. Payment terms for Maintenance: annually and for how much.

SCHEDULE CC. INSTITUTION'S MAINTENANCE RESPONSIBILITIES

Describe the operations and maintenance responsibilities that may be assigned to facility staff as agreed to by both parties. In some instances this will contain no more than a description of routine O&M currently being performed on existing energy consuming equipment in the facility. In other cases, facility staff may

be used to provide some maintenance on the new equipment installed under the performance contract, with the ESCO providing any specialized services as needed.

The description shall include but is not limited to:

1. Description of the Institution's operations and maintenance responsibilities.
    a. Existing maintenance and operations
    b. Additional maintenance and operations necessitated by the Work

Institution shall provide all maintenance tasks on all existing equipment at all times. Institution shall provide all maintenance duties on new equipment after Substantial Completion. Maintenance Duties will be outlined in Operation and Maintenance Manuals, which will be provided by ESCO.

SCHEDULE DD. FACILITY MAINTENANCE CHECKLIST

This checklist is a method by which the ESCO may record and track the Institution's compliance with any of the maintenance procedures being performed by facility personnel. The checklist typically specifies simple list of tasks and the corresponding schedule for the performance of the prescribed procedures. Facility staff will complete the checklist and forward it to the ESCO, usually on a monthly basis. (This checklist is a very useful tool for both the ESCO and Institution to verify that the required maintenance activities are being performed at the scheduled intervals).

SCHEDULE EE. Left blank for optional schedule related to Post-Construction Phase
SCHEDULE FF. Left blank for optional schedule related to Post-Construction Phase
SCHEDULE GG. Left blank for optional schedule related to Post-Construction Phase
SCHEDULE HH. Left blank for optional schedule related to Post-Construction Phase
SCHEDULE II. Left blank for optional schedule related to Post-Construction Phase

ADMINISTRATION SCHEDULES

SCHEDULE JJ. ALTERNATIVE DISPUTE RESOLUTION

This schedule describes methods for resolving disputes or claims relating to construction or the contract, wherein the parties agree to exercise good faith efforts (e.g., mediation, dispute resolution board) and to only use litigation as a last resort. This schedule is included as an alternative to costly binding arbitration and litigation.

SCHEDULE KK. Left blank for optional schedule related to Administration
SCHEDULE LL. Left blank for optional schedule related to Administration
SCHEDULE MM. Left blank for optional schedule related to Administration
SCHEDULE NN. Left blank for optional schedule related to Administration
SCHEDULE OO. Left blank for optional schedule related to Administration

OPTIONAL SCHEDULES

PRE-EXISTING SERVICE CONTRACTS

Information regarding the scope and cost of pre-existing equipment service contracts should be located in this schedule. This gives both the Institution and ESCO information about how and when the existing equipment is being serviced. As well, if the ESCO is credited with any maintenance

savings or is taking over any existing service contracts, the scopes and costs of such Contracts will useful in tracking the performance of the ESCO in providing the required services and documenting any attributable cost savings.

ENERGY SAVINGS PROJECTIONS

This schedule should contain the projected energy savings in units for each year of the contract. Oftentimes these projections are broken down on a measure by measure basis although some measures may be aggregated into general categories such as lighting or HVAC. If there are several buildings involved in the project, this schedule should contain projections for each facility, even though they may all be covered under a single guarantee.

FACILITY CHANGES CHECKLIST

A "Facility Changes Checklist" or other method may be provided by the ESCO for the Institution to notify the ESCO of any changes in the facility that could have an impact on energy consumption (e.g. occupancy, new equipment acquisition, hours of use etc.). This checklist is generally submitted on a monthly basis or quarterly basis.

CURRENT AND KNOWN CAPITAL PROJECTS AT FACILITY

If there are any current or planned capital projects to be implemented in the facility, that information should be contained in this schedule. This information could prove to be very useful in the out-years of the contract to avoid potential disputes over long-term energy savings performance, overall facility energy consumption and costs.

EXHIBITS

EXHIBIT I	PERFORMANCE BOND/CONSTRUCTION BOND
EXHIBIT II	LABOR AND MATERIAL PAYMENT BOND ***if required***
EXHIBIT II (i)	CERTIFICATE OF ACCEPTANCE—TECHNICAL AUDIT
EXHIBIT II (ii)	CERTIFICATE OF ACCEPTANCE—INSTALLED EQUIPMENT
EXHIBIT III	EQUIPMENT WARRANTIES

APPENDICES

APPENDIX A	RFP FOR ESCO SOLICITATION
APPENDIX B	ESCO PROPOSAL
APPENDIX C	INVESTMENT GRADE AUDIT AND PROJECT PROPOSAL CONTRACT
APPENDIX D	INVESTMENT GRADE AUDIT REPORT

NOTE: THESE SCHEDULES CAN BE INCLUDED AS OPTIONAL AND INCLUDED OR COMBINED WITH OTHERS OR MAY BE CONTAINED IN THE AUDIT REPORT AS DESIRED.