ESPC Life of Contract (LOC) Plan:

Documents Management and Checklist for Energy Savings Performance Contracts (ESPC)

(SITE) ENERGY SAVINGS PERFORMANCE CONTRACT

Installed by (ESCO)
Contract Number
(Contract Title)
Contract Description

Acknowledgment

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Disclaimer

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Purpose

The purpose of this document, the ESPC Life of Contract (LOC) Plan is to provide guidance to project staff during the post-installation performance period of an Energy Savings Performance Contract (ESPC) project. This document will assist the staff in effective ESPC project management.

When the installation is complete and the acceptance period has begun, the agency staff should collect all the necessary information for project management during the performance phase of the contract. This includes vital contract documents, descriptive contractual data on which party will conduct Operations and Maintenance (O&M), Preventive Maintenance (PM), Repair and Replacement (R&R), and the Measurement and Verification (M&V) Plan for the performance period, and includes the specifics of which party, the Energy Services Company (ESCO) or their customer, will conduct the oversight of these operations. The post-installation document submittals, as they become available, also need to be collected and retained. Examples include M&V Reports and Commissioning Reports.

User Guidance

This guide is structured to provide information to the agency representative who has the responsibility for the management of the ESPC project during the performance period. This is accomplished first by a checklist to ensure that the proper documents are collected and stored in an accessible location. A second checklist is provided which lists annual activities that must be accomplished to properly manage the contract .The above-mentioned checklists are found in Appendices A and B.

Introduction

The intent of the ESPC Life of Contract Plan is to capture the performance data from the acceptance phase of the contract, to provide guidance on how to manage the contract for its remaining term to ensure proper performance of the equipment and the verification of the savings guarantees for the life of the contract.

The monitoring process begins with the Measurement and Verification (M&V) process which records and documents the parameters necessary to confirm savings. Maintenance tasks will likely be allocated to both the ESCO and the Agency. The ESCO can monitor the quality of Agency provided maintenance, but it does come with a cost that may partially be built into the M&V costs. If the ESCO identifies Agency maintenance failures, but the agency staff does not have the time, staff capability or budget to correct them, then these failures may result in adjustments to the savings guarantees. Agency staff will need to monitor ESCO provided maintenance. If they do not have the staff capability to effectively do so, then they need to consider using a third party auditor to monitor maintenance contract compliance. Data collection will be organized into a chronological set of activities designed to:

- Document the O&M requirements and the R&R requirements so that the ESPC stakeholders can determine, monitor and verify that the actions are accomplished as required to maintain the equipment performance, ensuring that the savings are realized. These requirements may include training for agency staff by the ESCO or project consultants.

- Define the activities suggested to support annual M&V verification and true-up processes to allow confirmation that all testing/inspections are accomplished and the M&V report can be accepted or rejected annually for the life of the contract.

- Document the results of initial commissioning of project equipment and subsequent commissioning of controls.

Those tasked with ultimate responsibility for the success of the ESPC can use these documents to assist in monitoring and documenting the performance period activities for the contract term. One of the largest project performance risks for both parties to an ESPC contract is the loss of staff continuity, savings data and budget resources over time. It is very expensive to reassemble or estimate missing data, train new staff or secure additional budget resources. Both the ESCO and the Agency need to keep a complete file of all project correspondence and contract documents. This file should be kept in chronological order. These documents can also be used to train and assist any staff replacements during the contract term to reduce the impact of staff turnover.

This document will record the location of all of the project management data.

Data Preparation, Annual Review and Storage Guidance Overview

Key correspondence and project documents should be kept and stored in a safe and easily accessible location. This ESPC LOC Plan provides both control for capturing what is necessary from both a project management and an M&V perspective. Some of the potential activities for consideration in the completion of this plan are included in the bullet point list below:

- Collect the performance data from the Contract, Commissioning and Acceptance efforts, and compile the information.

- Review the checklists with agency staff and train them to ensure understanding of the contents of the checklists.

- Insert the initial Points of Contact (POC) for site and ESCO personnel. The agency staff will be responsible for maintaining an up-to-date POC list for the life of the contract.

- Review the responsibilities for O&M, including Preventative Maintenance (PM) and R&R to ensure clear identification of which party is responsible for each activity. The party not responsible for the conduct of each activity is then responsible for monitoring and inspecting the efforts of the other party to ensure the work scope is accomplished that complies with the contract requirements.

Additional Guidance in the Appendices

Checklists are presented in Appendix A to assist the agency staff in collecting data needed during the Performance Period of the contract. A second checklist is provided in Appendix B for the annual activities required by the ESCO and agency staff to ensure essential data is collected and recorded.

Storage location information for commissioning documentation is listed in Appendix D. The storage location for annual M&V Reports is listed in Appendix E.

Also included in the Appendices is information regarding ENERGY STAR Benchmarking. Some buildings may qualify for ENERGY STAR ratings and building labels (Appendix C).

Operations and Maintenance

Equipment Identification

All equipment that is addressed by the above personnel for operation, preventative maintenance, and repair/replacement should be identified and marked in some manner such that personnel from both the ESCO and their customer can clearly determine who has what responsibilities for specific equipment. This can take the form of drawings, lists, or in complex equipment interfacing cases, by attaching bar codes to each piece of equipment. This is necessary so that each piece of equipment can be ensured of receiving the maintenance that it needs, regardless of who is responsible. When energy savings are large enough to pay for external maintenance contracts, it is recommended to maximize the maintenance responsibilities assumed by the ESCO.

All O&M, R&R, and preventative maintenance responsibilities are defined in the contract, typically by ECM, and any descriptions of responsibilities listed herein should document the specific contract schedule where responsibilities are defined. It is important to clearly distinguish the duties of the agency and the ESCO in terms of record keeping, limits of duties, schedules, and maintenance cost accounting. In the event of nonperformance of duties by either party, mutual discussions should be held to correct the problem. If the problem cannot be corrected at the agency staff level, the contract provisions for dispute resolution shall be used to negotiate a solution.

An operational log shall be maintained to note any variations in operations activities such as early turn-on or turn-off of equipment, bypassing of automatic controls, etc. This log shall be kept at or near the operator's workstation and shall be available at all times for updating or inspection.

Annual M&V Report

The M&V Plan, which governs M&V activities, is included in Appendix E of this plan. Added to this Appendix also is the current year M&V report from the ESCO. These two reports are the governing M&V documents at any particular time within the contract term. The Plan defines the requirements and methodology, and the report defines the current year's performance results. Appendix E shall be continually updated during the contract term so that it always contains both the original M&V plan and the latest annual M&V report. The ESCO or consulting resources can be used to educate Agency staff, because M&V is technically and economically complicated. Customer staff must take appropriate project performance responsibility for their contract requirements. Timely resolution of disputes is critical to maintain an effective partnership to support project performance.

The Annual M&V reports are essential to maintaining a historical set of performance, inspection, and testing information for the project, and the entire set of annual reports

shall be maintained in a known and safe location to support potential project performance evaluations and negotiations.

Contact Information

Editor's Note: All contact information should be verified and updated annually.

ESPC Customer Contact Information

Agency Representative
Name
Address
Telephone
Fax
Email

Agency Back Up Representative
Name
Address
Telephone
Fax
Email

ESPC Technical Support Contacts

DBEDT Technical Support Manager
Name
Address
Telephone
Email

Independent ESPC Consultant Contact (if applicable)
Name
Address
Telephone
Email

ESCO Contact Information

Primary Point of Contact for Contract Management
Name
Address
Telephone

Fax
Email

O&M Service Representative
Name
Address
Telephone
Fax
Email

Energy Service Manager
Name
Address
Telephone
Fax
Email

M&V Specialist
Name
Address
Telephone
Fax
Email

Emergency/Non-Emergency Contact(s)
Name
Address
Telephone
Fax
Email

Documentation Checklist

General Information

The Documentation Checklist identifies critical documents and provides the document storage location information. This matrix must be maintained and available to any person working on the project over the contract term. This places a burden on the ESCO and agency staff to maintain good records and contract documentation. The location of these documents and their status should be verified annually, since some documents may require updating during the contract term.

Pre-Award Documents	**Storage Location (electronic and/or hard copy)**	**Responsible Party/Date Delivered to LOC File**
Government Generated i. Invitation for Proposal ii. Technical Facility Profile data		
a. ESCO Proposal including preliminary technical and economic analysis		
b. Pre-negotiated ESCO Proposal/Investment Grade Audit including: i. ECM and Savings Description ii. Measurement and Verification (M&V) Plan iii. Management Plan iv. Repair and Replacement and Commissioning Plans v. Financial Schedules and Supporting Data vi. Meeting Minutes		
Award Documents	**Storage Location (electronic and/or hard copy)**	**Responsible Party/Date Delivered to LOC File**
a. Contract Documents of the Energy Services Agreement i. Negotiated Final ESCO Proposal a. ECM and Savings Descriptions b. Measurement and Verification (M&V) Plan c. Management Plan i. Repair and Replacement Plan ii. Operations & Maintenance (O&M) Responsibilities ii. Contract Modifications		
b. Key Correspondence i. Meeting Minutes ii. Project Schedules		

iii. Review Comments & Responses iv. Email Correspondence (e.g., text file)		
Project Implementation	**Storage Location (electronic and/or hard copy)**	**Responsible Party/Date Delivered to LOC File**
a. Drawings i. 100% Design/Red-lined ii. As Built Drawings		
b. Installation Plan/Schedule		
c. Commissioning/Acceptance Test Plan(s)		
d. Key Correspondence i. Requests for Information (RFIs) ii. Email Correspondence (text file) iii. Review Comments & Responses		
Final Submittals/Acceptance Documents	**Storage Location (electronic and/or hard copy)**	**Responsible Party/Date Delivered to LOC File**
a. Commissioning/Acceptance Report		
b. Manuals (e.g., O&M)		
c. Training Documents		
d. Key Correspondence i. Requests for Information (RFIs) ii. Email Correspondence (.pdf archives of emails /text file)		
Post-Acceptance Performance Period	**Storage Location (electronic and/or hard copy)**	**Responsible Party/Date Delivered to LOC File**
a. Annual M&V Reports Annual ESCO project inspection reports.		
b. Repair & Replacement (R&R) Documents		
c. Operations & Maintenance (O&M) Documents		
d. Payment Records		
e. Key Correspondence i. Requests for Information (RFIs) ii. Email Correspondence (text file)		
f. Utility Invoices (ongoing)		
g. Equipment Identification Document		

Appendices

Editor's Note: Update page listing, titles and sections as needed.

Appendix A –Checklist

Item	Action	Completed Date
Initial Document Preparation		
1	All contractual submittals have been received and accepted	
2	Punch list completed and signed-off.	
3	Full Project Acceptance completed and signed	
4	Commissioning Report received, reviewed and approved	
5	Approved M&V Plan placed in LOC File	
6	ESA Contract and Financing Agreement placed in LOC File	
7	O&M and R&R Contracts placed in the LOC File.	
8	Obtain all agency Staff and ESCO contact information for the performance period and insert in LOC Plan	
9	Locate and list location of all material in 'Documentation Checklist'	
10	Conduct Review of LOC Plan with agency staff ensuring all items are complete and report is ready for ongoing management	
11	Train the agency staff in the use of the LOC Plan and File, including review of the data within it and how to use it to manage the contract.	
Actions at the End of the First Year of Performance Period		
12	After the end of the first year of the performance period, review the Annual M&V Report; insert the data into the LOC File after the report is approved	

Appendix B – Annual Performance Support Checklist

Item	Action	Completed Date
Items ideally conducted more than once throughout the year		
1	Audit the buildings checking controls settings for lights, temperature, and hours occupied or in operation, numbers of employees, etc., making sure automatic systems are not by-passed.	
2	Review logs for maintenance to check if planned activities did occur. Publish any findings to ESCO and Agency to keep them informed, especially if work scope is not occurring.	
3	Review trend log data and M&V operational parameters and assumptions to ensure they are within allowable limits.	
4	Read any and all meters installed and/or used by the M&V process on a monthly basis. This should be a coordinated activity with the ESCO representatives.	
5	Review the overall status of the DDC system operation and maintenance.	
6	*Collect interval data from the DDC for remote fault detection and equipment diagnostics.*	
Items ideally completed as part of the annual M&V True-up process.		
1	Review any new equipment or system commissioning reports.	
2	Coordinate with the ESCO for the annual M&V inspections and witness all testing, meter reading, and any other planned activities.	
3	Review each building with the agency staff to determine the quality of service being obtained from the ESCO.	
4	Review the contractual requirements to determine the guaranteed savings in both energy units and cost of energy (O&M) for the current year. These values change each year by inflation/escalation per the contract.	
5	Obtain and review the annual M&V report from the ESCO. Verify any calculations and/or claims.	
6	Obtain and determine if the agency staff made any substantial changes to the missions or usage of any building(s) or area(s) serviced by the equipment installed by the ESCO. Especially be aware of any changes that affect the guarantees of the ESCO. Make any adjustments necessary to bring all data to the same conditions of the original contract.	
7	Conduct an annual true-up meeting with the ESCO to determine any adjustments or payments necessary due to savings shortfalls.	
8	Review O&M requirements of the ESCO and Agency and make a determination of work scope accomplishment or the lack thereof.	
9	Review R&R requirements of the ESCO and Agency and make a determination of work scope accomplishment or the lack thereof.	
10	Verify the status of employee training for those working on or with the ESPC equipment to determine if additional training is required.	

Appendix C – ENERGY STAR Portfolio Manager Benchmarking Tool

Use of EPA/DOE Energy Star Portfolio Manager is optional and included in the LOC Plan as an assistance document for site informational purposes only. It is a free benchmarking program for utility data entry and analysis via the Internet at the following web address:
http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager

This tool can be used on the individual site level to obtain an Energy Star rating for individual facilities and to apply for a building label (if qualified).

The following sample report tables are examples automatically generated by the tool by entering monthly utility consumption data (energy and cost) from utility invoices. Complete reports can also be automatically generated by request using the tool, and are emailed to the requestor by ENERGY STAR. **It should be noted that this tool can be useful for individual building benchmarking but should not be used for comparison or tracking of ESPC performance or budgeting purposes**. Baselines listed in the Energy Star Portfolio Manager tool may **not** be the same as or an accurate representation of the ESPC baseline and should **not** be used as the methodology to measure and verify ESPC savings.

Blank ENERGY STAR Benchmarking Report Examples

Sample Report

My Portfolio: Example							
12/1/08							
Total Buildings:							
Facility Name	Current Rating (1-100)	Adjusted Percent Energy Reduction	Total Floor Space (Sq. Ft.)	Energy Use Alerts	Current Energy Period Ending Date	Eligibility for the ENERGY STAR	Last Modified

Sample Report

My Portfolio: Example						
12/1/08						
Total Buildings:						
Facility Name	Current Rating (1-100)	Current Source Energy Intensity (kBtu/Sq. Ft.)	Baseline Rating (1-100) (kBtu/Sq. Ft.)	Baseline Source Energy Intensity (kBtu/Sq. Ft.)	Adjusted Percent Energy Reduction	CO_2 Reduced (lbs)

Sample Report

My Portfolio: Example						
12/1/08						
Total Buildings:						
Facility Name	Cumulative Investment in Facility Upgrades (USD)	Cumulative Investment per Sq. Ft. (USD)	Annual Energy Cost (USD)	Total Energy Cost per Sq. Ft. (USD)	Indoor Water Cost (USD)	Outdoor Water Cost (USD)

Sample Report

My Portfolio: Example					
12/1/08					
Total Buildings:					
Facility Name	Baseline Energy Period Ending Date	Current Energy Period Ending Date	Baseline Rating (1-100)	Current Rating (1-100)	Adjusted Percent Energy Reduction

Sample Report

My Portfolio: Example					
12/1/08					
Total Buildings:					
Facility Name	Current Rating (1-100)	Current Site Energy Intensity (kBtu/Sq. Ft.)	Annual Energy Cost (USD)	Target Rating (1-100)	Target Site Energy Intensity (kBtu/Sq. Ft.)

Sample Report

My Portfolio: Example							
12/1/08							
Total Buildings:							
Facility Name	Total Indoor and Outdoor Water Use (kGal)	Total Indoor and Outdoor Water Cost (USD)	Indoor Water Use (kGal)	Indoor Water Use per Sq. Ft. (kGal)	Wastewater/Sewer use (kGal)	Wastewater/ Sewer Cost (USD)	Water Use Period Ending

Sample Report

My Portfolio: Example							
12/1/08							
Total Buildings:							
Facility Name	Current Rating (1-100)	Current Energy Period Ending Date	Current Site Energy Intensity (kBtu/Sq. Ft.)	Current Source Energy Intensity (kBtu/Sq. Ft.)	Energy Reduction per Sq. Ft. (kBtu/ Sq. Ft.)	Adjusted Energy Reduction per Sq. Ft. (kBtu/Sq. Ft.)	Energy Use Alerts

Sample Report

My Portfolio: Example						
12/1/08						
Total Buildings:						
Facility Name	Current Rating (1-100)	Current Source Energy Intensity (kBtu/Sq. Ft.)	Adjusted Percent Energy Reduction	Eligibility for the ENERGY STAR	ENERGY STAR Application Status	Building Profile Status

Appendix D – Commissioning Report

Insert Commissioning Report or Location Reference Information Here

Appendix E – M&V Plan and Annual Reports

Insert M&V Plan and Most Recent Annual M&V Report Here

Appendix F – Glossary of Terms

Adjusted Energy Baseline - An energy baseline that has been adjusted to compensate for factors that would have changed energy consumption in the absence of any energy conservation measures (i.e., factors affecting baseline energy use beyond the contractor's control). Examples of such factors include increases or decreases in conditioned or illuminated space, changes in occupancy or building use, facility renovation, or extremes in weather.

Annual Energy Audit - The term annual energy audit means a procedure including, but not limited to, verification of the achievement of guaranteed energy, water, and related cost savings and energy unit savings, resulting from implementation of energy conservation measures and a determination of whether an adjustment to the energy baseline is justified by conditions beyond the contractor's control. (Also known as Annual Measurement and Verification)

Commissioning – Procedures undertaken, generally by the contractor, to assure that energy conservation measures and building systems perform interactively in accordance with design documentation and intent.

Energy Baseline - The amount of energy that would have been consumed annually without implementation of energy conservation measures based on historical metered data, engineering calculations, sub-metering of buildings or energy consuming systems, building load simulation models, statistical regression analysis, or some combination of these methods.

Energy Conservation Measure (ECM) - A measure applied to a building or facility that improves energy efficiency, is life cycle cost effective, and involves energy conservation, cogeneration facilities, renewable energy sources, improvements in operation and maintenance efficiencies, or retrofit activities.

Energy Cost Savings - Energy cost savings are generally recurring savings - savings that occur year after year; however, one-time energy cost savings may come from energy savings in excess of guaranteed savings, either during the post-acceptance performance period or during the implementation period.

Energy-Related Cost Savings - Energy-related cost savings are generally recurring reductions in expenses (other than energy costs) related to energy-consuming equipment, generally affecting operations, and maintenance, renewal, or repair expenses of equipment. One-time energy-related cost savings can result from avoided expenditures of operations and maintenance, repair and replacement, or capital expenditures funds for projects (e.g., equipment replacement) that, because of the energy savings performance contract project, will not be necessary.

Estimated Energy Cost Savings - Estimated energy cost savings are the contractor-estimated energy cost savings in dollars per year for each energy conservation measure (ECM), and equal the estimated energy savings multiplied by the established energy prices in appropriate units. For ECMs with multiple energy type impacts, energy cost savings equals the sum of the products of the energy savings by energy type and established energy prices.

Guaranteed Annual Cost Savings - The guaranteed annual cost savings are the levels of annual cost savings the contractor is willing to guarantee for a project. The proposed values for these savings appear in financial schedules of the ESPC. After the IGA, the contractor revises the preliminary assessment and offers the final values in the financial schedules. The guaranteed annual cost savings must exceed the annual contractor payments in each year of the post-acceptance performance period. For the first interval (generally 12 months) after acceptance of construction, the contractor may be paid as if the

savings guarantee is being met. The annual energy audit establishes actual savings. If actual savings fall short of the guarantee, the contractor will pay back the amount of the shortfall to the customer.

Implementation Period - The implementation period is the period between the date of ESPC award to the date that all energy conservation measures (ECMs) are operational and accepted.

Investment Grade Audit (IGA) - A procedure which may include, but is not limited to, a detailed analysis of the energy cost savings and energy unit savings potential, building conditions, energy consumption, and hours of use or occupancy for a facility, for the purpose of preparing final technical and price proposals.

Measurement and Verification (M&V) – Process of measuring and verifying energy, water and related cost savings

Post-Acceptance Performance Period - The period (typically in years) from the date a project is operational and accepted, to the end of the contract term. The post-acceptance performance period may also be referred to herein as the service period.

Post-Acceptance Performance Period Annual (or Regular Interval) M&V - At least annually, the contractor and the ESPC stakeholders shall verify that the installed equipment/systems have been properly maintained, continue to operate correctly, and continue to have the potential to generate the predicted savings. This ensures that the M&V monitoring and reporting systems are working properly, and it allows fine-tuning of measures throughout the year based on operational feedback.

Post-Installation Measurement and Verification Activities - Post-installation measurement and verification is to ensure that the proper equipment/systems have been installed, are operating correctly and have the potential to generate the predicted savings. Verification methods may include surveys, inspections, and spot or short-term metering. Commissioning of installed equipment and systems is expected. Commissioning assures that the building systems perform interactively in accordance with the design documentation and intent. The contractor generally completes commissioning. In some cases, however, the site contracts it out.