# 

DOE IDIQ ESPC Contract Management Plan Template

Site-Level Contract Management for the Performance Period

October 2018

# Purpose

The purpose of this document, the DOE IDIQ ESPC Contract Management Plan (CMP) Template, is to provide best practices to agency personnel in the management of a Department of Energy (DOE) Energy Savings Performance Contract (ESPC) project during the post-installation performance period. This document will assist the Agency in effective ESPC project administration and management. This document is intended to be a guide and may be modified by the agency to fit specific needs and procedures.

When the installation is complete, and the acceptance period has begun, the Agency should start collecting 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), Preventative 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, agency or Energy Services Contractor (ESCO), 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 the Post-Installation M&V Report, Commissioning Plan, and Commissioning Report. This plan provides suggestions on means to track, control, and archive these documents, as they are critical to performance period project management.

The data contained herein becomes the basis for the performance period management, operation and control. Annual M&V true-up activities to confirm or modify contractor payments will require a comprehensive working knowledge of all of the information contained herein.

## Template User Guidance

This template is structured to provide all the information to the Contracting Officer (CO or KO) and the Contracting Officer Representative (COR) for management of the project during the performance period. This is accomplished first by a checklist to ensure the template is properly set up and the data from the contract, the design, and the construction efforts are inserted to allow transfer of the initial information to the performance period CO/KO and COR. A second checklist is provided to give the CO/KO and COR a list of annual activities that must be accomplished to properly manage the contract. These checklists help to ensure continuity of knowledge and operations. A series of forms, charts, and figures are provided in each area of concern to assist the COR in capturing vital information and ensure its availability during the course of the project. The DOE may provide training and assistance to the COR in the initial setup of the data in the forms and may assist by providing guidance in the first year of the performance period. The above-mentioned checklists are found in Appendices A and B.

The following template has a series of notes providing further instruction as to how the template is to be populated and maintained. “*Template Notes*” in blue italicized font, provide instructions on how to populate individual sections of the template and the note is meant to be deleted upon completing the initial release of the document. “*Editor’s Notes*” in dark red italicized font, provide instructions on maintaining the document over the life of the contract and are meant to remain within the document for future reference.

*Template Note: The template starts on the next page.*

*(REMOVE THE CONTENT BEFORE THE NEXT PAGE.)*

**DOE IDIQ ESPC Contract Management Plan:**

**Site-Level Contract Management for the Performance Period**

(Contract Number), (Date Amended), (Contributors)

**(Agency/Site) Energy Savings Performance Contract**

Installed by (ESCO)

(Contract Title)

Contract Description

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*Editor’s Note: Update Table of Contents upon every amendment of the Contract Management Plan for accuracy. To change the page numbers and/or headings on older versions of Microsoft Word software, right-click the table of contents and select “Update Field.”*

# Introduction

The intent of the Contract Management Plan (CMP) is to capture the performance data from the acceptance phase of the contract and throughout the performance period, to provide guidance on how to manage the contract for its remaining term, to ensure proper performance of the equipment, and to verify 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. The monitoring process must also provide assurance, with documentation, that all necessary maintenance is accomplished on the installed equipment to ensure retention of savings respective to operating capabilities. Data collection will be organized into a chronological set of activities designed to:

* Document the equipment, the performance and the savings verification data that are produced from the commissioning along with the post installation reports, witnessing, and testing. This data verifies the performance of the as-installed systems/equipment and is the first determination of the amount of savings that are projected to be achieved.
* Document the O&M requirements and the R&R requirements so that the Agency can determine, monitor and verify that the actions are accomplished as required to maintain the equipment performance, ensuring that the savings are realized. Note: both of these requirements may include training for the Agency by the ESCO.
* Define the activities suggested to support annual M&V verification and true-up processes to allow confirmation that all testing and inspections are accomplished and the M&V report can be accepted or rejected annually for the life of the contract.
* Identify and track impacts to savings performance due to Agency actions. Include instructions on how to resolve savings deficiencies and/or use and control reserve accounts.

The function of the Contract Management Plan template is to serve as a step-by-step user guide for the initial development of the document to capture the contract and point of acceptance data for each project. This document is to be built during the post-installation acceptance phase and finalized within 60 days after receipt of associated reports. An updated version including the first year M&V data should be generated within 60 days after receipt of the first year M&V report. At the time of the update of this document after the first year M&V, the DOE may assist with the review of the document with the Agency to ensure completeness and provide the Agency with an understanding of their responsibilities as they relate to annual Agency updates to this document for the remainder of the period of performance and life of the ESPC.

The Contracting Officer (CO/KO) and the COR can use the document to assist in monitoring and documenting the performance period activities during the contract performance period for the contract term. The document can also be used to train and assist any Agency personnel replacements during the contract term.

Finally, at the discretion of the agency, this document will either contain the necessary data for contract maintenance or will record the location of the 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 Contract Management Plan (CMP) provides both control for capturing what is necessary from both a project management and an M&V perspective, and also provides a Documentation Matrix to assist the agency in managing and archiving these documents. Activities involved in developing and maintaining the CMP are included in the bullet point list below:

* Collect the performance data from the Contract, Implementation, Testing, Witnessing, Commissioning and Acceptance efforts, and compile the information necessary to complete the CMP prior to turning the CMP over to the COR or person charged with the ESPC Performance Period operation for the Agency.
* Review the CMP with the Agency personnel, training those person(s) to ensure understanding of the contents of the CMP. It will be the agency’s responsibility to ensure proper conduct of O&M, R&R, Inspections and Monitoring will be conducted.
* Collect and attach or insert the contractual data on savings from the first year of the contract, as well as any savings accrued during the construction period for ECMs which are completed and accepted for beneficial use. These savings accrue during the construction period, but prior to total project completion. These energy savings are payable after total project completion and acceptance of all ECMs, or as ECMs are individually accepted.
* Verify construction period savings prior to project acceptance. The M&V process will annually provide the data that is used for verification of achieved savings for each year of the contract performance period.
* Insert the initial Points of Contact (POC) for DOE and the ESCO Personnel. The Agency shall insert the Agency POCs and 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 for the COR, ensuring identification of which party is responsible for each activity. O&M, PM and R&R responsibilities by party can be found in the Risk, Responsibility and Performance Matrix (RRPM), a component of the ESCO’s final proposal. Additional roles and responsibilities between the ESCO and Agency may also be found in the ESCO’s Management Plan section of the project final proposal. 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 to the respective agreement and plans, but the ultimate responsibility for performance remains with the ESCO.
* Review and insert the results from the first year of M&V, and review the analyses with the Agency COR. This activity may set up the process to be followed for the remaining years of the performance period. The Agency COR shall be responsible for maintaining all charts and forms current for the remaining term of the contract.

## Additional Guidance in the Contract Management Plan Appendices

Checklists are presented in Appendix A to assist the Agency to ensure the template is fully prepared for the Agency’s use in the Performance Period of the contract. The Agency will follow in the identification and accomplishment of the tasks required each year for the entire contract term. A second checklist is provided in Appendix B for the annual activities required by the Agency COR to assist and give guidance, ensuring that the equipment is properly maintained, and all performance data is properly collected, recorded, and archived.

Storage location information for commissioning documentation is listed in Appendix C and the annual M&V Report paragraph is listed in the Section Titled “Measurement and Verification Plan from IGA”

# Contact Information

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

## Agency Contact Information

**Site Approving Official**

Name

Address

Telephone

Fax

Email

**Contracting Officer Representative (COR) \***

Name

Address

Telephone

Fax

Email

**Procurement Contracting Officer**

Name

Address

Telephone

Fax

Email

**Administrative Contracting Officer (CO/KO) \***

Name

Address

Telephone

Fax

Email

**Administrative Contract Specialist**

Name

Address

Telephone

Fax

Email

**Resource Efficiency Manager**

Name

Address

Telephone

Fax

Email

***(Other Point of Contact)***

Name

Address

Telephone

Fax

Email

***(Other Point of Contact)***

Name

Address

Telephone

Fax

Email

***(Other Point of Contact)***

Name

Address

Telephone

Fax

Email

***(Other Point of Contact)***

Name

Address

Telephone

Fax

Email

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**\*** Responsible for the CMP document throughout the contract term of the ESPC, including maintenance of the contact information herein, starting immediately following year 1 of the performance period.

## DOE Contact Information

**DOE Contracting Officer Representative**

Name

Address

Telephone

Fax

Email

**DOE IDIQ Contracting Officer**

Name

Address

Telephone

Fax

Email

**DOE Federal Project Executive (FPE)**

Name

Address

Telephone

Fax

Email

**Project Facilitator (PF)**

Name

Address

Telephone

Fax

Email

## ESCO Contact Information

**Primary Point of Contact**

Name

Address

Telephone

Fax

Email

**O&M Service Representative**

Name

Address

Telephone

Fax

Email

**Construction Supervisor/Manager**

Name

Address

Telephone

Fax

Email

**M&V Specialist**

Name

Address

Telephone

Fax

Email

**Emergency/Non-Emergency Contact(s)**

Name

Address

Telephone

Fax

Email

***(Other Point of Contact)***

Name

Address

Telephone

Fax

Email

# Project Information

## General

The Task Order listing below identifies the total list of potential Energy Conservation Measure (ECM) Technology Categories (TCs) that are covered by the Indefinite Delivery Indefinite Quantity (IDIQ) contract for the project examined, listing those not included, as well as the ECMs that are active for this specific contract. The ESCO for this contract is encouraged to continually look for energy savings opportunities, and both the Agency COR and the ESCO can use the list below for ideas and recommended areas for review. The active list consists of areas that have been upgraded and that require monitoring for the contract term. The total list may be updated at any time during the performance period to include ideas for additional conservation measures not implemented by the ESCO. Any changes in scope for active ECMs or additional energy conservation measures should be completed per the requirements of the DOE IDIQ Contract for all ESCOs (see Section H.3).

*Template Note: Add Executive Summary from ESCO proposal here (CMP Checklist, Appendix A, Item 10) Provide general project information, including a brief description of work scope, award date and project goals and drivers. The proposed Executive Summary normally provides most, if not all, of this information. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE)*

# Task Order (TO) Project Listing – Technology Categories

*Template Note: Modify table as applicable by placing an X in front of any ECM that was installed by the ESPC Project (to be added from the final proposal as-built). (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

|  |  |  |  |
| --- | --- | --- | --- |
| **TC #** | **Active ECMs** | **TC ECM Title** | **Building Name/Number** |
| 1 |  | Boiler Plant Improvements |  |
| 2 |  | Chiller Plant Improvements |  |
| 3 |  | Building Automation Systems (BAS)/Energy Management Control Systems (EMCS) |  |
| 4 |  | Heating, Ventilating, and Air Conditioning (HVAC) Improvements (not including boilers, chillers, and BAS/EMCS) |  |
| 5 |  | Lighting Improvements |  |
| 6 |  | Building Envelope Modifications |  |
| 7 |  | Chilled/Hot/Steam Distribution Systems |  |
| 8 |  | Electric Motors and Drives |  |
| 9 |  | Refrigeration |  |
| 10 |  | Distributed Generation |  |
| 11 |  | Renewable Energy Systems |  |
| 12 |  | Energy/Utility Distribution Systems |  |
| 13 |  | Water and Sewer Conservation Systems |  |
| 14 |  | Electrical Peak Shaving/Load Shifting |  |
| 15 |  | Energy Cost Reduction Through Rate Adjustments |  |
| 16 |  | Energy Related Process Improvements |  |
| 17 |  | Commissioning |  |
| 18 |  | Advanced Metering Systems |  |
| 19 |  | Appliance/Plug-load Reductions |  |
| 20 |  | Other/Future ECMs |  |

## Guidance to Project Listings

The project listings above are provided for information and are useful in identifying both those ECMs that were installed by the project (marked as “Active”), and to show the total list of potential ECM technologies that are included in the IDIQ Contract.

## Continuous Improvement on ECM Projects

All Government Agencies are required to comply with the requirements of applicable executive orders. Since the possibility exists that ESPC contracts do not initially accomplish the goals in one phase, some additional areas of improvement may be required in order to achieve the energy goals of applicable executive orders, the Energy Policy Act of 2005 (EPAct) and the Energy Independence and Security Act of 2007 (EISA 2007). The above TO Project Listing can be very useful in identifying potential sources for energy conservation.

One main area of potential is resilience measures such as on-site renewable energy, battery storage, and other emerging technology energy conservation that are becoming more economically feasible as technology advances. It is recommended sites are screened for renewable energy potential. Even if a renewable screening has been conducted in the past, it is recommended to update periodically throughout the life of the contract the screening with current data including utility cost and consumption and technology capital costs as these can frequently change. Sites can perform renewable screenings using publicly available tools such as REopt Lite. Federal sites can request assistance with renewable energy screenings through FEMP’s technical assistance portal. These areas should be reviewed and updated for possible inclusion into the Agency’s energy improvement projects to continuously progress toward minimum energy procurement from outside sources.

# Awarded Project Overview

The following table represents the top-level information about the project, and is useful in terms of publicizing and/or recording the basic parameters of the project. It also gives guidance to the first payment funds that come from construction period savings, utility, city, county and state provided incentives and/or agency funding.

*Template Note: Add dates and data of conditional acceptance as it applies and document separately. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

|  |  |
| --- | --- |
| Agency Contract Number/Date |  |
| Total Project Cost (Financed Amount) |  |
| ESCO IDIQ Contract Number |  |
| Pre-Performance Period Payments |  |
| Construction Period Savings |  |
| Incentives received and applied |  |
| Agency Funds Applied |  |
| Total Project Value (TO-1 or TO-3 totals) |  |
| Contract Term (Years) |  |
| Project Interest Rate (%) |  |
| Reserve Account Interest Rate (%) |  |
| Total Square Footage Affected (Sq. Ft.) |  |
| Design & Construction Period (Months) |  |
| Actual Start Date |  |
| Actual Final Acceptance Date |  |
| Conditional Acceptance Applies | Yes/No |
| If Conditional Acceptance, describe: | |
| *Editor’s Note:*  1. Conditional acceptance may apply to items that are completed out of season and are untested until they enter their operational season, such as chillers ECMs completed in Mid-Winter or Boilers in Mid-Summer. The equipment should be tested under actual load. A form for conditional acceptance and/or acceptance for beneficial use prior to total acceptance is provided in Appendix H. This form can also be used to track punch list completion.  2. All information within this Table comes from the financial cash flow information in schedules TO-1 through TO-5 within the ESCO Price Proposal for this project. See TO-3 for most of the data requested above. | |

# Savings Summary

Schedule TO-4 summarizes the savings calculations made by the ESCO for each ECM in accordance with the M&V plan, and includes delineation of savings in both energy units and dollars by each energy commodity. These data elements are presented herein for information purposes in the event that problems with savings realization occur. The data would then assist in determining where savings issues occur and where additional savings may be captured. ESPC savings payments, in general, will use the bundled approach that does allow an over-performing ECM to compensate for an under-performing ECM, as long as total savings for the annual true-up are realized. The data in this table also will assist the Agency in tracking the total of their improvements, by type of energy or commodity saved, or cost of energy reductions realized in the first year. The savings determination is typically made by using the measured energy consumption and the rates as defined in the contract. Typically, contractually escalated energy rates are used however in some rare cases the contractual agreement is to utilize actual annual energy rates.

The Savings Summary Table (TO-4) will be used to perform energy true-up calculations.

## Savings Summary – Schedule TO-4

This schedule shows the actual energy saved by each ECM in energy units, and also in first year estimated equivalent dollars for these energy units. These dollars are based on the ESCO’s estimated escalation of energy rates over the first year of the performance period. The energy rates are as defined in the contract.

*Template Note: The financial schedule form TO-4 is shown below, and should be replaced with the actual TO-4 schedule from the signed contract for the ESPC. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SCHEDULE TO-4**  **Task Order Performance Period First Year Estimated Annual Cost Savings, by Energy Conservation Measure and Technology Category** | | | | | | | | | | | | | | | | | | |
| Project Site: | | | | | Task Order#: | | | | | Contractor Name: | | | | Project Square Footage (KSF): | | | | |
| TC  No.  Att 2 | ECM  No. | a.  ECM energy baseline  (MBtu/yr) | b1.  Electric energy savings  (kWh/yr) | b2.  Electric energy savings  ($/yr) | c1.  Electric demand savings  (kW/yr) | c2.  Electric demand savings  ($/yr) | d1.  Natural gas savings  (MBtu/yr) | d2.  Natural gas savings  ($/yr) | e1.  Other savings  (MBtu/yr) | e2.  Other savings  ($/yr) | f.  b1+d1+e1  Total energy savings  (MBtu/yr) | g.=b2+c2+d2  +e2  Total energy cost savings  ($/yr) | h.  Other energy-related and O&M cost savings  ($/yr) | i.  Water savings  (1000 gal/yr) | j.  Water savings  ($/yr) | k=g+h+-j  Estimated annual cost savings  ($yr) | l.  Implementation price  ($) | m=l/k  Simple  Payback  (yrs.) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TOTAL | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



# Documentation Matrix

## General Information

The Documentation Matrix 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. The contract term can be up to 25 years, which includes the design and construction period. The following documents could be required, depending upon unanticipated requirements, to support the project should the need arise. The location of these documents and their status should be verified annually, since some documents may require updating during the contract term. Documents listed in the matrix that may not be applicable to a particular contract can be stated as such (e.g., if a Site Data Package was not completed as a part of pre-award documentation, it should be listed as not applicable (n/a) under the storage location. The Agency is encouraged to distinguish between documents that will be needed every year and those that could be filed in a safe and known place. Items to be used frequently could be tabbed appropriately for the sake of convenience. It is encouraged that files are stored in a centralized cloud based or shared drive location to enable continuity during staff changes as well as provide redundancy.

|  |  |  |  |
| --- | --- | --- | --- |
| Documentation Matrix | | | |
| **Pre-Award Documents** | **Storage Location (electronic and/or hard copy)** | **Responsible Party**  **(position)** | **Responsible Party**  **(name)** |
| 1. Site Data – Government Generated    1. Site Data Package (if applicable)    2. Audit Studies/Surveys 2. Notice of Opportunity (NOO)    * 1. ESCO Selection Criteria 3. Renewable Energy Data Input Form and Screen Report |  | **CO/KO** |  |
| 1. Preliminary Assessment (PA) & Contractor selection notification letter |  | **CO/KO** |  |
| 1. PA - ESCO Submittal |  | **CO/KO** |  |
| 1. Agency Specific Agreements (if applicable)    1. Inter-Agency Agreements (IAA)/PF Work Order |  | **CO/KO** |  |
| 1. Notice of Intent (NOI) to award – Notice to proceed with IGA/Final Proposal/Detailed Project Development |  | **CO/KO** |  |
| 1. Task Order (TO) Request for Proposal (RFP)    1. Energy Conservation Measure (ECM) Requirements    2. Terms and Conditions    3. Attachments |  | **CO/KO** |  |
| 1. Congressional notification letter, if applicable (only if required by Agency procedure) |  | **CO/KO** |  |
| 1. Pre-negotiated ESCO Proposal/Investment Grade Audit including:    1. ECM and Savings Description    2. Measurement and Verification (M&V) Plan    3. Management Plan    4. Repair and Replacement Plan    5. Financial Schedules and Supporting Data    6. Meeting Minutes    7. Review Comments & Responses |  | **CO/KO** |  |
| 1. Price Reasonableness Determination    1. PF Analysis    2. CO Determination |  | **CO/KO** |  |
| **Award Documents** | **Storage Location (electronic and/or hard copy)** | **Responsible Party**  **(position)** | **Responsible Party**  **(name)** |
| 1. Contract Documents    1. Cover page of the TO Award    2. TO Terms and Conditions (TO-RFP)    3. Negotiated Final ESCO Proposal       1. ECM and Savings Descriptions       2. Measurement and Verification (M&V) Plan       3. Management Plan          1. Repair and Replacement Plan          2. Operations & Maintenance (O&M) Responsibilities          3. Risk, Responsibility and Performance Matrix       4. Price Schedules    4. Contract Modifications |  | **CO/KO and COR** |  |
| 1. Key Correspondence    1. Meeting Minutes    2. Project Schedules    3. Review Comments & Responses    4. Email Correspondence (e.g., text file) |  | **CO/KO and COR** |  |
| **Project Implementation** | **Storage Location (electronic and/or hard copy)** | **Responsible Party**  **(position)** | **Responsible Party**  **(name)** |
| 1. Drawings & Design Specifications    1. 100% Design/Red-lined    2. As Built Drawings |  | **COR** |  |
| 1. Installation Plan/Schedule |  | **COR** |  |
| 1. Commissioning/Acceptance Test Plan(s) |  | **COR** |  |
| 1. Key Correspondence    1. Requests for Information (RFIs)    2. Email Correspondence (text file)    3. Review Comments & Responses |  | **COR** |  |
| 1. Witnessing of baseline M&V data values |  | **COR** |  |
| 1. Quality Assurance Plan |  | **COR** |  |
| 1. Health and Safety Plan |  | **COR** |  |
| Final Submittals/Acceptance Documents | **Storage Location (electronic and/or hard copy)** | **Responsible Party**  **(position)** | **Responsible Party**  **(name)** |
| 1. Commissioning/Acceptance Report |  | **COR** |  |
| 1. Post-Installation Report |  | **COR** |  |
| 1. As-built drawings |  | **COR** |  |
| 1. Witnessing of Post Installation M&V data values |  | **COR** |  |
| 1. Manuals (e.g., O&M) and spare parts lists |  | **COR** |  |
| 1. Training Documents |  | **COR** |  |
| 1. Key Correspondence    1. Requests for Information (RFIs)    2. Email Correspondence (.pdf archives of emails /text file) |  | **CO/KO** |  |
| 1. Punch List(s) |  | **COR** |  |
| **Post-Acceptance Performance Period** | **Storage Location (electronic and/or hard copy)** | **Responsible Party**  **(position)** | **Responsible Party**  **(name)** |
| 1. Annual M&V Reports (Current year is in LOC Plan, reports are on-going) |  | **CO/KO** |  |
| 1. Witnessing of Annual M&V data values |  | **CO/KO** |  |
| 1. Repair & Replacement (R&R) Documents |  | **CO/KO** |  |
| 1. Operations & Maintenance (O&M) Documents |  | **CO/KO** |  |
| 1. Payment Records |  | **CO/KO** |  |
| 1. Key Correspondence    1. Requests for Information (RFIs)    2. Email Correspondence (text file) |  | **CO/KO** |  |
| 1. Utility Invoices (ongoing) |  | **CO/KO** |  |
| 1. Equipment Identification Document |  | **CO/KO** |  |
| 1. TO Modifications (if applicable) |  | **CO/KO** |  |

# 

# Financial Schedules from Task Order (TO) Award

*Template Note: The text provided below describes the TO Schedules for different generations of the DOE ESPC IDIQ contract. Remove the TO Schedule text that does not apply. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

The following financial schedules, in terms of the performance period, define the payments, including M&V costs, debt service, and payments for O&M that are due to the contractor each year.

DOE ESPC IDIQ Generation 2 contract (2017) and earlier

Schedule TO-1 contains, for each year of the contract, the total estimated savings for the ESPC, the ESCO’s Guaranteed Cost Savings in terms of dollars, and the Payment Schedule. The ESCO Guaranteed Cost Savings is compared to the verified cost savings as determined by the M&V plan to determine if the ESCO met their guarantees or if the payment schedule requires adjustment. If guarantees are not met, the Government must recover over-payments which occurred during the previous year. This table reflects the influences of inflation and/or escalation of both energy costs and O&M expenses.

Schedule TO-2 is not essential to the management of the ESPC contract during the performance period and is shown for informational purposes only. All this information is duplicated in TO-1, 3 or 4, with the exception of the cost breakdown per ECM, which is not essential to post-installation period management.

Schedule TO-3 captures the annual cash flow for the project funding loan principle and interest as well as operational costs payable to the ESCO for work scope as referenced in the contract. This represents the distribution of funds in the Contractor payments from Schedule TO-1.

Schedule TO-4 shows the energy savings for each ECM of the contract. The savings in terms of energy units require annual verification per the M&V plan, and, combined with the annual energy rate analysis, determine the dollar value of actual savings. Comparison for guaranteed cost savings minus verified cost savings determines either accomplishment of guarantees or evidence of shortfalls if guarantees are not met. This analysis is an annual M&V requirement. Savings accomplishment is determined in a bundled condition so that over-performing ECMs can counter underperforming ECMs. This is accomplished by using TO Schedule TO-1, not Schedule TO-4. TO-4 can be used to examine the sources of any lost/low energy savings to determine if corrective actions are required.

Schedule TO-5 shows the annual cancellation ceiling for each year of the contract.

DOE ESPC IDIQ Generation 3 contract (2017) and later

Summary Schedule provides a variety of summary information on project contacts, identification, financing terms, capitalization and other project characteristics

Annual Dollar Savings Escalation Rates schedule provides the agreed upon annual escalation percentages for each identified utility type and/or energy related savings components (ex: O&M)

Schedule TO-1 contains, for each year of the contract, the total estimated savings for the ESPC, the ESCO’s Guaranteed Cost Savings in terms of dollars, and the Payment Schedule. The ESCO Guaranteed Cost Savings is compared to the verified cost savings as determined by the M&V plan to determine if the ESCO met their guarantees or if the payment schedule requires adjustment. If guarantees are not met, the Government must recover over-payments which occurred during the previous year. This table reflects the influences of inflation and/or escalation of both energy costs and O&M expenses.

Schedule TO-2a and 2b are not essential to the management of the ESPC contract during the performance period and is shown for informational purposes only. Most of this information is duplicated in TO-1, 3 or 4, with the exception of the cost breakdown per ECM and percentages of costs of goods and services, which is not essential to post-installation period management.

Schedule TO-3 captures the annual cash flow for the project funding loan principle and interest as well as operational costs payable to the ESCO for work scope as referenced in the contract. This represents the distribution of funds in the Contractor payments from Schedule TO-1.

Schedule TO-4 shows the energy savings for each ECM of the contract. The savings in terms of energy units require annual verification per the M&V plan, and, combined with the annual energy rate analysis, determine the dollar value of actual savings. Comparison for guaranteed cost savings minus verified cost savings determines either accomplishment of guarantees or evidence of shortfalls if guarantees are not met. This analysis is an annual M&V requirement. Savings accomplishment is determined in a bundled condition so that over-performing ECMs can counter underperforming ECMs. This is accomplished by using TO Schedule TO-1, not Schedule TO-4. TO-4 can be used to examine the sources of any lost/low energy savings to determine if corrective actions are required.

Schedule TO-5 shows the annual cancellation ceiling for each year of the contract.

## Task Order (TO) Schedules

*Template Note: remove TO schedule contract reference that does not apply and insert a copy of the TO schedules for the project. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

DOE ESPC IDIQ Generation 2 contract (2017) and earlier

**Schedule Number Title**

TO-1 (final) Guaranteed Cost Savings and Contractor Payments

TO-2 Implementation Price by Energy Conservation Measure (*only in CO’s/KO’s file*)

TO-3 Post-Acceptance Performance Period Cash Flow

TO-4 Task Order Performance Period First Year Estimated Annual Cost Savings, by Energy Conservation Measure and Technology Category

TO-5 Annual Cancellation Ceiling Schedule

DOE ESPC IDIQ Generation 3 contract (2017) and later

**Schedule Number Title**

Summary Basic Project Information

Annual Escalation Rates Annual Dollar Savings Escalation Rates

Schedule #1 Guaranteed Cost Savings and Contractor Payments

Schedule #2a Implementation Price by Energy Conservation Measure (*only in CO’s/KO’s file*)

Schedule #2b Project Implementation Pricing Worksheet

Schedule #3 Performance Period Cash Flow

Schedule #4 Task Order Performance Period First Year Estimated Annual Cost Savings, by Energy Conservation Measure and Technology Category

Schedule #5 Annual Cancellation Ceiling Schedule

# Risk, Responsibility and Performance Matrix

The Risk, Responsibility and Performance Matrix (RRPM) is an attachment to the ESPC master contract that discusses 14 areas of risk and responsibility in task orders. The RRPM lists the risk factors in three categories: financial, operational, and performance. The RRPM addresses these variables and assigns risks and responsibilities to the appropriate parties as negotiated between the agency and ESCO. During the performance period after project acceptance, the responsibilities taken by both the ESCO and agency must be carried out as specified in the contract to ensure that savings and performance are maintained.

*Template Note: Attach a copy of the RRPM from the final proposal to this section (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

Operations, Preventative Maintenance and Repair and Replacement Responsibilities List

## Day to Day Actions Summary

*Template Note: The following table can typically be populated with information found in the RRPM (see RRPM section 3. Performance). Within the table, identify the responsible party for each of the three topic areas for each ECM. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Responsible Party** | | |
| **ECM** | **Operations** | **Preventative Maintenance** | **Repair and Replacement** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
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|  |  |  |  |

### 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 Agency and the ESCO can clearly determine which equipment is subject to the above stated decisions regarding these operational requirements. 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. The ESCO is responsible for the maintenance on all equipment that they install, regardless of who performs the maintenance, the ESCO or the Agency. Either can be identified in the contract as the responsible party.

The method for identifying the equipment installed by the ESCO shall be jointly agreed upon between the ESCO and the Agency.

**NOTE:** 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 location where responsibilities are defined.

The identification method, in whatever form it is written, shall be titled, “Equipment Identification Document” and its location, for both the Agency and the ESCO, shall be maintained in the document locator list in the previous section.

## Operations

*Template Note: In this section, provide a concise description of required operations activities. This section shall include an identification of the equipment, description of the activity, and the frequency of said activity. If an O&M manual is a deliverable under the contract, this manual shall be included here. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

### General

The following information is taken from ***(ESCO Name)*** Final Proposal, dated ***(specify date)***. For complete information pertaining to the operation agreement language, please refer to ***(specify applicable section of the Final Proposal for specific terms)***.

Operations will be performed by ***(specify who will be performing operations activities)***.

### Term

***Specify date that operations will begin and term of obligation***.

### Operations Schedule

Commencing upon the Date of Final Completion, ***(specify responsible party)*** will furnish the operations activities described in the Final Proposal with respect to the Covered Equipment upon the terms and conditions contained in the Final Proposal.

### Operational Log

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 by either the Agency or the ESCO.

## Preventative Maintenance

*Template Note: In this section, provide a concise description of required PM activities. This section shall include an identification of the equipment, description of the activity, and the frequency of said activity. If a Preventative Maintenance Manual is a deliverable under this contract, this manual shall be added here. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE)*

### General

The following information is taken from ***(ESCO Name)*** Final proposal, dated ***(specify date)***. For complete information pertaining to the preventive maintenance agreement language, please refer to ***(specify applicable section of the Final Proposal for specific terms)***.

Preventive Maintenance will be performed by ***(specify who will be performing PM activities)***.

### Term

***Specify date that preventive maintenance activities will begin and term of obligation***.

### PM Schedule

Commencing upon the Date of Final Completion, ***(specify responsible party)*** will furnish the maintenance described in the Final Proposal with respect to the Covered Equipment upon the terms and conditions contained in the Final Proposal.

### Preventative Maintenance Log

A log of all preventative maintenance activities shall be kept and all activities shall be recorded within as soon as they are completed. This log shall be made available for both the Agency and the ESCO to audit at any time.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Equipment** | **Specific Location** | **PM Activity** | **Frequency** | **Schedule** | **Responsible Party** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### Preventative Maintenance Point of Contact (POC)

*Provide POC, including name, organization, title, phone, fax, and email address.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Point of Contact** | **Organization** | **Title** | **Phone** | **Fax** | **Email** |
|  |  |  |  |  |  |
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## Repair and Replacement

*Template Note: In this section, provide a concise description of required Repair and Replacement activities. This section shall include an identification of the equipment, description of the activity, and the frequency of said activity. If a Repair and Replacement schedule is a deliverable under this contract, this manual shall be added here. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE)*

### General

The following information is taken from ***(ESCO Name)*** Final Proposal, dated ***(specify date)***. For complete information pertaining to the repair and replacement agreement language, please refer to ***(specify applicable section of the Final Proposal for specific terms)***.

Repair and Replacement will be performed by ***(specify who will be performing R&R activities)***.

### Term

***Specify date that R&R activities will begin and term of obligation.***

### Repair and Replacement Log

A log of all repair and replacement activities shall be kept and all activities shall be recorded within as soon as they are completed. This log shall be made available for both the Agency and the ESCO to audit at any time.

### Repair and Replacement POC

*Provide Point of Contact, including name, organization, title, phone, fax, and email address.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Point of Contact** | **Organization** | **Title** | **Phone** | **Fax** | **Email** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

# Annual Project Savings to Date

## General Information

The Contractor Guaranteed savings data is found on Schedule TO-1. The actual savings data is produced by the M&V process each year and is carried forward to this document for record keeping purposes. Displaying this data can be useful in determining trends and anticipating problems and/or increased maintenance requirements. The year zero funds in this case are the construction period savings plus any incentives earned and/or any Agency applied funds *prior* to total project acceptance. If the equipment performs satisfactorily for the 30-day period prior to Full Acceptance, the Post-Installation Performance Period will begin. The savings data obtained at Post-Installation should document the As-Built operational savings. If this data is shown to be below the guaranteed savings, or if at any year the M&V process shows the project is below guarantee, either the contractor can, at their expense, introduce additional savings measures to make up the difference. The Agency must agree with these actions. Alternately, the payment stream can be either temporarily adjusted for short-term problems or permanently adjusted for deficient ECM performance. Since most ESPCs are paid in advance, recovery of monies paid is obtained by the reduction in payments over the next 12-month period following discovery of the deficiency. If deficient ECMs are found, the payment can be permanently modified to correct the deficiency by adjusting the payment stream downward such that payments do not exceed savings and any overpayments are recovered.

Savings can start within or at the end of the 30 days of successful performance after completion of the Post-Installation Performance Test. They can only be accumulated and applied to the contract if the equipment performs satisfactorily. It is to the Agency’s benefit to accumulate and apply savings as early as possible. Construction period savings are only paid when all ECMs have completed this testing and the 30-day performance period is complete. Any or all of the energy savings realized during the 30 days of the “successful operation” period may be applied to the contract payment stream if they are verifiable and if the systems are performing to design requirements and the level of performance is accepted. Any energy conservation incentive funds collected by the ESCO and any funds that the Agency applies to the contract are paid when invoiced at the start of the first year of the performance period. Additionally, ECMs that are completed and accepted for beneficial use prior to the completion of the total project can start accruing savings upon partial acceptance. These savings are defined as Construction Period Savings and can be paid as a Construction Period payment.

The chart and figure in the next section document the savings over or under the guarantee for each contract year. Monies in savings over the guarantee belong to the Agency. Monies not realized by a shortfall in savings, when trued-up at the year-end via the M&V process, are recoverable. Recovery of a shortfall is accomplished by a monthly, quarterly, or annual adjustment to contractor payments and is applied over the appropriate term.

All of the data in the table is bundled, on an annual basis, since an overage in one ECM can be used to compensate for a shortfall in another. Adjustments to the payment stream are normally unilateral by the Agency and are only made at the bundled level. Reconciliation, by negotiation, can be different from a 12-month period, but normally is accomplished over 12 months to allow the Agency, which normally pays in advance, to recover funds expended that M&V does not verify. The contract “Disputes Clause” should be used to resolve any problems.

## Reconciliation of Annual Savings and Payments

In the Table below, Guaranteed Cost Savings are from schedule TO-1, Verified Contractual Cost Savings, which, for the purposes of this section, can be defined as savings using contracted energy prices, are determined via the M&V plan annually.

The annual true up, using the results from the Annual M&V report is accomplished by comparing the verified cost savings received from the contract to the guaranteed cost savings from TO-1 for the year in review. There is no carry-over allowed from year to year. If a shortfall occurs and the savings are not realized, since payment is in advance as assumes savings are realized, it is necessary to recover over-payments by reducing the payments for the next 12 months. Shortfalls are not allowed to accrue past the end of the annual true-up period. The graph below tracks guaranteed and verified savings. If the graph continuously shows a shortfall, it is possible that a permanent reduction in payments may be in order.

### Reconciliation of Annual Savings and Payments Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Guaranteed Cost Savings ($)** | **Verified Contractual**  **Cost Savings ($)** | **Over/Under Percentage** | **Payment Adjustment ($/Month with time period)** |
| Zero |  |  |  |  |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| Etc. |  |  |  |  |

Savings Example Graph

*Editor’s Note: Instructions for generating this chart are on the following page.*

# Weather Conditions

***Editor’s Note: Instructions for Generating and Updating Savings Chart***

**Current Version of Microsoft Office (.docx compatible)**

**Updating the example chart included in this document**

1. Right Click the chart
2. Select “Enter Data” to open corresponding Excel chart
3. Edit the axes, titles, units of measurement and numerical data as applicable

**For older versions of Microsoft Office (.doc compatible)**

**Creating Savings Chart in Excel**

Create a blank workbook in Excel

Add data to be used in graphing the chart. Two columns are typical; one for the x-axis labels, and one for the y-axis data. Note: Do not include column titles (if applicable)

Click and highlight the data to be used in the chart

Click Insert on the toolbar and then click Chart. Alternatively, you can click the Chart Wizard button

A Chart Wizard box will open and will present you with several different styles of charts.

Click and select the chart type and sub-type. Click Next to go to the next page.

Verify the data range and series format (rows or columns). Click Next to go to the next page.

Add chart and axes titles in the form boxes. Click Next to go to the next page.

Select the location for the chart to be displayed: as a new sheet or as an object in an existing sheet.

Click Finish to view your chart and go back to your Excel workbook.

**Embedding Savings Chart from Excel into Word**

1. Select the chart you want to copy.
2. Click **Copy** (right-click menu or the toolbar).
3. Switch to Microsoft Word.
4. Click in the document where you want to put the Excel chart.
5. Click **Paste** on the Formatting toolbar.
6. Click **Paste Options** next to the chart, and then do one of the following:
   * To paste the chart as a chart, so that when you double-click the chart in the Word document you can use Excel to edit it, click **options that indicate “Embed Workbook”**.
   * To paste a link to the Excel chart, so that the chart in the Word document is updated whenever you change the chart in the original Excel workbook, click options that include “**Link Data”**.
   * To paste a bitmap picture of the chart, click “**Picture”**. Note that this option will result in a static image of the chart and the graphical representation of the chart data will not be amendable inside of this document.

Savings should be normalized for weather, and are typically based upon historical and Typical Meteorological Year (TMY) data for the given location and measured per the M&V Option assigned to each ECM in the contract. The Risk, Responsibility and Performance Matrix typically assigns weather risk to the Agency. True-up is accomplished annually through the M&V process, though savings are not typically “adjusted” due to weather, but rather must be delivered despite the weather. Over-achieved savings from a good weather year may not be carried over or averaged with previous years, and may not be carried over or averaged to the following year(s). TMY data or other data used to determine weather normalization may be listed here, below, for reference purposes.

# Measurement and Verification Plan from Final Proposal

*Template Note: Insert the Original Plan in Appendix J. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

*Editor’s Note: It is best if the current year M&V report is also kept in this document appendix, following the M&V plan. Each year, the new annual report should be added and the last years’ report filed in the designated location so it can be easily and quickly retrieved as required.*

The Measurement and Verification Plan and the subsequent annual M&V reports describe the methodology for savings verification and present the justification data for the assessments. The M&V plan should always stay with this document, along with the latest or current year M&V Report. All past annual M&V reports shall be kept available for the life of the contract, with the location of these older reports noted in the “Documentation Matrix” section of this plan.

A summary of the M&V methodology for each ECM is contained in the following table.

### M&V methodology by ECM

|  |  |  |  |
| --- | --- | --- | --- |
| **ECM Number** | **ECM Title** | **DOE/FEMP M&V Guideline Protocol Method** | **ASHRAE Expected Equipment Life Cycle**  **(years)\*** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

\*http://xp20.ashrae.org/publicdatabase/

While it is not specifically a function of M&V, the equipment expected life data has been added to the above table to assist the COR in anticipating R&R activities. The expected life will pertain to the major pieces of equipment installed by the ECM.

## M&V Document Storage Location

*Template Note: The M&V Plan and the Annual M&V Reports may be inserted here. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

If the agency/site prefers to file the M&V documents, the filing location of all M&V documents should be kept in an easily accessible location. Locations of the documents are listed below:

|  |  |  |
| --- | --- | --- |
| **M&V Plan from the IGA/Final Proposal** | **Storage Location[[1]](#footnote-1)\*** | **Responsible Party** |
| Title |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **M&V Annual Report from the ESCO** | **Year** | **Storage Location[[2]](#footnote-2)\*\*** | **Responsible Party** |
| Title |  |  |  |
| Title |  |  |  |
| Title |  |  |  |

# Ongoing M&V Status and Checklist

The agency should first refer to the most recent FEMP Guidance for M&V, available using the following link: <https://energy.gov/eere/femp/downloads/mv-guidelines-measurement-and-verification-performance-based-contracts-version>.

Each ECM may have some degree of M&V requirements from both the contractor and the Agency as part of contract. Generally, one or more of the assumptions used in the energy savings calculation, plus O&M requirements, are items selected for monitoring. The Agency also can elect to completely review any part of the contract savings performance at any time during the contract term.

M&V monitoring can range from occupancy and equipment use schedules on the Agency, to equipment operational and performance characteristics and status on the ESCO, even if the ECM is stipulated. These items will require a minimum of an annual review to ensure that the ECM is still functioning to design requirements and savings are being realized. Any changes in building or system usage must be noted if they change any assumptions or conditions involved in the use of energy, or change O&M cost.

It is recommended that ECMs be reviewed as an on-going inspection, not as a review only at the end of the term year, if reasonable and feasible given budget and time constraints. This will help enable discovery of abnormal operation earlier within each year and document its existence rather than observing operation once at the end of each year. On-going review throughout each year eliminates ending with limited or no knowledge, even if only general, of when the equipment started abnormal operation. This leads to the lack of knowledge of when savings may have started be jeopardized. In particular, items that affect savings assumptions should be reviewed, such as lighting on-off times, number of building occupants, normal hours of operation, etc. Metering should be monitored monthly through the Energy Management Control System (EMCS).

The Agency should refer to the Witnessing Section of this document, the FEMP Witnessing and Commissioning Guidelines, and witness and record any actions deemed necessary that apply toward ongoing M&V status that may warrant future attention.

# Witnessing

Several requirements exist that require the Agency, usually the COR, to witness various activities by the ESCO. Witnessing includes observing the final inspections, acceptance and commissioning tests. The witnessing activities are especially essential to ensure that testing is accomplished per the test plans with calibrated test equipment and the results are as expected. Government witnessing ensures that M&V activities are executed in accordance with the contractual requirements and will give agencies confidence that the M&V reports produced by the contractor represent accurate results and credible justification for payments based on guaranteed savings. All witnessing should be documented, and can be entered as noted in the following Witnessing Log. The FEMP Witnessing Guidance is available on the FEMP website (https://www.energy.gov/eere/femp/downloads/guide-government-witnessing-and-review-measurement-and-verification-activities) and recommends a graded approach to witnessing.

Witnessing during the first year of performance may also include maintenance and preventative maintenance as it is performed per O&M plans, ensuring equipment operation is maintained at manufacturer’s specification levels, and R&R is accomplished in a timely manner, keeping the equipment operating as necessary to produce the estimated savings.

The witnessing requirement roles are theoretically reversed when the work scope responsibility has not been assigned to the ESCO. In this case, the COR is responsible to ensure all testing, O&M, and R&R is performed as required, and it is prudent to notify and request the ESCO witness operations and/or work performed to minimize potential for disputes over accomplishments.

## Witnessing Log

***Suggested Format for Recording Government Witnessing of M&V***

**Government Witnessing Data, by ECM**

ECM Name /#:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date/time measured:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equipment Used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Calibration Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Location of Measurement (Room, building, site)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contractor Staff:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Gov’t Staff:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Title:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Description of what was measured\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Data for ECM Name /#:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Location of measurement:\_(Center of room, pipe surface, inside duct, etc.\_\_\_\_\_\_\_\_

Baseline Data:(Pre-Install)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Expected Data: (Post- Install)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

As-Found Data\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other observations\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Repeat for all ECMs to be witnessed]

**Government Witnessing Signatures**

This document accurately represents the M&V activities I have witnessed, for the ECMs indicated and on the dates indicated.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Annual M&V Report

The M&V Plan, which governs M&V activities, is included in Appendix J 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 J 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. M&V Report review guidance is available through FEMP (<https://energy.gov/eere/femp/resources-implementing-federal-energy-savings-performance-contracts>).

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, government audits, and potential conflict resolution.

## Agency Training and Awareness

Training requirements are dependent upon the terms agreed upon in the contract. The IDIQ standard terms, unless modified by a TO RFP, require annual re-training if the agency has responsibility for O&M. The ESCO, prior to turning the project over to the Agency after full acceptance, must provide training for all aspects of the O&M of the equipment and systems. The ESCO must also provide manuals for everything in the scope, which fully defines the O&M of the equipment and systems. Optimally, the Agency will have several of their personnel attend the training to ensure that someone who is already trained is available to train new hires. The contract should be consulted for the training plan.

*Template Note: Insert the complete description and schedule of training for this contract. The location of training materials for quick reference may also be noted here. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE)*

# Appendices

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

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## Appendix A – CMP Development (through First Year M&V) 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 | Post-Installation Performance Report reviewed and accepted |  |
| 4 | Full Acceptance completed and signed |  |
| 5 | Commissioning Report received, reviewed and accepted |  |
| 6 | M&V Plan received, reviewed and accepted |  |
| 7 | Completion of 30 days of satisfactory performance |  |
| 8 | Copies of Items 2 through 6 above obtained and placed with LOC Plan |  |
| 9 | Contract reviewed and latest TO-2a, TO-2b, TO-3 and TO-4 Schedules obtained and placed in LOC Plan. |  |
| 10 | Contract reviewed and O&M and R&R responsibilities determined and included in the CMP Plan. |  |
| 11 | Executive Summary from ESCO final proposal obtained and placed in the CMP . |  |
| 12 | Ensure Agency awareness of any Escrow accounts set up during the project development for use during the performance period. |  |
| 13 | Obtain all Agency, DOE, and ESCO contact information for the performance period and insert in CMP Plan. |  |
| 14 | Complete the “Active ECM” list in the CMP Plan. |  |
| 15 | Complete the Awarded Project Overview in the CMP Plan. |  |
| 16 | Add the TO Schedules TO-2a, TO-2b, TO-3, TO-4, and TO-5 to the CMP . (TO-4 appears in two places) |  |
| 17 | Working with the CO/KO and COR. Locate and list location of all material in CMP ‘Documentation Matrix’ |  |
| 18 | Add the estimated construction period savings, incentive, and agency funding dollar values into the Annual Project savings chart. Construction period savings must be verified before being paid. Review contract to ensure that all “Year Zero” savings are identified and captured herein. |  |
| 19 | Complete the CMP chart for M&V Options for each ECM. |  |
| 20 | Conduct Final Review of CMP with COR and CO/KO, ensuring all items are complete and report is ready for transferring to Agency. |  |
| 21 | Train the CO/KO and COR in the use of the CMP, including review of the data within it and how to use it to manage the contract. Present the CMP to the Agency after the review. |  |
| ***Actions at the End of the First Year of Performance Period*** | | |
| 22 | After the end of the first year of the performance period, review the Annual M&V Report; insert the data into the CMP after the Agency has approved and accepted the report. |  |
| 23 | Present Final CMP to Agency, and review it as necessary for their use during the remaining years of the contract term. |  |

## Appendix B – CMP Implementation Checklist (through the entire performance period)

|  |  |  |
| --- | --- | --- |
| **Item** | **Action** | **Completed Date** |
| ***Items ideally conducted more than once throughout the year*** | | |
| 1 | Audit the buildings checking controls settings for lights, temperature, hours occupied or in operation, number 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 to keep them informed, especially if work scope is not occurring. |  |
| 3 | Review M&V 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. Best if conducted as a joint Agency/ESCO effort. This should be a coordinated activity with the ESCO representatives. |  |
| 5 | Review and approve/disapprove any invoices based on the contractual commitment. Caution: M&V confirmed shortfalls may temporarily adjust payment streams to accomplish recovery of any shortfalls. Invoices should then only be approved for the adjusted amounts. Payments may be submitted monthly or annually. The contract should be consulted if necessary. |  |
| 6 |  |  |
| ***Items ideally completed as part of the annual M&V True-up process.*** | | |
| 1 | Review the LOC Plan contacts list to make sure it is up to date. Make any adjustments necessary. |  |
| 2 | Coordinate with the ESCO for the annual M&V tests and/or review and witness all testing, meter reading, and any other planned activities. Document the witnessing that was performed. |  |
| 3 | Review each building with the assigned building manager or equivalent, to determine the quality of service being obtained from the ESCO, especially if the O&M and/or R&R are being conducted by the ESCO. |  |
| 4. | Review the contractual requirements to determine the guaranteed savings in both energy and cost of energy (O&M) for the current year. This is the value the M&V will justify or not. These values change each year by inflation/escalation per the contract. |  |
| 5 | Obtain copies of all utility invoices and determine the actual cost of all commodity consumptions and demand charges for energy consumed by the equipment installed per the ESPC. |  |
| 6 | If necessary, obtain and review the local Heating and Cooling Degree Days from the National Weather Service for use in making weather impact adjustments. |  |
| 7 | Obtain and review the annual M&V report from the ESCO. Verify any calculations and/or claims. Compare with the Guarantees to ensure the Government did receive the guaranteed energy savings and/or the contractual O&M work scope. |  |
| 8 | Obtain and determine if the Agency 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. |  |
| 9 | Address any identified latent defects with ESCO to establish a path to resolution. (Latent defects are faults and [defects](https://www.designingbuildings.co.uk/wiki/Defects) caused by failures in design, [workmanship](https://www.designingbuildings.co.uk/wiki/Workmanship) or [materials](https://www.designingbuildings.co.uk/wiki/Materials), that may not become apparent or readily detectable (even with the exercise of reasonable care) until after [completion](https://www.designingbuildings.co.uk/wiki/Completion) of the project, and after the end of the [defects liability period](https://www.designingbuildings.co.uk/wiki/Defects_liability_period). |  |
| 10 | Conduct an annual True-up meeting with the CO/KO and the ESCO to determine any adjustments required in the monthly/annual/payment stream due to savings shortfalls. |  |
| 11 | Ensure the CO/KO issues a Contract Change Order to correct the payment stream resulting from the annual true-up exercise. |  |
| 12 | COR issues memorandum to CO/KO (for each year) documenting report review and acceptance recommendation; attesting to acceptable M&V report |  |
| 13 | Review O&M requirements of the ESCO and make a determination of work scope accomplishment or the lack thereof. |  |
| 14 | Review R&R requirements of the ESCO and make a determination of work scope accomplishment or the lack thereof. |  |
| 15 | Verify the status of employee training for those working on or with the ESPC equipment to determine if additional training is required. |  |
| 16 | Etc. |  |
| 17 |  |  |
| 18 |  |  |
| 19 |  |  |
|  |  |  |
|  |  |  |

## Appendix C – Commissioning Report

*Template Note: Insert Commissioning Report or Location Reference Information Here. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE)*

## Appendix D – Escrow Account and Procedures

The following procedure is available to the Project if it is advantageous to insert via Contract Modification. Some Task Orders add this in the original document to allow for savings above the guaranteed amount to be kept available for the use of the project on any energy efforts except for payment for unrealized savings. The most common use is for R&R activities if the original contract did not include provision for R&R by the ESCO. It is recommended that discussions be held with the Project Facilitator and the DOE FEMP Financial Specialist prior to adding an escrow account contract modification.

**1. Performance Period Escrow Fund**

The Contractor shall establish a Performance Period Escrow Fund (PPEF) for this contract. The PPEF is a reserve to cover expected additional costs associated with any performance period expenses directly related to the maintenance, repairs or replacement of facilities, system or facility components or equipment related to the provisions as provided for under this Contract, except for those maintenance, repair and replacement responsibilities set forth in the Final Proposal; and/or the early termination of the contract. New additional energy conservation (ECM) activities can also be funded from this account as long as they are not changes required by the contractor to accomplish meeting his guaranteed energy savings (Those changes are to be at no cost to the Government).

**1.1 Account Setup**

Each year an amount of $\_\_\_\_\_\_(TBD) of the performance period expense, or any savings in excess of the guaranteed payment to the Contractor, will be placed into an escrow account by the Contractor on behalf of the Government. These funds are generated by the ESPC savings and shall not include any Contractor markup or expenses. In the event that the Contractor credits the Government for (a) excess Construction Contingency; (b) Hazardous Material Allowance that was not required during construction; (c) proceeds from the transfer of Renewable Energy Certificates; and/or (d) verified energy savings beyond Guaranteed Energy Savings, a sum total to the amount of the credit will be deposited into the escrow account. The PPEF shall be held by a third party financial institution (“Escrow Agent”) acceptable to the Contractor and Contracting Officer, and amounts on deposit in the PPEF shall be invested in Permitted Retention Accounts (defined hereafter in Section 1.6) and such amounts on deposit shall accrue any gains or losses (including interest as applicable) from such Permitted Retention Accounts.

**1.2 Authorized Withdrawals**

a. In the event that additional services and/or equipment are required for the proper performance of this Contract, the Contractor will provide a detailed written estimate for the required service and/or equipment to the Contracting Officer. The Contracting Officer, at his/her sole discretion, will determine whether the request is consistent with the establishment of the PPEF and the estimate is deemed fair and reasonable. Only upon the written approval of the Contracting Officer will the Contractor be authorized to make withdrawals from the PPEF for that particular service and/or equipment up to a specified monetary limitation. In addition to the actual direct costs for these services and/or equipment, the Contractor will be allowed to include a mark-up not to exceed TBD%. For work requested by the Government, that is consistent with the intent of this PPEF, from any person or entity other than the Contractor, the USCG shall not be required to pay a mark-up to the Contractor and the Contractor shall have no responsibility or liability with respect to such work. IN NO EVENT is any withdrawal authorized without the prior written approval of the Contracting Officer.

b. The Contractor, on behalf of the Escrow Agent, may submit written requests to the Contracting Officer for approval of reasonable administrative charges and expenses resulting from the establishment and management of the PPEF. The Escrow Agent shall submit an annual statement to the Contracting Officer for all such fees and expenses for payment with supporting documentation substantiating the cost.

**1.3 PPEF Limitations**

In the unexpected event that authorized costs during any single year exceed the balance of available funds in the PPEF, the Contractor shall provide the Government with any available options to finance the additional charges including, but not limited to, the following: finance the cost for the remainder of the Contract term; modify the Contract to extend the term; or, pay the excess directly. In no event will the Contractor be expected to not recover the cost of an authorized charge.

**1.4 Annual Reporting**

The Escrow Agent will track the escrow balance and issue quarterly and annual statements to the Contracting Officer showing the payments made into the PPEF, accrued interest, and any withdrawals. The Contractor will include the prior year’s statements with each M&V report.

**1.5 Account Closeout**

The Contractor is required to provide notice to the Contracting Officer once the PPEF balance is expected to reach the amount necessary for termination of the Contract in accordance with Schedule ESPC-5, Annual Cancellation Ceiling Schedule. The Contracting Officer may, at his/her sole discretion (a) instruct the Contractor whether to apply the balance of the PPEF toward termination of the Contract, (b) authorize the Contractor to make additional withdrawals in accordance with 1.2, (c) apply the remaining balance to an additional ECM, or (d) combination of above as applicable. The Contractor is required to bring the PPEF to a zero balance at the end of the Contract.

**1.6 Permitted Retention Accounts**

“Permitted Retention Accounts” means the following in the order indicated:

(a) Money market funds which at the date of acquisition have a rating by Standard and Poor’s Ratings Services of either “AAAm-G”, “AAAm” or “AAm”. If such are not available, then:

(b) Bills, notes, bonds or other obligations which as to principal and interest constitute direct obligations of the United States of America.

## Appendix E – Glossary of Terms

**Added Premium** - The added premium is the number of basis points (basis point=1/100 of a percentage point) that, when added to the index rate for a TO project, equals the total Project Interest Rate (a fixed annual percentage). The entity providing the capital to finance a project, which may be the contractor or a third party, can recover financing expenses either in the added premium or as a separate Financing Procurement Price. In most cases, contractors use project financing capital from third party financiers, and the added premium is a pass-through expense from the third party financier. In such cases, the contractor may recover the cost of arranging third-party financing through the Financing Procurement Price.

**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 ECMs (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 Measurement and Verification (M&V) -** The term annual M&V 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 ECMs and a determination of whether an adjustment to the energy baseline is justified by conditions beyond the contractor's control.

**Applicable Financial Index** - The financial index, upon which the index rate, the first component of the project interest rate is based, namely the 10-year Treasury Security. No other index is authorized at this time.

**Commissioning –** Procedures undertaken, generally by the contractor, to assure that ECMs and building systems perform interactively in accordance with design documentation and intent. See “FEMPs Commissioning Guide for ESPCs” at http://www1.eere.energy.gov/femp/pdfs/comm\_guide\_espc.pdf.

**Construction Finance Charges** - The contractor's costs of financing the price of construction or ECM installation. A contractor may not require construction financing for a specific TO. If a contractor does not require construction financing for a specific TO, this cost element would be zero. This cost element shall be included in Financing Procurement Price (not as a direct cost or implementation expense).

**Contracting Officer (CO) and Contracting Officer's Representative (COR)** - The following four definitions are provided to distinguish among the DOE and ordering agency CO and COR:

**Ordering Agency Contracting Officer** refers to the ordering agency CO, responsible for award and administration of TOs.

**Ordering Agency Contracting Officer's Representative** refers to the ordering agency COR, responsible for technical direction and administration of the TOs.

**DOE Contracting Officer** refers to the DOE CO responsible for award and administration of the ESPC IDIQ contracts.

**DOE Contracting Officer's Representative** refers to the DOE COR, responsible for providing technical direction and administration of the IDIQ contracts.

**Delivery Percentage** – See Implementation Delivery Percentage or Post-Acceptance Performance Period Delivery Percentage.

**Direct Costs** - Any allowable cost that can be specifically identified to a particular final cost objective.

**Energy Baseline** - The amount of energy that would have been consumed annually without implementation of ECMs 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 that is applied to an existing federal building or facility that improves energy efficiency, is life cycle cost effective under 10 CFR Part 436, Subpart A, and involves energy conservation, cogeneration facilities, renewable energy sources, improvements in operation and maintenance efficiencies, or retrofit activities, which result in energy, water, or related cost savings. For purposes of this definition, “improves energy efficiency” is not limited to a more efficient conversion of energy; rather when renewable energy is substituted for conventional energy fuels, resulting in the Government’s reduced usage of conventional energy sources; such a substitution constitutes “improved energy efficiency.” Operation and maintenance efficiency improvements are also realized when O&M costs for a facility are reduced as a result of the energy efficiency improvement(s).

**Energy Cost Savings** - A reduction in the cost of energy, water, and related operation and maintenance expenses from a base cost established through a methodology set forth in an ESPC project, utilized in federal buildings or facilities as a result of: (1) installation of ECM(s); (2) the lease or purchase of operating equipment, improvements, altered O&M, or technical services; or (3) the increased efficient use of existing energy sources by cogeneration or heat recovery. 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, maintenance, renewal, or repair expenses of equipment. One-time energy-related cost savings can result from avoided expenditures of O&M, repair and replacement, or capital expenditures funds for projects (e.g., equipment replacement) that, because of the ESPC project, will not be necessary. The contractor shall comply with the latest version of “How to Determine and Verify Operating and Maintenance (O&M) Savings in Energy Savings Performance Contracts”.

**eProject Builder –** eProject Builder (“ePB”) is a web-based tool managed on behalf of DOE by the University of California/Lawrence Berkeley National Laboratory (LBNL). ePB enables contractors and their contracting agencies or other entities to:

1. Upload and track project-level information;
2. Generate basic project reporting materials (e.g. project schedules) that may be mandated by local, State, and/or federal agency requirements; and
3. Benchmark proposed ESPC projects against historical project data.

ePB is a secure, web-based ESPC project data entry and tracking system that standardizes the collection, calculation, and reporting of performance data for ESPCs across all levels of government. Contractors shall submit project level financial and energy-savings information into this secure online system, which will then generate the full set of financial schedules. The data requirements are specified on the ePB website and amended from time-to-time. See <https://eprojectbuilder.lbl.gov>.

**Escalation Rate** - The escalation rate is the rate of change in price for a particular good or service (as contrasted with the inflation rate, which is for all goods and services). In determining escalation rates the contractor shall comply with the latest version of FEMPs “Guidance on Utility Rate Estimations and Weather Normalization in an ESPC”.

**Estimated Energy Cost Savings** - Estimated energy cost savings are the contractor-estimated energy cost savings in dollars per year for each 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. The established energy prices are based on the energy tariffs or rate schedules in effect at the time the project is being developed. Since energy cost savings occur each year after ECMs are implemented, they are a recurring cost savings.

**Estimated Project Size** – The estimated implementation price of an ESPC TO project.

**Financing Procurement Price** - The financing procurement price consists primarily of capitalized construction period interest, and also includes any cost for the service of arranging the project financing.

**Guaranteed Annual Cost Savings** - The guaranteed annual cost savings are the levels of annual cost savings the contractor is willing to guarantee for an ESPC TO project. The proposed values for these savings are initially provided in the Preliminary Assessment (PA) on the ePB-generated TO Schedule 1. After conducting an Investment Grade Audit, the contractor revises the values from the PA and offers the final values within its Proposal on the ePB-generated TO Schedule 1. The guaranteed annual cost savings must exceed the annual contractor payments in each year of the TO post-acceptance performance period. For the first interval (generally 12 months) after Government acceptance of construction, the contractor is paid as if the savings guarantee is being met. The annual M&V report establishes savings. If savings fall short of the guarantee, the contractor will pay back the shortfall over the next interval by accepting lower payments.

**Implementation Delivery Percentage** – A portion of the total implementation price, expressed as a percentage, which includes the project costs for design, project management, performance bonds, commissioning and training, measurement and verification services, implementation overhead, and implementation profit. This percentage is calculated using TO Schedule 6, Project Implementation Pricing Worksheet, and applied to the sum of the ECM direct costs identified on the ePB-generated TO Schedule 2, Implementation Price by ECM.

**Implementation Expense** - Implementation expenses are typically the sum of the direct and indirect costs of all tasks required to install ECMs. Implementation expenses do not include financing costs, profit or any expenses incurred during the performance period.

**Implementation Period** - The implementation period is the period between the date of TO award and the date that all ECMs are operational and accepted by the Government. If additional ECMs are added to the TO by modification, the implementation period for such additional ECMs shall be from date of TO modification incorporating the additional ECMs to the date all additional ECMs are operational and accepted by the Government.

**Implementation Profit** - Implementation profit is typically applied to total direct and indirect expenses for project development and all ECMs in TO Schedule 2.

**Implementation Price** - Implementation price is typically comprised of: the sum of project development and all proposed ECMs direct expenses; indirect expense applied to sum of direct expenses, and profit applied to the sum of total project direct and indirect expenses.

**Indefinite Delivery/Indefinite Quantity (IDIQ) Contract -** A contract for property or services that does not procure or specify a firm quantity of property or services (other than a minimum and possibly a maximum quantity) and that provides for the issuance of TO’s for the delivery of the property and services during the specified ordering period of the contract.

**Index Rate** - The index rate is the interest rate for the financing period of a specific task order (TO) project, based on the contractor's proposed applicable financial index. The added premium negotiated for a TO project is added to this figure.

**Indirect Cost** - Any allowable expense not directly identified with a single, final cost objective, but can be identified to two or more cost objectives or the company as a whole.

**Interest Rate Spread (Above Treasury Rate)** – The fixed annual percentage rate that, when added to the applicable financial index (i.e., 10-year U.S. Treasury Bill), constitutes the total annual percentage finance charge, or project interest rate, that the contractor will charge the Government on the borrowed amount. This spread usually incorporates factors for investment risk, expected inflation, liquidity and maturity. It does not include finance processing fees. An interest rate spread can also be referred to as an added premium.

**Investment Grade Audit (IGA)** - A site survey 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 technical and price proposals.

**Key Subcontractor** – A subcontractor that has unequivocally committed to provide services to the prime contractor in support of any awarded TOs for the period of performance of the contract.

**Measurement and Verification (M&V)** - The process of measuring and verifying energy, water and related cost savings.

**Notice of Opportunity (NOO)** - A request for expression of interest issued by the ordering agency to notify the IDIQ contract holders of its desire to pursue an ESPC project, its ESPC-related objectives and mission, the facilities that may be included, and the energy usage for its facilities. The NOO also includes significant evaluation factors and their relative importance, and a submittal deadline for responses to the notice.

**Notice of Intent to Award (NOITA)** - A written notice issued by the ordering agency to notify the contractor that the ordering agency intends to award a TO for an ESPC project.

**Post-Acceptance Performance Period** - The period (typically in years) from the date an ESPC TO project is operational and accepted by the Government, to the end of the TO's contract term.

**Post-Acceptance Performance Period Annual (or Regular Interval) M&V** - At least annually, the contractor and the ordering agency 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-Acceptance Performance Period Delivery Percentage** – A portion of the total post-acceptance performance period price, expressed as a percentage, which includes overhead costs and profit for the post-acceptance performance period only. This percentage is applied to the sum of the annual post-acceptance performance period expenses.

**Post-Acceptance Performance Period Expenses** - Direct costs (without contractor delivery percentages) of all tasks required to maintain energy savings performance after Government acceptance of installed ECMs. These expenses shall not include any indirect costs, financing costs, profit nor any expenses incurred during the implementation period.

**Post-Installation M&V Activities** - Post-installation M&V consists of measurements, inspections and other activities designed to verify the achievement of annual energy cost savings performance guarantees provided by the contractor.

**Preliminary Assessment (PA)** - A feasibility study which may include, but is not limited to, an evaluation of energy cost savings and energy unit savings potential, building conditions, energy consuming equipment, and hours of use or occupancy, for the purpose of developing preliminary technical and price proposals prior to issuance of a notice of intent to award a TO project in accordance with the IDIQ contract procedures. Although a PA may include a technical concept and price assessment, it is not a binding offer and does not include the text of a financing agreement. The accuracy of the costs and savings estimates will be further refined in the proposal after the IGA.

**Project Development** - Includes all work activities that occur after the ordering agency issues a NOITA. Work activities may include all direct costs associated with the development of an IGA, including but not limited to site visits and inspections, meetings, calculations, project costing, baselines and M&V development.

**Project Square Footage** - Project square footage is the total square footage of a building in which ECMs are installed by a contractor, or of buildings where energy usage and sources are affected by installed ECMs.

**Project Interest Rate** - The project interest rate is the sum of the index rate and added premium for a specific TO project.

**Proposal** - A proposal is a written, binding offer from a contractor that includes technical and price proposals and the text of any financing agreement (including a lease-acquisition).

**Recurring Energy-Related Cost Savings** - Recurring energy-related cost savings are ongoing or annually recurring reductions in energy-related expenses that are budgeted and allocated annually, such as lowered costs for ongoing O&M, repair, or reduction in demand and/or energy rates. These must be actual savings, i.e., there must be an associated reduction in money that the Government was currently spending or planning to spend. O&M and repair costs for tasks currently being performed by the Government or by a contractor hired by the Government are energy-related cost savings if the ESPC contractor assumes the task, reduces the task, or eliminates the task. The Government will determine whether an ESPC contractor-proposed task assumption, reduction, or elimination will be considered recurring energy-related cost savings.

**Renewable Energy Credits (RECs) - also known as Tradable Renewable Certificates (TRCs) or Green TagsTM -** A market mechanism that represents the environmental benefits associated with generating electricity from renewable energy sources. Rather than functioning as a tax on pollution-causing electricity generators, as traditional carbon emissions trading programs do, RECs function as a nongovernmental subsidy on pollution-free electricity generators.

**Response to a Notice of Opportunity (NOO)** – An IDIQ contract holder’s written response providing an expression of interest to an ordering agency CO’s NOO for an ESPC project.

**Responsible Prospective Contractor** - A contractor that meets the standards in FAR 9.104. An award can only be made to contractors that are determined to be responsible.

**Selection Based on Qualifications Method (SBQ)** – Method of selecting a TO contractor.

**Selection Based on PA’s Method (SBPA)** – Method of selecting a TO contractor.

**Task Order (TO)** - The obligating document that provides the details and requirements for the order of an ESPC project, placed against an established IDIQ contract.

**Task Order (TO) Project** - The complete package of ECMs included in a TO for a building, facility, site or agency. Investment and project financing is provided by the contractor to implement an ECM Project, which includes aggregation or bundling of individual ECMs, resulting in energy, water, and related cost savings to the facility.

**Task Order Request for Proposal (TO RFP)** - A document prepared by the ordering agency to communicate the ordering agency’s requirements to the contractor and to solicit proposals. The document will incorporate all agency, site, and project specific standards procedures, functional requirements, terms, and conditions (not already addressed in the IDIQ contract).

**Task Order Term** - The term of a TO issued against this IDIQ contract is defined as the sum of the implementation and post acceptance performance periods negotiated with the ordering agency. The maximum TO term is 25 years from TO award.

**Technology Category (TC)** - ECMs shall be categorized based on the type of system and equipment involved in the project. The TCs are indicated in Attachment J-3. The miscellaneous category shall be used for applications where the ECMs are not identified by the other categories.

**Total Post-Acceptance Performance Period Expenses** - The sum of all expenses incurred during the post-acceptance performance period.

**White TagsTM – Also known as Energy Efficiency Certificates** – Tradable attributes similar to Renewable Energy Credits or Green Tags**TM** that represent the value of energy not used (conserved) at facilities. White TagsTM represent the contractual right to claim the environmental and other attributes associated with electricity generated from a renewable energy facility. They may be traded independently of the energy.

## Appendix F – Acronym List

AFV Alternative Fueled Vehicle

AIA American Institute of Architects

ANSI American National Standards Institute

ARI Air Conditioning and Refrigeration Institute

ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers

BAS Building Automation System

CFM Cubic feet per minute

CFR Code of Federal Regulations

CO Contracting Officer

COR Contracting Officer’s Representative

DEAR Department of Energy Acquisition Regulation

DOE Department of Energy

ECM Energy Conservation Measure

EMCS Energy Monitoring/Management Control System

ESCO Energy Services Company

ESPC Energy Savings Performance Contract

FAR Federal Acquisition Regulation

FEMP Federal Energy Management Program

FP Final Proposal

FPE Federal Project Executive

FPP Financing Procurement Price

HVAC Heating, Ventilating and Air-conditioning

IDIQ Indefinite Delivery/Indefinite Quantity

IDS Investor Deal Summary

IGA Investment Grade Audit

IPMVP International Performance Measurement and Verification Protocol

KO Contracting Officer

LOC Life of Contract [Plan]

M&V Measurement and Verification

MACRS Modified Accelerated Cost Recovery System

NEC National Electric Code

NEMA National Electrical Manufacturers Association

NEPA National Environmental Policy Act

NESC National Electrical Safety Code

NFPA National Fire Protection Association

NOI Notice of Intent (to award task order)

O&M Operations and Maintenance

ORCA Online Representations and Certifications Application

OSHA Occupational Safety and Health Administration

PA Preliminary Assessment

PCB Poly-chlorinated Biphenyl

PE Professional Engineer

PF Project Facilitator

REC Renewable Energy Credit

REM Resource Efficiency Manager

RFP Request for Proposals

SF Standard Form

SFO Standard Financing Offer

SOW Statement of Work

TC Technology Category

TO Task Order

TRC Tradable Renewable Certificates

UBC Uniform Building Code

UL Underwriters Laboratory

UPC Uniform Plumbing Code

## Appendix G – External Resource Directory

Web information\* that will assist in developing an understanding of the ESPC process. \*Note: When referencing web guidance information, one should check for any recent or updated versions prior to using the information found by the web links referenced below.

* DOE FEMP Website:  
   <https://energy.gov/eere/femp/federal-energy-management-program>
* FEMP ESPC Instructions and Guidance Documents:  
  <https://energy.gov/eere/femp/resources-implementing-federal-energy-savings-performance-contracts>

Energy Units Conversion Table: <https://portfoliomanager.energystar.gov/pdf/reference/Thermal%20Conversions.pdf>

* Energy Escalation Rate Calculator:  
  <https://energy.gov/eere/femp/energy-escalation-rate-calculator-download>
* ASHRAE: Service Life and Maintenance Cost Database:  
  <http://xp20.ashrae.org/publicdatabase/>

## Appendix H – Sample Project Acceptance Form/Project Deferred Acceptance Form

The following is a sample construction completion signature document, for reference purposes.

**Project Title:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Project No.: Delivery Order No.: Assigned Performer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(e.g. Major Subcontractor)

\_\_\_\_\_ Total Formal Construction Project

\_\_\_\_\_ Partial Formal construction Project (e.g. system or ECM)

\_\_\_\_\_ Minor Construction Activity

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SECTION 1A. Completion of Construction and Construction Acceptance Testing**.

(Signatures in Section 1A document completion of physical construction and inspection)

Describe the formal construction project, partial project (e.g. system or ECM), or minor construction activity being documented as physical construction and inspection complete.

\_\_\_\_\_ No Exception List \_\_\_\_\_ Exception List Attached

Assigned Performer Signature: Agency Acceptance Inspection Signature:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SECTION 1B. Completion of Section 1A Exceptions:** (Signatures in Section 1B document that the above exceptions list, if any, has been completed and accepted and/or funds have been accrued to complete the remaining minor exceptions and remaining project financial obligations)

\_\_\_\_\_ All exceptions resolved. \_\_\_\_\_ Funds accrued for remaining exceptions (list attached)

Assigned Performer Signature: Agency Acceptance Inspection Signature**:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Section 2A. Completion of Operational Testing, Commissioning and Approval of Test Results.**

**(**Signatures in section 2A document Engineering approval of Operational and Commissioning Test results and operational acceptance and/or beneficial use of the completed system/project listed in Section 1A above.)

Assigned Performer Signature: Agency Acceptance Inspection Signature:

(Engineering)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Assigned Performer Signature:

(Subcontractor)

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 2B. Completion of Section 1B Exceptions.**

(Signatures in section 2B document that all exceptions identified in Section 2A have been completed)

Assigned Performer Signature: Agency Acceptance Inspection Signature:

## Appendix I – Summary of M&V Options, M&V Plan and Current Year M&V Annual Report

### Overview of M&V Options A, B, C, and D

The IPMVP defines four broad categories of M&V techniques: Options A, B, C, and D. These categories are divided into two general types: retrofit isolation and whole facility. Retrofit-isolation methods consider only the affected equipment or system independent of the rest of the facility. Whole-facility methods consider the total energy use and de-emphasize specific equipment performance. The primary difference in these approaches is where the boundary of the ECM is drawn, as shown in Figure 4-1. To determine savings, all energy used within the boundary must be considered. Options A and B are retrofit-isolation methods, Option C is a whole-facility method, and Option D can be used as either but is usually applied as a whole-facility method.

|  |
| --- |
|  |
| Figure 4-1. Retrofit-isolation M&V methods (options A and B) vs. whole-facility methods (options C and D). |

The four generic M&V options are summarized in Table 4-1 and described in more detail below. Each option has advantages and disadvantages based on site-specific factors and the needs and expectations of the customer. While each option defines an approach to determining savings, it is important to realize that savings are not directly measured, and all savings are estimated values. The accuracy of these estimates, however, will improve with the number and quality of the measurements made. The accuracy of savings estimates can be quantified, as discussed in the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Guideline 14, Appendix B. and in IPMVP Statistics and Uncertainty EVO 10100-1:2014[[3]](#footnote-3)

Overview of Measurement and Verification Options A, B, C, and D

|  |  |  |
| --- | --- | --- |
| **Measurement and Verification Options** | **Description** | **Examples** |
| **Option A—Retrofit Isolation with Key Parameter Measurement** | This option is based on a combination of measured and estimated factors.  Measurements are short-term, periodic, or continuous, and are taken at the component or system level for both the baseline and the retrofit equipment.  Measurements should include the key performance parameters that define the energy use of the energy conservation measure. Estimated factors are supported by historical or manufacturers’ data.  Savings are determined by means of engineering calculations of baseline and reporting period energy use based on measured and estimated values. | Lighting retrofit projects. The key parameters are the power draws of the baseline and retrofit light fixtures. The operating hours are estimated based on facility use and occupant behavior. Energy savings are calculated as the difference in power draw multiplied by the operating hours. |
| **Option B—Retrofit Isolation with All Parameter**  **Measurement** | This option is based on short-term, periodic, or continuous measurements of baseline and post-retrofit energy use (or proxies of energy use) taken at the component or system level.  Savings are determined from analysis of baseline and reporting-period energy use or proxies of energy use. | Installation of a variable-speed drive and associated controls on an electric motor. Electric power is measured with a meter installed on the electrical supply to the motor. Power is measured during the baseline period to verify constant loading. The meter remains in place throughout the post-retrofit period to measure energy use. Energy savings are calculated as the pre-retrofit energy use (adjusted to correspond to the length of the reporting period) minus the measured energy use during the reporting period. |
| **Option C— Whole-Facility Measurement** | This option is based on continuous measurement of energy use (such as utility billing data) at the whole facility or sub-facility level during the baseline and post-retrofit periods.  Savings are determined from analysis of baseline and reporting-period energy data. Regression analysis is conducted to correlate energy use with independent variables such as weather and occupancy.  Because this option requires a detailed inventory of all equipment included in the meter reading (as well as knowledge of equipment use patterns, building occupancy, and other factors affecting energy use), it is rarely used in federal projects. It can be appropriate for short periods or where equipment included in the meter reading is limited or can be controlled. | Replacement of a gas boiler. Using billed natural gas use data for 12 months during the baseline period, a baseline regression model is developed of monthly natural gas use with monthly heating degree days. Given the monthly heating degree days in a typical year at the site, the baseline model is used to determine baseline gas use in a typical year. Annually during the post-retrofit period a similar regression model is developed using billed natural gas and heating degree day data from the previous 12-month period. The reporting-period model is normalized to determine natural gas use in a typical year. Savings are defined as the normalized baseline gas use minus the normalized reporting-period gas use. |

Overview of Measurement and Verification Options A, B, C, and D (continued)

|  |  |  |
| --- | --- | --- |
| **Measurement and Verification Options** | **Description** | **Examples** |
| **Option D—Calibrated Computer Simulation** | Computer simulation software is used to model energy performance of a whole facility (or sub-facility). Models must be calibrated with actual hourly or monthly billing data from the facility.  Implementation of simulation modeling requires engineering expertise. Inputs to the model may include facility characteristics; performance specifications of new and existing equipment or systems; engineering estimates; spot, short-term, or long-term measurements of energy use of system components; and long-term whole-building utility meter data.  After the model has been calibrated, savings are determined by comparing a simulation of the baseline with either a simulation of the performance period or actual utility data. | Comprehensive retrofit involving multiple interactive conservation measures in a large building. A simulation model of the building with baseline equipment is developed and calibrated to a minimum of 12 months of utility billing data. The baseline model is used to determine baseline energy use in a typical year at the site. Retrofit measures are implemented in the simulation model, and the model is run to estimate the post-retrofit energy use in a typical year. Energy use is determined as baseline energy use minus reporting-period energy use. Spot measurements of equipment are made during the performance period to ensure that equipment performance conforms to the parameters used in the model. |

### M&V Plan

*Template Note: Insert the M&V Plan. (REMOVE THIS NOTE AFTER COMPLETING TEMPLATE.)*

### Annual M&V Report

*Editor’s Note: Insert the most recent annual M&V report here.*

1. \* *Editor’s Note: Preferred location of this item should be in Appendix J of this report.* [↑](#footnote-ref-1)
2. \*\* *Editor’s Note: Current report preferred in Appendix J of this report, past years in a location defined herein.* [↑](#footnote-ref-2)
3. International Performance Measurement and Verification Protocol: Statistics and Uncertainty for IPMVP, EVO-10100-1.2014, Efficiency Valuation Organization. [↑](#footnote-ref-3)