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Utility Energy Service Contract Playbook

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Chapter 1 Introduction – Utility Energy Service Contract (UESC)

The objective of the UESC Playbook is to provide the parameters and guidance for implementing a UESC in accordance with Air Force (AF) protocols and requirements. This Playbook contains a basic history of the UESC program, primary roles and responsibilities, step-by-step instructions, job aids, and reference documents to ensure UESC procedures are followed. Per the [Department of the Air Force Instruction \(DAFI\) 90-1701, *Installation Energy and Water Management*](#), Air Force Civil Engineer Center, Program Development Division (AFCEC/CNE) serves as the central authority and execution agent for all AF Energy Savings Performance Contract (ESPC) and UESCs. This Playbook applies to all AF Installations considering using an UESC including contracts via, but not limited to, General Services Administration (GSA), Energy Management Service Agreements (EMSA), and individual installation contracts. AFCEC centrally manages and oversees all AF ESPC and UESC projects, to include providing reviews and approvals for all stages of the projects and maintaining responsibility for acquisition budgets, schedules, and compliance requirements. Job aids, resources, and reference materials are provided digitally in links and modified as required by AFCEC/CNE. Any deviations require written approval from the ESPC/UESC Program Manager, AFCEC/CNE. The ESPC/UESC program manager, AFCEC, and AFCEC/CNE are the sole interpreters of this Playbook.

1.1 Playbook Scope

Limitations: This Playbook does not replace, supersede, or circumvent existing Department of Defense (DoD) or AF policy.

Applicability: This Playbook is written for the following personnel: AFCEC/CNE, Base Civil Engineers (BCE), Base Energy Managers (BEM), Base Champion (BC), Base Financial Managers (BFM), Contracting Officers (CO), Utility Companies, Energy Service Companies (ESCOs), and Contracting Agencies (Defense Logistics Agency-Energy (DLA-E), Corps of Engineers - Huntsville Center (CEHNC), etc.).



Chapter 2 UESC Background, Authority, Financing and Funding

2.1 Background

A UESC is a contract that allows utilities to provide their government customers with energy and water efficiency improvements and demand-reduction services. UESCs leverage third-party funds to identify and implement Energy Conservation Measures (ECMs) and resiliency technologies for a financing term of up to 25 years by statute [Title 10 United States Code \(USC\) 2913, Energy Savings Contracts and Activities](#). The AF requires guaranteed savings to be provided on all UESC's, unless prohibited by statutes or regulations. The AF can use UESCs for all buildings, excluding leased buildings (unless leased from another Federal agency) where the AF pays the utility bill.

UESCs are typically considered to increase facility energy efficiency through improvements to installation infrastructure, buildings, and building systems. Under an UESC, a serving or franchised utility company identifies energy savings strategies that yield an economic return on the investment. UESCs are used for the following:

- A. Reducing water/energy use.
- B. Repairing and/or installing high efficiency equipment and/or control systems.
- C. Re-commissioning or retro-commissioning energy consuming systems.
- D. Energy/Mission Resiliency.

The Utility obtains funding to implement design actions along with purchase and to install/update equipment and energy systems. The implementation costs can be paid with appropriated funds or financed by the utility company and paid overtime via annual utility dollar savings. A UESC shall be implemented with assurance that the energy savings can be validated for the term of the UESC and meet the legal intent of the UESC. The goal of third party financed projects is to provide resiliency to AF installations, as such AF UESCs must contain resiliency measures (e.g., actions beyond just energy conservation). Resiliency mission gaps and/or measures are identified via Installation Energy Plans (IEP).

The Utility is responsible for the design, acquisition, installation, and measurement and verification (M&V) of the project equipment or systems that produce the savings. Refer to section [2.4.2 Annual Reconciliation](#) for more information. Refer to the GSA Utility Contractors List to view approved contractors; the utility must be a utility provider to the specific facility where the UESC is to be executed.

Certain risks are associated with implementing the UESC for the AF. It is essential the AF does not assume any of the utility contractor's risk, such as the ECM performance. AF risks include utility rates and mission changes.

Refer to the Risk/Responsibility Checklist and Example ([Appendix C](#) and [Appendix D](#)) job aid for guidance.

Note: Generally, the Utility does not conduct the actual project efforts associated with the UESC and subcontracts almost all project actions to an ESCO. The Utility/ESCO structure is the most often contract structure seen in UESCs and does not present the most optimal financial/cost structure to the AF. As such, the benefits of executing the UESC must be weighed against this common practice in regard to the best interest of the AF.



2.2 Authority

The following table lists directives, and policies that mandate and support the AF UESC program:

Authority Documents Mandating the AF UESC Program
<u>Title 10 USC 2911, <i>Energy Performance Goals and Master Plan for Department of Defense</i></u>
<u>Title 10 USC 2912, <i>Availability and Use of Energy Cost Savings</i></u>
<u>Title 10 USC 2913, <i>Energy Savings Contracts and Activities</i></u>
<u>Public Law (PL) 109-58, <i>Energy Policy Act of 2005</i></u>
<u>Title 10 Code of Federal Regulations (CFR) 436, <i>Federal Energy Management and Planning Programs (FEMP)</i></u> and <u>Title 10 CFR 436.18-19</u>
<u>Energy Independence and Security Act (EISA) of 2007</u>
<u>Title 10 USC 2866, <i>Water Conservation at Military Installations</i></u>
<u>Air Force Policy Directive (AFPD) 32-10, <i>Installations and Facilities</i></u>

Table 1: Authority Documents Mandating the AF UESC Program

The statute that provides for UESCs, Title 10 USC 2913 states that:

1. The Secretary of Defense (SECDEF) may authorize the Secretary of any military department having jurisdiction over a military installation, to enter into agreements with gas or electric utilities to design and implement cost-effective demand and conservation incentive programs. This includes energy management services, facilities alterations, and the installation and maintenance of energy saving devices and technologies, by which the utility company will address the requirements and circumstances of the installation.
2. If an agreement under this subsection provides for a utility to advance financing costs for the design or implementation of a program referred to in that paragraph to be repaid by the United States, the cost of such advance may be recovered by the utility under terms no less favorable than those applicable to its most favored customer.
3. Subject to the availability of appropriations, repayment of costs advanced under paragraph (2) shall be made from funds available to a military department for the purchase of utility services.
4. An agreement under this subsection shall provide that title to any energy-saving device or technology installed at a military installation pursuant to the agreement vested in the United States. Such title may vest at such time during the term of the agreement, or upon expiration of the agreement, as determined to be in the best interests of the United States.

2.3 Investment Grade Audit Funding

The Investment Grade Audit (IGA) of a UESC is used to develop audits, engineering, meter data, calculations, savings, costs, etc., to provide sufficient due diligence to award a firm fixed price contract. The IGA development can take several months (10 months on average) and result in the



Utility incurring notable cost liability, which must be paid for by the AF. The Utility generally provides the proposed cost for the execution of the IGA as part of the Preliminary Assessment (PA) submission, though the actual IGA costs can vary based on the scope selected by the Base for development within the IGA. One of the elements that differ between an ESPC and a UESC, is the AF must pay for the IGA development whether or not the UESC is awarded. As such, once a Utility is directed to begin the IGA phase of a UESC, there is a funding liability created. In order to address this funding liability, the Installation must provide a funds assurance letter prior to the start of the IGA. The Base must set aside/allocate current Fiscal Year (FY) funds to cover the costs of the IGA development in the event the project is not awarded. If the project is awarded, the IGA development costs can be rolled into the project financials or use the funding identified by the Base, thus freeing up more savings dollars. If the allocated dollars are not awarded or pending award by the start of the fourth quarter of the FY, then the dollars can be vectored to another requirement. It would then require the Base to provide another funds assurance letter for the continuation of the IGA actions within the follow-on FY.

2.4 Financing UESCs and Other Considerations

UESC projects, funded or financed, must produce tangible financial savings that are equal to or greater than the cost of implementation, including the cost of financing, operations and maintenance repair and replacement (O&MRR), etc. All UESC costs, including mid-contract replacement of capital equipment, must be funded out of the UESC savings generated, unless funded using appropriated funds. An installation's post-UESC utility costs plus the cost of the UESC project cannot exceed the utility costs prior to the implementation of the UESC project. If the project is financed, the utility cost savings are used to pay to make the annual UESC payments. Thus, the UESC costs cannot exceed the tangible savings (i.e., energy and operations & maintenance (O&M)) generated by the projects, nor may it negatively impact the Facilities Operations Account with added expenses (e.g., interconnect agreements, adding to privatized utility contract expense, increased O&M, etc.). The payment to the Utility is contingent upon annual verification by the government that the guaranteed savings have been realized.

The Utility is responsible for the design, acquisition, installation, M&V, and maintenance of the project's equipment or systems that produce the savings. An UESC requires the Utility to guarantee the savings generated by and the operation of the installed equipment. This guarantee must be satisfied and verified at the acceptance of the equipment and revalidated annually throughout the life of the Task Order (TO).

2.4.1 Energy Cost Savings

Annual payments by the AF under a UESC cannot exceed the value of energy and O&M savings relative to costs prior to the UESC. Refer to [Title 42 USC 8287, Authority to Enter into Contracts, Section 801\(a\)\(2\)\(B\)](#).

Energy Costs Savings can be one-time or recurring energy cost savings that can be utilized to fund an UESC. An UESC is budget neutral; actual funds need to be saved or generated to pay the Utility. The funds can be generated from cancellation of vendor contracts, elimination/reduction in capital expenses (e.g., Air Logistics Centers payments to Civil Engineer (CE)), or just utility savings. Installations should be aware revectoring of resources does not generate fiscal savings (e.g., UESCs do not impact manpower, and thus manpower savings cannot be claimed). Types of cost savings that can be utilized include the following:



- A. Reductions in expenses (other than energy costs) related to energy-consuming equipment affecting capital expenses (e.g., Air Logistics Centers) and costs of existing vendor/service contracts. These types of expenses must be audited to determine validity, with auditing consisting of previous work orders, prior purchase orders, vendor contacts, etc. In addition, the reduction of expenses must provide tangible savings and identify the source of the funding that can be vectored to pay for the UESC.
- B. Reduction in utility commodity consumption, in comparison to normalized baseline, for natural gas, electrical, water, sewer, propane, etc.

Certain risks are associated with implementing an UESC for both the AF and the Utility. Therefore, it is essential that the AF does not assume any of the Utility's risks.

AF risks during the life of the TO	Utility risks during the life of the TO
Utility rates	ECM performance
Hours of operations	ECM maintenance
Mission changes	Guaranteed savings

Table 2: UESC Utility Risks

The Utility will provide a guarantee of energy savings to the AF and establish payment schedules reflecting this guarantee. The Utility provides payment and saving values for each year of the TO. The actual payment to the Utility is based on an agreed percentage of the calculated energy savings. The awarded TOs contain fixed price payment schedules, like utility bills and are “must-pay” requirements that are programmed into the annual utility budget process.

Forecasted energy costs and the discount rate (present value of future cash flows) are major factors in determining UESC savings. [Title 10 CFR 436, Federal Energy Management and Planning Programs](#), provides detailed instructions for UESCs, including the calculation of life cycle costs. For example, Title 10 CFR 436.14 mandates the use of the annual supplement to Life Cycle Costing Manual for the FEMP (National Institute of Standards and Technology (NIST) 85-3273) to determine the discount rate and forecasted energy costs. UESCs must use the direction provided in the AFCEC Escalation Rate Guidance ([Appendix F](#)) for determining escalation rates per the Energy Escalation Rate Calculator (EERC). The provisions in Title 10 CFR 436.14 are mandatory and failure to comply results in the contract deemed legally insufficient.

2.4.2 Annual Reconciliation

As part of the IGA, the M&V Plan is developed by the Utility for the AF to identify methodologies and performance assurance actions. These standards are technically appropriate, economically viable, within the power of the Utility to honor and effective in identifying the actual energy savings generated by each ECM. Every effort should be made to minimize the extent and cost of performance assurance. M&V methodologies and requirements are further addressed in [Chapter 6](#).

2.4.3 Budgeting for UESC Contracts



As part of the final submittal, the Installation will receive a “PAYMENT, AMORTIZATION, AND TERMINATION LIABILITY SCHEDULE”. This schedule will contain payment due date, interest, principal, balance, annual O&M and M&V costs, termination fees, and most importantly the total annual government payment. The annual payment must be budgeted as part of the Installation’s annual utility costs (e.g., ExPlan) to Air Force Installation & Mission Support Center, Sustainment Oversight Section (AFIMSC/IZBO). The Installation will receive funds to pay this “must-pay” annual expense for the term of the contract.

If the Installation obtained approval to utilize alternate funding, other than utility dollars, those dollars must be allocated from the appropriate budget (e.g., local O&M budget) on an annual basis. AFIMSC/IZBO will not up fund the utility budget to cover these annual costs/savings, as claimed savings should be realized from the other budget identified to fund the payment. The Installation is responsible to ensure funds are budgeted in the appropriate accounts each FY.

The Installation is responsible for sending the funds at award and/or annually for project payments for both utility and other funds. UESC payments are often part and parcel of the normal utility bills. However, it may require the Installation to send funds to the contracting agent (e.g., DLA-E or CENHC) via Military Interdepartmental Purchase Request (MIPR), which is completed by the Installation. The manner of payment will be established in the awarded TO. If a MIPR is required, the Base Contracting Officer Representative (COR) shall coordinate with Installation Financial Managers and Contracting Office on the MIPR process prior to award, to ensure proper engagement, and avoid delayed payments.

2.4.4 Buy-down

UESC costs may be partially or fully funded with funds used to buy down part or all of the TO, such as end-of-year fallout funds or specific project dollars (e.g., Energy Resiliency & Conservation Investment Program (ERCIP)). These one-time funds can be used at the time of award or identified in the payment schedule to the utility company upon acceptance of the ECM and commencement of the performance period. This allows for a lower financed amount and shorter term, thereby reducing interest costs over the term. Buy-down schedules are required for projects with payment periods greater than five years. If funds are available to buy down a portion of the TO, several steps are necessary:

- A. Funds must be identified as soon as possible, preferably during the development of the UESC, and CE leadership must confirm the availability of the funds to the AFCEC/CNE Project Management Office (PMO). Additionally, the Contracting Agent may require the funds or fund assurance prior to letting the Utility include the funds in the financial structure of the project.
- B. If funds are not available at the time of award, they can alternatively be applied to buy down of the principle during the performance period but would not be part of the financial structure of the TO (e.g., would result in buy down of principle). Economics must be considered (e.g., is it a good deal for the AF), and rising interest rates might prohibit including added funds into the annual financial structure.
- C. Prepayment penalties must be identified by the utility company.

2.4.5 Guaranteed Savings & Term Limits



As stated in [Section 2.1](#), UESCs leverage third-party funds to identify and implement ECMs for a financing term of up to 25 years by statute [Title 10 USC 2913](#). The AF generally limits the UESC to a contract term of 24 years at the time of award as a risk mitigation measure. The AF requires guaranteed savings to be provided on all UESCs, unless prohibited by statutes or regulations.

The guaranteed savings will be part of the TO, the utility company will provide an annual guarantee of energy savings to the AF and establish payment schedules reflecting the guarantee. The equipment/ECMs installed are guaranteed to provide energy savings; provisions shall be made for the labor, supplies, parts, and materials to maintain the ECMs for the term of the TO. Annual verification of energy savings must be accomplished by the utility, as provided for in an approved M&V plan ([Section 6.1](#)).

Payments to the utility will be based upon the agreed guaranteed savings, as defined in the TO. UESC payments are like utility bills and are “must-pay” requirements which are programmed into the annual utility budget process.

2.5 Funding Requirements

2.5.1 Types of Savings

Cost savings which may be included in a UESC include:

1. Reduction in utility commodity consumption, in comparison to normalized baseline, for natural gas, electrical power, water, sewer, propane, etc. The utility savings must be tangible and rate structures such as Customer Baseline Load (CBL), Western Area Power Administration (WAPA), Southwestern Power Administration (SWPA), etc., shall be taken into consideration for the determination of the actual utility dollar savings.
2. One-time energy-related cost savings resulting from avoided expenditures because of the UESC project. The avoided savings must represent a project or opportunity with tangible funding source available to pay the UESC bill (e.g., funded Facilities Sustainment, and Restoration and Modernization (FSRM) project).
3. Demand-related savings, such as peak shaving.
4. One-time or re-occurring utility rebates/incentives. As rebates/incentives are outside of the control of both the AF and the often the Utility, if the funds from the rebates/incentives are to be part of the long-term financial structure of the project, the Utility must sign up to be responsible for these dollars, if not available when needed. If the Utility does not want to take on responsibility for the rebates/incentives, then they can be utilized in the project, but shall not be part of the project’s financial structures but can be used as buy down dollars when/if they become available. The AF does not want to accept liability for funding rebates/incentives that are not under AF control/purview.

2.5.2 Other Types of Savings (O&M)

[Title 10 USC 2913\(d\)\(3\)](#) specifies that repayment of financed costs is made from funds available to a military department for the purchase of utility services. UESC savings must be



real (tangible) and verifiable so the installation does not run the risk of a funding shortfall. Funding sources that encompass O&M-type savings or other Base level savings, have been found to not eliminate actual budgetary costs and place an undue burden on already reduced installation budgets, and O&M savings shall not be included in an UESC. Civilian/Military personnel wages/costs are also not allowed as a savings mechanism for UESC projects. Additionally, the revectoring of labor resources does not generate actual dollar savings and shall not be considered for savings.

2.5.3 Capital Funding Sources for UESCs

Use caution if applying anticipated cost savings to a UESC, due to reduction in capital funds expenditure due to the execution of the UESC. Example: Air Logistics Centers (ALC) expenditures vectored to Base CE that are now part of the UESC scope. The costs/savings associated with these actions require validation prior to consideration in the project. Historical data (e.g., work orders) may not be able to back up expenditures, and the costs/savings must be documented as a future budgeted expense that is being eliminated that can now be moved to the UESC. If the usage of such capital type funding is considered, the following protocols must be adhered to also.

- A. Base Mission Support Group (MSG) leadership and the Agency providing funding (if different) must provide a signed agreement detailing the amount, term, and validation of the savings, along with course of action (COA) analysis regarding the proposed scope/project impact including identification of the availability of funding either one time or for the term of the contract. The signed agreement must be submitted to AFCEC/CNE PMO.
- B. AFCEC/CNE PMO will review the signed agreement for approval or denial. The review will include if the savings have been validated at a tangible, level of risk acceptable/appropriate in regard to the proposed scope that would be achieved, and COAs presented are reasonable.
- C. Upon AFCEC/CNE PMO approval, then AFCEC/CC will be engaged for comment and approval or denial, on the basis that the additional funding is warranted and an acceptable risk to the AF.

Prior to consideration of other funding sources, the Base shall coordinate with AFCEC/CNE. Any funding other than utility dollar funding requires CO approval prior to consideration for usage in the UESC project. The Utility shall not consider or include other cost savings until authorized by the CO, as doing so can provide unwarranted expectations. If these expenditures are included as part of the annual payment structure in the UESC (versus a one-time payment), they become a “must-pay” bill from the appropriate funding account, not the utility account.

2.5.4 FSRM Requirements

FSRM Projects that have Construction Task Ordering (CTO) funding authority may be included within an UESC. Refer to the most current Air Force Comprehensive Asset Management Plan (AFCAMP) regarding FSRM projects. The savings generated by the FSRM project, executed by the Utility, can be vectored into the UESC for usage in the funding of additional scope.



Optimally the FSRM project and UESC are awarded in the same fiscal year, though the FSRM can be awarded ahead of the UESC. If the FSRM project is awarded post UESC award, the inclusion of the energy savings from the FSRM may not be financially optimal within the UESC (i.e., require rework of project financials/interest rate). The identification and inclusion of an FSRM project into an UESC must be early in the project development, preferably as part of the PA, as it will affect the financial structure of the project. The Base CE leadership must provide written concurrence to AFCEC/CNE PMO that the selected FSRM project(s) are to be included in the UESC project. Energy savings from the FSRM project can only be captured within the UESC if the equipment is installed by the Utility and the Utility remains responsible for the performance and savings.

Once the FSRM project is selected for inclusion, the Base shall follow the protocols set out in the AFCAMP business rules (e.g., adjust Time on Target (ToT)) to align with the UESC development schedule. As part of the IGA submission, the Utility will provide competitive subcontractor bids and costs for the scope of work for the identified FSRM project, for usage in the Request for Funds (RFF) process. Upon receipt of funds, the Base must MIPR the funds to the Procurement CO to enable award as part of the UESC. The Base CE should engage prior to with the Base FM and Contracting Office to determine requirements to ensure the MIPR is not delayed.

As part of including an FSRM or other funded project(s) in an UESC, the Base shall not share Department of Defense (DD) Form 1391's or other budgeting documentation regarding the projects with the Utility. As part of IGA the Utility must provide the AF with competitive pricing for the scope of work defined in the funded project, allowing the AF to request the funds associated with the requirement. Most often the pricing of these types of projects are included as an appendix in the IGA and include necessary backup pricing documentation.

2.5.5 ERCIP Requirements

ERCIP is a Military Construction (MILCON) funded program used to implement resiliency initiatives at federal installations. The usage of ERCIP funding is now authorized for usage in third party financed projects and the Base shall follow the necessary ERCIP business rules for these actions. If an ERICP opportunity has been identified for inclusion in the UESC project, then the Base should engage with AFCEC/CN on the proposed resiliency opportunity. Often an ERCIP opportunity is identified by the Installation and AFCEC/CN prior to the start of the UESC and becomes the defining scope for the project. As part of including an ERCIP requirement in the UESC, the Base shall not share DD Form 1391s or other budgeting documentation regarding the projects with the Utility. The Utility must provide the AF competitive pricing for the scope of work defined in the funded project.

2.5.6 Additional Funding Rules

Usage of other funding sources outside of Base CE has the following additional funding rules, which apply:

1. MILCON funds cannot be applied to a UESC. MILCON projects cannot be accomplished under a UESC. Use of MILCON funds for a purpose outside appropriated use would result in a violation of the [Title 31 USC 1301, Purpose Act](#).



Of note, the usage of ERCIP funding is authorized for usage in a UESC ([Section 2.5.5](#)) and the Base shall follow the necessary ERCIP business rules for these actions.

2. Non-appropriated Fund (NAF) functions may be authorized to use appropriated O&M funds. NAF Category C ECMs must use savings only from other NAF ECMs to avoid subsidizing or being subsidized by funds other than NAF-funded sources. All actions affecting funding must be coordinated with the NAF funds manager. The NAF funding and payments shall be self-funding and tracked on separate financial schedules within the UESC TO. It is required that prior to the inclusion of NAF facilities, a Memorandum of Agreement (MOA) is in place and signed by NAF leadership, agreeing to fund their portion of the UESC. An MOA must be signed and enforced prior to any NAF facilities being included in any project actions.
3. Military Family Housing (MFH) funds are appropriated separately and used specifically for MFH purposes. MFH ECMs must use savings only from other MFH ECMs to avoid subsidizing or being subsidized by funds other than MFH-funded sources. Use of MFH funds for a purpose outside their appropriated use would result in a violation of the Purpose Act. The MFH funding and payments shall be self-funding and tracked on separate financial schedules within the UESC TO. An MOA must be signed and enforced prior to any MFH facilities being included in any project actions.
4. Reimbursable customers require separate accounting procedures to ensure that adequate payments are being applied to their accounts. Reimbursable customers must agree to a MOA or equal to provide payments for the term of the contract. Funding and payments shall be self-funding and tracked on separate financial schedules within the UESC TO. An MOA must be signed and enforced prior to any reimbursable facilities being included in any project actions.

2.5.7 Interconnection Agreement & Costs

Generally, as part of any on Base generation assets (e.g., solar photovoltaic (PV), prime power generators, Cogeneration, etc.) require interconnection agreements and actions with the serving utility. The interconnection agreement can require engineering, design, studies, and reports (e.g., load study, etc.), in addition to physical upgrades of infrastructure (e.g., switchgear, transformers, etc.). The costs for any actions regarding the interconnection agreement shall be burdened within the finances of the UESC, and not borne by the AF to fund. As the full scope of the interconnection agreement may not be known at the time, the Utility may be requested to place an estimated amount in escrow with the TO, which shall be utilized as needed to execute the interconnection actions. At the conclusion of construction actions, any unused portion of the escrow account would be used as a buy down into the project. Due to the AF's existing contract with the Utility requiring the interconnection, any interconnect discussions with the serving utility shall only occur in partnership with the AF.

2.5.6 Buy-out

Facilities under an UESC may require a buy-out before non-UESC work is conducted (e.g., renovation, demolitions, etc.). Government actions (post-award) on a building that will



impact, alter, or dismantle UESC material or equipment, rendering that part of the UESC contract invalid, require a buy-out of the applicable portion of the contract. Examples include demolition, upgrades, construction, and privatization. Whenever possible, buy-out funds are programmed with the same fund source as the project altering the condition of the facility. Any demolition, upgrades, construction, or privatization are identified to the UESC CO for evaluating and determining appropriate contract action.

If during the performance period the installation determines that part or all of the TO is desired to be bought out, then the following steps are required:

- A. Economics must be considered (e.g., is it a good deal for the AF?). Contact AFCEC and AFIMSC to receive guidance on the current business rules for economic analysis of a buy-out. Often buy-out dollars are appropriated through AFIMSC. Generally, the economic analysis will consider the life expectancy of the equipment being considered for a buy-out.
- B. Actual buy-out costs, including prepayment penalties, which will be identified and or provided by the Utility, per the request of the CO.

2.6 Operation and Maintenance Related to the TO

The Utility is responsible for all costs relating to the energy savings guarantee, including labor, supplies, parts, and materials for the TO term. In addition, Utilities are responsible for all maintenance and repairs of installed equipment/systems during the duration of the TO. All O&MRR is a Utility responsibility of installed ECMs and is to be conducted by the Utility for the TO term per Office of the Secretary of Defense (OSD) policy ([Appendix G](#)). The installation can request deviation and take on O&M via a signed letter/memo from the Base MSG Commander to AFCEC. The Installation may only take responsibility for O&M for energy-related equipment (including computer software systems), where there is no connection between ECM performance and associated ECM maintenance (e.g., lighting has little to no required maintenance). The installation shall not take on O&M where the installation actions are directly related to the generation of savings and/or ensuring of performance of ECMs (e.g., deploying generators in regard to demand response). Depending on the risky nature of the ECM and O&M tasks AFCEC can allow or deny the request for deviation. The BC should coordinate with AFCEC/CNE on any proposed O&M actions prior to engagement with Base leadership. The risk and responsibility matrix ([Appendix C](#) and [Appendix D](#)) in the TO defines Utility and Installation responsibilities. In facilities and areas where Utility and installation equipment operates, a clear line of demarcation needs to be identified in the IGA/TO. ECMs requiring increased manpower or technologies outside of the current AF training regime, such as Cogeneration, Solar PV, Prime Power, etc., shall not have their O&M responsibilities transferred to the AF.

In simple cases (such as lighting) and only after approval by AFCEC, the installation may conduct maintenance; however, the installation must carefully consider the consequences if it is unable to perform in accordance with the maintenance schedule. Since the Utility is ultimately responsible, the Utility determines if the government is meeting the TO requirements. If the installation fails to perform proper maintenance, the Utility may take over the maintenance and charge the installation for performance. This requires modifying the TO, reworking the TO's financial provisions, and possibly extending the TO's term length or a buyout if the TO term cannot be extended. When the



installation assumes maintenance, the Utility provides a detailed O&M schedule reflecting when, how often, and by whom the maintenance is to be performed, and detailed in the IGA report.

If O&M responsibility transfer is approved by Installation MSG leadership and AFCEC/CNE, the installation may require the Utility to provide all parts and materials needed to accomplish O&M tasks defined in the TO. All parts and materials required to maintain and repair an ECM must be paid from captured savings within the UESC.

Lastly, since all costs must be accounted for, the estimated cost of the Utility performing the maintenance, repair, and replacement shall be captured in the IGA proposal and reflected in the cost analysis and financial schedules, which are provided on the TO-3 schedule.

2.7 Repair and Replacement Related to the TO

All Repair and Replacement (R&R) is a Utility responsibility of installed ECMs and is to be conducted by the Utility for the TO term. The Utility may address R&R by providing the installation with a certain percentage of bench stock (e.g., replacement light fixtures) to allow execution of warranty actions and general repair/replacement over the life cycle, if the Base has assumed part or all of the O&M. The responsibility for the storage of bench stock and/or surplus material needs to be clearly defined in the TO. The installation can request deviation and take on R&R via a signed letter/memo from the Base MSG Commander to AFCEC, the R&R request can be to the same letter as the O&M. Depending on the risk nature of the ECM and R&R tasks AFCEC can allow or deny the request for deviation. The TO defines Utility and Base O&M responsibilities. The final disposition of R&R takes into the estimated life cycle of the proposed ECMs, and the cost/risk associated with the R&R.

2.8 Pricing of TO Work

As part of the submission of the IGA, the Utility provides a firm fixed price (FFP) bid for execution of the project, along with other financials captured in the TO Financial Schedules ([Appendix H](#)). As part of the submission the utility company provides detailed documentation needed to determine the reasonableness of the price. As part of this action, the Utility shall provide competitive subcontractor quotes and other necessary documentation per the CO, in order to determine price reasonableness. Utility company identifies all major costs in their FFP proposal, including, but not limited to:

- A. Equipment
- B. Labor
- C. Design
- D. Maintenance
- E. Repair
- F. Parts
- G. Overhead and profit
- H. Travel
- I. M&V

2.9 Equipment Ownership

Generally, the AF owns the equipment post-construction and must update real property records to show ownership of the utility installed equipment. The utility is required to provide to the AF, prior to contract completion, O&M manuals, maintenance training, and the [DD Form 1354, Transfer and](#)



[Acceptance of DoD Real Property](#). On rare occasions, due to taxes and/or rebates, the utility may retain ownership post-construction. In either case, the ownership determination is defined and agreed upon within the TO.



Chapter 3 UESC Roles and Responsibilities

This chapter provides an in-depth explanation of the roles and responsibilities associated with the UESC process.

3.1 AFCEC/CNE Roles and Responsibilities

- A. Serves as the Centralized UESC Development and Execution Office, and centrally manages all AF UESCs once the requirement has transitioned from AFCEC/CND to AFCEC/CNE for execution. Provides initial vetting, approves each stage of project development prior to moving to the next phase/stage, manages the evaluation process, and assists installations in the development of the UESC project through completion of the TO term. Provides technical review and approval for all UESC projects.
- B. Overall responsibility to ensure that UESC projects serve the best interests of the AF and are consistent with the terms and conditions of the UESC contracts, legislation, regulations, along with OSD and AF leadership guidance and intent.
- C. Designates, coordinates, and supports the contracting agent. Validates installation acquisition data package, gathers stakeholder concurrence, and directs contract authority regarding contractual execution.
- D. Develops UESC procedures/guidance and provides UESC training to the appropriate installation personnel. AFCEC, to some extent follows the general guidelines of the Department of Energy (DoE), FEMP, and the UESC program, but has default protocols that are in the best interest of the AF.
- E. Acts as the center of expertise for third party financed contracts, specifically UESC/ESPC contracts. Provides tools and expertise to assist in implementing a UESC. Stands as the central clearinghouse for UESC lessons learned.
- F. Maintains oversight and compliance with AF policies and interprets guidance for the installation's UESC program.
- G. AFCEC provides project managers for each individual UESC project to oversee the project schedule and timeline, and coordinate with CO/ESCO/Contracting Officer's Technical Representative (COTR).
- H. Provides M&V expertise and support during development, commissioning, and annual M&V reports.
- I. Develops UESC procedures and guidance. Provides training on using and implementing the UESC to the CO, BEM, BFM, and other Base representatives as necessary.
- J. Reviews and approves technical aspects of the annual M&V reports.
- K. Provides all required reporting of project data and metrics to the Secretary of the Air Force (SAF) and OSD.
- L. Ensures all UESC project scope align with SAF direction and intent.

3.2 Base Champion Roles and Responsibilities

- A. The BC will work with AFCEC/CNE to determine the contracting office for execution of the UESC. DLA-Energy and CEHNC are the execution contracting offices utilized for all AF UESCs, due to having specialized resources in third-party execution.
- B. Works with AFCEC/CNE and Contracting office to implement the UESC program. Compiles and provides required project documentation, including site data packages and evaluation criteria to



the AFCEC/CNE and CO. Refer to UESC Considerations for the BC ([Appendix E](#)) for more information.

- C. Completes UESC training before implementing a UESC program and ensures that assigned personnel associated with the UESC program receive this training for the term of the UESC.
- D. Provides onsite project management, support, and coordination during the Utility's development of the PA/IGA.
- E. Reviews and provides recommendations on Request for Information (RFI) and submittals during the PA/IGA development.
- F. Ensures that AFCEC is coordinated with on project scoping, savings, M&V, and other pertinent actions.
- G. Coordinates with the Base Information System Security Officer (ISSO)/Information System Security Manager (ISSM) to ensure actions taken by the Utility will comply with the AF cybersecurity protocols.
- H. Addresses the O&MRR risk and responsibility matrix outlined in the IGA, and coordinates with MSG leadership on agreement/signature of the Base's responsibilities that will be codified in the awarded TO. AFCEC/CNE must also concur with the responsibilities that the Base is undertaking in the contract.
- I. Fulfills the Government role for witnessing energy measurements during the IGA for the development of baseline and during performance period M&V.
- J. Determines if other funding sources such as FSRM are available and offer more cost-effective execution through the UESC.
- K. Ensures the CO is notified of mission changes, facility modifications, or demolition.
- L. Acts as a point of contact to allow the ESCO to engage with facility managers, Base CE shops, mission owners, tenants, and other Base agencies/individuals that would provide pertinent data, such as facility problems, Heating, Ventilation, and Air Conditioning (HVAC) conditions, future facility plans, etc.
- M. Recommends COR to CO for the implementation portion of the UESC project.
- N. Engagement with Base leadership (e.g., MSG Commander) for agreement/signature if choosing to proceed with IGA and for the final award of the TO.
- O. Engagement with Base leadership (e.g., MSG Commander) for agreement/signature for cancellation of the project after the start of the IGA per [DAFI 90-1701](#).
- P. Engagement with BFM and Contracting on the MIPR process to ensure requirements can be met to provide funding as required to DLA or United States Army Corps of Engineers (USACE).

3.3 CO Roles and Responsibilities

- A. Awards and administers all issued UESC TOs following AFCEC/CNE technical review and approval and authorization.
- B. Along with AFCEC/CNE, the Contracting Agent assembles the UESC team and serves as co-chairperson for all meetings with the utility company.
- C. Performs analysis of all construction costs to determine that all costs are realistic, fair, and reasonable for the work to be conducted.
- D. Appoints a Base COR to act as a liaison between the utility contractor and the CO.
- E. Provides the total contract cost for each phase of a UESC and a final signed copy of the TO to AFCEC/CNE.



- F. Overall responsibility to ensure UESC projects serve the best interests of the Federal Government and are consistent with the terms and conditions of the UESC contracts, legislation, and regulations.
- G. Performs all pre-award acquisition functions.
- H. Conducts acquisition actions:
 - 1. Issues Notice of Opportunity (NoO) at the start of acquisition actions.
 - 2. Issue Utility down select and initiation of PA.
 - 3. Executes Notice of Intent to Award (NOITA) directing Utility to start IGA.
 - 4. Reviews IGA pricing and negotiates contract costs.
 - 5. Awards UESC TOs.
 - 6. Conducts contracting actions during the acquisition, implementation, and performance period of the TO.

3.4 Base COR Roles and Responsibilities

- A. Technical representative for CO during design/construction.
- B. Acts as the COR during the design and construction activities. Assists the CO in ensuring the utility company complies with all requirements for the term of the TO.
- C. Conducts onsite project management, oversight, inspection during construction and installation.
- D. Reviews and coordinates all deliverables and provides recommendations on submittals to the CO.
- E. Provides onsite support and coordination during the Utility's construction. Coordinates with the Base ISSO/ISSM to ensure actions taken by the Utility are in compliance with the AF cybersecurity protocols.
- F. Fulfills the role of Government witnessing during Utility commissioning and performance testing of ECMs.
- G. Identifies and supports project goals and development efforts.
- H. Evaluates and documents mission changes, facility modifications, and demolition and provide information to AFCEC/CNE and the Contracting Agent to ensure appropriate contract action is taken.
- I. Conducts witnessing of measurements during annual M&V actions by the Utility during the performance period. Reviews the annual M&V report, in conjunction with AFCEC/CNE. In coordination with AFCEC/CNE provides recommendation on Utility invoice payments.
- J. Conducts oversight/inspection during construction and installation.
- K. Reviews and approves technical aspects of the annual M&V reports, when applicable.
- L. Provides budget information to the installation resource manager to ensure budgeting of funds for UESC payments over the term of the contract.
- M. Engagement with BFM and Contracting on the MIPR process to ensure requirements can be met to provide funding as required to DLA or USACE on an annual basis.

3.5 Utility Contractor Roles and Responsibilities

- A. Responds to Request for Proposal (RFP) or NoO for a down select in execution of UESC.
- B. Develops and submits the PA and IGA.



- C. Documents the baseline meter data and ensures the data adequately captures the baseline. Simulation models (e.g., eQuest, Trane Trace, etc.) are not acceptable baselining tools. Baseline must be based on metered data and AF must be able to validate (e.g., spreadsheets).
- D. Develops and provides savings calculations for ECMs, with documentation of the calculations for validation by AF (e.g., Option A facilities).
- E. Obtains competitive pricing for implementation for submission of firm fixed price proposal.
- F. Obtains/provides funding for energy reduction project(s).
- G. Provides savings guarantee that the ECM systems installed will provide tangible savings.
- H. Implements the UESC project, including equipment purchasing and installation. Manages construction during the course of the project.
- I. Develops a standalone M&V plan in accordance with the protocols outlined in this UESC Playbook.
- J. Annual inspection and development of the M&V report verifying meter and data collection per the awarded M&V plan to ensure guaranteed savings and performance of each installed ECM.
- K. Provides the O&MRR based on risk and responsibility matrix outlined in the IGA and codified in the awarded TO.
- L. Provides a project that complies with all AFCEC and AF requirements and guidance (e.g., United Facilities Criteria (UFC), Air Force Instructions, (AFI), Playbooks, etc.).
- M. Ensures all project actions are coordinated in conjunction with AFCEC and the CO.



Chapter 4 Types of UESC Contracts

The AF has several types of UESC contracts available, including GSA Area-wide Contracts (AWCs), Interagency Agreements, and EMSAs. Also available are Basic Ordering Agreements (BOA), which are not contracts, but establish general terms and conditions for future TO or Delivery Order (DO). An Installation not covered by contracts may enter into BOA with their servicing utility. EMSA's serve as a template for agencies to use in establishing UESC's or as a Master Agreement Exhibit "C" within an AWC. EMSAs can be used as a standalone contracting vehicle. The preferred acquisition mechanism is the usage of an AWC with serving utilities.

GSA AWC contracts are within a utility provider's service territory.	BOAs are used when there is not an AWC. BOAs contain terms, conditions, and services for future delivery orders.	EMSAs are used in establishing UESCs. They can be a Master Agreement Exhibit "C" within an AWC, BOA or as a stand-alone agreement.
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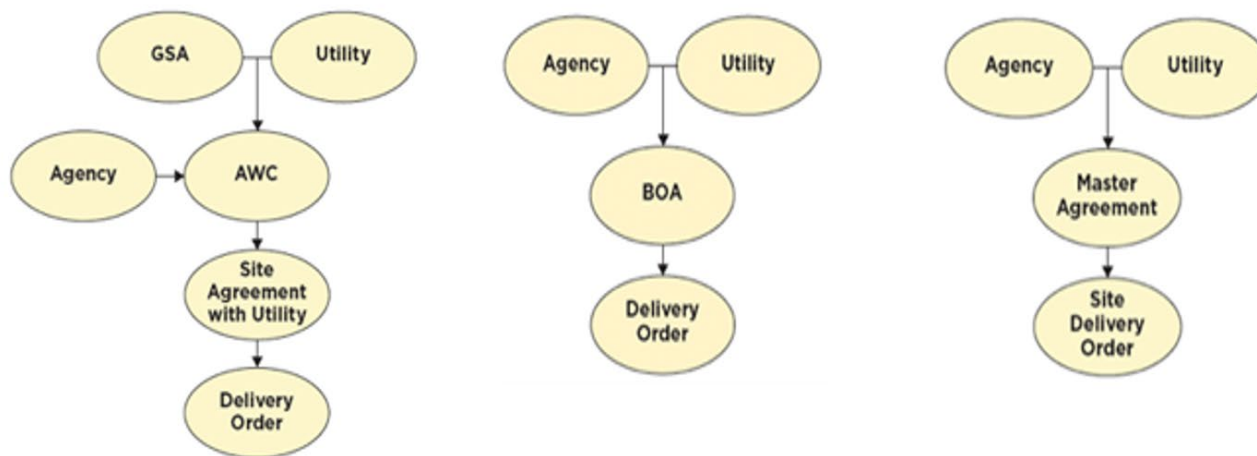


Figure 1: Procurement Mechanisms

4.1 GSA AWC

Utility services can include electricity, natural or manufactured gas, water, sewage, thermal energy, chilled water, steam, hot water, and high-temperature hot water. AWCs outline general terms and conditions and authorize any agency in a Utility's franchised service territory to place TOs for utility services and utility energy services offered under the contract. Refer to the [GSA Utility Contractors](#) list to view the servicing area utility contractors.

The GSA has numerous active utility AWCs to procure energy, water, and renewable energy systems projects. Installations develop an EMSA, which is provided as an attachment to the existing GSA AWC. If more than one serving utility company can offer energy management services to the Installation, then acquisition must go through fair opportunity competition. The fair opportunity competition down selects the one that provides the best value. If only one utility is available or chooses to participate, the CO prepares a justification and approval (J&A), prior to having negotiations leading to an award without full and open competition [Federal Acquisition Regulations](#)



[\(FAR\) 6.302-5, Authorized or Required by Statute](#). Refer to the J&A for Other Than Full and Open Competition ([Appendix I](#)) sample document.

4.2 BOA

A BOA is an agreement between the utility and the installation to establish general terms and conditions that are incorporated into future firm fixed-price TOs and may be used when an AWC does not exist. A federal agency can establish a BOA with their utility when specific items, quantities, and prices are not known, but a substantial number of requirements are anticipated and there is potential for more than one UESC TO. A TO that is placed under a BOA constitutes the contract and details of the services to be delivered.

A BOA does not guarantee future TOs to the utility and is not used to restrict competition if more than one utility supports an installation. The agreement is reviewed annually and revised, as necessary, to meet the requirements of the [FAR 16.703, Basic Ordering Agreements](#). A modification to the agreement itself does not retroactively affect any individual TOs issued under it.

The CO establishes the BOA with the utility employing normal contracting procedures in accordance with FAR 16.703, [Defense Federal Acquisition Regulation Supplement \(DFARS\) 216.703](#), and [Procedures, Guidance and Information \(PGI\) 217.703\(d\), Basic Ordering Agreements](#).

Note: History has shown that it has been more efficient to establish an AWC with the Utility versus a one-off BOA between the Base/Utility.

4.3 Interagency Agreement

Bonneville Power Administration (BPA) – Provides energy management services to their customers within their service territory.



Chapter 5 UESC Contracting Processes

5.1 AFCEC/CNE Contracting Process

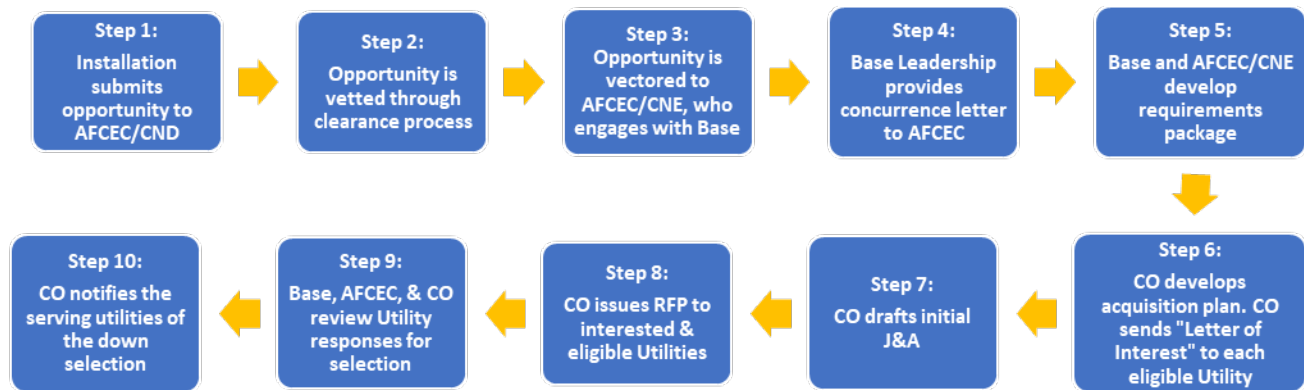


Figure 2: Phase 1 - Project Scoping and Acquisition Process

Step 1: Installation Leadership Decides to Pursue an Energy Opportunity

Prior to engaging with a Utility, the Base Champion/BCE/MSG prepares a summary of the type of Resilience ECMs being considered, relevant baseline information, and submits all requirements to the OEA for assessment and validation. Though most often, the pursuit of a UESC results from the development of the Base's IEP, and identification of an opportunity.

AFCEC/CN serves as the single point of entry for all installation resilience and energy requirements and opportunities.

Steps 2 & 3: Opportunity Vetted Through Clearance Process

AFCEC/CN acts as the facilitator and integrator to maximize energy assurance/resiliency, and coordinates opportunities through the Facility Energy Board (FEB) for approval. If third-party financing via a UESC is the determined approach for execution of the opportunity, then the opportunity is passed to AFCEC/CNE for execution. AFCEC/CNE engages with the Base Champion/BCE to start the development of the project.

Step 4: Installation leadership initiates the UESC project with AFCEC/CNE

Upon AFCEC/CNE engagement, one of the initial actions is to obtain Base MSG Leadership signed concurrence back to AFCEC for initiation of the UESC. AFCEC/CNE engages with the BC to assist in staffing a package up for signature by Base MSG leadership. The letter ensures that Base leadership is aware and that the project receives proper support and engagement, even during leadership changes.

Step 5: Development of Scope and Requirements

Prior to engaging with a Utility, the Base Champion/BCE prepares a summary of the type of ECMs being considered, facilities to be considered, relevant baseline information, and submits them to AFCEC/CNE for review. AFCEC/CNE and BC develop a package for submission to the contracting agent for the start of the acquisition process. The development package shall contain ECM(s) addressing resiliency as defined in the opportunity approved by the FEP.



Note: AFCEC serves as advisor and approval point throughout the project life. Refer to the AFCEC UESC Planning and Document Development Checklist ([Appendix B](#)) for guidance.

Step 6: CO develops an acquisition plan/strategy and sends a “Letter of Interest” to each eligible utility and provides each utility with a fair opportunity to be considered.

The CO contacts each serving utility to determine interest in providing a UESC. The letter should provide:

1. Agency intends to use UESC to meet energy goals.
2. Describe the initial project scope.
3. Inform the serving utilities of the opportunity for consideration to all.
4. Provide evaluation method and criteria.

If more than one utility responds with interest in participating in the project, then a competitive down select effort will be initiated. If only one utility responds or is eligible, the CO will proceed with the J&A and selection of the one eligible Utility.

Step 7: The CO drafts the initial J&A.

The J&A will be executed prior to negotiations leading to the TO award without full and open competition. J&As use guidance provided in the following regulations:

1. [FAR 6.302-5, Authorized Required by Statue](#)
2. [Title 10 USC 2304\(c\)\(5\), Contracts: Competition Requirements](#)
3. [Title 41 CFR, Competition in Contracting Act \(CICA\)](#)

J&As are initiated during acquisition planning and establishes the contractor meets the definition of a utility. The J&A describes services offered by the utility and why performance by the Utility is required, indicating the agreement will be cost-effective, fair, and reasonable. J&As are finalized before awarding the TO.

Refer to the Justification and Approval for Other Than Full and Open Competition ([Appendix I](#)) form for an example.

Steps 8 & 9: CO Issues RFP to Eligible/Interested Utilities & Energy Team Evaluates Proposals

In a competitive action, the selection of a Utility may include the following evaluation factors:

1. Is this a multi-year project with multiple TOs or will this have a single TO? (The AF does not recommend/support the multi-year with multiple TOs approach).
2. Does the Utility sufficiently address all aspects of the RFP?
3. Does the Utility properly address the AF and DoD guidance referenced in the RFP?
4. Does the Utility address the facility types/conditions provided in RFP?
5. What experience does the utility team have doing UESC projects?
6. What types of projects have the utility team done in the past?
 - a. How complex were previous projects compared to current project?
 - b. What was the size and scope of the previous projects?
 - c. How was their past performance?
 - d. What are their staff qualifications?
 - e. What is their experience with the specific ECM technology being pursued?
7. Is their pricing clear?

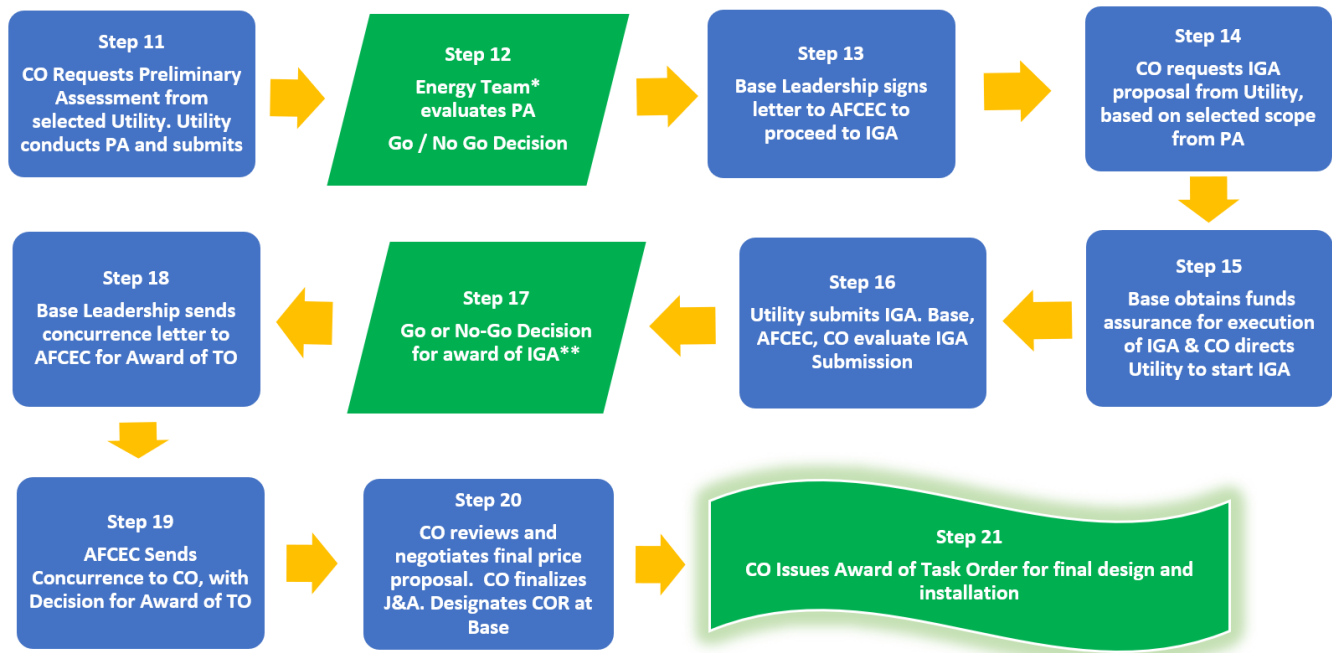


- a. Do they provide an explanation of fees and markups?
 - b. Do they provide expectation of payment and cost recovery for assessments?
 - c. Do they have the ability to secure financing at reasonable terms?
8. What is the AF's history and experience with the utility team?

The Base Champion, AFCEC/CNE, and the Contracting Agent review and evaluate the Utility responses to the RFP. The selection team provides evaluation documentation, which is consolidated into a single technical evaluation for a recommendation to the CO for down selection of a utility. The CO generally reviews the past performance ratings and pricing portions of the RFP responses.

Step 10: The CO notifies the servicing utilities of the selection results.

Once a Utility is selected the CO notifies the selected Utility, as well as the Utility not selected. As part of the selection the CO provides information to the utility to begin the PA.



* Energy Team = Base, AFCEC, and CO

**At this point if the IGA is not awarded (No-Go), then the Base is responsible for paying for the IGA development costs incurred by the Utility.

Figure 3: Phase 2 - Project Development

Steps 11 & 12: The CO requests a PA from Utility & Energy Team Evaluates

The PA is a high-level assessment that:

1. Provides a baseline for existing conditions.
2. Audits several typical or high value facilities included in the project to provide possible ECMs within the larger project.
3. Identifies potential water/energy efficiencies, power generation opportunities, and renewable energy opportunities.
4. Provides potential opportunities that specifically address the objectives identified in the Request for Proposal / NoO.
5. Estimates the cost and savings to implement the opportunities.



6. Determines available data sources (e.g., meters, utility databases, etc.) and gaps (i.e., need for meters) for baseline development in IGA.
7. A metering survey and plan must be submitted with PA.
8. Addresses resiliency elements identified in original RFP.

The CO develops a Master Agreement Exhibit “C” ([Appendix J](#)), checks the appropriate box and provides details of specific installation requirements. The Master Agreement Exhibit “C” must be signed by the utility representative and CO. The PA **should be at no cost** to the government and stated in the Master Agreement Exhibit “C”. If there is a cost to the government, the cost shall be negotiated with the utility and included in the Master Agreement Exhibit “C”. Any costs incurred are a must pay, and funds shall be identified and/or allocated **by the Installation** prior to proceeding.

Note: If a long-term project or multiple projects are anticipated, the use of the EMSA ([Appendix K](#)) may be beneficial. The EMSA is a template for developing a Master Agreement Exhibit “C” and contains terms and conditions essential to a UESC. It can be used to issue single or multiple TOs for the three phases:

1. Preliminary Assessment.
2. Investment Grade Audit.
3. Construction/Implementation.

If the EMSA is not used, each phase will have a separate Master Agreement Exhibit “C”, which is not uncommon to do so. Once the Utility completes the PA and submits it to the Government, the following actions are undertaken:

1. Energy Team reviews the PA and provides written comments, which are consolidated by the CO.
2. The CO ensures all parties have reviewed the proposal and comments are adjudicated by the Energy Team prior to issuance to the Utility.
3. Comments issued to the Utility for response.
4. Utility responses are received and adjudicated to the satisfaction of all parties, which may entail multiple rounds of comment/response.
5. A government-only meeting is held to discuss the comments and determine to move forward with the project or cancel. An alternate option is to pursue re-submission of the PA due to Utility’s failure to provide the desired solutions. If the government decides to terminate at this point, there are generally no costs incurred. However, if PA costs were negotiated, the CO documents the decision and provides an invoice to the Installation to pay.

Steps 13 & 14: The CO requests IGA proposal from Utility

If the Energy Team determines a path forward to proceed with the project, then per [DAFI 90-1701](#), the Base MSG leadership provides a signed memorandum to proceed to the IGA with the selected scope. The concurrence to proceed letter/memo is sent to AFCEC/CNE. If AFCEC/CNE concurs with the Installation, then AFCEC/CNE issues the AF desire to proceed to the CO.

The CO issues an RFP defining ECMs to be included in the development of the IGA. The CO then negotiates the development cost of the IGA and reports proposed costs to AFCEC/CNE and the Installation.



Step 15: Base Obtains Funds Assurance for IGA & CO Initiates IGA

The Base must obtain funds or funds assurance for the costs to implement the IGA, per [Section 2.3](#) of the UESC Playbook. The funds to cover the IGA development must be obligated to the project before proceeding, as it is a must pay bill, whether or not the government chooses to proceed to award.

Upon receipt of the fund's assurance, the CO will provide direction to the Utility to begin the development of the IGA of the identified ECMs. After issuance to start the IGA, the CO will host the IGA kickoff meeting, with all concerned parties attending (Base CE, Utility, AFCEC/CNE, CO, and other Base personnel as appropriate). IGA Kick-off meeting generally requires two steps with a government-only meeting, followed the same day or next with the official kick-off meeting with the Utility.

During the time of the IGA Development, the Contracting Agent starts the development of the Performance Work Statement (PWS) and requests information from the Installation and AFCEC. The required information is not part of the standard AWC or EMSA contract but contains AF and installation-specific requirements and restrictions. The Installation provides documentation and information that is normally included in any local construction contract including requirements for architectural compatibility, hazardous waste handling/disposal, security, lighting standards, Base access, safety, flight line operations, etc.

Often during the IGA, ECMs and scopes identified during the PA will change as more information is collected. The Installation should be aware of these changes during that data collection of the IGA which on average take 10 months. At points during the IGA development, there will be decision milestones on where to allocate energy savings dollars to fund the desired scope. These decisions will mostly be under the purview of the Base, with input from AFCEC/CNE to ensure the best value/project for the AF and meeting the intent of the opportunity approved by the FEP.

The IGA requires the Utility to conduct due diligence in the generation of a comprehensive firm fixed price proposal with guaranteed savings. The Utility's due diligence efforts can present a notable workload on the BC, and Base support of the BC needs to be taken into account at the start of the IGA.

Note: The IGA was historically referred to as a "Feasibility Study" in a UESC, but for commonality of language both FEMP and the AF have adopted IGA for this phase.

Step 16: IGA submitted by Utility and Evaluated by Energy Team

The Utility completes an in-depth IGA of the selected ECMs and delivers a fully executable technical proposal supported by a firm fixed price proposal to execute design and construction. The development of the IGA is relevant to the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level III audit and encompasses an assessment of the facilities and infrastructure included in the project. The IGA requires engagement from the Base CE Shops, facility managers, along with possible engagement with Base Environmental, Airfield Management, Base ISSO, Base Communications, etc. The IGA development requires Utility engagement with various Installation entities as necessary for proper due diligence and confirm the feasibility and application of the proposed ECMs. At a minimum, the IGA process involves and/or determines:

- A. Current status of facilities and infrastructure included in the project.
- B. Identifies and describes a technically viable and cost-effective project scope.



- C. Develops and provides a metered baseline of energy and water consumption, equipment inventory and conditions, and operational schedules. Simulation models (e.g., eQuest, Trane Trace, etc.) for establishment baseline are prohibited on AF projects. AFCEC/CNE review and approval of the baseline is required, and baseline calculations/data shall be submitted in a functional spreadsheet format that can be validated by AFCEC/CNE. Additionally, the baseline methodology shall be submitted for AFCEC/CNE review early on in the IGA development to ensure it will meet AF requirements.
- D. Provides energy savings calculations for the various ECMs. AF must be able to validate spreadsheet calculation savings for any facilities that utilize M&V Option A.
- E. Defines the O&M requirements along with the roles and responsibilities for ECMs installed.
- F. Defines the R&R requirements along with the roles and responsibilities for ECMs installed.
- G. The IGA shall provide a risk and responsibility matrix that defines the Government and Utility responsibilities during the execution of the task order. [Appendix C](#) provides for a risk & responsibility checklist along with an example.
- H. Provides a standalone fully executable M&V Plan, following the format of the [DoE ESPC Indefinite Delivery/Indefinite Quantity \(IDIQ\), Attachment J-8](#).

Note: Option D M&V methodology is **prohibited** on AF projects.

- I. Provides for assumptions and expectations for each ECM and for the overall project scope. Assumptions shall not put undo costs onto the AF for the successful implementation of proposed ECMs. Actions that do such will lead to the IGA being deemed non-executable and rejected for revision or cancellation.
- J. Provides a project scope and design sufficient to support the FFP proposal for award of design and construction. The FFP proposal shall comply with all applicable AF and Base design and construction standards.
- K. The proposal shall provide a FFP proposal along with competitive quotes (subcontractors) for the various project actions, showing full and open competition for project pricing.
- L. The IGA financials shall also include all costs associated with Utility provided O&M and R&R over the term of the contract and would be part of annual payments schedule.
- M. The IGA shall also include finalized financing terms and TO Schedules (TO-1 through TO-5), which correlate to those used in ESPCs ([Appendix H](#)).

The CO ensures that all Energy Team parties are provided a copy of the IGA for review. The entire Energy Team reviews the IGA for technical merit, while the Contracting Agent's pricing team begins their analysis. The entire Energy Team reviews comments returned to the CO within 20 business days. The BC is responsible for the widest dissemination of the IGA to obtain related reviews from Base CE Shops, facility managers, Base mechanical engineers, along with other affected parties. The Installation submits their comments to AFCEC for consolidated submission to the CO. Once all comments are provided to the CO, then a meeting is held to discuss comments and ensure a common vision for the project is related to the comments (i.e., eliminate conflicts). Once the CO consolidates the final comments, they are forwarded to the Utility for response. The Utility responds to the comments, which the Energy Team reviews/accepts/rejects. Once all comments are closed or deferred (to be validated in revised IGA), which generally takes several rounds, the CO directs the Utility to submit a revised IGA or re-accomplish the IGA to address concerns and subject to another round of reviews and comments. The revised IGA shall address all comments/concerns addressed in the review process, often failure to do so results in follow-on corrections and re-



submissions by the Utility.

After review of the IGA and the comment resolution process, if comments are unresolved and/or the project is deemed unfavorable to the AF, then an option to cancel the effort can be undertaken. If the option is to cancel the IGA, then procedures outlined in the [DAFI 90-1701](#) shall be followed. In brief, the cancellation actions require engagement with the Base MSG leadership for signed concurrence for cancellation with submission through the chain of command to SAF/IE for concurrence.

Step 17: Installation and AFCEC decision to proceed

If the final IGA addresses all concerns and provides a project that is acceptable to the installation and AFCEC, the efforts are initiated to move towards award.

Step 18: Base leadership provides concurrence to proceed to award

Once the Energy Team has determined to move to award, then per SAF guidance, the Base MSG leadership provides a signed memorandum to proceed to award with the selected scope along with the roles and responsibilities as set forth within the final IGA. The concurrence to proceed letter/memo is sent to AFCEC/CNE. In addition, the Installation must identify the Base COR for actions during the design and construction efforts prior to award. The CO will provide the proper training and documentation so that the Base COR can appropriately fulfill their role, prior to being appointed by the CO.

Step 19: AFCEC sends concurrence to CO to proceed to award

If AFCEC/CNE concurs with the installation, then AFCEC/CNE issues the AF desire to proceed to award with CO. AFCEC/CNE also notifies the appropriate AF offices of the award. AFCEC/CNE concurrence concludes the technical portion of the IGA.

Step 20: CO negotiates pricing and finalizes the J&A.

The CO prepares authorization for the utility to submit final cost proposal and begin negotiations. The final proposal shall provide competitive cost quotes for the various project actions, demonstrating full and open competition for project pricing, along with addressing the CO pricing concerns. In addition to finalizing the J&A, refer to the J&A for Other Than Full and Open Competition ([Appendix I](#)) form for an example.

Step 21: The CO issues the Award of Task Order for design and implementation (construction).

The award document shall:

1. States the TO executes a contract under the AWC.
2. Provides authorization to proceed with the project.
3. Lists attachments and includes:
 - a. PWS, specifications, and performance standards.
 - b. Terms and conditions.
 - c. Agency-specific clauses not in AWC or Master Agreement Exhibit "C".
 - d. Templates for invoicing, price schedule and termination schedule.
 - e. Completed Quality Assurance Surveillance Plan (QASP).
 - f. UESC Playbook, Base standards, and other documents not easily hosted/referenced (e.g., UFCs, AFIs, etc..) are readily available via [Whole Building Design Guide](#).



- g. Final IGA and Appendices.
4. Requests confirmation or update of submittals/construction schedule.
5. Sets time and location for kick-off meeting.
6. Provides name and contact information of the CO and the COR.
7. Specific FAR clauses as necessary.

Note: Refer to the Task Order Sample ([Appendix N](#)) for an example TO.

UESC's are subject to the requirements of [FAR 17.1, Multi-year Contracting](#), which requires federal agencies to notify Congress at least 30 days prior to the award of certain proposed multi-year contracts, and the responsibility for the action is on the Contracting Agent. FAR part 17.1 establishes the Congressional notification requirement for multiyear contracts that include a cancellation ceiling in excess of \$125 million. See [Title 48 CFR Section 17.108\(b\)](#), Congressional Notification. The Congressional notification requirement need not be burdensome or result in undue delay. Notification can be provided when a reasonable estimate of the underlying project's cancellation ceiling is obtained, which generally occurs well in advance of contract award. Such early notification may also be provided on a periodic basis (e.g., semiannually, quarterly, etc.) and for multiple UESCs.

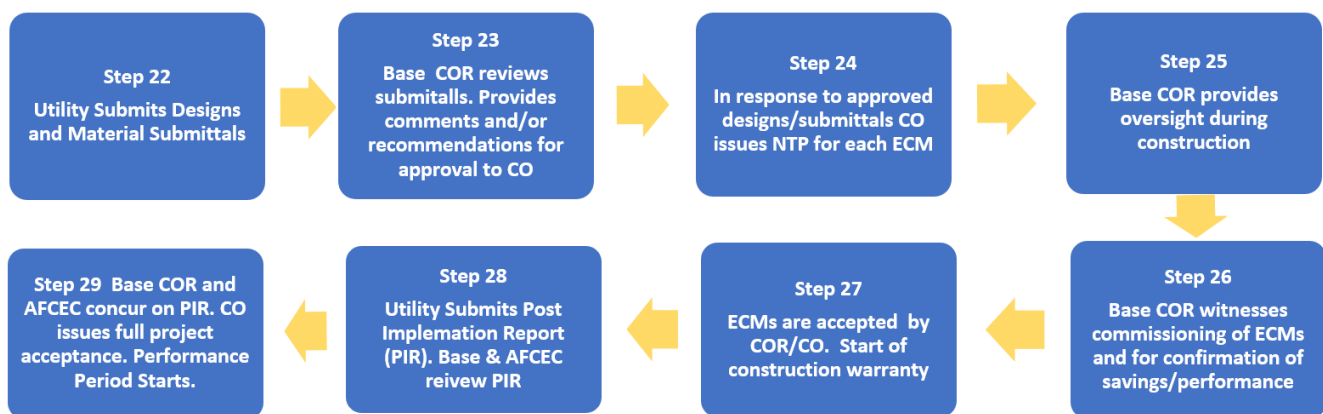


Figure 4: Phase 3 - Final Design and Construction/Installation

Steps 22 through 24: Utility submits designs and submittals, and the Base and CO reviews/approves.

The Base designates the COR and is assigned by the CO. The Utility provides the designs and material submittals to the CO/COR, similar to any normal design/build construction contract. The COR and Base personnel review the designs, plans, and specification and provides written comments to the CO to consolidate, with reach back SME assistance from AFCEC. AFCEC can provide responses to specific technical questions but is not manned to provide reviews of designs and/or submittals. The Utility addresses the consolidated comments, and once acceptable to the Base, the COR provides a recommendation for approval to the CO for each submittal. Based on the reviews and approvals, the CO issues a Notice to Proceed (NTP) for various ECMs.

Steps 25 and 26: Utility constructs/install the ECMs and the installation CO and COR provides oversight. The utility provides O&M training, performance testing, commissioning, etc.



During construction/installation, AF oversight is critical. Due diligence requires the Base COR to trust but verify to ensure the installed ECMs meet design and performance requirements, in addition to providing the energy savings per the TO.

The Utility begins construction/installation in accordance with (IAW) the awarded TO and approved designs/submittals after issuance of NTP from the CO. As part of the construction/installation the Utility will provide:

1. Installation of operational systems per the TO and approved design.
2. ECM training
3. O&M manuals
4. As-built drawings/specifications
5. Testing of each ECM IAW commissioning plan.
6. Testing and measurements for collection of data per the M&V Plan
7. Forms [DD Form 1354s](#) for Transfer and Acceptance of DoD Real Property.

The COR ***must*** witness the Utility's commissioning activities and performance measurements, in order to confirm savings/performance data is collected.

Steps 27 through 29: The CO accepts the ECM projects and reports project details to FEMP and GSA.

After all of the ECMs are installed, tested, and commissioned and all deliverables are received, the COR recommends acceptance of the ECM/Facility, which the CO concurs/signs, though this is not the same as full project acceptance. After construction is complete, the Utility will submit the Post Installation Report (PIR), which provides the performance data and measured savings of the installed ECMs along with construction period savings documentation. The PIR is reviewed by Base, AFCEC/CNE, and Contracting Agent, with the generation of comments. Once all comments have been addressed by the Utility, a final PIR is submitted, and upon acceptance of the PIR by the Base COR and AFCEC/CNE, the CO can issue full project acceptance, and allow the Utility to start invoicing. The PIR shall follow the format of the [DoE ESPC IDIQ Attachment J-9](#).

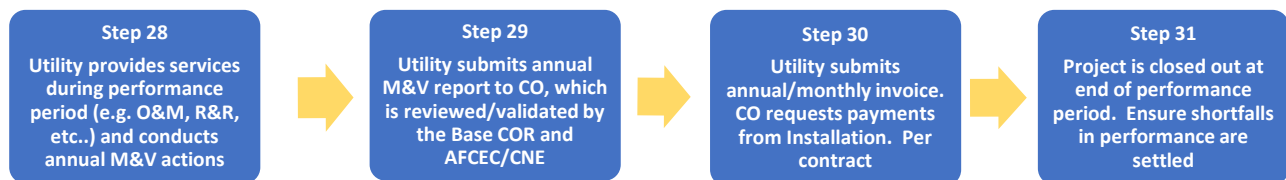


Figure 5 - Phase 4: Post Project Installation

Steps 28 & 29: Utility provides services per the TO.

The roles and responsibilities matrix and M&V Plan prescribe the post-acceptance activities (i.e., AF and Utility responsibilities).

Reporting shall be done IAW the awarded TO and GSA guidelines. GSA and FEMP must be notified of the TO award and is generally done by the Contracting Agent. The notification includes:



1. Report on the use of AWC and service agreements including the Authorization for Energy Management Services.
2. FEMP UESC Data Collection.

Note: The DoD may or may not participate; check with AFCEC/CNE before reporting.

3. Annual Agency Reports include UESC project information.

The Utility shall submit an annual M&V Report verifying the energy savings of the ECMs installed. The M&V report shall detail any shortfalls or underperforming ECMs. AFCEC/CNE and the Base COR will review and validate the annual M&V report. AFCEC/CNE and the COR shall report their validation findings, back to the CO for the Utility to address, if necessary. Failure of any ECM to meet the savings guarantees per the TO shall be addressed by the Utility, and payment may be adjusted depending on the TO. If for the entire TO the guaranteed savings are met, but ECMs are under performing (i.e., not meeting savings) the Utility shall take necessary actions to address the savings shortfall for these specific ECM(s) even though full payment would/may still be warranted. The M&V report shall follow the format of the [DoE ESPC IDIQ Attachment J-10](#).

Step 30: The CO submits invoices and payments.

Timely payment to the Utility is critical in avoiding additional fees/interest payments. Payment frequency is defined in the TO, which can be annual or monthly. The energy portion of the invoices can be paid as part of the utility bill, while O&M, capital costs avoidance, etc. can be paid out of their respective account. Payments shall be made using proper accounting, budgeting, and invoicing procedures.

Step 31: The installation closes out the contract at the end of the TO.

At the conclusion of the contract term, the CO and the Base COR will determine that all TO performance requirements and savings guarantees have been met by the Utility. If there are outstanding actions by the Utility, the final payment may be withheld until the Utility has completed corrective actions as determined by the CO.



Chapter 6 UESC Project Requirements

The following business practices help the installation implement a UESC, translate the legislative requirements, and apply the lessons learned to achieve a successful project. Each awarded TO shall include mutually agreed upon procedures defining how to verify ECM performance and energy savings post-installation.

6.1 M&V Plan & Requirements

The M&V Plan is a measurement-based plan that ensures the AF's ability to confirm actual energy savings are occurring and are verified in a reasonable, cost-effective manner. Using this plan annually guarantees the installed equipment is performing as predicted and generating tangible savings. A well-written M&V plan:

1. Mitigates risk to the AF and the Installation.
2. Eliminates conflict when systems fail to meet their expected savings.
3. Ensures the Utility remains engaged with the Installation over the full term of the contract.

Multiple building ECMs are generally combined in one M&V plan to consolidate efforts saving M&V costs and simplifying the overall process. All M&V plans at a minimum must comply with both the latest version of International Performance Measurement and Verification Protocol (IPMVP) and the DoE M&V Guidelines: Measurement and Verification for Performance-Based Contracts Version 4.0. The guidelines have the following M&V options:

1. Option A: Retrofit Isolation uses key parameter measurements in conjunction with statistical sampling. This option can only be used with AF approval and validation of savings calculations.
2. Option B: Retrofit Isolation with Continuous Metering is used when synergistic energy impacts are fully mitigated.
3. Option C: Whole Facility uses meters connected to the building to establish an accurate baseline and accurate post-implementation utility consumption profiles. This is the preferred option for most M&V efforts.
4. Option D: Calibrated Simulations are **prohibited** on any AF UESC contracts.

Refer to the Overview of M&V Options to view examples for each of the Options listed above.

A Utility M&V plan for UESC projects shall follow the guidance below:

1. Metered consumption data, generally at the facility level, is required for the M&V baseline. Estimating or simulation modeling (e.g., eQuest, Trane Trace, etc.) for development of baseline is **prohibited** on AF UESCs. The Utility must conduct a regression analysis of the metered data and present this analysis in spreadsheet format to allow for the AF to validate the calculations.
2. If the Installation cannot provide measured consumption data from existing meters, the Utility must collect the data or install meters to capture the data to build the baseline. It is the Utilities' responsibility to take whatever action necessary (e.g., install meters) to establish the baseline data for the ECMs proposed. A meter plan shall be developed as part of the PA submission.



3. The AF has a preference for metered savings via either Option B or C. The Utility shall maximize the number of metered facilities/ECM as part of the project.
4. A minimum of 12 months of metered data is generally required to establish the baseline per AF and FEMP guidelines for M&V. AFCEC/CNE may accept less than 12 months (for example, 9 months) of metered data if the appropriate season(s) for heating &/or cooling (depending on type of ECM) is included in metered data, and if data sufficiently correlates (e.g., $R^2 > 0.8$) with weather or other factors. AFCEC/CNE approval is based on a case-by-case analysis, per ECM/Facility.
5. Usage of transitions from Option C to Option A or B during a UESC performance period is **prohibited** by the AF.
6. Option B measures commodity consumption of the selected ECM using direct meters, such as electrical or natural gas, not trend data from an Energy Management Control System (EMCS) or similar. An exception to this rule is identified in the flow chart [Figure 6](#), but requires the Utility to submit as part of the M&V plan a scope that defines the parameters to monitored/metered. The parameters selected will be reviewed by the AF to determine if acceptable.
7. Buildings that are identified as candidates for Option C shall have all ECMs implemented within that building measured by Option C (e.g., cannot split out lighting as Option A).
8. When there are multiple ECMs in a building, AFCEC/CNE provides that the Utility use M&V Option C and aggregate all savings from those ECMs as a whole.
9. The M&V Plan shall be a holistic document that can stand on its own as a severable document from the IGA.
10. Option B for solar photovoltaic arrays shall be based on the commodity meter data with no adjustment, beyond failures per the Risk & Responsibility Matrix (e.g., Base failure to conduct O&M).

In summary, for M&V requirements, the Utility shall maximize the amount of savings validated via meters. As part of the project development, the Utility shall aim at a higher goal such as metering 90%+. The higher the percentage, the better, and Option C is considerably less expensive than multiple Option A/B solutions for each individual facility. Option C provides a more precise measurement of overall savings and verification that the savings have been achieved. Option B deployment will be determined on project-by-project basis and will take into account ECMs, facilities, and savings being achieved, but follow the general guidance provided in Figure 6.

The Base is required to witness the baseline, post installation (PI), and annual M&V actions conducted by the Utility. With regard to M&V witnessing, Option C is the most efficient method to verify savings because Option C is the most accurate while also being the easiest and quickest to witness. Option B default is commodity metering, which provides easy and accurate witnessing also. Option A generally consists of witness of the measurements for existing conditions, PI conditions, and then annual testing /verification depending on the ECM.

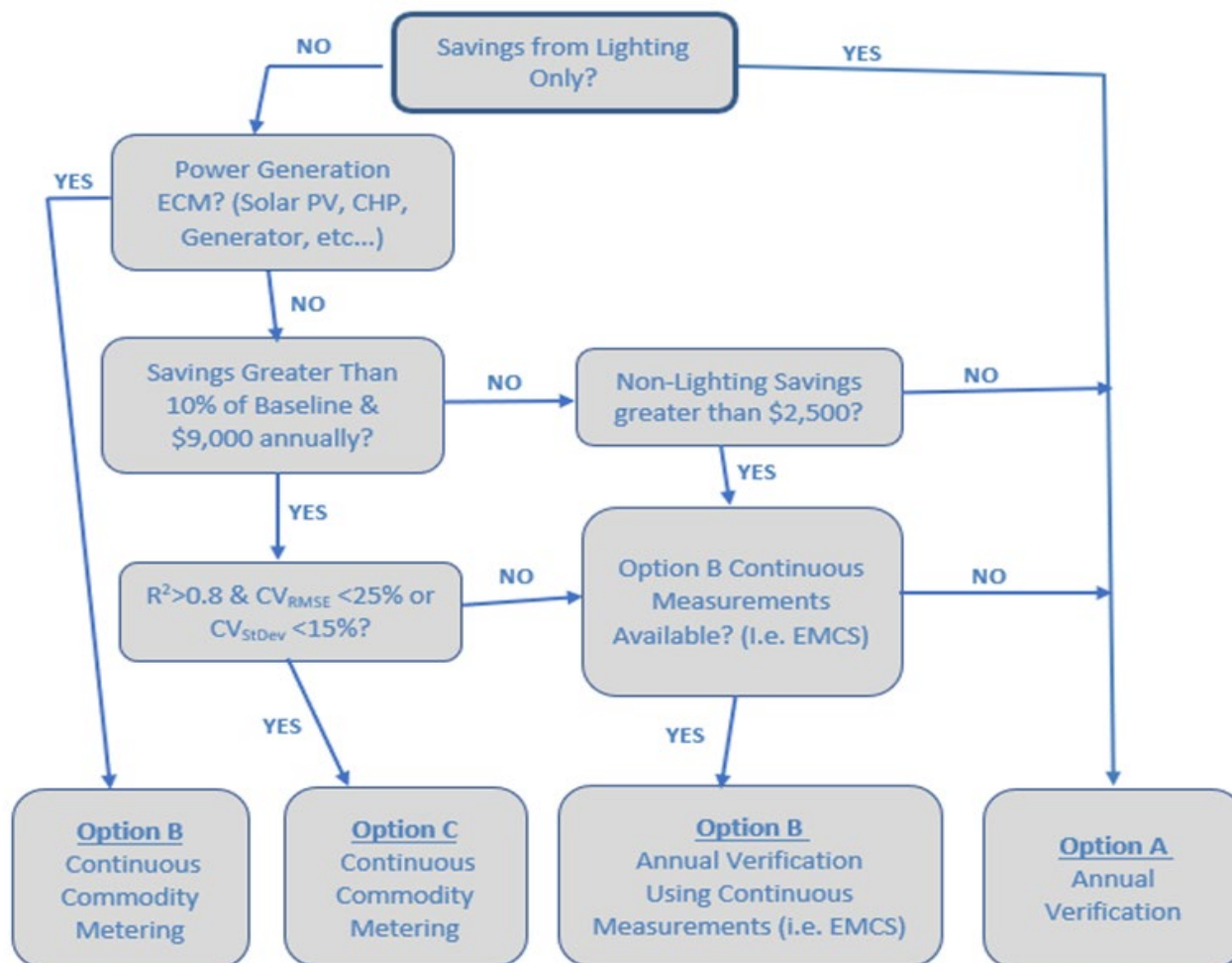


Figure 6: Facility M&V Determination Chart

6.2 Baseline Development

An energy baseline is the amount of energy that would have been used if no energy conservation equipment had been installed. The Utility contractor must clearly document the baseline data and correlate to the required M&V Option.

M&V is part of a UESC contract; metering and data collection are conducted by the Utility and verified by the Installation and AFCEC/CNE to ensure the baseline reflects realistic energy consumption upon which the savings calculations are based. Data collection requirements vary by ECM and M&V method, but metered data is required. The Utility can use existing meters or install new meters to ensure relevant data is collected. A meter survey shall be conducted by the Utility for all buildings and included in the PA, along with a meter plan to address gaps/deficiencies identified during the PA. The metering plan shall identify existing meters, operational characteristics of the meter, and meter data. Existing meters shall be used as much as possible to collect this data, as the M&V plan must be measurement-based.



Note: It is important that equipment controlled by ambient temperature devices have valid measurements (e.g., calibrated for accuracy). Savings validation and future baseline adjustments will require this data before modifications can be applied to the existing baseline.

All assumptions made in the PA shall be validated in the IGA by the Utility. Validation includes documenting all pertinent data and formulas used to compute the energy savings so the new personnel can easily understand how the savings were derived in the future. Baseline development and data collection begins immediately after the Utility is directed to start the IGA. The longer the data collection period, the lower the risk to the installation and the Utility, which minimizes overall total project cost. AFCEC/CNE review and approval of the baseline is required; as such, the baseline methodology shall be submitted for AFCEC/CNE review early on in the IGA.

6.3 Performance Tests

A formal set of test procedures with an acceptable range of results are developed to validate energy savings, often by a third party hired by the Utility. These test procedures are submitted by the Utility during the implementation period as part of the Commissioning Plan. A performance test is a process for achieving, verifying, and documenting the energy savings of equipment installed or modified as part of an M&V Plan. This process begins in the IGA phase with the development and approval of an M&V Plan that is implemented after the TO award. Commissioning tests are completed post construction to certify that all equipment is functioning and operating properly. Once the equipment has been commissioned and is performing as designed, the measurements shall be collected to validate the energy savings calculated in the IGA. The performance of the system does not constitute that energy savings are being achieved, and testing must be conducted to validate the savings. The energy savings are calculated based on actual installation and measurements, with shortfalls in energy savings addressed by the Utility. The commissioning results are approved by the Base COR, before conducting the energy savings verification tests.

A performance test plan is developed as part of the IGA phase and is prepared for each ECM. The Utility shall make all efforts to maximize Government witnessing of the verification tests, with appropriate scheduling, meetings, timing, etc. The performance test plan describes all aspects of the test process, including:

1. Schedules.
2. Responsibilities.
3. Documentation requirements.
4. Functional performance test requirements, which are described as:
 - A. Conditions or loads the tests are performed.
 - B. Location of test sensors.
 - C. Quantity of samples per ECM.
 - D. Frequency of measurements.
 - E. Type of test equipment.
 - F. Test methods.
 - G. Acceptable range of results.
 - H. Corrective action for test failure/fault.
 - I. Test methods.



The level of detail depends on the complexity of the ECM. The performance testing shall be detailed in the commissioning plan in alignment with the awarded M&V Plan.

After the Utility conducts the approved energy savings test procedures to validate the energy savings for each ECM. The Utility submits the results of the testing in the PIR, which is reviewed and validated by the COR and AFCEC/CNE. Once validated/approved by the Base and AFCEC/CNE, the project can be fully accepted and the Utility can start submitting invoices for payment per the awarded TO schedules. The PIR report includes, at a minimum:

1. Executive summary.
2. ECM descriptions and test procedures.
3. Performance plan narrative.
4. ECM Test Checklists.
5. Test Results.
6. Government Witness Documentation.

6.5 Annual Reconciliation (Annual M&V)

As part of the IGA, an M&V Plan is developed by the Utility for the AF to identify methodologies and performance assurance actions that are technically appropriate, economically viable, within the power of the Utility to honor, and effective in identifying the actual energy savings generated by each ECM. The key component to any M&V plan is it must present outcomes that not only demonstrate positive results, but would also validate negative outcomes (e.g. savings shortfall), without such the plan is invalid. Every effort should be made to minimize the extent and cost of performance assurance. The awarded TO includes a detailed annual reconciliation plan that is included within the M&V Plan, which is approved before the TO award at a minimum must include:

- A. A formal set of test procedures.
- B. Sampling plan.
- C. An acceptable range of results.
- D. A schedule of how reconciliation payments will be assessed if savings fall below the guaranteed energy savings provided by the Utility.
- E. A methodology for corrective action for any ECMs not meeting their guaranteed savings values.
- F. Validation methodology of O&M requirements and conditions have been met for each ECM.

At ECM installation completion, the ECMs are inspected, commissioned, and tested to ensure to conform to specifications and parameters per the awarded TO. The subsequent annual M&V activities determine whether the ECM is maintained at the parameters from the commissioning, validating each ECM is performing its function and energy savings are being achieved. Any changes are recorded by the Utility, along with energy savings measurements, to be witnessed by the Base COR. Measured savings are required when using Option B or Option C metered savings with efforts to maximize metered savings. During the annual reconciliation, the Utility contractor confirms the adequacy of operations and maintenance. The energy savings are reported based on actual performance and measurements, with shortfalls in savings addressed by the Utility. The Base COR and AFCEC/CNE review the Utility's annual M&V reconciliation report to determine if in compliance with the awarded M&V plan. Upon submission of the annual M&V plan, the AF has 20 working days to provide comment responses to the Utility. At the conclusion of comment/response actions, the final M&V report is validated by AFCEC/CNE with confirmation to the CO. The CO must approve the



annual reconciliation of savings after coordination and verification of the annual savings report by the COR and AFCEC/CNE.



Appendix A – Acronyms and Definitions

Acronym	Definition
AF	Air Force
AFCAMP	Air Force Comprehensive Asset Management Plan
AFCEC/CNE	Air Force Civil Engineer Center/Energy Division Program Development
AFCEC/CNP	Air Force Civil Engineer Center/Energy Division Advanced Meter Reading Systems
AFI	Air Force Instruction
AFIMSC	Air Force Installation & Mission Support Center
AFPD	Air Force Policy Directive
ALC	Air Logistics Center
AMRS	Advance Meter Reading System
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ATO	Authority to Operate
AWC	Area-wide Contracts
BC	Base Champion
BCE	Base Civil Engineer
BEM	Base Energy Manager
BFM	Base Financial Manager
BOA	Basic Ordering Agreements
BPA	Bonneville Power Administration
CAR	Corrective Action Report
CBL	Customer Baseline Load
CE	Civil Engineer
CEHNC	Corps of Engineers – Huntsville Center
CDRL	Contract Data Requirements List
CICA	Competition in Contracting Act
CFR	Code of Federal Regulations
CO	Contracting Officer
COA	Course of Action
COR	Contracting Officer Representative
COTR	Contracting Officer Technical Representative
CPARS	Contractor Performance Assessment Reporting System
CTO	Construction Task Order
Cx	Commissioning
DD	Department of Defense
DAFI	Department of the Air Force Instruction
DFARS	Defense Federal Acquisition Regulation Supplement
DLA-E	Defense Logistics Agency-Energy



Acronym	Definition
DO	Delivery Order
DoD	Department of Defense
DoE	Department of Energy
EERC	Energy Escalation Rat Calculator
ECM	Energy Conservation Measures
EISA	Energy Independence and Security Act
EMCS	Energy Management Control System
EMSA	Energy Management Service Agreement
ERCIP	Energy Resiliency & Conservation Investment Program
ES&H	Environment, Safety, and Health
ESCO	Energy Service Companies
ESPC	Energy Savings Performance Contract
FAR	Federal Acquisition Regulations
FEB	Facility Energy Board
FEMP	Federal Energy Management & Planning Program
FIO	Facilities Improvements Office
FFP	Firm-Fixed Price
FP	Financing and Payment Provisions
FSRM	Facilities, Sustainment, Restoration, and Modernization
FY	Fiscal Year
GC	General Conditions
GSA	General Services Administration
HAZMAT	Hazardous Materials
HMI	Human Machine Interface
HVAC	Heating, Ventilation, & Air Conditioning
IAW	In Accordance With
IATT	Interim Authority to Test
ICS	Industrial Control System
IDIQ	Indefinite Demand Indefinite Quantity
IEP	Installation Energy Plan
IGA	Investment Grade Audit
IPMVP	International Performance Measurement and Verification Protocol
ISSM	Information System Security Manager
ISSO	Information System Security Officer
J&A	Justification and Approval
M&V	Measurement and Verification
MFH	Military Family Housing
MILCON	Military Construction
MIPR	Military Interdepartmental Purchase Request
MOA	Memorandum of Agreement
MSG	Mission Support Group
NAF	Non-appropriated Funds



Acronym	Definition
NIST	National Institute of Standards and Technology
NOITA	Notice of Intent to Award
NoO	Notice of Opportunity
NTP	Notice to Proceed
O&M	Operations and Maintenance
O&MRR	Operations and Maintenance Repair and Replacement
ODC	Ozone-depleting Chemicals
OEA	Office of Energy Assurance
ORCA	Online Representation and Certifications Application
OSD	Office of the Secretary of Defense
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment
PGI	Procedures, Guidance and Information
PI	Post Installation
PIR	Post Installation Report
PL	Public Law
PLC	Programmable Logic Controller
PMO	Project Management Office
PRS	Performance Requirement Summary
PV	Photovoltaic
PWS	Performance Work Statement
QAE	Quality Assurance Evaluator
QASP	Quality Assurance Surveillance Plan
R&R	Repair and Replacement
RCx	Recommissioning
RFI	Request for Information
RFF	Request for Funds
RFP	Request for Proposal
SAF	Secretary of the Air Force
SECDEF	Secretary of Defense
SR	Special Requirements
SWPA	Southwestern Power Administration
TO	Task Order
ToT	Time on Target
UESC	Utility Energy Service Contract
UFC	United Facilities Criteria
UPS	Uninterrupted Power System
USACE	United States Army Corps of Engineers
USC	United States Code
VFD	Variable Frequency Drive
VSD	Variable Speed Drive
WAPA	Western Area Power Administration



Acronym	Definition
WR	Warranties and Remedies



Appendix B – AFCEC UESC Planning & Document Development Checklist

AFCEC UESC Planning & Document Development Checklist				
Process Step / Resource Name			Objective	Timeline
STEP 1 – APPROVAL/CLEARANCE FOR UESC ACQUISITION				
	Base Submits Opportunity to OEA Storefront		Notifies OEA of opportunity and desire to execute a project	6-9 Months
	Base works with OEA to Develop Fidelity for Opportunity		Provides information to develop package for review/approval	
	OEA staff the Opportunity for Adjudication		Information with recommended acquisition method submitted for review	
	Opportunity is Adjudicated through SAF Approval Process			
	AFCEC Council Provides Recommendation to Proceed with UESC		Provides for AFCEC/CNE to Start Acquisition Actions	
	AFCEC/CNE Notified of Approval to Proceed to Acquisition			
	AFCEC/CNE Requests Concurrence from Base Leadership	X	Base Leadership Concurrence to Proceed with Acquisition	
STEP 2 – REQUIREMENT DEVELOPMENT				
	AFCEC/CNE and Base Develop Data Package		Establishes scope and desired ECMs and AFCEC PF Selected	4-6 Months
	AFCEC/CNE Submits Data Package to Acquisition Agency	X	Start of Actions for Acquisition Agency	
	Acquisition Strategy / Planning		Establishes scope and desired outcome of project	
	Limited Acquisition Plan			
	Survey of Interest of Eligible Utilities		Determines which serving Utilities are interested and capable	
	Receipt of Letters of Interest from Utilities		Interested Utilities Notify Agency of Desire to Participate in UESC	
	Utility Selection Evaluation Factors Developed		Energy Team Develop Factors to Select Utility for UESC	
	Issue RFP to Eligible/Interested Utilities		Notifies serving Utilities of project scope and to provide proposal	
	Utilities Submit Proposals		Utilities proposed plan to address RFP Scope	
	Energy Team Evaluates Proposals	F	Allows for selection of Utility based on RFP Selection Factors	
	AFCEC/CNE Submits Technical Evaluation to CO	X	Provides technical narrative for selection of Utility	
	CO Develops J&A		Justification to use a limited source contract	
	CO Selects Utility and Notifies all Utilities of Selection		Notifies Utilities of Selection	
	Utility Selection Letter is Issued		Notifies Utility of their Selection and Start of Preliminary Assessment	
STEP 3 – PROJECT DEVELOPMENT				
Preliminary Assessment				
	CO Develops/Uses AWC Exhibit C to Initiate Preliminary Assessment		Establishes bilateral agreement for PA, at no Cost to Government	3-5 Months
	Utility Conducts Preliminary Assessment		PA Includes Meter Survey	
	Utility Submits Preliminary Assessment Report		Provides for Utility Proposed ECMs for further investigation	
	Energy Team Reviews/Evaluates PA Report		Determines if PA Report meets the requirements of the Base	
	Energy Team Provides Comment/Resolution Matrix to Utility			
	Utility Responds to Comment/Resolution Matrix	F		
	Government Team Determines Go or No-Go		Energy Team determines scope, if any, to proceed with an IGA	
	Base Staffs Package to Base Leadership for Approval	F	Base leadership approves moving to IGA	
	AFCEC/Base Agree to Move to IGA		Notifies CO of scope to proceed with an IGA	
	CO Notifies Utility of Scope to be Addressed in IGA	X	Initiates actions to start IGA	
Investment Grade Audit (IGA)				
	Energy Team Develops SOW for IGA		Defines AF/Base Requirements (i.e., Base Standards, UFC, etc.)	
	CO Develops/Uses AWC Exhibit C to Initiate IGA		Establishes bilateral agreement for IGA and FFP costs for IGA	
	Performance Assurance Plan		Provided to Utility as an attachment to the IGA SOW	
	Kick-Off Meeting and NTP for IGA	F		



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	FAR Clauses for UESC not in AWC			6-12 Months
	Area Wide Contract		List FAR Clauses Included by Reference in the AWC	
	UESC Task Order	F	List FAR Clauses Included by Reference in the TO	
	Utility Conducts Investment Grade Audit		Base conducts Witnessing of Baseline Measurements	
	Energy Team Continues Development of Requirements for Final TO	F	Ensure Base/AF Requirements are in TO and Utility is aware	
	Utility Submits IGA with FFP		Defines M&V, O&M, Baseline, Savings, Risk & Responsibility	
	Government Team Reviews/Evaluates IGA		Government Validates Baseline, Savings, & Assumptions, etc.	
	Energy Team Provides Comment/Resolution Matrix to Utility	F		
	Utility Responds to Comment/Resolution Matrix		Utility to resolve Energy Team comments	
	Energy Team Determines Go or No-Go for TO Award			
	Base staffs Package to Base Leadership for Approval		Base leadership approves moving to Award of Contract	
	AFCEC/Base Agree to Move to TO Award	X		
	CO Requests Final Proposal FFP for TO Award		CO Starts Negotiations and Pricing Evaluation for Award of TO	
	Finalize J&A			
	Business Clearance Memorandum			
Award for Design and Implementation				
	Notify Congress 72 hrs. before awarding TOs >\$4M Award D&I TO		TO Establishes bilateral agreement for D&I	2-4 Months
	Award TO			
	Standard Form 26		FAR calls out Form 26, use form to award the contract	
	Finalize TO for Award			
	CO Develops/Uses AWC Exhibit C to Initiate TO Award		Establishes bilateral agreement for FFP for TO Award	
STEP 4 – PROJECT IMPLEMENTATION				
Design				
	Utility submits designs/Agency reviews and approves			1-3 Months
Installation/Construction				
	Utility installs ECMS/CO Monitors/Base COR Oversight		Agency is CO and Base COR oversight during construction	12-36 Months
	Utility conducts/Base receives O&M Training, Commissioning, etc.		Base COR witness during commissioning	
	ECM Performance Verification Checklist		Lists items to ensure installation/performance meets design intent	
	Utility Provides Post Installation Commissioning Report			
	AFCEC/Base Review Post Installation Commissioning Report	F		
	Base/Agency Accept Project	X	Agency approves work performed by ESCO under contract	
	Agency Reports Project Details to FEMP and GSA			
	UESC Project Reporting			
STEP 5 - POST-ACCEPTANCE				
	Invoices and Payments		Invoices and Payments	Term of Contract (0-25 Years)
	Utility Submits Annual Performance Report and Payment Request	F	Annual Performance Report and Payment Process	
	AFCEC/Base Review Annual Performance Report		Government Ensure Performance Metric(s) are met and is CA necessary	
	AFCEC/Base provide Review Responses (if any)			
	AFCEC/Base Provide Approval to Agency for Payment of Invoice	X		
	Close out Of Contract Term			

** = NoO or RFPA starts acquisition timeline with 30-month goal
Energy Team = AFCEC/Base/Acquisition Agency

X = AFCEC/PMO Approval Point
F = Coordination Point with AFCEC PF



Appendix C – Risk & Responsibility Checklist

		Risk/Responsibility Description	Does utility have an acceptable approach to deal with the risk/responsibility??	Has AFCEC/CNE assessed the utility's approach?
Financial	Interest Rates	Neither the Utility nor the AF has significant control over prevailing interest rates. Interest rates will change with market conditions during all phases of the project. Higher interest rates will increase project cost, financing/project term, or both. The timing of the delivery order signing may impact the available interest rate and project cost. Clarify when the interest rate is locked in, and if it is a fixed or variable rate.		
	Energy Prices	Neither the utility nor the AF has significant control over actual energy prices. For calculating savings, the value of the saved energy may either be constant, change at a fixed inflation rate, or float with market conditions. If the value changes with the market, falling energy prices place the utility company at risk of failing to meet cost savings guarantees. If energy prices rise, there is a small risk to the AF that energy-saving goals might not be met while the financial goals are. If the value of saved energy is fixed (either constant or escalated), the AF risks making payments in excess of actual energy cost savings.		
	Construction Costs	The Utility is responsible for determining construction costs and defining a budget. In a fixed-price design/build contract, the AF assumes little responsibility for cost overruns. If construction estimates are significantly greater than originally assumed, however, the utility company may find that the project or measure is no longer viable and drop it. In any design/build contract, the AF loses some design control. Clarify design standards and the design approval process (including changes) and how costs will be reviewed.		
	M&V Costs	The AF assumes the financial responsibility for M&V costs directly or through the utility. If the AF wishes to reduce M&V costs, it may do so by accepting less-rigorous M&V activities with more uncertainty in the savings estimates. Clarify what performance is being guaranteed (equipment performance, operational factors, energy cost savings) and that the M&V plan is detailed enough to satisfactorily verify it. Note: This only applies if M&V is required.		
	Delays	Both the utility and the AF can cause delays. Failure to implement a viable project in a timely manner costs the agency in the form of lost savings and can add costs to the project. Clarify the schedule and how delays will be handled.		
	Major Facility Change	The AF (or Congress) controls major changes in facility use, including closure. Clarify responsibilities in the event of a premature facility closure, loss of funding, or other major change.		



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		Responsibility Description	Does utility have an acceptable approach to deal with the risk/responsibility?	Has AFCEC/CNE assessed the utility's approach?
Operational	Operating Hours	The AF generally has control over the operating hours. Increases and decreases in operating hours can show up as increases or decreases in "savings," depending on the M&V method (e.g., operating hours, improved efficiency of equipment vs. whole building, utility analysis). Clarify if operating hours are to be measured or stipulated and what the impact will be if they change. If the equipment loads are stipulated, the baseline shall be carefully documented and agreed to by both parties.		
	Load	Equipment loads can change over time. The AF generally has control over hours of operation, conditioned floor area, and intensity of use (e.g., changes in occupancy or level of automation). Changes in load can show up as increases or decreases in "savings," depending on the M&V method. Clarify if equipment loads are to be measured or name plate values and the impact if they change. If the equipment loads are based on name plate, the baseline shall be carefully documented and agreed to by both parties.		
	Weather	Energy efficiency measures are affected by weather. Changes in weather can increase or decrease "savings" depending on the M&V method (e.g., equipment run hours x efficiency improvement vs. whole building utility analysis). If weather is "normalized," actual savings could be less than payments for a given year but will "average out" over the long run. Weather corrections to the baseline or ongoing performance shall be clearly specified and understood.		
	User Participation	Many energy conservation measures require user participation to generate savings (e.g., control settings). The savings can be variable, and the Utility may be unwilling to invest in these measures. Clarify what degree of user participation is needed and utilize monitoring and training to mitigate risk. If performance is stipulated, document and review assumptions carefully and consider M&V to confirm the capacity to save.		
Performance	Equipment Performance	Generally, the utility has control over the selection of equipment and is responsible for its proper installation and performance. The utility also has overall responsibility to demonstrate that the new improvements meet expected performance levels, including standards of service and efficiency. Clarify who is responsible for initial and long-term performance, how performance will be verified, and what will be done if performance does not meet expectations.		
	Operation	Responsibility for operations is negotiable, and it can impact performance. Clarify how proper operation will be assured. Clarify responsibility for operations and the implications of taking on the operation of the equipment.		
	Maintenance and Repair	Responsibility for maintenance & repair is negotiable; however, it is often tied to performance. Clarify how long-term maintenance and repair will be assured, especially if the party responsible for long-term performance is not responsible for maintenance. Clarify who is responsible for ECM overhaul and component or equipment repair required to maintain operational performance throughout the contract term.		
	Equipment Replacement	Responsibility for replacement of utility-installed equipment is negotiable; however, it is often tied to ECM performance. Clarify who is responsible for replacing failed components or equipment throughout the term of the contract. Specifically address potential impacts on performance due to equipment failure. Life of equipment is critical to ECM performance during the contract term. Specify equipment life expected for all installed equipment and specify warranties proposed for the installed ECMs.		



Appendix D – Risk & Responsibility Matrix (Example)

Risk and Responsibility Matrix (EXAMPLE)

ECM	ECM Name / Equipment	Qty	Operations Responsibility	Operations Tasks	Maintenance Responsibility	Maintenance Tasks	Repair Responsibility	Year(s) for Repair	Replacement Responsibility	Year(s) of Replacement
5.01	LED Interior Lighting	Refer to Line-by-lines in Appendix C	Government	Visual Inspections	Government	<u>Semi – annual:</u> Inspect and clean lenses if necessary, verify operations, and check for damage / failures. <u>Quarterly:</u> Verify operations	Government - Labor ESCO-R-US Team to provide repair/replacement parts only during the manufacturer warranty period	Government ESCO-R-US Team to provide repair/replacement parts only during the manufacturer warranty period	Government	ESCO-R-US Team will provide a one-time 2% replacement stock of all new equipment installed
5.02	LED Building Exterior Mounted Lighting	Refer to Line-by-lines in Appendix C	Government	Visual Inspections	Government	<u>Semi – annual:</u> Inspect and clean lenses if necessary, verify operations, and check for damage / failures. <u>Quarterly:</u> Verify operations	Government - Labor ESCO-R-US Team to provide repair/replacement parts only during the manufacturer warranty period	Government - Install/remove/replace ESCO-R-US Team to provide repair/replacement parts only during the manufacturer warranty period	Government	Government - Install/remove/replace ESCO-R-US Team will provide one-time 2% replacement stock of all new equipment
10.02	Solar PV / BESS		Government <i>No anticipation of additional labor needs</i>	<u>Quarterly</u> Visual inspections of structures, inverters, and monitoring system. Maintain the system is operational and all inverters are On-Line. Any concerns or disruptions are to be documented and ESCO-R-US is to be made aware according to TO timelines. Inspections are required after a high wind event as well.	ESCO-R-US Team	<u>Quarterly</u> Inspection of structure, panels, sensors, and control systems. Cleaning of all panels as necessary to ensure performance. <u>Annual</u> Inspection and recording of voltage and amperage of system. Inspection of all enclosures Inspection of all wiring connections and terminations Inspection and calibration (if needed) of metering system PV System Testing.	ESCO-R-US Team Government	ESCO-R-US Team: Repair when failures occur within the Performance Period Repairs to: PV System (e.g. modules, inverters, sensors, controllers, etc.). Repairs of existing infrastructure is Government's responsibility (e.g. existing transformers, etc.)	ESCO-R-US Team	Inverters will be replaced 1x by ESCO-R-US Team within the Performance Period. Failures that occur after that 1x replacement will be the Government's responsibility. All other equipment and components installed as part of the Solar PV BESS Microgrid System will be the ESCO-R-US responsibility
3.01	Legacy Network 8000 Replacements (Ver3.5 Controllers)	42 Bldgs	Government (per designed KOSS (Key Operating Savings Strategy)) Any deviations, changes or concerns, document & report issue to ESCO-R-US ESCO-R-US Team: Monthly and/or Quarterly site visits	Government Daily: Log alarms and any overrides on KOSS. Verify operations, document all activities. ESCO-R-US Team: Will verify operations, set points and schedules per KOSS (monthly and/or quarterly) via onsite technical representative. Address disruptions in comfort or services or KOSS and work with all parties involved to determine the root cause of any disruption. ESCO-R-US will manage trend and metered data for both visibility of efficiency and reliability as well as M&V (measurement and verification).	Government	<u>Quarterly</u> Review / Implementation of regular scheduled Preventative Maintenance Plan as part of Base regular services. ESCO-R-US will inspect and document the EMCS status on each site visit.	Government (to troubleshoot and accelerate repairs or replacement to failed field devices)	Government will provide repairs to the EMCS installed associated with this ESPC and will provide detailed documentation on Repair & Replacement work to support the systems and equipment Key Operating Savings Strategy on field devices. It is the government's responsibility to accelerate the repair / replacement to return the system or equipment to its original design.	ESCO-R-US Team (to provide a limited working inventory field devices) & Government (to accelerate repairs or replacement to failed field devices)	ESCO-R-US Team will provide a one-time 2% replacement stock of EMCS sensors installed (i.e. duct sensors, humidity & temperature sensors, etc.) and 2 main controllers, which will allow for the GOV to have a working inventory. Government will provide repairs to the EMCS installed associated with this ESPC and will provide detailed documentation on Repair / Replacement work to support the systems and equipment Key Operating Savings Strategy on field devices. It is the Government's responsibility to conduct the repair / replacement in appropriate timeframes to maintain system operations and allow the system or equipment to its maintain design standards..



Appendix E – UESC Considerations for the Base Champion

The following considerations can help the Base Champion implement a successful UESC project.

1. Prior to engaging with a utility, the Base Champion/BCE prepares a summary of the type of ECMs being considered and at least one type of resiliency measure, relevant baseline information, and submits them to the OEA storefront platform. OEA serves as the single point of entry for all installation energy requirements. Additionally, OEA is leading the enterprise AF development of an IEP for each installation. The determination for the pursuit of a UESC opportunity may be resultant from the IEP.
2. OEA acts as the integrator to maximize energy assurance and coordinates the opportunity through the assessment and validation process through appropriate AF offices. If OEA and AFCEC determine third party financing is the appropriate method of execution for the opportunity, then AFCEC/CNE works with the Base Champion/BCE to determine the best Contracting Office (DLA or USACE) for execution.
3. Though the utility company brings technical energy expertise to the installation's energy program, the BC should have a plan to improve the energy efficiency and resiliency. The improvement of energy efficiency generally is desired ECMs at the Base (e.g., lighting, EMCS, boilers, etc.), and the resiliency portion is often the result of an IEP. As part of getting local buy-in and ensuring the project is meeting local needs/goals, engage with facility managers and operations staff for ideas on improving their building's operational characteristics is a beneficial pursuit. The facility managers and Base CE shops, often know what equipment is failing or not operating properly due to design defects, age, or other factors, and may offer energy savings opportunities. Keep in mind the overall energy and resiliency goals of the project, as UESCs, are not meant to be used as "wish lists" for building managers, nor are they opportunities for contractors to only choose the most profitable projects, leaving the less-economical work for others. If that happens, the other work will never be completed, and installations will be saddled with undesirable systems in their present condition.
 - a. The Utility company's costs and overhead will be greater for widely scattered buildings than it will be for facilities that are clustered together. Structure packages of buildings to take maximum advantage of project economics. Include the less-desirable projects/facilities with the more attractive projects/facilities and ensure that the utility company takes them as a package. Use the attractive savings from rapid payback projects, such as lighting retrofits, to help support and subsidize the less-economical work, such as resiliency or chiller replacement. The AFCEC/CNE standard approach is to make the project as large as possible, even to the point of fence-to-fence scope. The larger scope provides for the sufficient savings dollars to pay for the resiliency element, along with maximizing the economies of scale and Government efforts (e.g., Base CE, Contracting, etc.)
 - b. Do not accept a Preliminary Assessment report that addresses only technology that the utility company elected to consider. If the Base is interested in the viability of a specific technology, and the UESC contractor states that the proposed technology is not economical, the PA should detail why the technology is not economical. Additionally, if the PA presented by the Utility does not provide a scope that is acceptable to the Base, then the Utility can be asked to re-accomplish the PA, and/or just terminate the effort.
4. The Base should engage with a multidisciplinary team to evaluate proposals, and this should include the Base CE shops, CE Engineering/Design Element, critical facility managers, ISSO, Industrial



Control Systems (ICS) Shop, and others as deemed appropriate. Consider the cost of maintenance and repairs after equipment is installed and items such as the equipment's noise level, emissions, siting, etc. Each ECM should be evaluated on a life-cycle cost basis and overall benefit to the Base (e.g., energy savings, reduced maintenance, etc.).

5. Where practicable, consider having building energy management or advance pulse interval metering and load profile data recording devices installed as part of the contract, though the GOV cannot provide funding within the contract for meters, there is already a program for meters (Advanced Meter Reading System (AMRS)). If the Base does not have AMRS, the Utility can install AMRS type meters, but cannot complete the Authority to Operate (ATO) process for AMRS. If AMRS exists at the Base, then the AMRS team should have supplied the Base with the knowledge and tools to expand their AMRS. The importance of having advanced metering technology available for obtaining the best energy procurement prices cannot be overstated.
6. Ensure during initial meetings, and ongoing development that there is a clear understanding with the UESC contractor and the rest of the Energy team regarding expectations and goals.
7. Keep the terms and provisions of the UESC TO as straightforward and clear as possible, without, for example, all sorts of added O&M savings. Look at each ECM and determine how it contributes to the overall project, including its length of payoff and the impact of its removal or inclusion on the overall project economics. Make the appropriate business trade-offs and establish an optimal scope of work for the project.
8. The importance of coordination cannot be overstated. Pay attention to detail and follow-up on everything. Be sure to involve installation engineering, AFCEC/CNE, construction, contracting, and finance in the project development.
9. A common area of contention is the contract language addressing M&V issues. This will be a primary focus of AFCEC/CNE. The goal of the M&V Plan is to provide a clear understanding and clear contract language addressing how much M&V is to be conducted, as required by the contract. The BC should become familiar with the latest version of the IPMVP and make use of the M&V protocols in your contract. The Base should understand their responsibility for witnessing baseline, post-installation, first-year, and annual M&V inspections and analyses, as well as commissioning installed equipment.
10. All ECMs shall be thoroughly evaluated against future **known** renovations or new initiatives for possible reduction or elimination of projected UESC savings. When ECM savings are eliminated or greatly reduced, a buyout may be required. The installation programming function shall include the cost of the ECM buyout on DoD form (DD) 1391, *Military Construction Project Data*.
11. All MFH ECMs shall be thoroughly evaluated against future known MFH renovations or new housing initiatives for possible reduction or elimination of projected UESC savings. When MFH ECM savings are eliminated or greatly reduced, a buyout may be required. The MFH programming function shall include the cost of the ECM buyout on DoD form (DD) 1391. Before proceeding with any UESC project in MFH, coordinate with the installation housing to identify and eliminate any potential conflict with current or planned MFH projects.



Appendix F – AFCEC Escalation Rate Guidance

Escalation Rates - Supplement to the UESC Playbook

As a supplement to the AF UESC Playbook, the following is the guidance for Utilities calculating escalation rates in UESC projects.

Escalation Rates:

Based on guidance from FEMP, the escalation rates for the UESC going forward will be the Nominal Escalation Rate for each utility as calculated by National Institute for Standards and Technology (NIST) software program, Energy Escalation Rate Calculator (EERC). EERC 2.0-XX (use the most current version) is available for download from the FEMP website.

The inflation rate used for calculating escalation rates in UESCs will be in IAW the directives of 10 CFR 436, Subpart A "Federal Energy Management and Planning Programs, Methodology and Procedures for Life Cycle Cost Analyses". The inflation figure shall represent "estimated increases in the general level of prices consistent with projections of inflation in the most recent Economic Report of the President's Council of Economic Advisors." The inflation rate used for calculating the UESC escalation rates will be the projected rates of general inflation published in the most recent Report of the President's Council of Economic Advisors, **which is default** in the current EERC 2.0-XX.

Individual escalation rates must be used for each commodity, and specify 100% for a single fuel type:

1. Identify the state in which their prospective project will take place.
2. Select "industrial" sector for AF installations.
3. Select "No carbon pricing".
4. The expected start date (award year).
5. Duration of the project (contract term).

With that, the tool will determine an escalation rate for each fuel type, which shall be used for the financials in the UESC. A new EERC is published about every June, the Utility shall use the most current version of the EERC in the IGA submission. If the version of the EERC changes prior to start of price negotiations prior to award, then the Utility shall update the escalation rates using the new version.

If the escalation for sewer/water is needed for the project, then the BC/Utility shall utilize the most current guidance from FEMP. Also, for commodities not listed in the EERC calculator (e.g., fuel oil), BC/Utility shall consult with AFCEC/CNE regarding escalation guidance. The current FEMP guidance for determination of water and sewer provides for maximum allowable, which shall not be exceeded. Escalation of the utility rate shall not initiate until after award of the task order.



Appendix G – ASD Policy Letter for Performance Contracts



SUSTAINMENT

ASSISTANT SECRETARY OF DEFENSE

3500 DEFENSE PENTAGON
WASHINGTON, DC 20301-3500

NOV 20 2018

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS,
ENERGY, AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE NAVY (ENERGY,
INSTALLATIONS, AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE AIR FORCE
(INSTALLATIONS, ENVIRONMENT, AND ENERGY)
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Policy on Energy Savings Performance Contracts and Utility Energy
Service Contracts

As described in the *National Defense Strategy*, the variety and velocity of global threats continues to rapidly evolve. The homeland is no longer a sanctuary, and we must anticipate and mitigate potential attacks against our critical defense, government, and economic infrastructure. In this environment, maintaining secure access to energy resources is critical to the Department of Defense (DoD) mission execution, and ensuring energy resilience at DoD installations is a top priority.

This policy provides guidance on the use of Energy Saving Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs), as respectively authorized under 42 U.S.C. 8287 and 10 U.S.C. 2913(d), to enhance energy resilience at DoD installations. ESPCs and UESCs enable the DoD to leverage private sector funding and expertise to execute certain types of energy projects on DoD installations. By law, Congress directed the Secretary of Defense to ensure the readiness of the armed forces for their military missions by pursuing energy security and energy resilience. With this in mind, ESPCs and UESCs shall be designed to achieve objectives aligned with installation energy security priorities, and be documented in Installation Energy Plans (IEPs). The requirement for IEPs is outlined in the Assistant Secretary of Defense for Energy, Installations, and Environment (ASD(EI&E)) Memorandum, "Installation Energy Plans – Energy Resilience and Cybersecurity Update and Expansion of the Requirement to All DoD Installations" of May 30, 2018.

Pursuant to statutory directive, DoD Components shall execute ESPCs and UESCs in a manner consistent with the energy resilience guidance contained in DoD Instruction 4170.11, "Installation Energy Management," December 11, 2009 (Change 1, Effective March 16, 2016) and the guidance provided in the ASD(EI&E) Memorandum, "Energy Resilience: Operations, Maintenance, and Testing (OM&T) Strategy and Implementation Guidance," effective March 2017.

DoD Components shall take a holistic view of the energy project opportunities on their installations, and aggregate energy conservation measures (ECMs) – including ECMs with quick payback – with energy resilience enhancement projects that may have a longer payback period. Aggregating such initiatives is particularly important when a utility infrastructure project facilitates energy savings or is required to affect energy savings as part of an ESPC or UESC. DoD Components should ensure that ESPCs or UESCs continue to support mission assurance



goals and requisite managerial and contractual controls are in place to ensure a ready force. DoD Components shall review the potential for modifying existing ESPCs and UESCs to add energy resilience features to these contracts. Such a review may occur during a Component's master planning process, when developing an IEP, or as the mission requires. Prior to execution of an ESPC or UESC, DoD Components shall ensure required resources are in place to enable proper post award oversight to make certain these contracts are meeting expected performance requirements.

In addition, ESPCs and UESCs must include a cybersecurity plan for ECMs and energy resilience projects that include the installation or modification of Operational Technology (OT). OT encompasses Platform Information Technology (PIT), Control Systems (CS), or Facility-Related Control Systems (FRCS). Cybersecurity for OT shall be incorporated in accordance with Unified Facilities Criteria (UFC 4-010-06), "Cybersecurity of Facility-Related Control Systems," September 2016, "Supply Chain Materiel Management Regulation" (DoDI 4140.01), DoD Federal Acquisition Regulation Supplement (DFARS) Clause 252.204-7012, "Safeguarding Covered Defense Information and Cyber Incident Reporting," and the DoD Cybersecurity 8500 series of directives and instructions. In addition, all ECMs and energy resilience projects must adhere to the applicable Component's existing cybersecurity policy and guidance. DoD Components shall assess OT installed and operating under ESPCs and UESCs, throughout the life of the contract in accordance with DoD and their Component's cybersecurity policies and methodologies, and, where necessary, execute appropriate action in adherence with the Federal Acquisition Regulation (FAR), the DFARS, and above references to ensure the cybersecurity of these systems.

For ESPCs and UESCs, DoD assumption of maintenance, repair, and replacement (MR&R) for ECMs places the long-term performance of the ECMs, and thereby the ESPC or UESC, at risk; such an assumption by DoD should be avoided. Thus, DoD Components shall require that all MR&R for an ESPC or a UESC be carried out by the contractor. Exceptions to this policy should only be permitted on a case-by-case basis, and the DoD Component must document the rationale for assuming responsibility for the MR&R of an ECM in a memorandum signed by the installation commander or commanding officer. The memorandum must be submitted in the Component's next quarterly report to the Office of the Deputy Assistant Secretary of Defense for Energy (ODASD(E)), following contract award.

DoD Components shall report on executed ESPCs and UESCs on a quarterly basis, and shall provide Measurement and Verification reports annually, as required by the ODASD (Installation Energy) Memorandum, "Reporting Requirements for the Oversight of ESPCs and UESCs" of July 13, 2018.

My subject matter expert for this policy is CDR Walter Ludwig at 571-372-6859 or walter.s.ludwig.mil@mail.mil.

Robert H. McMahon



Appendix H – TO Financial Schedules

The PA and IGA shall provide TO Schedules that mimic those provided in ESPC projects. The AF does not utilize eProject Builder for UESCs, thus a standard MS Excel format TO schedule is acceptable. The values and calculations on the TO schedules shall match those values used in the body of the PA/IGA report.

TO-1 Proposed Annual Cost Savings & Annual Contractor Payments

TO-1 shows the annual savings and payments. Implementation period savings and payments consistent with Agency expectations and FEMP guidance. Estimated annual cost savings traceable to and consistent with ECM-level calculations. Guaranteed, if provided, cost savings consistent with estimated annual cost savings. Annual utility payments consistent with guaranteed/estimated cost savings are less than guaranteed/estimated savings in each contract year.

TO-2 Implementation Price by Energy Conservation Measure

TO-2 is a breakdown of the project implementation price by ECM. Implementation expense of each ECM traceable to pricing calculations in body of IGA so that each ECM is adequately documented. The Utility shall calculate the ECM implementation costs based on subcontractor/vendor bids and internal estimates (if warranted). Project level costs are calculated and distributed amongst ECM costs to arrive at each ECM's direct implementation expense. Finally, overhead and profit are distributed amongst the ECM costs to arrive at an ECM-by-ECM price summary.

TO-3 Post Acceptance Performance Period Costs

TO-3 provides for the cost's breakdown for the contact term, starting at ECM acceptance. O&M, M&V, and R&R costs are broken down for each year of performance. Additional data includes annual principal repayment, annual repayment interests, indirect cost rate, and any other annual costs within the project.

TO-4 First Year Estimated Annual Cost Savings by Energy

Energy baseline and savings for each ECM and each form of energy consistent with calculations provided in the IGA. Energy cost savings for each ECM and each form of energy consistent with energy savings and energy unit costs.

TO-5 Annual Cancellation Ceiling Schedule

Cancellation ceiling for each year is consistent with remaining principle per Schedule TO-3 and agreed upon cancellation penalty ceiling.

TO-5A Amortization Schedule

Amortization schedule providing breakdown of payments for lender, O&M, M&V, principal, interest, etc. The TO-5A should provide a schedule of total payment amounts and dates for the life of the TO.



Appendix I – Example Justification & Approval (J&A)

JUSTIFICATION AND APPROVAL FOR OTHER THAN FULL AND OPEN COMPETITION

1. **Contracting Activity:** (FACILITY NAME), ATTN: _____
(LOCATION) _____
2. **Description of Action:** This action will establish a new Basic Ordering Agreement (BOA) between the (SITE NAME AND UTILITY NAME) and will establish terms and conditions to receive energy management services by issuing separate task orders or contracts. The task orders will be funded by (FUNDS Account). The task orders will each be fixed- price type contracts.
3. **Description of Supplies/Services:** The (UTILITY NAME) will provide energy and water conservation and demand side management type projects and services to reduce energy consumption, directly or indirectly reduce the peak period demand, and provide energy related operations, maintenance, and repair services for natural gas, steam, electric power, water, or wastewater at (SITE NAME) facilities. The energy conservation projects will be amortized for a term not to exceed 10 years and the monthly payment will be included on the utility bill. The energy conservation projects will be required to show a net overall savings and thus the cost of the projects will be covered by the utility savings.
4. **Authority Cited:**
 - A. Energy Policy Act of 2005 (Public Law 109-58 109th Congress)— Legislation regarding energy-savings goals, directives, and regulations.
 - B. Energy Savings Contracts and Activities (Title 10 USC Section 2913) — Legislation regarding energy-saving goals and plans at military facilities.
 - C. Water Conservation at Military Installations (Title 10 USC Section 2866) — Legislation regarding water-saving goals and plans at military facilities.
 - D. FAR 6.302-5—FAR, Subpart 6.3 – Other than Full and Open Competition.
 - E. Executive Order Regarding Efficient Federal Operations, 17 May 2018 — Legislation regarding agencies to meet such statutory requirements in a manner that increases efficiency, optimizes performance, eliminates unnecessary use of resources, and protects the environment.
5. **Reason for Authority Cited**

Energy Policy Act of 2005 (Public Law 109-58 109th Congress) directed the Architect of the Capitol to develop and implement a cost-effective energy conservation and management plan for all facilities administered by Congress. Agencies are authorized and encouraged to participate in programs to increase energy efficiency and for water conservation or the management of electricity demand conducted by gas, water, or electric utilities and generally available to customers of such utilities.

The Energy Savings Contracts and Activities (Title 10 USC Section 2913) states that the SECDEF shall permit and encourage each military department, Defense Agency, and other instrumentality of the DoD to participate in programs conducted by any gas or electric utility for the management of electricity demand or for energy conservation or by any utility for water conservation activities.

The Water Conservation at Military Installations (Title 10 USC Section 2866) states that the SECDEF shall permit and encourage each military department, Defense Agency, and other instrumentality of



the DoD to participate in programs conducted by a utility for the management of water demand or for water conservation.

The FAR 6.302-5 provides that full and open competition is not required where a statute, i.e., Title 10 USC 2913 (D) (3), expressly authorizes that an acquisition be made from a specified source, i.e., the servicing gas or electric utility.

E.O. Regarding Efficient Federal Operations, 17 May 2018 states that agencies shall utilize performance contracting to achieve energy, water, building modernization, and infrastructure goals.

4. **Efforts to Obtain Competition:** Not applicable. Per authorities cited above, these types of agreements are limited to either the servicing gas or electric utilities, or both.
5. **Actions to Increase Competition:** Not applicable. Per authorities cited above, these types of agreements are limited to either the servicing gas or electric utilities, or both.
6. **Market Research:** Not applicable. Per authorities cited above, these types of agreements are limited to either the servicing gas or electric utilities, or both.
7. **Interested Sources:** Not applicable. Per authorities cited above, these types of agreements are limited to either the servicing gas or electric utilities, or both.

8. **Other Facts:**

9. **Technical Certification:** I certify that the supporting data under my cognizance which are included in the justification are accurate and complete to the best of my knowledge and belief.

Name: _____ Date: _____
Title

Signature: _____

10. **Requirements Certification:** I certify that the supporting data under my cognizance which are included in the justification are accurate and complete to the best of my knowledge and belief.

Name: _____ Date: _____
Title

Signature: _____

11. **Fair and Reasonable Cost Determination:** I hereby determine that the anticipated cost to the Government for contracts issued under this BOA action will be fair and reasonable. The basis for this determination is _____

Name: _____ Date: _____
Title

Signature: _____



- 12. Contracting Officer Certification:** I certify that this justification is accurate and complete to the best of my knowledge and belief.

Name: _____ Date: _____

Title

Signature: _____

Approval

Based on the foregoing justification, I hereby approve the establishment of the BOA with (Utility name) authority for energy and water conservation and demand side management services on another than full and open competition basis, pursuant to the authority of Title 10 USC 2913, and the Energy Policy Act of 2005 (Public Law 109-58 109th Congress), subject to the availability of funds, and provided that the services herein described have otherwise been authorized for acquisition.

Name: _____ Date: _____

Title

Signature: _____



Appendix J – Example Master Agreement Exhibit “C”

Master Agreement Exhibit “C”

Contractor’s ID # _____ (Optional)

Ordering Agency’s ID # _____ (Optional)

Authorization for Energy Management Services Contract # _____

Ordering: _____

Agency: _____

Address: _____

Pursuant to Contract # _____ between the Contractor and the United States Government and subject to all the provisions thereof, service to the United States Government under such contract shall be rendered or modified as hereinafter stated. Contract Articles 2 and 4 shall be followed for the initiation of service under this contract.

Premises to be served:

Service Address:

Nature of Service:

- | | |
|---|---|
| ☐ Preliminary Energy Audit | ☐ ECP Engineering & Design Study |
| ☐ Energy Conservation Project (ECP) Installation | ☐ Demand Side Management (DSM) Project |
| ☐ ECP Feasibility Study | ☐ Special Facilities |
| ☐ Other (See below) | |

SERVICE HEREUNDER shall be provided consistent with the Contractor’s applicable tariffs, rates, rules, regulations, riders, practices, and/or terms and conditions of service, as modified, amended or supplemented by the Contractor and approved, to the extent required, by the Commission. (See Article 5 of this contract.)

Estimated Project Cost: \$ _____

Capital Cost: \$ _____

Percentage of Cost _____ %
Financed:

Rebate Amount (If Applicable): \$ _____



Simple Payback (Years) _____ Years

Accounting and Appropriation Data: _____

Energy Conservation Measures:

- | | |
|--|---|
| ☐ Mechanical Systems Upgrades | ☐ Lighting |
| ☐ Steam Systems Upgrades | ☐ Renewables |
| ☐ Controls | ☐ Water Conservation |
| ☐ Cogeneration | ☐ Others |

List of Attachments:

- | | | |
|--|--|--|
| ☐ General Conditions | ☐ Historical Data | ☐ Certifications |
| ☐ Facility Site Plans | ☐ Design Specifications | ☐ Economic Analysis |
| ☐ Design Drawing | ☐ Special Requirements | ☐ ECP Feasibility Study |
| ☐ Payments Provisions | ☐ Utility Usage History | ☐ Commission Schedules |

Remarks: _____

Accepted:

(Ordering Agency)

(Contractor)

By:

By:

(Authorized Signature)

(Authorized Signature)

Title:

Title:

Date:

Date:

Note: A fully executed copy of this Authorization shall be transmitted by the Contracting Officer to General Services Administration, WPE, Washington, DC 20407.



Appendix K – Example EMSA

EMSA/MODEL AGREEMENT

AGREEMENT FOR ENERGY CONSERVATION AND DEMAND SIDE MANAGEMENT SERVICES BETWEEN THE UNITED STATES OF AMERICA AND _____ UTILITY COMPANY

This Agreement for implementation of Energy Conservation Measures (ECMs) is entered into this day of _____, 20____, by and between _____ Utility Company (Utility) and the United States of America (Government), represented by the Contracting Officer executing this Agreement. The signatories to this Agreement will be sometimes collectively referred to as the “Parties” and individually as a “Party”. This Agreement (when signed by the Parties), any Task Orders (TO) executed pursuant to this Agreement, and any other associated agreements shall constitute the entire Contract between the Parties with respect to a particular ECM. A term or condition contained in this Agreement may be amended at any time by mutual written agreement of the Parties. However, termination, modification, or expiration of a term or condition shall not retroactively affect TOs previously entered into under this Agreement. The Parties agree to the following principles, concepts, and procedures.

GENERAL CONDITIONS (GC)

GC.1 Purpose

The Government desires assistance in accomplishing ECMs at an Installation (may substitute at all Installations within the Utility Company’s service area), to include [list the installations by name] (hereinafter, Installations). The purpose of this Agreement is to facilitate the implementation of ECMs through TOs. This Agreement sets forth the terms and conditions under which subsequent TOs may be entered into between the Parties.

GC.2 Definitions

Terms used in this Agreement shall have the following definitions:

- A. Acceptance: Written acceptance by the authorized representative of the Government of an individual Phase or completed ECM pursuant to a TO.
- B. Carrying Charge: For the purpose of this Agreement, Carrying Charge shall be an interest rate applied to all ECM Costs incurred by the Utility until permanent financing is put in place or the Government pays the ECM Cost. Accrued interest shall be considered an ECM Cost.
- C. Contracting Officer: A Government official authorized to enter into, administer, and/or terminate a contract on behalf of the Government, and who is authorized to make related determinations and findings within the limits established pursuant to Government regulations.
- D. Contracting Officer Representative (COR) or Contracting Officer Technical Representative (COTR): A local or project site representative of the Contracting Officer delegated specific limited authority, as set forth in a formal delegation letter signed by the Contracting Officer, for a given TO, including the investment grade audit, engineering and design, operation, and maintenance, and/or implementation of one or more ECMs.
- E. Energy Conservation Measure Cost (ECM Cost): The total cost may include, but is not limited to the Work, finance charges and overhead and profit, for the investment grade audit, engineering and design, implementation and operation and maintenance of an ECM,



less any financial incentive or rebates, if provided by the Utility. Payment for completed ECMs shall be calculated based upon the ECM Cost.

- F. Energy Conservation Measure (ECM): A specific project intended and designed to provide any of the following: energy savings, demand reduction, efficiency improvements and water conservation. ECMs are described in more detail in Section GC 17.
- G. Occupied Period: Hours during which a facility or building is occupied or used in the normal course of business.
- H. Quality Assurance Evaluator (QAE): A functionally qualified person who evaluates or inspects the contractor's performance of service IAW the quality assurance surveillance plan written specifically for the contracted service to be evaluated. The QAE performs technical monitoring of contractor actions, is responsible for requesting products and services through a government contract and manages the day-to-day tasks of the contract.
- I. Quality Control: A management function whereby control of the quality of raw or produced material is exercised for the purpose of preventing production of defective material. For purposes of this Agreement, quality control is those actions taken by a contractor to control the production of outputs to ensure that they conform to the contract requirements.
- J. Possession: When the Government takes beneficial occupancy of an ECM (Possession of an ECM).
- K. Subcontractor: Any corporation, partnership or individual hired directly by the Utility to perform a service or provide a product under this Agreement and TOs resulting from this Agreement.
- L. Task Order (TO: A binding contractual action entered into under this Agreement for the investment grade audit, engineering and design, implementation, and/or operation and maintenance of, or any activity related to, an ECM. (A TO can also be identified as a Delivery Order (DO)).
- M. Termination Schedule: A schedule developed for each financed ECM specifying the lump sum payment necessary at any time during the contract period following the initial Government payment for the complete repayment of the ECM costs, including any finance costs accrued to that point.
- N. Work: All labor, materials, tools, equipment, services, transportation and/or other items required for the completion of the ECM.

GC.3 Term

This Agreement shall have a term of years. This Agreement may be terminated in its entirety by either Party upon 30 days' written notice to the other Party. Thereafter, no new TOs shall be entered into under this Agreement. Termination, modification or expiration of this Agreement shall not affect in any way TOs previously entered into under this Agreement. This Agreement shall be effective from the date it is signed by both Parties. In the event the Parties sign this Agreement on different dates, then the effective date shall be the latter of the two dates.

GC.4 Services to be provided by the Utility

The Utility shall provide preliminary audits, feasibility studies, engineering and design studies, and all initial capital, labor, material, supplies and equipment to the Agreement. These services may be ordered individually, as a group or in any combination under a single TO.



GC.5 Information

Subject to national security constraints and unless otherwise prohibited by law, the Government shall provide the Utility with any information requested by the Utility to comply with regulatory commission requirements.

GC.6 Relationship of Parties

The Government acknowledges the Utility and/or its Subcontractors shall each perform their work as independent contractors and the Government shall have no direct control and supervision of Utility or Subcontractor employees, who shall not be considered employees or agents of the Government for any purpose. The Utility, in negotiations with its Subcontractors, will ensure that the Government will be the direct beneficiary of any and all product and service guarantee and warranties.

GC.7 Subcontractor Selection

The Utility may perform some or all of the Work under a TO itself or through Subcontractors. When practical, the Utility shall competitively select Subcontractors for the purpose of determining the reasonableness of Subcontractor prices. When competition is not practical, price reasonableness may be determined by comparing proposed prices with those obtained for the same or similar work, prices published in independent cost guides, published in competitive price lists, or developed by independent sources.

Subcontractor selection shall be based on cost, experience, past performance, reliability, and such other factors as the Utility may deem appropriate, as long as such factors are practicably related to the Government's minimum needs. In no event may such services be provided by Subcontractors listed as excluded from Federal Procurement Programs, which list is maintained by GSA pursuant to Title 48 CFR 9.404. For any TO, the Utility may submit the names of proposed Subcontractors to the Government CO to ensure they are not excluded pursuant to Title 48 CFR 9.404.

GC.8 Authority of Contracting Officer

The Government's Contracting Officer shall be the only Government official authorized to enter into and/or modify a TO entered into under this Agreement.

GC.9 Ownership of Work Product

The Government may elect not to use the Utility to implement the ECM. If the Government so elects, it will pay for any accepted work, including any equipment, completed studies, and engineering and design work. Title to any work done by the Utility for the Government under a TO shall become the property of the Government at the time of acceptance of the work.

GC.10 Responsibility for Operation and Maintenance

The operations and maintenance of the equipment installed pursuant to any TO executed under this Agreement shall be the responsibility of the Utility during the payment term unless otherwise provided in the TO.

GC.11 Government Projects

The Government shall not be restricted from implementing equipment installation, construction projects and ECMs independent of work performed under this Agreement, including installing new



energy conservation equipment, removing existing energy consuming equipment, or adding new energy consuming equipment. The Government will notify the Utility prior to implementing projects that may affect ECMs under this Agreement.

GC.12 ECM Performance Verification

Each TO shall include procedures that are mutually agreeable to the parties to verify ECM performance following installation.

GC.13 Emission Credits

All on-site Government emission credits earned by virtue of TOs entered hereunder shall be the property of the Government.

GC.14 Order of Precedence

The Government and Utility shall determine in this Agreement or subsequent TOs the precedence given to the TO, this Agreement or other documents, exhibits and attachments, in the event an inconsistency arises among these documents.

GC.15 Preliminary Assessments

At the request of the Government or the Utility and upon the mutual consent of both parties, the Utility will conduct, at no cost to the Government, an audit consisting of an on-site building investigation and evaluation for a mutually agreeable facility to determine if any significant energy conservation opportunities exist and whether further detailed energy analysis is warranted. Government buildings/facilities plans will be made available upon request. Requests for plans shall be made to the COR at least 15 calendar days in advance of the audit start date. The Utility will provide a written report of the audit to the Government, typically at no cost. The Utility will utilize historical building data, utility data, and information obtained by the Utility to identify ECMs. Using this information, the Utility will generate a prioritized list of recommendations, in sequence of implementation that are life-cycle cost-effective and can be implemented in the facility being audited. The preliminary audit, to the extent applicable, shall include, but not be limited to, the following information:

- A. Preliminary estimated energy and water savings.
- B. Preliminary estimated cost savings, including reduced maintenance costs.
- C. Current utility rates.
- D. Preliminary retrofit cost.
- E. Utility financial incentive/rebate, if any.
- F. Description of existing equipment.
- G. Description of the proposed retrofit equipment.
- H. Overview of the general environmental impact and potentially hazardous wastes identified through existing facility records, if any.

GC.16 ECM Proposal

After reviewing the preliminary audit, the Government may request a proposal from the Utility, for the evaluation of an ECM. The Utility shall submit an ECM proposal, setting forth a prioritized list of the ECMs, a preliminary estimate of the cost to implement each ECM, and the total costs for



implementing the ECM (including estimated investment grade audit, engineering and design, and implementation costs), and estimated cost savings.

GC.17 Energy Conservation Projects

The Utility may propose one or more ECMs. ECMs that substitute one energy type for another (e.g., natural gas in lieu of electricity) will not be considered for implementation unless a net overall energy or cost reduction can be demonstrated based on current market energy prices. Potential ECMs include, but are not limited to:

- a. Interior and exterior lighting replacement.
- b. Transformer replacement.
- c. Lighting control improvements.
- d. Motor replacement with high efficiency motor.
- e. Construction of alternative generation or cogeneration facilities.
- f. Boiler control improvements.
- g. Packaged air conditioning unit replacement.
- h. Cooling tower retrofit.
- i. Economizer installation.
- j. EMCS replacement/alteration.
- k. Occupancy sensors.
- l. LED exit sign installation.
- m. Fans and pump replacement or impeller trimming.
- n. Chiller retrofit.
- o. Upgrade of natural gas-fired boilers with new controls (low NOX burners).
- p. Solar domestic hot water system.
- q. Solar air preheating system.
- r. Steam trap maintenance and replacement.
- s. Insulation installation.
- t. Variable speed drive utilization.
- u. Weatherization.
- v. Window replacement.
- w. Window coverings and awnings.
- x. Reflective solar window tinting.
- y. Fuel cell installation.
- z. Photovoltaic system installation.
- aa. Faucet replacement (infrared sensor).
- bb. Replacement of air conditioning and heating unit with a heat pump.
- cc. Addition of liquid refrigerant pump to a reciprocating air conditioning unit.
- dd. High efficiency refrigerator replacement.
- ee. High efficiency window air conditioner replacement.
- ff. (Water conservation device installation (e.g., flow restrictors, low flow flush valves, waterless urinals, horizontal axis washing machines).
- gg. Installation, maintenance and operation of power quality and reliability measures including Uninterrupted Power Systems (UPS), back-up generators, emergency generators.
- hh. Fuel switching technology.



- ii. Infrared heating system.
- jj. Heat pipe dehumidification.
- kk. Flash bake commercial cooking.
- ll. Thermal energy storage system.
- mm. Operation, maintenance, modification and/or extension of utility distribution and collection system.
- nn. Training that will result in reduced energy costs.
- oo. Power factor correction measures and equipment.
- pp. Installation, O&M of standby propane facility.
- qq. Installation, O&M of gas distribution system and associated equipment.
- rr. Water distribution system leak detection, and cost-effective repair.
- ss. Any other ECM that is cost effective using the then-current DoD-prescribed procedures and standards, and which encourages the use of renewable energy, reduces the Government's energy consumption or energy demand, or results in other energy infrastructure improvements.

GC.17.1 ECM Restrictions

The Government shall not consider ECMs which include:

- Measures which could jeopardize existing agency missions.
- Measures which could jeopardize the operation of, or environmental conditions of computers or computer rooms.
- Unless waived by the Contracting Officer, measures that would result in increased water consumption (e.g., once-through freshwater cooling systems).
- Measures which would violate any federal, state, or local laws or regulations.
- Measures which degrade performance or reliability of existing Government equipment.
- Unless waived by the CO, measures that would reduce energy capacity currently reserved for future growth, mobilization needs, safety, emergency back-up, etc.
- Measures that violate the then-current versions of the National Electric Code, the National Electric Safety Code, the Uniform Building Code, or the Uniform Mechanical Code.
- Utility-financed measures that do not result in savings in the base utility expenditures sufficient to cover the project costs.
- Energy cost reduction through rate adjustments.
- Advanced metering system covered by AFCEC/CNP (Energy Division Advanced Meter Reading Systems).

GC.17.2 Facility Performance Requirements of ECMs

ECMs proposed by the Utility shall conform to the following facility performance standards:

- Lighting levels shall meet the minimum requirements of the then-current Illuminating Engineering Society (IES) Lighting Handbook.



- Heating/cooling temperature levels shall meet Government design standards.
- ECMs shall permit flexible operation of energy systems for changes in occupancy levels and scheduling of facilities. In proposing an ECM, the Utility may assume the building function will remain constant unless otherwise indicated by the Government.

GC.18 TOs

Following the evaluation of the ECM proposal, the Government may elect to execute a TO with the Utility for the evaluation, implementation, or operation and maintenance of the ECM. If requested by the Government, the Utility will provide or obtain financing on terms at least as good as those available to customers in a comparable service class, or with a comparable risk profile, considering the nature of the security interests to be granted, if any, and other conditions affecting the cost of financing.

The TO may have five phases: Audit (when applicable), Investment Grade Audit Phase, Engineering and Design Phase, Implementation Phase, and Operation and Maintenance Phase. Because the extent of all the work is unlikely to be known at the time the TO is entered into, these phases shall be line items under the TO, and shall be issued with an estimated Termination Schedule at the time the TO is executed. However, work will not commence on a particular phase unless and until a statement of work and a price for that phase have been agreed upon.

Following completion and acceptance of the Feasibility or Engineering and Design Phases, the Government may elect to (i) pay the ECM Cost for each completed Phase within thirty (30) calendar days of being invoiced; or (ii) defer payments for that Phase until the end of the next Phase, at which time the Government shall pay the ECM Cost for each completed Phase within thirty (30) calendar days of invoice; or (iii) include such amounts in the ECM Cost, if the Government elects to proceed with the Implementation Phase. If the Government elects not to proceed with the next Phase, it shall pay the Utility the ECM Cost for the prior completed Phases, plus a Carrying Charge as negotiated by the parties in the TO. A decision to proceed or not to proceed with the next Phase must be made within 60 days of receipt of a written request from the Utility. Only the CO shall be authorized to exercise the Government's option to proceed to the next Phase, and such exercise shall be provided in writing within sixty (60) days of receipt of a statement of work and price. Government finance payments for the Implementation Phase shall begin on the date of the first Utility bill following the 30-day period after the Government takes possession of all or part of the ECM as provided in FAR, Part 36, Subpart 36.511, and a satisfactory ECM Performance Verification as defined in the TO and pursuant to Section GC.12 of this Agreement. The timing and amount of Government payments of appropriated funds for the Operation and Maintenance Phase shall be determined in the TO. The TO is subject to any legally required Federal Acquisition Regulations. Because services may vary widely from one TO to another, the CO will ensure that the appropriate FAR clauses from the FAR matrix found at FAR, Part 52, Subpart 52.301, are incorporated into any contract entered into by the parties for services provided by the Utility under the TO.

GC.19 ECM Investment Grade Audit Phase

The TO shall set forth a scope of work feasible (the Investment Grade Audit). The TO shall specify the terms for the completion of the Investment Grade Audit and establish a price for the Investment Grade Audit. The Government will pay the Utility the agreed-upon price for the



Investment Grade Audit IAW the TO. If the Government elects to proceed with the Engineering and Design Phase as set forth below in Paragraph GC.20, the cost of the Investment Grade Audit shall be rolled into the Engineering and Design Phase ECM Cost. The Investment Grade Audit will provide, at a minimum, the following information:

Technical Factors:

- a. Audits of energy consumption of existing equipment and facilities, including estimated energy and cost savings, and proposed retrofit costs and financial incentives/rebates.
- b. Water audits of supply and utilization facilities, if specified by the Government.
- c. Equipment to be removed or replaced, and new equipment to be installed.
- d. Specifications, including catalog cuts, for new equipment. Specifications shall include (as applicable): power rating, estimated energy consumption, input/output, power ratio, lighting level, and estimated equipment life.
- e. Operation and maintenance procedures required after ECM implementation (if significantly altered by the ECM).
- f. Training that will be provided for the proper operation and maintenance of ECMs, including details on how many hours of training will be provided and how many people will be trained.
- g. Electrical and mechanical sketches for all ECMs that involve changes to existing systems (sketches will not be required for ECMs involving only component replacement).
- h. Government support (e.g., minor changes in Government operation, movement of equipment) required during implementation of the ECM.
- i. Utility interruptions needed for implementation of each ECM by type (gas, electricity, water, etc.), extent (room number, entire building, etc.) and duration.
- j. Identification of potential adverse environmental effects.
- k. Any documentation required to comply with applicable environmental laws.
- l. Estimated construction time in calendar days, showing significant milestones.
- m. Estimated annual energy savings in kilowatt-hour and kilowatt demand of electricity, dekatherms of natural gas, and cubic feet of water for the life of each ECM, including all assumptions and detailed calculations showing how savings were determined.
- n. Estimated equipment life for each ECM.
- o. A proposed method to verify energy savings at the time of ECM Acceptance which shall be subject to Government approval.
- p. Documentation that each proposed ECM has been recommended and selected without regard to fuel source.

Cost Factors:

- a. Estimated annual operation costs (e.g., increased use of alternate fuel sources, replacement filters) and increased maintenance costs (e.g., re-lamping with a higher cost product).
- b. Total estimated ECM Cost to the Government.
- c. Estimated breakdown of financial incentives/rebates for each ECM (if any) in a format mutually agreeable to the Parties.



- d. Estimated cost-of-money rate (percent).
- e. Estimated annual energy and operation and maintenance cost savings including details on estimated annual savings for each area of savings, such as lighting, controls, motors and transformers.
- f. Estimated breakdown of implementation costs for each area of energy savings, such as lighting, controls, motors and transformers.
- g. Estimated costs for replacing existing components and installing new components/systems, listed separately.
- h. Estimated unit costs for major components and systems.
- i. An estimated life cycle cost analysis prepared IAW the then-current edition of the Energy Prices and Discount Factors for Life-Cycle-Cost Analysis, published as the annual supplement to the National Institute of Standards and Technology (NIST) Handbook 135.

GC.20 ECM Engineering and Design Phase

After evaluation and acceptance of the Investment Grade Audit, the Government may elect to proceed with the Engineering and Design Phase. Prior to proceeding, the Parties shall agree upon a statement of work for all engineering and design services necessary for the implementation of a particular ECM, a time frame for completion of the work, and a price or cost cap for engineering and design work for the ECM. If the Government elects to proceed with the Implementation Phase as set forth below, the cost of the engineering and design work shall be rolled into the total ECM Cost. This TO shall include an estimated amortization schedule for the ECM.

GC.20.1 Verification of Floor Plans

The Utility will verify the accuracy of any floor plans provided by the Government.

GC.20.2 Government Design Review

TOs shall permit adequate time for Government review of engineering and design work at 35% and 95% design completion, or at any other stage, as negotiated in the TO.

GC.20.3 Site Plans

If proposed ECMs require installation outside existing buildings or structures, a site plan showing recommended siting of ECMs shall be prepared for Government review and approval. Site plans shall be submitted as part of the Utility's proposal. It is recommended that the Utility propose alternate sites for review in case the primary site is unavailable.

GC.20.4 ECM Implementation Proposal

Upon completion and Acceptance of the Engineering and Design Phase, the Utility will submit to the Government an ECM implementation proposal (the "Proposal"). If requested by the Contracting Officer, the Utility will be required to present a briefing to the Government explaining the Proposal. At a minimum, the Proposal shall include all pertinent technical and cost factors listed in paragraph GC.19 of this Agreement, plus a copy of subcontractor(s) bid(s). The Proposal shall also set forth negotiated pricing criteria that describe the method for determining the prices to be paid to the Utility for



supplies or services. The Government shall evaluate the Proposal for technical soundness and price reasonableness. If the Government elects to proceed with the ECM, the Utility and Government shall agree upon a complete scope of work with specifications, time for performance, ECM Cost, source and cost of capital or financing, payment terms, amortization schedule, and final Termination Schedule. If the Contracting Officer deems it appropriate, the Utility will provide acceptable performance and payment bonds.

GC.21 ECM Implementation Phase

The Utility shall perform work IAW the TO. The following provisions shall apply to ECM implementation work performed pursuant to TOs executed under this Agreement unless exceptions are provided in the TO.

GC.21.1 Pre-Work Requirements

Prior to commencing ECM implementation Work on a TO, the Utility shall meet with the CO or COR at a time mutually agreeable to the Utility and the CO Officer, to discuss and develop mutual understandings relative to safety, scheduling, performance, obtaining necessary permits, and administration of the Implementation Phase. Prior to commencement of on-site work, written approval of the following shall be obtained from the Contracting Officer by the Utility:

- The Utility's proposed implementation schedule indicates the installation period and time required for delivery of equipment.
- Evidence that the required insurance has been obtained.

GC.21.2 Interruptions

The Utility shall arrange on-site work to minimize interference with normal Government operations. All interruptions shall be made outside occupied periods whenever possible and coordinated with the CO or COR. The Utility shall endeavor to keep the duration of utility interruptions to a minimum. Requests for utility outages shall be submitted for approval, in writing, as specified in the TO. The request shall include the approximate duration, date, time, and reason for the interruption. Utility interruptions include, but are not necessarily limited to, the following systems:

- Electrical.
- Natural gas.
- Sewer.
- Steam.
- Water.
- Telephone.
- Computer cables.

GC.21.3 Construction Documentation

The Utility shall provide construction drawings and specifications, certified by a registered engineer or architect, as applicable, to ensure compliance with all applicable federal, state, and local codes and regulations as required by individual TOs.



GC.21.4 Standardization of Materials

All materials proposed to be installed pursuant to this Agreement shall be readily commercially available, and as similar in form, fit, and function to each other as is practicable to allow efficient provisioning of replacement parts.

GC.21.5 Water Conservation Measures

The Utility will consider water conservation in all ECMs. The Utility will obtain rebates from the local water utility if available. Rebates, if any, shall be applied to the cost of the project.

GC.21.6 Operation and Maintenance Manuals

At the time of Government Acceptance of a completed ECM, the Utility shall furnish, for the equipment specified, operation and maintenance manuals and recommended spare parts lists identifying components adequate for competitive supply procurement for operation and maintenance of ECM equipment. The operation and maintenance manuals shall include maintenance schedules for all equipment. The scope of each manual shall be agreed upon in the TO.

GC.21.7 Government Personnel Training for ECMs

The Utility shall train Government personnel, as required, to operate, maintain, and repair ECM equipment and systems. The date and time of training shall normally be coordinated with the CO or COR prior to acceptance of the ECM. The cost for such training shall be included in the ECM Cost.

GC.21.8 As-Built Drawings

Within 45 calendar days after Government Acceptance of each installed ECM, the Utility shall submit as-built drawings to the Contracting Officer or COR. Drawings will not be required for component replacement. Drawings shall include at a minimum:

- Installation (i.e., form, fit, and attachment details) of the interface between ECM equipment and existing Government equipment.
- Location and rating of installed equipment on building floor plans.

GC.21.9 Installation

The Utility will arrange for the installation of approved ECMs and construction oversight and verify that the designed and specified energy efficiency equipment and/or system modifications are properly supplied or installed in a manner that will give the intended long-term demand and energy reductions. The Utility will select Subcontractors IAW paragraph GC.7 above.

GC.22 Operation and Maintenance Phase

The Government may elect to have the Utility perform the operation and maintenance on part or all of the ECM. Before exercising its option for this Phase, the Government and Utility shall agree upon a complete scope of work with specifications, schedules, warranties, and cost.



GC.23 Required FAR Clauses

The following FAR clauses are required to be included in any contract with the Government:

52.203-3, Gratuities; 52.203-5, Covenant Against Contingent Fees; 52.203-7, Anti-Kickback Procedures; 52.222-3, Convict Labor; 52.222-25, Affirmative Action Compliance; 52.222-26, Equal Opportunity; 52.223-6, Drug Free Workplace; 52.233-1, Disputes.

WARRANTIES AND REMEDIES (WR)

WR.1 Warranties

The Utility shall pass through to the Government all warranties on equipment installed pursuant to a TO. In addition, the Utility shall provide, from the date of Acceptance or Government Possession of an ECM, whichever is earlier, a one-year comprehensive wrap-around warranty guaranteeing that the equipment installed shall perform IAW the specifications agreed upon between Government and Utility, as set forth in the applicable TO. If the Utility provides O&M services, a separate warranty will be negotiated for such services, IAW FAR Part 52, Subpart 52.246-20.

WR.2 No Other Warranties

The warranties set forth in WR.1 are exclusive and in lieu of all other warranties. The Utility makes no other representations or warranties of any kind with respect to the services and products it provides pursuant to this Agreement and subsequent TOs. The Utility does not guarantee any level of energy or water savings or cost reductions.

WR.3 Utility Limitation of Liability

The Utility shall not be liable for any special, incidental, indirect, or consequential damages, connected with or resulting from the performance or non-performance of work under this Agreement or subsequent TOs. In addition, the Utility shall not be liable under its warranty to the extent that damages are caused by Government negligence.

WR.4 Utility Default

The Government and Utility agree that Utility default provisions will be governed by those FAR clauses applicable to specific circumstances. A determination of applicable FAR default clauses will be made by the CO for a specific TO.

WR.5 Prompt Payment

As required in FAR, Part 32, Subpart 32.903, the Government shall promptly pay ECM utility bills. Late payments shall accrue interest as provided in FAR, Part 32, Subpart 32.907.

WR.6 Disputes

Disputes that arise under this Agreement and subsequent TOs shall be governed by the applicable dispute provisions found in FAR, Part 33, Subpart 33.2.

WR.7 Differing Site Conditions

In the event site conditions differ materially from those contained in the TO, additional costs incurred by the Utility due to the differing conditions shall be negotiated prior to work, and the



ECM Cost shall be increased to reflect an equitable adjustment as permitted in FAR, Part 36, Subpart 36.502.

WR.8 Suspension of Work

In the event work is delayed, suspended, or stopped by the Government, FAR, Part 42, Subpart 42.13 shall apply.

FINANCING AND PAYMENT (FP) PROVISIONS

FP.1 Energy Savings and Financing

It is intended that the life-cycle energy and related savings achieved from the implementation of an ECM funded or financed in a UESC project will produce financial savings to the Government that is equal to or greater than the cost of implementing the ECM, including the cost of financing, if applicable, provided under this Agreement. The payment term shall be IAW Agency policy following current legislation, legal opinions, and Agency guidance.

FP.2 Financial Incentives, Rebates, and Design Assistance

The Utility will provide to the Government the same financial incentives, rebates, design review, goods, services, and/or any other assistance provided without charge that is generally available to customers of a similar rate class or size. Incentives that may be available are to be identified in the preliminary audit report provided according to paragraph GC.15 and the ECM implementation proposal provided according to paragraph GC.20.4.

If rebates are available and have been applied for by the Government and such funds have been set aside, then the Utility shall provide a separate letter of agreement clarifying timelines and responsibilities of both parties and guaranteeing rebates and other incentives from the Utility to the Government.

The Utility shall also be responsible for determining the source, value, and availability of any applicable financial incentives to the project offered by the state and other jurisdictions in which the facility is located, and if the value of the incentives exceeds the administrative costs to be incurred by the Utility or the Government in acquiring such incentives.

The Utility shall be responsible for coordinating with the Agency CO regarding preparation of any and all documentation required to apply for any such applicable financial incentives and to effectively apply such incentives to the capital cost of the project.

Rebate disbursement options include:

- Option 1: The Utility shall apply rebates to the next payment due to reduce capital cost of the project.
- Option 2: Where allowable by the Public Utility Commission, the Government may assign rebate to a third party to reduce the construction costs and thereby reduce the total amount financed.
- Option 3: Rebates may be accepted as a credit on the utility bill.



FP.3 Calculation of Payment

Payment for accepted ECMs shall be equal to the ECM Cost amortized over a negotiated term. IAW Title 10 USC, Section 2912, the cost of financing, if any, for any completed ECM shall be recovered under terms and conditions no less favorable than those for others in the same customer class. Monthly payments will commence on the date of the first Utility bill following the 30-day period after the date the Government takes Possession of the ECM, and after ECM Performance Verification Testing, as required by GC.12 and negotiated in the TO, is satisfactorily completed.

FP.4 Buydown

The Government reserves the right at any time following Acceptance, but prior to final payment, to buy down the outstanding TO payments without penalty by giving thirty (30) days' written notice to the Utility. Upon such buydown, the Government shall pay to the Utility a negotiated amount to include an additional finance charge based on an indexed formula, which reduces the financier's risk and reduces the cost of buydown to the Agency or provide a termination schedule. Monthly payments will continue at the same level, but the term of ECM financing will be shortened to reflect the amount of the buydown payments.

FP.5 Pre-Acceptance Buyout

If the Government desires to terminate a TO for any reason (including, without limitation, for convenience) prior to Acceptance, the Government may do so by giving written notice to the Utility thirty (30) days prior to the effective date of such termination. The Government shall pay to the Utility a negotiated amount to include an additional finance charge based on an indexed formula, which reduces the financier's risk and reduces the cost of buyout to the Agency or provide a termination schedule which will be described in Attachment A of the TO. If a termination occurs for the convenience of the Government, the amount payable pursuant to this paragraph shall be deemed as an allowable cost under FAR Part 17 and FAR Part 52, Subpart 52.249-2.

FP.6 Post-Acceptance Buyout

In the event, that the Government desires to terminate a TO for any reason (including, without limitation, for convenience) after Acceptance, the Government may do so by giving written notice to the Utility 30 days prior to the effective date of such termination. The Government shall pay to the Utility a negotiated amount to include an additional finance charge based on an indexed formula, which reduces the financier's risk and reduces the cost of buyout to the Agency or provide a termination schedule which will be described in Attachment B of the TO. If a termination occurs for the convenience of the Government, the amount payable pursuant to this paragraph shall be deemed as an allowable cost under FAR Part 17 and FAR Part 52, Subpart 52.249-2.

FP.7 Assignment of Claims

Government payments under each TO executed pursuant to this Agreement may be assigned pursuant to FAR Part 52, Subpart 52.232.23, "Assignment of Claims". Any bank, trust company, or other financing institution that participates in financing an ECM shall not be considered a Subcontractor of the Utility. Any "Assignment of Claims" must comply with the provisions of FAR Part 32, Subpart 32.8.



FP.8 Novation

The Parties agree that if, after the execution of this Agreement, it should become necessary, or desirable, to execute a "Novation Agreement", said Novation Agreement will comply with the provisions of FAR Part 42, Subpart 42.12 and will be in the form as provided at FAR Part 42, Subpart 42.1204.

SPECIAL REQUIREMENTS (SR)

SR.1 Environmental Protection

The Utility shall comply with all applicable federal, state, and local laws, regulations, and standards regarding environmental protection ("Environmental Laws"). All environmental protection matters shall be coordinated with the Contracting Officer or designated representative. The Utility shall immediately notify the Contracting Officer of, and immediately clean up, IAW all federal, state, and local laws and regulations, all oil spills, hazardous wastes (as defined in Title 42 USC, Section 9601), and hazardous materials (as defined at Title 49 CFR Part 172), collectively referred to as Hazardous Materials", resulting from its operation on Government property in connection with the implementation of ECMs. The Utility shall comply with the instructions of the Government with respect to avoidance of conditions that create a nuisance or create conditions that may be hazardous to the health of military or civilian personnel.

SR.2 Environmental Permits

Unless otherwise specified, the Utility shall provide, at its expense, all required environmental permits and/or permit applications necessary to comply with all applicable federal, state, and local requirements prior to implementing any ECM in the performance of a TO executed pursuant to this Agreement. If any such permit or permit application requires the signature or other cooperation of the Government as owner/operator of the property, the Government agrees to cooperate with the Utility in obtaining the necessary permit or permit application.

SR.3 Handling and Disposal of Hazardous Materials

Notwithstanding the provisions of the FAR Part 52, Subparts 52.236-2 "Differing Site Conditions" and 52.236-3 "Site Investigations and Conditions Affecting Work," the Government understands and agrees that (i) the Utility has not inspected, and will not inspect, the project site in connection with a proposed ECM for the purpose of detecting the presence of pre-existing Hazardous Materials that relate to an ECM or any project site; and (ii) the Government shall retain sole responsibility for the proper identification, removal, transport, and disposal of any fixtures, components thereof, or other equipment or substances incidentally containing pre-existing Hazardous Materials, except as specifically agreed to by the Utility pursuant to paragraphs SR.4 and SR.5 (below).

If the Utility, during performance of the work under a TO executed pursuant to this Agreement, has reason to believe that it has encountered or detected the presence of pre-existing Hazardous Materials, the Utility shall stop work and shall notify the Government. The Government will evaluate the site conditions and notify the contractor of the results of this evaluation. The Utility shall not be required to recommence work until this situation has been resolved. Any delay resulting therefrom shall be grounds to request an increase in the ECM Cost to the extent that such delay increases ECM costs.



SR.4 Asbestos and Lead-Based Paint

To the extent provided for in a TO executed pursuant to this Agreement, in connection with the implementation of any ECM, the Utility may agree to remove pre-existing asbestos-containing material or lead-based paint, incidental to implementation of an ECM. However, unless the Utility explicitly agrees in said TO to perform any portion of the testing, removal, or abatement of the pre-existing asbestos or lead-based paint as part of the scope of work for any ECM, and unless the TO specifically references this paragraph SR.4, the Government shall be deemed to be solely responsible as provided for in paragraph SR.3.

If the Utility, during ECM implementation, disturbs suspected lead-based paint or asbestos-containing material, the Utility may propose to the Government that the Utility will perform any portion of the testing, removal, or abatement of the lead-based paint or asbestos-containing material. The said proposal will include the requested increase in the ECM cost on account of such additional work. The Utility will not commence work involving additional cost without approval of the CO. Provisions of paragraph SR.3 shall apply in the absence of an agreement to the contrary. If the Utility agrees to include any portion of the testing, removal, or abatement of the asbestos within the scope of work for an ECM implemented as described previously in this section, the hazardous waste manifests or other shipping papers shall identify the Government as the sole generator of the Hazardous Materials.

SR.5 Refrigerants, Fluorescent Tubes, and Ballasts

To the extent provided for in a TO executed pursuant to this Agreement in connection with the implementation of any ECM, the Utility shall remove and/or dispose of all ozone-depleting refrigerants, fluorescent tubes, and fluorescent magnetic core and coil ballasts incidental to an ECM to the Hazardous Materials (HAZMAT) disposal site on the installation. If there is no HAZMAT disposal site on the installation, the above HAZMAT will be disposed of IAW all applicable federal, state, and local laws and regulations, provided however, that the hazardous waste manifests or other shipping papers shall identify the Government as the sole generator of the Hazardous Materials.

SR.6 Ozone-Depleting Refrigerants

All ozone-depleting chemicals (ODC) refrigerants will remain the property of the installation. The Contractor will collect all ODCs and provide them to the installation IAW the procedures in the TO.



Appendix L – Example UESC IGA Report

https://afce-utility-energy-service-contract.s3.amazonaws.com/UESC+Playbook+Example+IGA_07262022_Final.pdf



Appendix M – Example M&V QASP Template

Quality Assurance Surveillance Plan Template

For: <enter contract title>

Contract Number: < upon award, enter contract number>

Contract Description: < enter contract description >

Contractor Name: < upon award, enter contractor name > (hereafter “contractor”)

1. Overview

This QASP is a government-developed document used to determine if a contractor’s performance meets the performance standards included in the TO in terms of timeliness, accuracy, and completeness. The following establishes procedures for the assessment/inspection process. It provides the detailed process for a continuous oversight process:

- What will be monitored?
- How will surveillance take place?
- Who will conduct the monitoring?
- How surveillance efforts and results will be documented?

The contractor is responsible for implementing and delivering performance that meets contract standards using its Quality Control Plan. The QASP provides the structure for the government’s surveillance of the contractor’s performance to assure that it meets contract standards. It is the government’s responsibility to be objective, fair and consistent in evaluating contractor performance.

The QASP is not part of the contract, nor is it intended to duplicate the contractor’s quality control plan. This QASP is a living document. Flexibility in the QASP is required to allow for an increase or decrease in the level of surveillance necessary based on contractor performance.

The government may provide a copy of the QASP to the contractor to facilitate open communication. In addition, the QASP should recognize that unforeseen or uncontrollable circumstances might occur that are outside the control of the contractor.

Bottom line, the QASP should ensure early identification and resolution of performance issues to minimize impact on mission performance.

Authority for issuance of this QASP is provided under Part 46 of the FAR. This acceptance is to be executed by the Contracting Officer (CO), COR, or a duly authorized representative.

2. Roles and Responsibilities

The following personnel shall oversee and coordinate surveillance activities:

Contracting Officer – The CO shall ensure performance of all necessary actions for effective contracting, ensure compliance with the contract terms, and shall safeguard the interests of the United States in the contractual relationship. The CO shall also ensure that the contractor receives impartial, fair, and equitable treatment under this contract. The CO will determine the final assessment of the contractor’s performance.

Assigned CO:



Organization or Agency:
Telephone:
Email:

Contracting Officer's Representative – The COR is responsible for providing continuous technical oversight of the contractor's performance. The COR uses the QASP to conduct the oversight/surveillance process. The COR shall keep a Quality Assurance file that accurately documents the contractor's actual performance. The purpose is to ensure that the contractor meets the performance standards contained in the contract. The COR is responsible for reporting early identification of performance problems to the CO. The COR is required to provide an annual performance assessment to the CO which will be used in documenting past performance. The QASP is the primary tool for documenting contractor performance. The COR is not empowered to make any contractual commitments or to authorize any contractual change on the Government's behalf.

Assigned COR:

Name:
Organization or Agency:
Telephone:
Email:

Other Key Government Personnel – This may include performance monitors, inspectors, technical experts, or others who provide information that helps the COR monitor contractor performance.

Subject Matter Expert:

Name:
Organization or Agency:
Telephone:
Email:

Contractor Representatives

The following employees of the contractor serve as the contractor's point of contact for this contract.

Program Manager:

Name:
Company:
Telephone:
Email:

Task Manager (as applicable):

Name:
Company:
Telephone:
Email:

3. Performance Requirements and Method of Surveillance

3.1 Contractor Surveillance

The goal of the QASP is to ensure that contractor performance is effectively monitored and



documented. The COR's contribution is their professional, non-adversarial relationships with the CO, PM and the contractor, which enables positive, open and timely communications. The foundation of this relationship is built upon objective, fair, and consistent COR evaluations of contractor performance against contract requirements. The COR uses the methods contained in this QASP to ensure the contractor complies with contract requirements. The COR function is responsible for a wide range of surveillance requirements that effectively measure and evaluate the contractor's performance. Additionally, this QASP is based on the premise that the contractor, not the government, is responsible for management and Quality Control/Quality Assurance actions to successfully meet the terms of the contract.

3.2 Surveillance Methods

Any of the following surveillance methods may be utilized by the Government to perform the Quality Assurance duties of the QASP to ensure that the Contractor is performing as required by the TO.

Inspection of Deliverables/Reports – All deliverables shall be reviewed upon receipt for compliance with the requirements of the TO. The reviewer will document any flaws in the document and categorize the flaws (Editorial, Format, and/or Substance) and provide them to the contractor.

Periodic Sampling – Periodic sampling requires a pre-determined plan for assessing contractor performance using frequency as the applicable assessment level. The frequency of scheduled performance assessments will be every insert timeframe (i.e., annually) or as specified in the TO or QASP.

Random Sampling – Random sampling is a standard performance assessment made at the discretion of the COR, or CO for contractor non-conformance issues or standard performance assessments.

Verifiable Customer Complaints – Verifiable customer complaints will be maintained by the COR and recorded on Customer Complaint Forms. Verifiable Complaint Forms will be gathered and submitted to the COR. COR will maintain customer complaint forms for a period of one year. See Section 4.2 below for further details.

3.3 Surveillance Matrix

The Surveillance Matrix is the list of performance objectives and standards that must be performed by the contractor. This matrix details the method of surveillance the COR will use to validate and inspect these performance elements. Inspection of each element will be documented in the COR file.

Performance objectives define the desired outcomes. Performance Standards define the level of service required under the contract to successfully meet the performance objective. The inspection methodology defines how, when, and what will be assessed in measuring performance. The Government performs surveillance, using this QASP, to determine the quality of the contractor's performance as it relates to the performance element standards. The Performance Requirement Summary (PRS) should be used to form the foundation of the COR's inspection checklist.



Performance Objective	Performance Standards	Surveillance	Acceptable Quality Level (AQL)	Timing/Interval
Performance of general and administrative requirements of the Task Order (TO) not covered in the performance objectives below.	TO statement of work (SOW) [page/section XX] and the requirements of the basic contract.	Inspection by the COR as required or customer complaints as applicable.	100% compliance with requirements of Task Order.	As needed.
Submission of contract data requirements list (CDRL)	TO SOW Section C and listed in TO [page/section XX]	Inspection by the COR as required or customer complaints as applicable.	100% compliance with requirements of Task Order.	As needed.
Submission of M&V Plan	TO statement of work and TO Schedules.	Inspection by the COR.	100% compliance with requirements of Task Order.	Prior to the performance period. Once, unless material changes to ECMs.
Post Installation (PI) Report	TO statement of work and TO Schedules.	Inspection by the COR.	100% compliance with requirements of Task Order.	Prior to the performance period. Once, unless material changes to ECMs.
Commissioning (Cx) Report (mostly for UESCs)	TO statement of work and TO Schedules.	Inspection by the COR.	100% compliance with requirements of Task Order.	Prior to the performance period. Once, unless material changes to ECMs.
Recommissioning (RCx) Reports (mostly for UESCs)	TO statement of work and TO Schedules.	Inspection by the COR.	100% compliance with requirements of Task Order.	At intervals determined by the contract.
Performance of Measurement and Verification (M&V) Requirements (Examples provided)				
ECM 1 – LED lighting	Task Order Schedule 4, FEMP Option B.	Inspection by the COR.	100% compliance with requirements of Task Order Schedule 4.	Annual.
ECM 2 – Water conservation measures	Task Order Schedule 4, FEMP Option D.	Inspection by the COR.	100% compliance with requirements of Task Order Schedule 4.	Annual.
ECM 3 – HVAC controls	Task Order Schedule 4, FEMP Option A.	Inspection by the COR.	100% compliance with requirements of Task Order Schedule 4.	Annual.
ECM 4 – Microturbine	Task Order Schedule 4, FEMP option C.	Inspection by the COR.	100% compliance with requirements of Task Order Schedule 4.	Annual.



Performance of Measurement and Verification (M&V) Requirements (Examples provided)				
Performance of operations and maintenance (O&M) requirements	TO statement of Work [page/section XX]	Inspection by the COR or customer complaints as applicable.	100% Compliance with requirements of Task Order.	As defined by the contract.
Performance of repair and replacement (R&R) requirements	TO statement of Work [page/section XX]	Inspection by the COR or customer complaints as applicable.	100% Compliance with requirements of Task Order.	As defined by the contract.
Combatting trafficking in person compliance.	TO statement of Work [page/section XX]	Inspection by the COR or customer complaints as applicable.	100% Compliance with requirements of Task Order.	Random.

4. Performance Reporting

4.1 Corrective Action Report

For each item that does not meet AQLs above, the COR may submit a Corrective Action Report (CAR) to the CO requiring that the contractor correct, re-perform, or replace work that fails to meet the contract requirements at no additional cost to the government. The CO will provide the CAR to the contractor, who must respond with a written corrective action plan detailing the cause and corrective action for the cited deficiencies and actions taken to prevent recurrence by the specified suspense date. The COR will accept or reject the submitted CAR, as well as provide disposition of the corrective actions taken. Based upon the contractor's past performance and plan to solve the problem, the CO will determine if any further action will be required.

4.2 Customer Complaint Form

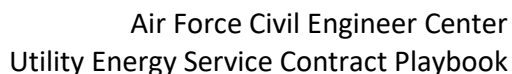
All instances of customer complaints regarding contractor performance will be documented on a Customer Complaint Form and submitted to the COR in a timely fashion. The COR shall validate the complaint on the form, and if validated, require corrective action by the contractor (also documented on the form). All Customer Complaint Forms shall be submitted to the Contracting Office within 5 days of validation. The COR, in conjunction with the contracting office, will determine whether the Customer Complaint form warrants the need to use the CAR procedures specified above (especially if the contractor's corrective action is inadequate).

4.3 Remedies and Incentives/Disincentives

Failure to meet TO requirements will result in a CAR or Customer Complaint Form following the procedures set forth above.

Further, if guaranteed savings are not met IAW TO SOW Section C.17, the Government will withhold payment IAW the appropriate procedures set forth in the TO.

Lastly, the COR makes an annual report on Contractor Performance in the Contractor Performance Assessment Reporting System (CPARS). The contractor's failure to achieve satisfactory performance under the TO, reflected in the COR's interim/annual CPARS report, may result in termination of the TO and the loss of future Government contracts/TOs.



(If more space is needed, use reverse and identify by number)

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DISTRIBUTION STATEMENT A. Approved for public release: distribution unlimited. AFCEC-2023003, 10 January 2023



CUSTOMER COMPLAINT RECORD			DATE/TIME OF COMPLAINT
SOURCE OF COMPLAINT			
ORGANIZATION	BUILDING NUMBER	INDIVIDUAL	PHONE NUMBER
NATURE OF COMPLAINT			
CONTRACT REFERENCE			
VALIDATION			
DATE/TIME CONTRACTOR INFORMED OF COMPLAINT			
ACTION TAKEN BY CONTRACTOR			
RECEIVED/VALIDATED BY			



Appendix N – UESC Task Order (TO) Sample

TO # _____

GSA Area Wide GS-~~xxx~~

This TO is entered into by and between _____ (Utility) and _____ (Agency) for implementation of certain Energy Conservation Measures (ECMs) as described herein at _____ (installation/site).

All terms and conditions of the GSA Areawide Public Utility Contract apply to this TO, unless modified by the paragraphs below. In the event of a conflict between the requirements of the GSA Areawide Public Utility Contract and those of this TO, the requirements of this TO shall prevail.

1. Purpose (Note: change as required to cover your project purpose)

The intent of this project is to meet the objective of _____ (Agency) energy goals and missions by increasing lighting efficiency, replacing and enhancing outdated building controls, and reducing chilled water costs including the cost of fuel used to produce chilled water. It is anticipated that energy will be optimized in each covered building to achieve _____ reduction in _____ and _____ reduction in energy intensity and advanced metering.

2. Scope of Work (Note: Add your scope here. This is a sample SOW)

The Contractor shall arrange for all initial capital for third-party financing for this project. The Contractor shall provide all labor, material, equipment, and supervision to implement the ECMs described below. The project work includes interfacing and connecting to existing facilities and systems. Upon completion, inspection, and acceptance of Line Items 1, 2, and 3, including testing, training, and delivery of all O&M manuals as required herein, _____ (Agency) agree to purchase the work described in this TO.

The Contractor shall provide Performance Assurance of all work associated with this TO for the first 12 months after acceptance of all Line Items. All work for Line Items 1 and 2 described below shall be performed IAW Attachment TO-1 – “Agency/Site/O&M Guidance.”

Line Item 1: Lighting Upgrades

Provide design and installation services to complete lighting upgrades in the following buildings:

ECM	Building #	Building location/name
ECM-1		
ECM-2		
ECM-3		
ECM-4		
ECM-6		
ECM-8		
ECM-9		
ECM-10		
ECM-11		
ECM-12		

This work is described in the following documents:



- Attachment TO-2 Lighting Statement of Work
- Attachment TO-3 Lighting Equipment Specifications

Line Item 2: Controls Upgrades

Provide design and installation services to complete controls upgrades in the following buildings:

ECM #	Building #	Building Name
ECM X	Building X	Ipsium
ECM X	Building X	Ipsium
ECM X	Building X	Ipsium
ECM X	Building X	Ipsium

This work is described in the following documents:

- Attachment TO-4 Controls Statement of Work
- Attachment TO-5 Controls Equipment Specifications

Line Item 3: Chiller Plant Upgrade

Provide installation services to complete the Chiller Plant Upgrade (ECM X). This work is described in the following documents:

- Attachment TO-6 Specifications for Chiller Plant
- Attachment TO-7 Construction Drawings (Bid Package X)

The Operations and Maintenance (O&M) contractor will provide Human Machine Interface (HMI) screen modifications and additions, Programmable Logic Controller (PLC) and HMI programming, including loading, debugging and checkout of the control programs, subsequent to the Contractor's completion of installation and confirmation of control wiring continuity. Control Panels as shown on drawings _____ through _____ are existing, except as noted on the drawings. ControlNet and redundancy connections to the panels are by the Contractor.

Line Item 4: Performance Assurance

A Performance Assurance Plan will be implemented to verify that the new equipment is operating to specified operational standards and generating savings when compared to the existing systems that were replaced. The Performance Assurance Plan is provided in Attachment TO-8. The Performance Assurance process shall commence as specified in Attachment TO-8 for a period of 12 months after final acceptance by _____ (Agency) of Line Items 1, 2 and 3. At that point, the Performance Assurance process will be turned over to the *Agency*.

Performance Assurance for Line Item 1: Lighting Upgrades, shall be based on the Calculation Methodology included in Attachment 2. This work is described in Attachment 8: Performance Assurance under *Detailed Procedures – Lighting Upgrade*.

Performance Assurance for Line Item 2: Controls Upgrades, shall be based on the Calculation Methodology included in Attachment 4. This work is described in Attachment 8: Performance Assurance, under *Detailed Procedures – Energy Management System* and Attachment 9: ECM Calculations.

Performance Assurance for Line Item 3: Chiller Plant Upgrade, shall be performed IAW Attachment 8: Performance Assurance, under *Detailed Procedures – Chiller Plant Upgrade*.



It is anticipated that energy will be optimized in each covered building to achieve a 29% reduction in Greenhouse Gas (GHG) and a 31% reduction in energy intensity and advanced metering. However, the Contractor does not guarantee that the ECMs installed pursuant to this TO will result in energy savings to the Government, and the Government expressly recognizes and agrees that unrealized energy savings are not a basis for failing to make payment as required by Paragraph 6.D.

3. Submittals

Required submittals are described in Attachment TO-14.

4. Term

This TO shall be effective from the date that the Award document is signed by both Parties. In the event the Parties sign this TO on different dates, the effective date shall be the latter of the two dates.

This TO shall have a term of 10 years, consisting of an anticipated 18-month design and construction period and a 9-year payment period. The term, not including the construction period, may not exceed 10 years.

A. Notice to Proceed

The Contractor shall not commence work on the _____ (installation/site) until _____ (Agency) issues a Notice to Proceed. The Notice to Proceed is issued on receipt of all required bonds and insurance documents and on approval of the Contractor's Worker Safety & Health Program under Title 10 CFR 851 and the Contractor's Health & Safety Plan.

(Note: The *Agency* may want to specify in the TO the number of days allowed for submittal of Performance and Payment bonds and the Certificate of Insurance, typically between 10 to 15 days after the date of award. The number of days allowed for submittal of the Safety documents could be specified as well.)

The "Notice to Proceed" is issued with an "Agency/Site/O&M Safety Management" Form which must be completed by every Subcontractor to be used in performance of this TO and submitted to _____ (Agency) IAW Attachment TO-14, Agency Reporting & Submittal Requirements.

Within 15 days after the Contractor receives the "Notice to Proceed," the Contractor will commence work. Prior to receipt of the "Notice to Proceed" the Contractor may prepare and submit required submissions and may order materials and equipment that do not require prior Agency approval.

B. Performance Schedule

The detailed performance schedule is contained in Attachment 15.

5. Acceptance

The Contractor shall request an inspection by the Agency as the Contractor completes Line Items 1, 2 and 3. The _____ (Agency) will inspect the work within 14 calendar days of the request and complete a "Certificate of Substantial Completion" for each Line Item. "Substantial completion" means that the facilities are usable, and the greater majority of the work is installed and acceptable.



Any discrepancies or “punch list” items shall be described in writing. If the _____ (Agency) indicates acceptance, takes possession of the equipment, or uses the equipment for beneficial use, this shall be construed as acceptance of the work that is completed, with the items on the punch list representing work that is not accepted. The Contractor shall complete or correct all items on the punch list within 30 calendar days and shall present the Agency with documentation indicating completion. The Agency will indicate final acceptance in writing within 14 calendar days after completion of the punch list items. If the Agency fails to accept or reject the completed punch list items within 14 calendar days after written notice from the Contractor indicating completion, then the Agency shall be deemed to have accepted the work. Following Agency acceptance of the work, the Contractor shall not be liable to the Agency for any liability, loss or damage caused or alleged to be caused directly or indirectly by the equipment or by any inadequacy thereof or deficiency or defect therein, except as provided in FAR 52.246-21, Warranty (see Attachment A-1, FAR Clauses).

6. Price, Billing, Financing, and Payment

A. Price

The total firm fixed price for execution of the project defined above is \$xx,xxx,xxx.

B. Financing

_____ (Agency) will not spend capital investment dollars. The Contractor will finance the entire project price. The Contractor shall make all arrangements necessary to deliver the project as described above and will arrange for financing during the design and construction period. The total financed amount, including construction financing and financing fees, will be \$xx,xxx,xxx. Repayment will commence with the initial invoice submitted in _____ (Month) _____ (Year) and payment due in _____ (Month) _____ (Year) as described in Paragraph D below.

C. Financial Incentives, Rebates, and Design Assistance

Note: The *Agency* may want to consider discussing incentives and rebates with the Utility and negotiate taking any available rebates as a reduction in TO price or having the amount of the rebates identified and applied as a reduction to the installation’s Utility bill.

The Contractor will provide to the *Agency* the same financial incentives, rebates, design review, goods, services, and/or any other assistance provided without charge, that is generally available to customers of a similar rate class or size.

If rebates are available and have been applied for by the *Agency* and such funds have been set aside, then the Contractor shall provide a separate letter clarifying the timelines and responsibilities of both parties and guaranteeing rebates and other incentives from the Contractor to the *Agency*.

The Contractor, through its Subcontractor(s), is responsible for determining the source, value, and availability of any applicable financial incentives to the project offered by the state and others in which the _____ (installation/site) is located, and if the value of the incentives exceeds the administrative costs to be incurred by the Contractor or _____ (Agency) in acquiring such incentives.



The Contractor, through its Subcontractor(s), is responsible for coordinating with the CO for the preparation of all documentation required to apply for any such applicable financial incentives.

The preferred method for applying financial rebates/incentives is to have the rebates/incentives disbursed directly to the Utility and applied to reduce the total price. If this is not possible an alternative process must be considered IAW current Government policy.

D. Payment

Following final acceptance of Line Items 1, 2, and 3 by _____ (Agency), payments will be made annually IAW the Payment and Termination Schedule (Attachment 16). The Contractor or its designee will submit an invoice for the first payment, which will be due and payable within 30 days from the final acceptance of Line Items 1, 2, and 3. The Contractor will submit invoices annually thereafter. Each successive annual payment will be due on the anniversary of the due date of the first payment.

It is the Contractor's responsibility to arrange for an adjustment to the due date for the first payment in the event of Contractor-caused delays in the final acceptance of Line Items 1, 2, and 3. There shall be no additional cost to the Government or deviation from the dollar amount or number of payments in the TO. Delays by _____ (Agency) that prevent final acceptance and payment by the billing date will result in adjustment of the financing cost of the project. Following the *Agency's* acceptance, the *Agency's* obligation to pay all of the payments due hereunder is absolute and unconditional, and will not be entitled to any abatement, reduction, set-off, counterclaim, defense, interruption, deferment, recoupment, or deduction with respect to any payments due hereunder, including without limitation any reduction for unrealized energy savings.

The Contractor enters into this TO as the franchised natural gas supplier to _____ (Agency). If the *Agency* terminates the natural gas service agreement with the Contractor prior to the date of completing repayment for this project, they will either continue to make the annual payment IAW the Payment and Termination Liability Schedule or shall pay the Termination Amount identified in such Payment and Termination Liability Schedule.

Upon final payment, the Contractor shall execute a release of all claims against the *Agency* under this TO.

E. Buydown

_____ (Agency) retains the right, at any time following final acceptance of Line Items 1, 2, and 3, but prior to final payment, to buy down the outstanding TO payments without penalty by giving the Contractor 30 days prior written notice. Upon such buydown, the *Agency* will pay to the Contractor the pro rata termination amount specified in the Payment and Termination Liability Schedule (Attachment 16). Payments will continue at the same level, but the term of ECM financing will be shortened to reflect the amount of the buydown payments. Any such additional sums shall be used to reduce the outstanding Termination Amount, maintaining the payments and shortening the payback period. Each time an additional payment is made, the Payment and Termination Liability Schedule will be recalculated to show the new



payback period. _____ (Agency) acknowledges and agrees that the payment of such amounts are reasonable and allowable costs with respect to the TO.

F. Pre-Acceptance Buyout

In the event that _____ (Agency) desires to terminate this TO for any reason (including, without limitation, for convenience) prior to final acceptance of Line Items 1, 2 and 3, they may do so by giving written notice to the Contractor 30 days prior to the effective date of such termination. _____ (Agency) will pay to the Contractor an amount negotiated between the *Agency* and the Contractor that is equal to the value of work verified as completed at the time of termination, plus allowable costs related to such work. If termination occurs for the convenience of the Government, the amount payable pursuant to this paragraph shall be deemed as an allowable cost under FAR Part 17 and Part 52, Subpart 52.249-2.

Note: The *Agency* should be aware that the terms in E and F above have in some cases caused the lender to increase the interest rate or the termination liability amount to cover the risk of such buydowns and buyouts.

G. Post-Acceptance Buyout

In the event that _____ (Agency) desires to terminate this TO for any reason (including, without limitation, for convenience) after final acceptance of Line Items 1, 2 and 3, the *Agency* may do so by giving written notice to the Contractor 30 days prior to the effective date of such termination. The *Agency* shall pay to the Contractor a termination amount IAW the Payment and Termination Liability Schedule (Attachment 16).

7. Assignment of Claims

The Contractor may assign payments due from _____ (Agency) under this TO pursuant to FAR 52.232-23, *Assignment of Claims*. The *Agency* agrees to complete any necessary forms which acknowledge that assignment. Any bank, trust company or other financing institution that participates in financing an ECM shall not be considered a Subcontractor of the Utility. Any assignment of claims must comply with the provisions of FAR Part 32, Subpart 32.8.

8. Wage Rates and Labor Standards

The attached wage determination from the US Secretary of Labor shall be implemented IAW the statutes for labor standards requirements for contracts over \$2,000.00 involving construction. (Attachment B– US Department of Labor General Decision).

The following labor standards provisions apply to work performed under this TO as if they were set forth herein in their entirety. For more information on clauses incorporated by reference see Attachment A-1 – Terms and Conditions.

FAR Ref	Title	Date
52.222-6	Davis-Bacon Act	Jul 2005
52.222-7	Withholding of Funds	Feb 1988
52.222-8	Payrolls and Basic Records	Jun 2010
52.222-9	Apprentices and Trainees	Jul 2005



52.222-10	Compliance with Copeland Act Requirements	Feb 1988
52.222-11	Subcontracts (Labor Standards)	Jul 2005
52.222-12	Contract Termination – Debarment	Feb 1988
52.222-13	Compliance with Davis-Bacon and Related Act Regulations	Feb 1988
52.222-14	Disputes Concerning Labor Standards	Feb 1988
52.222-15	Certification of Eligibility	Feb 1988
52.222-23	Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity for Construction*	Feb 1999
52.222-27	Affirmative Action Compliance Requirements for Construction	Feb 1999

Note: Ensure all FAR clauses/references are reviewed and included in the TO.

Note: For purposes of the Notice, the “covered area” is _____ (County, State). The goals for minority and female participation, expressed in percentage terms for the Contractor’s aggregate workforce in each trade on all construction work in the covered area are as follows:

1. Goals for Minority Participation for Each Trade 5.8%
2. Goals for Female Participation for Each Trade 6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

9. Safety Requirements

All work under this TO shall be conducted in a safe manner and shall comply with the requirements of *Agency* requirements. Furthermore, in performing work under this TO, the Contractor will perform work in a manner that ensures adequate protection for employees, the public, and the environment, and will be accountable for the safe performance of the work. The Contractor will exercise a degree of care proportionate to the work and the associated hazards. The Contractor will ensure that management of the environment, safety, and health (ES&H) functions and activities are an integral and visible part of its planning and execution processes while performing work at the site.

With respect to the performance of any portion of the work under this TO that is performed on the _____ (installation/site), the Contractor agrees to comply with all State and Federal ES&H regulations, and with all ES&H requirements of O&M, the site operating contractor. *Agency* requirements include, but are not limited to, compliance with all Occupational Safety and Health Administration (OSHA) standards, as well as with any other ES&H reporting requirements that the CO may require.

Other specific requirements relative to safety are as follows:

- A. Prior to commencing work, the Contractor shall meet with the COR’s to agree on administration of the safety program.
- B. The Contractor’s workplace may be inspected periodically for OSHA violations. Abatement of violations is the Contractor’s responsibility. The Contractor will aid *Agency* and Federal/State OSHA inspectors if a complaint is filed. Any fines levied on the Contractor due to safety/health violations shall be paid promptly by the Contractor.
- C. IAW FAR 52.236-13, *Accident Prevention*, as set forth in Paragraph 12 herein, “Additional Provisions”, the Contractor is required to report to the CO all accidents within 24 hours of



occurrence.

- D. IAW FAR 52.236-13, *Accident Prevention*, as set forth in Paragraph 12 herein, “Additional Provisions”, the Contractor shall submit to the COR a full report of damage to Government property and equipment by Contractor employees or subcontractors, at any tier within 24 hours of occurrence.

10. Bonds

Bonds are typically required within 15 days after award of the task order since the contract price will have been negotiated.

- A. Within 30 days of TO award or acceptance of the Design and Construction Package, whichever is later, the Contractor will furnish a certified copy and duplicate of a performance bond (SF 25), with the project financier as co-beneficiary along with the *Agency*. The performance bond shall be in a penal sum equal to 100% of the total FFP for all ECMs. The Contractor will furnish a payment bond (SF25A) in duplicate. The payment bond shall be in a penal sum equal to 100% of the total firm fixed for all ECMs.
- B. The performance and payment bonds will remain in effect during the total implementation period for all ECMs. The ECM implementation period shall include all time required for installation, testing, measuring initial performance, and *Agency* acceptance of all contractor-installed ECMs. The payment bond shall be released upon receipt of satisfactory evidence that all subcontractors, laborers, etc., have been paid in full.
- C. The Contractor will not file any mechanics liens against the *Agency* for the TO projects and this requirement shall flow down to all subcontractors. Therefore, the payment bond will secure the Contractor’s obligations for payment of laborers, suppliers, and all subcontractors.

11. Insurance

IAW FAR 52.228-5, “Insurance – Work on a Government Installation”, which is incorporated herein by reference, the Contractor will, at no cost to the Government, maintain policies providing the following insurance protection, which insurance will apply to all operations of the Contractor hereunder and employees of the Contractor engaged therein.

- A. Worker’s Compensation Coverage, as provided in the Worker's Compensation Law of the State having jurisdiction, including occupational disease coverage for limits of \$1,000,000 per person in any one case and additional Employees Liability of \$1,000,000 per occurrence.
- B. General Liability Insurance, with limits of \$1,000,000/\$2,000,000 for bodily injury liability and \$100,000 for property damage liability in the comprehensive liability form.
- C. Automobile Liability Insurance, with limits of \$250,000/500,000 for bodily injury liability and \$50,000 for property damage liability in the comprehensive policy form.

The Contractor will provide an endorsement to its liability policies naming the US Government and “*Agency/Site/M&O*” as additional insureds.

The Contractor will furnish the CO with a certificate of insurance to show compliance with this paragraph. The insurance certificate will be submitted within 14 days after award and prior to issuance of a “Notice to Proceed”. The Contractor will also ensure that the certificate states that the insurance carrier(s) will give _____ (Agency) 30 days prior written notice if there is any cancellation or material change in such policies. The Contractor will ensure that the certificates are kept up to date during the period of contract performance.



The Contractor agrees to insert the substance of this clause in all subcontracts hereunder at any tier where work will be performed on the _____ (installation/site).

The Contractor may purchase such additional or other insurance protection, as it may deem necessary, at its own expense.

Nothing herein shall relieve the Contractor of or limit the Contractor's liability for losses and damages to person or property as a result of its operations. The Contractor will indemnify, and hold _____ (Agency), and any person acting on behalf of the *Agency*, harmless from any and all liability, including attorneys' fees and legal costs, associated with or resulting from the Contractor's operations under this TO.

12. Contract Administration

The Contracting Officer (CO) is:

Name:

Email:

Telephone:

Fax:

The CO is the primary point of contact for all matters regarding this TO except technical/project matters.

The Contracting Officer Representative (COR) is:

Name:

Email:

Telephone:

Fax:

The COR is the focal point for all technical/project matters related to this Task Order.

13. Job Coordination

Note: Only use this O&M verbiage if you have an O&M contractor performing maintenance on any affected equipment/ECM. The paragraph can be modified to include the authority section for the CO, COR, and Safety Officer.

_____ (O&M Contractor) operates the _____ (installation/site) under Contract # _____ with _____ (Agency). Job coordination for installation of the ECMs on the *installation/site* will be done through O&M's Facilities Improvements Office (FIO). After the "Notice to Proceed" as described in Paragraph 4.A above, all day-to-day coordination regarding construction management from the O&M to the Contractor will come from FIO in writing.

The *Agency* Contracting Office is the sole entity that can modify the TO or initiate change orders. All directions to the Contractor must come from the *Agency* CO. The *Agency* COR will provide answers for questions and/or issues involving construction only and has no authority to make any changes whatsoever to the TO. The Safety Officer shall provide answers for questions and/or issues involving safety only and has no authority to make any changes whatsoever to the TO. All correspondence, including but not limited to notifications, changes, or direction referred to in this TO or other



documents between the Contractor, *Agency* and O&M will be in writing. All correspondence from the Contractor is to be addressed to the *Agency* CO; with copies to the *Agency* COR and the O&M FIO.

The O&M FIO is responsible for documenting and reporting the daily monitoring and inspection of all work activities at the site to the *Agency* COR. These responsibilities include and are not limited to:

- A. The assurance that all installed materials and systems meet the level of quality as defined in the TO.
- B. Ensuring that all work is completed IAW the Contractor's ES&H program and the ES&H provisions of this TO.

FIO is the first line of contact with the Contractor's field organization on matters involving safety and interface with *installation/site* operations. The *Agency* CO is responsible for all contracting matters. The *Agency* COTR is the first line of contact between the *Agency* and the Contractor for all technical matters. The Contractor is to take direction from no other sources within the *Agency* or O&M organization.

14. Representations, Certifications, and other Statements of Offerors

The Representations, Certifications, and Other Statements of Offerors completed by the Contractor and certified in the Online Representation and Certifications Application (ORCA) System, are hereby incorporated by reference.

15. Small Business Subcontracting Plan

The Small Business Subcontracting Plan submitted and filed by Contractor and incorporated in the Areawide Contract, including any annual plans, are hereby incorporated by reference.

16. Title TO, and Responsibility for Contractor Installed Equipment

Title to all equipment installed by the Contractor will be vested in the Government after acceptance by the Government and will not relieve the Contractor's responsibility for ECM performance.

17. Contractor's Responsibilities

The Contractor is responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor is responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work, which may have been accepted under this TO. The Contractor's responsibility applies to activities of the Contractor, its agents, lower-tier subcontractors, and employees.

18. General Provisions

The following general provisions are incorporated in and made a part of this TO:

Attachment	Title
A-1	Terms and Conditions – Federal Acquisition Regulation Clauses
A-2	Terms and Conditions – <u>Agency</u> Clauses
A-3	Terms and Conditions – Site-Specific Clauses
B	Wage Determination (ref)
C	UESC Playbook

19. List of Referenced Attachments (add or delete as desired by installation)

The following attachments referenced herein are incorporated in and made a part of this TO:



Air Force Civil Engineer Center
Utility Energy Service Contract Playbook

Attachment #	Description
TO-1	<u>Agency/site/O&M guidance</u>
TO-2	Lighting Statement of Work
TO-3	Lighting Specifications
TO-4	Controls Statement of Work
TO-5	Controls Specifications
TO-6	Specifications for Chiller Plant Upgrade – <u>Identification of Specifications & Bid Package</u>
TO-7	Chiller Construction Drawings
TO-8	Performance Assurance Plan
TO-9	ECM Calculations
TO-10	Lighting Calculation Spreadsheets
TO-11	Controls Calculation Spreadsheets
TO-12	Chiller Calculation Spreadsheet
TO-13	Measurement & Verification
TO-14	<u>Agency Reporting & Submittal Requirements</u>
TO-15	Performance Schedule (TBD)
TO-16	Payment & Termination Liability Schedule (TBD)



Appendix O – Energy Management Systems Recommendations & Requirements

1. Early in the PA development, it is recommended Utility consider meeting with HVAC and EMCS shops to understand the conditions of the existing EMCS systems. In addition, to review existing HVAC and EMCS deficiencies along with Base desires/priorities regarding control systems.
2. Beginning with the IGA Kick-Off Meeting; the Utility project manager, and Base COR shall establish a communication protocol for addressing EMCS and cybersecurity actions. The attendance of the Base CE ISSO / ISSM at this meeting is highly encouraged to participate in the establishment of the communication protocol.
3. During the development of the IGA, a regularly scheduled meeting shall be established between the Base COR, Base ISSO/ISSM, and Utility to discuss the EMCS and cybersecurity requirements. The engagement of the Base ISSO/ISSM is to provide the Utility an understanding of requirements for elements such as network connectivity engineering, network switch assignments, port assignments, IP address assignment, etc. Utility will proactively communicate with Base COR and Base CE ISSO/ISSM a listing of information/actions the Utility will be included in the IGA regarding project controls / EMCS. Recommended that these actions are validated by the Utility and Base via the Request for Information (RFI) process, to ensure that it is officially documented.
4. Additionally, during the IGA, the Utility shall work with the Base COR and Base ISSO/ISSM to determine the requirements and submissions to be conducted and provided by the Utility in obtaining the Authority to Operate (ATO). The ATO will be required for systems being installed by the Utility, though the Utility cannot obtain the ATO, they are responsible for providing a compliant system and the necessary documentation for the Base ISSO/ISSM to obtain the ATO.
5. In IGA development, it is recommended the Utility and Base CE identify deficiencies (repair / replace elements) that will prevent and/or inhibit the proposed EMCS / Controls project scope. If notable repair/replacement scope is identified that will impact the energy savings, then efforts to address these conditions shall be included in the implementation price vs. Base CE shop work orders. Inclusion in the implementation price would entail a possible line-item break-fix budget in the UESC as part of the IGA and be utilized on an as needed basis to provide cost-effective repairs. Any unused funds within the break-fix budget at the end of construction would be vectored into the buyout of the project. The usage of the break-fix budget has a direct negative impact on available savings with the project and should be used sparingly. The Utility is required to conduct the necessary due diligence during the IGA to provide the AF a fully functional systems to provide energy savings.
6. The Utility shall not assume that deficiencies identified during the IGA will be budgeted and corrected by the Base CE. An IGA that assumes repair of critical systems by the Base to obtain the estimated savings would be considered non-responsive by the AF and rejected.
7. As part of the IGA, Utility will describe in detail the methodology to prevent potential surprise EMCS savings shortfalls due to government deficiencies. The IGA shall detail a proactive methodology for timely resolution of any such deficiencies possibly affecting guaranteed savings.
8. The Utility shall develop and submit EMCS graphs for each control strategy in each building as part of Commissioning (Cx), within Post Installation Report (PIR), and as part of the annual M&V reports. The graphs shall provide necessary information to document that EMCS guaranteed savings are actually taking place (equipment operation does not equal savings) within each facility. If there are



conditions affecting the status or outcome depicted in any EMCS graph for a given control strategy, the Utility shall provide notation on the graph for ease of government understanding.

Note: For the Cx Plan, pre-functional checklists alone are not sufficient; graphs documenting energy-saving control strategy effectiveness are required.

9. As part of the due diligence during the IGA, the Utility will ensure necessary sensors existing or needed are identified for collection of data required to produce graphs documenting energy savings. The costs of the sensors and connections shall be included in the implementation price (e.g., AHU does not currently have a sensor on the fan motor showing status, or Variable Frequency Drive (VFD) on fan motor lacks a sensor for Hertz frequency/speed, or Variable Speed Drive (VSD) on chilled water pump, etc.)
10. Utility will make sure the EMCS front-end has a pop-up screen upon login revealing alarm points, failed points, and operator mode points (aka devices in “hand”). The EMCS operator shall be readily notified of system failures, and be provided a tracking log for easy, quick reference.
11. The IGA shall contain a plan regarding correction of EMCS deficiencies during the implementation period with a methodology to resolve which ones the Base CE shops will address and which ones the Utility will correct. To track deficient points, the Utility shall obtain and review quarterly deficiency reports, confirm which deficient points of control are included in the UESC control strategies, and provide correct measures or notification to the Base for requested action, if warranted. The Utility will also receive, track, and report on resolution of deficient points on a quarterly basis to the Base COR to avoid any potential surprises resulting in a savings shortfall at the Annual M&V Report site inspection.
12. The Utility will work with Base COR on a plan to provide EMCS and HVAC Shops with a list of any/all buildings in the UESC generating guaranteed savings via the EMCS. The plan shall include actions to include signage at the mechanical systems (e.g., AHUs, chillers, thermostats, EMCS control panels, etc.), that direct personnel to report any changes to device set points, status, or other operational parameters to the Base COR and/or BEM in a timely manner. The Base COR and/or BEM will communicate changes to the Utility on a quarterly basis. The reporting requirements will function as a Quality Control Loop in the Stakeholder Communication Plan. Reporting and quarterly reviews are necessary to ensure guaranteed savings that might otherwise be lost due to field actions or systems failures.
13. Beginning with the Construction Kick-Off Meeting; the Utility construction project manager, controls sub-contractor, and Base COR shall establish a communication protocol for addressing EMCS and cybersecurity actions. Utility will ensure the construction project manager is aware of Utility responsibility to coordinate with Base COR and the Base CE ISSO/ISSM on all network and cybersecurity actions. Engagement with the Base CE ISSO/ISSM is critical in the development and construction of any EMCS or other control systems operating over the AF Network. During the implementation/construction period, the following shall be adhered to:
 - A. Prior to Controls Submittal, Utility will engage the Base COR and Base ISSO/ISSM to understand requirements for elements such as network connectivity engineering, network switch assignments, port assignments, IP address assignment, etc. Utility will proactively communicate with Base COR and Base CE ISSO/ISSM a listing of information and actions the Utility will be including as part of project controls/EMCS submittals prior to submission. The Base COR will provide a response after coordination with the Base CE ISSO/ISSM that the Utility provided listing is sufficient.



- B. Utility will provide supporting documentation for the process to obtain an Interim Authority to Test (IATT) and subsequent Authority to Operate (ATO). The Utility shall work with the Base ISSO/ISSM prior to submittal to confirm clear understanding of requirements regarding necessary EMCS architecture description, typical artifacts required, etc.
- C. Construction progress meeting shall include a three week 'Look Ahead' schedule for awareness ~~is~~ and understanding of actions regarding EMCS, network, or cybersecurity actions. The Base ISSO/ISSM shall be copied on the meeting invite and the three week "Look Ahead" schedule. Dissemination of information and communication are critical to ensure plans are coordinated to avoid any unnecessary delays or interruptions to the UESC project or Base level projects.
- D. Utility will ensure that the Base CE ISSO/ISSM is copied on invites to the Implementation Period Construction Status meetings.
- E. Utility will work with Base COR/BEM and Base CE ISSO/ISSM to ensure coordination on any Base funded projects that could potentially interfere with or impact EMCS network connectivity requirements and schedules within the UESC.



Appendix P – References & Master List of Links

For the best experience: use Internet Explorer and copy and paste the URL into your browser.

Content	Location	Web Address
AFPD 32-10, Installations and Facilities	CH 2, Sec 2.2	https://static.e-publishing.af.mil/production/1/safie/publication/afpd32-10/afpd32-10.pdf
DAFI 90-1701, Installation Energy and Water Management	CH 1 CH 3, Sec 3.2 CH 5, Sec 5.1	https://www.safie.hq.af.mil/Portals/78/documents/IEE/Energy/dafi90-1701.pdf?ver=8ypBlyXxXYQx1fci1taDpA%3D%3D
DD Form 1354, Transfer and Acceptance of DoD Real Property	CH 2, Sec 2.9 CH 5, Sec 5.1	https://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd1354.pdf
DFARS 216.703, Basic Ordering Agreements	CH 4, Sec 4.2	https://www.acquisition.gov/dfars/216.703-basic-ordering-agreements
DoE ESPC Indefinite Delivery/Indefinite Quantity (IDIQ)	CH 5, Sec 5.1	https://www.energy.gov/sites/default/files/2019/05/f63/2017_generic_doe_idiq_espc_contract.pdf
Energy Independence and Security Act of 2007	CH 2, Sec 2.2	https://www.energystar.gov/ia/products/lighting/cfls/downloads/EISA_Backgrounder_FINAL_4-11_EPA.pdf#:~:text=The%20Energy%20Independence%20and%20Security%20Act%20of%202007,to%20consumers%2C%20industry%2C%20our%20country%20and%20our%20environment
FAR 6.302-5, Authorized or Required by Statute	CH 4, Sec 4.1 CH 5, Sec 5.1	https://www.acquisition.gov/far/6.302-5
FAR 16.703, Basic Ordering Agreements	CH 4, Sec 4.2	https://www.acquisition.gov/far/16.703
FAR 17.1, Multi-year Contracting	CH 5, Sec 5.1	https://www.acquisition.gov/far/subpart-17.1
GSA Utility Contractors	CH 4, Sec 4.1	https://www.gsa.gov/real-estate/environmental-programs/energy-water-conservation/gsa-areawide-public-utility-contracts
Procedures, Guidance and Information (PGI) 217.703(d), Basic Ordering Agreements	CH 4, Sec 4.2	https://www.acquisition.gov/dfarspgi/pgi-part-216-types-contracts#DFARS_PGI_PGI_216.703
Public Law 109-58, Energy Policy Act of 2005	CH 2, Sec 2.2	https://www.acq.osd.mil/eie/Downloads/IE/EPACT%202005%20pdf.pdf
Title 10 CFR 436, Federal Energy Management and Planning Programs	CH 2, Sec 2.2 CH 2, Sec 2.4.1	https://www.ecfr.gov/current/title-10/chapter-II/subchapter-D/part-436
Title 41 CFR, Competition in Contracting Act (CICA)	CH 5, Sec 5.1	https://www.govinfo.gov/app/details/CFR-2011-title41-vol3/CFR-2011-title41-vol3-part102-id900-subpartB-subjectgroup-id927/context
Title 48 CFR, Congressional Notification, Section 17.108(b)	CH 5, Sec 5.1	https://www.ecfr.gov/current/title-48/chapter-1/subchapter-C/part-17/subpart-17.1/section-17.108



Content	Location	Web Address
Title 10 USC 2866, Water Conservation at Military Installations	CH 2, Sec 2.2	https://www.law.cornell.edu/uscode/text/10/2866
Title 10 USC 2304(c)(5), Contracts: Competition Requirements	CH 5, Sec 5.1	https://www.govinfo.gov/content/pkg/USCODE-2020-title10/html/USCODE-2020-title10-subtitleA-partIV-chap137-sec2304.htm
Title 10 USC 2911, Energy Performance Goals and Master Plan for Department of Defense	CH 2, Sec 2.2	https://www.govinfo.gov/app/details/USCODE-2010-title10/USCODE-2010-title10-subtitleA-partIV-chap173-subchapl-sec2911
Title 10 USC 2912, Availability and Use of Energy Cost Savings	CH 2, Sec 2.2	https://www.govinfo.gov/app/details/USCODE-2010-title10/USCODE-2010-title10-subtitleA-partIV-chap173-subchapl-sec2912
Title 10 USC 2913, Energy Savings Contracts and Activities	CH 2, Sec 2.1 CH 2, Sec 2.2 CH 2, Sec 2.4.5 CH 2, Sec 2.5.2	https://www.govinfo.gov/app/details/USCODE-2011-title10/USCODE-2011-title10-subtitleA-partIV-chap173-subchapl-sec2913/summary
Title 31 USC 1301, Purpose Act	CH 2, Sec 2.5.6	https://www.law.cornell.edu/uscode/text/31/subtitle-II/chapter-13
Title 42 USC 8287, Authority to Enter into Contracts	CH 2, Sec 2.4.1	https://www.law.cornell.edu/uscode/text/42/8287
Whole Building Design Guide	CH 5, Sec 5.1	www.wbdg.org