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Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1401

March 24, 2017

This responds to your letter dated February 3, 2017, requesting information under the Freedom of Information Act (FOIA) (5 U.S.C. § 552). You requested a copy of the Federal Energy Systems Program Manual. Your request was processed under tracking number #4984.

Enclosed is a copy of the manual you requested.

For non-commercial requests, TVA's FOIA regulations (18 C.F.R. § 1301) provide that fees for the first two hours of search time and the first 100 pages of copying are waived. Since this response was made within those guidelines, there is no charge for processing your request.

If you have questions about this response or need additional information, you may contact me at (865) 632-6945.

Sincerely,

Denise Smith TVA FOIA Officer

Enclosure

Tennessee Valley Authority (TVA) Federal Energy Services Program (FESP) Manual

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Appendix - Reference documents

TVA-FSO-SPP-13. 07 1 - Overhead Policy
TVA-SPP-13.007 - Other Revenue (External Business)
TVA-SPP-34.0 - Project Management
TVA Safety Manual
SPP-23.0 - Customer Relationships Governance
DOE UESC Guide, September 2013
DOE UESC Enabling Documents, June 2015

BACKGROUND

For more than 80 years, TVA has proudly served its customers - delivering reliable energy, helping create and retain jobs, and providing a higher quality of life for the people of the Valley. TVA is committed to excellence with a focus on the customer. By proactively managing customer accounts worth over \$70 billion under contract, we're achieving the vision of being a leader of low cost and cleaner energy. TVA's federal customers represent more than \$6.1 billion in annual economic impact and \$125 million in annual revenue to TVA.

Since 1992, TVA has provided value-added energy services to its federal customers to help them be successful in executing their mission while achieving energy efficiency goals. TVA's federal customers have a critical need to meet federal and agency-wide energy efficiency goals. Operating costs, including energy costs is one of the elements that determines whether federal installations, especially military bases, remain open with thousands of troops and employees that contribute to the Valley economy.

TVA's Federal Energy Services Program (FESP) helps federal facilities in the Tennessee Valley meet its energy goals and mandates in a cost effective manner. FESP allows federal customers to contract for a broad array of energy efficiency, renewable energy, water conservation services on a sole source basis. FESP utilizes the DOE Utility Energy Services Contracts (UESC) program which helps federal facilities implement energy projects with no capital investments.

FESP helps federal customers improve their infrastructure and lower operating costs. FESP is a one stop shop with turnkey project implementation. FESP fronts the capital cost and provides low cost financing which is repaid from energy savings. TVA, a federal utility, is a known entity with long term relationships with federal customers. TVA understands the need to meet energy goals and to comply with federal energy mandates.

This manual outlines the FESP processes to ensure consistency program delivery.

Governance, Oversight, Execution, and Support

Strong governance and oversight is key to the sustainability of FESP. Assigning GOES (Governance, Oversight, Execution, and Support) accountability to FESP is critical to working effectively, efficiently, safer and leaner as we clearly identify:

Governance - The act of establishing vision; rules, principles, policies and practices; and setting the standard of performance for the organization.

Oversight - The act of critically monitoring work and performance results to assure the functional outcomes are met.

Execution - Implementation of activities to comply with governance requirements.

Support - Activities to help others to complete or conduct their execution responsibilities under oversight while maintaining an appropriate proper level of independence.

How is the GOES model used?

- This model is used by management in day-to-day operations to achieve results.
- In defining corporate support, governance and oversight and line accountability.
- In defining execution responsibilities primarily expected of project management teams.
- In regularly scheduled program reviews and performance assessments
- In business planning.
- In management and supervisory training.
- In the indoctrination of new employees and in periodic refresher seminars or training.
- In ensuring standardization of processes and procedures.

Application of GOES to FESP

Governance

Working closely with TVA corporate organizations, the V.P. of Industrial Marketing and Services and the Manager of Industrial Services provide governance by developing and implementing policies, principles, and rules that establish the expectations for high standards of performance for FESP. The FESP program provides energy management services to its federal customers under the federal government's Utility Energy Services Contracts (UESC) program contracting authority as authorized under the Energy Policy Act of 1992. High standards of performance will be established and reviewed for the FESP program as well as at the individual FESP project level. The VP and Manager will work with TVA corporate organizations to periodically monitor the implementation practices and results achieved. In addition, the VP and Manager will maintain cognizance of best industry standards and practices and take action to raise the standards and levels of performance for the program and functional areas.

Governing documents for the FESP program include:

- SPP-13.7.1 Overhead Policy (as applied to External Business contracts)
- SPP-13.007 Other Revenue (External Business)
- SPP-34.0 Project Management
- TVA Safety Manual
- SPP-23.0 Customer Relationships Governance
- DOE UESC Guide, September 2013
- DOE UESC Enabling Documents, June 2013

Oversight

The VP of Industrial Marketing and Services, the Manager of Industrial Services, senior program managers, and industrial account managers provide oversight by critically monitoring work and performance results to assure that functional outcomes are met. This includes program and project reviews and analysis of various performance indicators and functional or programmatic data to provide assurance that the functional outcomes are achieved and policies are adhered to. Other TVA organizations that will provide functional area oversight include:

- OGC
- Financial Operations & Performance
- Power Contracts
- Supply Chain
- Treasury
- Heath & Safety

Execution

The FESP program management team through planning, scheduling, and use of procedures will implement functions that are necessary to deliver the FESP program and manage projects that comply with governance requirements and all applicable rules and regulations.

Project Management

Project management excellence and program performance are critical to the success of FESP. FESP project management is also key to the financial performance of the projects and the positive impact on TVA O&M costs. It is critical that projects are executed within the prescribed budget and schedule in order to positively impact TVA O&M. Project budget overruns will not be acceptable under the FESP program. To ensure project management discipline, TVA-SPP-34.0 - Project Management will be used as the guiding project execution document for all FESP projects. The FESP project management team is responsible for ensuring that each project delivers a quality product that meets the agreed-upon project objectives of scope, cost, schedule, and safety while adhering to standards and regulations.

Project Management excellence will be that combination of principles, knowledge, skills, processes, and tools to achieve world class performance and ensure:

- Projects, when completed and accepted by the customer, meet or exceed expectations.
- Safety, health, and environmental goals are satisfied or exceeded.
- All customer expectations are satisfied.
- All baseline scope, schedule, cost, and project goals are met or exceeded .

- Project financial performance is achieved or exceeded by staying on schedule and budget. This ensures that TVA O&M costs are positively impacted.
- Rework due to scoping and assessment, design, implementation, or testing errors is avoided.
- Long-term project benefits, including energy efficiency benefits, are met or exceeded.
- Project close-out is completed including ensuring equipment configuration changes are documented, operating and warranty documentation is provided to the customer.

FESP program management will collaborate with the Financial Operations & Performance organization to ensure a high level of financial performance and cost control to positively affect TVA O&M. TVA-SPP-13.007 is the guiding document which will be adhered to for the roles and responsibilities, process, controls, and system(s) associated with accounting and billing for FESP projects.

To ensure that TVA O&M is positively impacted, FESP will adhere to TVA-SPP-13.007 - Other Revenue (External Business). Section 3.2.2 of SPP-13.007, states that "TVA organizations should recover all costs for providing products/services to external customers subject to the contract/agreement categories. All costs for external customers include TVA organization direct and indirect costs, TVA corporate overhead, and fringe benefits for direct and indirect labor. Organization indirects are a cost of conducting business and accordingly must be considered in determining total costs of providing services or products". Upon discussions with OGC, it was determined that the Federal Acquisitions Regulations Economy Act did not apply to FESP. The correct authorizing legislation is for TVA's FESP program is The Energy Policy Act of 1992 (EPACT 1992). And regarding full cost recovery for FESP, TVA-SPP-13.007 is the applicable guiding document.

In accordance with TVA-SPP-13.007, FESP project management will:

- Collaborate with Financial Operations & Performance (FO&P) to develop billing rates which ensure the recovery of all costs and allowable margins
- Submit draft contracts to the appropriate designated billing representative in FO&P or Revenue & Billing organization for review of billing terms and conditions prior to communicating with the customer and executing the contract/agreement;
- Negotiate billing terms for external contracts/agreements;
- Ensure that all necessary terms and conditions are included as appropriate and have been reviewed as necessary by OGC;
- Coordinate with Treasury to request an assessment of external customer creditworthiness prior to executing the contract/agreement where applicable.
- Distribute copies of properly executed contracts/agreements and supplements/revisions to FO&P;
- Provide all information required for cost collection and billing;
- Review and approve invoice details to be released to customer for billing;
- Provide documentation required to support invoices in accordance with contract/agreement terms to FO&P in a timely manner;

• Receive customer inquiries as well as work with external customers and designated representative in FO&P and/or Revenue & Billing to resolve billing-related issues;

Support

TVA corporate organizations (OGC, Power Contract, Supply Chain, Financial Operations & Performance, Treasury, and Safety and Health) provide necessary support by making available additional resources, process and business tools, procedures, and advice as appropriate. These organizations will ensure that support activities are provided as necessary for safe, efficient, and cost-effective implementation of the FESP program.

ROLES & RESPONSIBILITIES

1 PROJECT DEVELOPMENT

1.1 MANAGER

- Responsible for identifying and prioritizing projects and development of the business case
- Coordinates with internal organizations to ensure appropriate oversight
- Ensures procedures and guiding documents are adhered to
- Interacts with Department of Energy (DOE) Federal Energy Management Program (FEMP)team on Utility Energy Services Contract (UESC) Program
- Manage prospective vendors, new technology, and training
- Conduct quarterly internal program and project reviews
- Manages project resources
 - o TVA labor, contract labor, travel, and training

1.2 SENIOR PROGRAM MANAGER

- Identify project opportunities with customers
- Executes preliminary feasibility audits in accordance with agency basic ordering agreements
- Determines project feasibility with customer and engineering firm
- Works with customer to determine scope of work for detailed energy study (DES)
- Develops detailed energy study financials and delivery order with internal partners and customer
- Executes scope of work of DES
- Works to convert detailed energy study into a project
- Responsible for coordinating the preparation of the Project Baseline including the project Work Breakdown Structure (WBS)
- Develops project scope and detailed cost estimate
- Responsible for implementing consistent methods for preparing, reviewing, approving, and documenting project cost estimates
- Collaborates with internal partners to ensure full cost recovery
- Works with supply chain to identify contractors and obtain pricing
- Conducts project kick-off meeting with project manager, contractors, and customer

1.3 POWER CONTRACTS

- Develop, enter into basic ordering agreement (BOA) or interagency agreement (IA) with customer
- Distribute copies of properly executed agreement
- Develop, enter into delivery order for task activities including DES, project work, and change order requests

1.4 SUPPLY CHAIN

1.4.1 TRADES AND LABOR

- Issues request for proposal (RFP) for selection of supplier to support with craft labor and/or services being provided to TVA's designated customer locations
- Manages contracts, issues purchase order (PO) for onsite services and/or labor and/or including materials as requested by the Contract Technical Steward (CTS)
- Requests safety plan updates from suppliers with contracts and submits to corporate safety for review and compliance

1.4.2 ENGINEERING SERVICES

- Issues RFP for selection of supplier to support, design, and project management services being provided to TVA's designated customer locations
- Manages contracts, issues PO for onsite services as requested by the CTS
- Requests safety plan updates from suppliers with contracts and submits to corporate safety for review and compliance

1.5 TREASURY

• Provides interest rate forecasts for project cost estimation

1.6 OFFICE OF GENERAL COUNSEL

• Reviews contracts and agreements

1.7 FINANCIAL SERVICES

• Reviews project cost estimates for DES and project work to ensure appropriate overhead recovery

2 PROJECT EXECUTION

2.1 MANAGER

- Conduct quarterly project review with customers
 - Reviews safety, customer satisfaction, schedule, and budget

2.2 SENIOR PROGRAM MANAGER

- Conducts project kick-off meeting with project manager, contractors, and customer to review project objectives, schedule, and WBS
- Participates in weekly project review meetings with project manager
- Initiates purchase order requests for contractor activities
- Reviews/approves invoices for all contractor work
- Reports on monthly status of project budget and schedule, including accomplishments and risks/issues
- Informs internal partners when project nears completion
- Informs internal partners of project completion so project can be closed to ensure false charges are not recorded
- Provides necessary information for customer invoicing

2.3 PROJECT MANGER

- Responsible for the development, revision, management, and communication of the project schedule and critical path
- Develop safety and health plan or get review of contractor's safety and health plans by TVA safety consultants
- Responsible for implementing consistent methods for preparing, reviewing, approving, and documenting project cost estimates
- Provide necessary information to Senior Program Manager for contractor invoice payment
- Manages project overseeing contractor performance, schedule, and budget
- Establishes key project milestones that the project participants are required to meet
- Completes project on time and on budget
- Conducts weekly project review meetings
- Manage project activities to limit the project work to the items included in the authorized project baseline
- Conducts project closeout activities
 - o Final checklist review
 - o Deliverables review
 - o Lessons learned documentation

o Project closure report

2.4 POWER CONTRACTS

- Develop, enter into delivery order for additional task activities or change orders
- Initiate amendment/modifications as necessary for projects

2.5 TREASURY

• Coordinate financing the sale of all receivables after project completion through one of TVA's commercial banking partners

2.6 FINANCIAL SERVICES

• Provides cost/financial reports as requested by Senior Program Manager

PROJECT SELECTION

FESP provides value-added energy services to federal customers which help them become successful in meeting their mission while achieving energy efficiency goals. FESP program goals are consistent with TVA's vision for increased energy efficiency in the service territory. FESP projects are aligned with TVA's mission to implement a broad portfolio of energy efficiency enhancement programs and projects which are designed to help reduce long-term energy supply costs in the TVA service area. FESP utilizes cost-effective Department of Energy (DOE) Federal Energy Management Program (FEMP) Utility Energy Services Contracts (UESC) to implement projects for our federal customers (Utility Energy Services Contracts Guide - DOE/EE-0952, September 2013). FESP project selection criteria is aligned with UESC guidelines.

Utility Energy Services Contracts (UESC)

A UESC is a contract authorized by the Energy Policy Act of 1992, P.L. 102-486 (codified as 42 USC 8256) which allows utilities to provide their federal customers with energy and water efficiency improvements. In a UESC, a serving utility agrees to provide a federal agency with services or products designed to render that agency's facilities more energy efficient. Federal facilities may also obtain project financing from the utility through a UESC. The agency pays for the cost of the UESC project from the "avoided-costs-savings" as a result of the energy efficiency improvements. The agency continues to realize the energy savings from the UESC project long after project completion. The Performance Assurance plan in the UESC provides the necessary long term measurement and verification (M&V) activities to ensure performance.

Federal agencies can capitalize on the many advantages of a UESC. One of the primary benefits is the ability to implement energy efficiency projects without using direct appropriations. The utility fronts the capital costs of the UESC project including the assessment, design, construction, operations & maintenance, commissioning, and M&V. At the completion of the UESC project, the agency can pay for the project through long term financing through the utility with the monthly avoided cost savings, or from appropriations, or from a combination of the two which provides additional flexibility for the agency. Additionally, contract mechanisms such as basic ordering agreements (BOA) and delivery orders (DO) in the UESC save time in implementing projects.

UESCs offer many benefits to a federal agency, including:

- Streamlined procurement process
- Flexible contracts
- Relationship with a long-standing entity
- Flexibility in performance assurance
- One-stop-shopping for a turnkey project

Low finance rates

Projects

The four major steps of the UESC process are: acquisition planning, project development, project implementation, and post-acceptance. The project development phase consists of the utility and federal customer working together to identify projects which assist the federal customer meet or exceed mandates and executive orders, achieve agency and facility objectives, and reduce energy consumption. Net overall energy or cost reduction must be demonstrated in the project proposal prior to project implementation.

Definition: Energy Conservation Measure (ECM) - Individual energy efficiency tasks under a delivery order (DO) that result in energy and water conservation, energy efficient maintenance, energy management services, facilities improvements, and installation and maintenance of energy saving devices and technologies. Numerous ECMs are combined or bundled into a "project". ECMs must demonstrate an economic return on investment, as required by Title 10 U.S.C., Section 2911.

Project Criteria - Acceptable ECMs

In accordance with UESC guidelines acceptable ECMs include the following: (ECMs are usually bundled)

- Interior and exterior lighting replacement
- Transformer replacement
- Lighting control improvements
- Motor replacement with high efficiency motor
- Construction of alternative generation or cogeneration facilities
- Boiler control improvements
- Packaged air conditioning unit replacement
- Cooling tower retrofit
- Economizer installation
- Energy management control system (EMCS) replacement/alteration
- Occupancy sensors
- LED exit sign installation
- Fans and pump replacement or impeller trimming
- Chiller retrofit
- Upgrade of natural gas-fired boilers with new controls (low NOX burners)
- Solar domestic hot water system
- Solar air preheating system
- Steam trap maintenance and replacement
- Insulation installation
- Variable speed drive utilization

- Weatherization
- Window replacement
- Window coverings and awnings
- Reflective solar window tinting
- Fuel cell installation
- Photovoltaic system installation
- Faucet replacement (infrared sensor)
- Replacement of air conditioning and heating unit with a heat pump
- Addition of liquid refrigerant pump to a reciprocating air conditioning unit
- High efficiency refrigerator replacement
- High efficiency window air conditioner replacement
- Water conservation device installation (e.g., flow restrictors, low flow flush valves, waterless urinals, horizontal axis washing machines)
- Installation, maintenance and operation of power quality and reliability measures including UPS systems, back-up generators, emergency generators, etc.
- Infrared heating system
- Heat pipe dehumidification
- Flash bake commercial cooking
- Thermal energy storage system
- Operation, maintenance, modification and/or extension of utility distribution and collection system
- Training that will result in reduced energy costs
- Power factor correction measures and equipment
- Installation, maintenance and operation of standby propane facility
- Installation, maintenance and operation of gas distribution systems
- Water distribution system leak detection, and cost effective repair
- Any other projects that are cost effective using the current government procedures and standards which encourage the use of renewable energy, reduces the Government's energy consumption or results in other energy infrastructure improvements

Restrictions

The Government shall not consider ECMs or projects 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 federal customer's contracting officer, measures that would result in increased water consumption (e.g., once-through fresh water 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 Contracting Officer, 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

Facility Performance Requirements of ECMs

ECMs shall conform to the following facility performance standards:

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

Preliminary Assessment

The utility (TVA) will conduct a preliminary assessment (PA) of the federal customer's facilities to identify potential ECMs per the criteria above. Sufficient detail for each ECM will be provided to determine which are candidates for a more comprehensive detailed energy study and potentially installed as part of the UESC project.

The PA assesses energy and water consumption and efficiencies for each building to identify ECMs that are likely to be life cycle cost (LCC) effective or have a savings—to-investment ratio of 1 or better. For the purpose of the preliminary assessment, simple payback is acceptable. The final PA report identifies the recommended ECMs for the project.

Detailed energy Study

Once the federal customer agrees on the recommended ECMs, a detailed energy study is conducted by TVA to determine whether the proposed ECMs are feasible. The detailed energy study determines the feasibility and provides a cost estimate and economic analysis for implementing the ECMs for each building or facility.

The detailed energy study report may include the following:

- Executive Summary including introduction, project proposal, scope, approach, major assumptions, summary findings including total life-cycle-cost analysis results, conclusions, and recommendations for each building/facility
- Detailed findings and supporting analysis by building for mechanical scopes
- Detailed findings and supporting analysis for the lighting retrofit opportunities
- Detailed findings and supporting analysis for the building envelope opportunities
- Detailed findings and supporting analysis for the water / sewer retrofit opportunities
- Detailed findings and supporting analysis for commissioning opportunities
- Detailed findings and supporting analysis for co-gen or renewable energy opportunities
- Proposed Performance Assurance Plan including commissioning, M&V, and O&M

Upon final review of the detailed energy study, the federal customer may either accept the study/proposal and proceed with the project, requests revisions, or may elect to defer the project.

FESP Process

FESP Project Development Process

Step #	Responsible	Process Step			
UESC contract process					
1	TVA FIELD STAFF	Identify Redstone UESC project			
2	TVA BUSINESS SUPPORT REP	Submit TVA ECM CATS request for DO			
3	REDSTONE	Develops draft DO			
4	REDSTONE	Sends draft DO (Microsoft Word, unsigned) to TVA Field Staff			
5	TVA CONTRACTS	Sends draft DO to TVA Internal Team for review/comments			
6	TVA Internal Team (Health & Safety, Supply Chain, FO&P, OGC, Treasury, Manager of Industrial Services)	Reviews and provides comments on DO to TVA Contracts			
7	TVA CONTRACTS	Incorporates TVA internal team's changes into the draft DO.			
8	TVA CONTRACTS	Sends final draft DO to TVA internal team for concurrence			
9	TVA Internal Team	Provide concurrence on the draft DO			
10	TVA FIELD STAFF	Provide draft agreement to Redstone			
11	REDSTONE	Redstone reviews and signs the DO			
12	TVA CONTRACTS	Execute DO			
	Development and Execution	of a Preliminary Feasibility Assessment (PFA)			
11	TVA FIELD STAFF	Schedule meeting with customer to identify PFA, DES, or ECP needs			
12	CUSTOMER	Customer requests a PFA			
13	TVA FIELD STAFF	Develop PFA SOW			
14	TVA FIELD STAFF	Submit PFA SOW to Supply Chain for vendor pricing			
15	SUPPLY CHAIN	Obtain vendor pricing and select vendor for work			
16	TVA FIELD STAFF	request project creation by FO&P for POET and Shortcodes			
17	FO&P	Create project and provide POET/Shortcodes to TVA Field Staff			
18	SUPPLY CHAIN	Create PO for execution of PFA SOW			
19	TVA FIELD STAFF	Schedule kickoff meeting with customer			
20	TVA FIELD STAFF	Complete PFA and provide results to customer			

Development and Execution of an Investment Grade Audit (IGA)				
21	CUSTOMER	Customer requests a DES		
22	TVA FIELD STAFF	Develop DES SOW		
23	SUPPLY CHAIN	Obtain vendor pricing and select vendor for work		
24	FO&P	Review Cost Model for proper OVHD recovery		
25	POWER CUSTOMER CONTRACTS	Draft DES Delivery Order		
26	OGC	Review Delivery Order		
27	TVA FIELD STAFF	Review Delivery Order		
28	TVA FIELD STAFF	Provide proposed agreement to customer		
29	CUSTOMER	Customer reviews and signs agreement		
30	TVA FIELD STAFF	Schedule kickoff meeting with customer		
31	TVA FIELD STAFF	Complete DES and provide results to customer		
	The second second second second			
	Development and E	execution of a UESC Construction Project		
32	CUSTOMER	Customer Requests ECP Proposal		
33	TVA FIELD STAFF	Develop ECP SOW		
34	TVA FIELD STAFF	Develop ECP Proposal from DES Cost and Savings Estimates		
35	FO&P	Review ECP Proposal for proper OVHD recovery and collection of DES costs		
36	Treasury	Provide SWAP and Spread Rates for financing from Lender		
37	POWER CUSTOMER CONTRACTS	Draft ECP Delivery Order		
38	OGC	Review Delivery Order		
39	TVA FIELD STAFF	Provide proposed delivery order to customer		
40	CUSTOMER	Customer reviews and signs delivery order		
41	SUPPLY CHAIN	Obtain vendor pricing and select vendor for work		
42	TVA FIELD STAFF	Revise Cost Model with Final Estimates		
43	FO&P	Review Final Cost model for OVHD recovery and DES costs		
44	TVA FIELD STAFF	Implement ECP		
45	TVA FIELD STAFF	Complete Project		
44A	FO&P	Provide Monthly Spending Report to TVA Field Staff		
	Final Closeo	ut of Energy Conservation Project		
45	TVA FIELD STAFF	Submit Certificate of completion and schedule of remaining costs to FO&P		
46	FO&P	Conduct Financial Review of Project		
47	Treasury	Coordinate financing and sale of receivables		
48	OGC	Review and finalize sale w/ concurrence		
49	Revenue	Preparation of Invoice		

50	Treasury	Supply Amortization Schedule
51	TVA FIELD STAFF	Provide Amortization Schedule to Customer
52	Revenue	Invoice Customer for first payment
53	TVA FIELD STAFF	Conduct Yearly M&V in agreement with delivery order
54	TVA FIELD STAFF	Conduct Preventative Maintenance in agreement wit delivery order
55	TVA FIELD STAFF	Facilitate warranty repairs in agreement with deliver order

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DATA COLLECTION

It is important to quantify the performance of FESP projects for TVA and for the federal customers in order to validate program effectiveness. Accurate and consistent data collection and reporting are key to the sustainability of FESP.

Initial Data Collection Plan (pilot)

Following is the mutually agreed upon plan with TVA Energy Right Solutions (ERS) organization:

- FESP energy savings collection for FY 15 will run as a pilot. Savings will be earmarked to
 easily identify specific results for FESP projects. FESP project results will be broken out
 as a separate category going forward. FESP project team will provide estimated energy
 savings to Energy Right Solutions (ERS) to establish an annual goal
- FESP lighting projects will use the TVA ERS lighting workbook so the energy savings can count toward the TVA EE goal. Minimum documentation would be the Measure for Settlement (MFS) form and a lighting workbook
- Non-lighting projects will use the UESC methodology for determining energy savings. The savings would go into the "all other" energy savings category for FY 15
- FESP team will continue to use metering at the customer's sites and not using ERS meters to meter energy savings

Future Data Reporting

Beginning in FY 2016 FESP project data will be reported in parallel in two repositories:

- 1. TVA ERS reports
- 2. DOE FEMP reports

TVA ERS Energy Efficiency Reporting

FESP energy efficiency savings will be measured according to the guidelines established by the TVA ERS Technical Resources Manual TRM v3.0. Reporting of these savings will be done through the recording of project information including but not limited to:

- Contract records including: Basic Ordering Agreement, Delivery Orders, Detailed Energy Studies, and Change Orders
- Customer information including: Site description, Site contact, Project description, and Project Owner
- Energy Conservation Measure (ECM) information including: Study Provider, Project Designer, Projected Savings, Achieved Savings, Start and End date
- Measurement and Verification reports including items identified in the performance assurance guidelines

DOE FEMP Reporting

FESP project management will assist the federal customers in reporting energy savings data to Department of Energy (DOE) Federal Energy Management Program (FEMP) in accordance with FEMP guidelines.

FEMP has collected UESC data from federal agencies since 1995, covering over \$2.3 billion in investment and almost 2,000 projects. FEMP's Utility Program serves as the federal government's primary source of information on the UESC project funding mechanism. Both the OMB Memorandum M-12-21, Addendum to M-98-13, and the Presidential Memorandum-Implementation Of Energy Savings Projects And Performance-Based Contracting For Energy Savings, issued on December 2, 2011, provide guidance for agency reporting.

This data is reported to the DOE to demonstrate the effectiveness of the UESC contracting vehicle and contribute to better understanding of the UESC market and trends in investment. The following shows the data which be collected, with a key defining terms following the tables.

A. Agency	B. Facility	C. State	D. Utility	E. Contract Type	F. Contract Term	G. Task Order /Delivery Order	H. Award Date	l. Completion Date	J. Energy Conservation Measures Implemented In Project (Enter as many as	K. Project's Capital Cost (\$) [Not including financing
		The second							as many as applicable - See Key)	tinancing costs]

FESP UESC Project Reporting Template

L. Percent of Total Cost 3rd Party Financed	N. Annual Cost Savings (\$)	O. Annual kWh Saved	P. Annual KW Saved (Demand Savings)	Q. Annual Natural Gas savings (please specify cubic feet, therms or MMBtu)	R. Annµal Oil savings (gallons)	S. Annual water savings (gallons)	T. Total Annual Energy savings
	1. 41.20		51.2	Same and			

KEY

Column Heading	Data to Input
Agency	Enter the main agency and sub agency if applicable (e.g. DOI, National Park Service)
Facility	Input the installation name or site name where project completed (e.g. Kirtland Air Force Base)
Utility	Enter utility company
Contract Type	Enter contract type (Agency Specific Contract, BOA, BPA, DSM, GSA Areawide, Model Agreement, Site Specific Agreement)
Contract Term	Input the length of the contract in years, if applicable
Delivery Order	Include a delivery order/task order number, if appropriate
Date	Enter the date contract was signed

Completion Date	Enter the date the project was completed or plans to be completed
Energy Conservation Measures	Input description of technologies installed - please list each type of technology installed from the categories below: Analysis Boiler/Chiller Central Plant Comprehensive Upgrades Controls/Upgrades/Repairs Distributed Generation Renewables HVAC/Motors/Pumps Insulation/Building Envelope Lighting Lighting Lighting and Mechanical Systems Water Conservation Other
Project's Capital Cost (\$)	Input the total capital cost of the project (full dollar amount). This is the implementation price (for survey, study, design, construction, commissioning to acceptance, and markup— which includes indirect costs, such as rebates, overhead and profit) the contractor charges to develop and implement the project. Do not include costs related to M&V during performance period, financing costs, O&M, or administrative costs to the government.
Percent of Total Cost 3rd Party Financed	Input the total percentage of cost that was financed through the utility or an outside lender - anything under 100% will show the site used appropriated money to buy down the project. This will show the principal loan amount that is borrowed to implement the project. This value is the total investment amount minus any rebate or incentives received by the utility and/or any appropriated funding used to "buy-down" the cost of the principal loan (government pre-performance period payments plus any capitalized interest costs). Do not include interest rates
Estimated Annual Cost Savings (\$)	Input the annual cost savings of the project which include energy, demand, water, and O&M (include all commodities such as natural gas, electricity, oil). (full dollar amount)
Estimated kWh Savings	Enter estimated annual site electric KWh savings if this breakout if available
Estimated KW Savings	Provide demand savings if applicable
Estimated Annual Natural Gas savings (cubic feet)	Enter the estimated total annual natural gas savings in cubic feet
Estimated Annual Oil savings (gallons)	Enter the estimated total annual oil savings in gallons
Estimated Annual water savings (gallons)	Enter the estimated total annual water savings in gallons
Total Annual Energy Savings	Enter total annual energy savings for all energy types

Accounting Process

- 1. The federal customer issues a proposed Delivery Order (the project scope of work) to FESP staff
- 2. TVA Treasury consults the bank with the proposed terms
- 3. The financing terms are agreed upon and included in the final Delivery Order
- 4. The federal customer and FESP agree on the final Delivery Order
- 5. FO&P does the following:
 - Helps review contract and billing terms for appropriateness & completeness
 - Performs overhead rate analysis under guidance of TVA Accounting Policy (wouldn't be specific to the contract)
 - Establishes funding projects in Oracle Projects to capture charges/accrue revenue
 - Provide financial reporting & support throughout project
 - Coordinates w/ IM&S and AP&R to release invoices
- 6. FESP executes the UESC project for the federal customer
- 7. After project completion, TVA Treasury sells the receivable to the commercial bank
- 8. The federal customer pays the loan back via their monthly power bill invoice

9. After receiving payment, TVA has two business days to remit the payment to the commercial bank



FESP Non Financed (direct funded) Projects - Program Accounting Process Overview

 The federal customer issues a proposed Delivery Order (the project scope of work) to FESP staff.

- 2. FESP develops a cost estimate based on the scope in the Delivery Order. Cost estimates include all direct costs, indirect costs, and contingency.
- 3. The federal customer and FESP agree on the cost and final Delivery Order
- 4. FO&P does the following:
 - a. Helps review contract and billing terms for appropriateness & completeness
 - b. Performs overhead rate analysis under guidance of TVA Accounting Policy (wouldn't be specific to the contract)
 - c. Establishes funding projects in Oracle Projects to capture charges/accrue revenue
 - d. Provide financial reporting & support throughout project
 - e. Coordinates w/ IM&S and AP&R to release invoices
- 5. FESP executes the UESC project for the federal customer
- 6. After project completion, Corporate Accounting, Non Power Billing invoices the federal customer
- 7. The federal customer pays the invoice
- 8. Project is closed out



Performance Assurance

FESP utilizes DOE'S Federal Energy Management Program Guidelines to ensure that all equipment and measures meet their intended goals for the duration of the anticipated performance period. TVA's Performance Assurance Plan includes:

- Strategies for measuring and presenting baseline consumption and operating hours, design consumption and operating hours, as-installed consumption and operating hours for each ECM; provides for appropriate commissioning, M&V, operations and maintenance (O&M), and periodic process review to assure performance at design targets for the life of the equipment.
- Demonstrates performance at installation, upon seasonal changes, at completion of one year of service, and prior to end of warranty period.
- Defines ECM-specific performance metrics and provide sufficiently detailed process instructions.
- Develops O&M procedures that meet the manufacturer's suggested O&M, agency protocol, and efficiency targets.
- Establishes responsible party (agency or utility) for all activities included in the performance assurance plan.
- Provides tools and services to accomplish ECM-specific requirements for performance assurance.
- Provides a simplified written report for each commissioning, M&V, and retrocommissioning effort, for which transmittal by email is acceptable; and an annual M&V report including a meeting to present the findings to the customer.
- Compares performance measurements to the manufacturer's specifications and the design intent:
- Measures the performance criteria and verify the performance of each ECM when installation is complete; for example, kWh/fixture, chilled water temperature across coil, kW/ton, etc.
- Measures the performance criteria and verify the performance at the end of warranty period.
- Assures effective O&M.
- Provides ECM-specific O&M.
- Performs continuous commissioning for complex and energy-significant ECMs.
- Inspects ECM O&M effectiveness periodically.
- Reviews and adjust the O&M plan.
- Provides performance-focused O&M training that meets the manufacturer's recommendations, is adapted to meet agency periodic maintenance requirements, and achieves the design performance target:

- Provides ECM-specific in-person O&M training at installation and include video recording.
- Provides ECM-specific refresher training throughout the contract period appropriate to the ECM.
- Reviews and resolves performance discrepancies.
- Identifies performance discrepancies.
- Resolve performance discrepancies.

MARKETING PLAN

The Industrial Marketing and Services (IM&S) organization will increase FESP program offerings to federal customers by informing new federal customers about FESP, motivating federal customers to participate in the program, gaining commitment from federal customers and leveraging relationships with existing federal customers. FESP helps federal facilities in the Valley meet their energy goals, reduce their operating costs and operate more efficiently as compared to other federal facilities throughout the United States.

FESP provides value-added energy services to federal customers which help them become successful in meeting their mission while achieving energy efficiency goals. FESP program goals are consistent with TVA's vision for increased energy efficiency in the service territory. FESP projects are aligned with TVA's mission to implement a broad portfolio of energy efficiency programs and projects which are designed to help reduce long-term energy supply costs in the TVA service area.

FESP utilizes cost-effective Department of Energy (DOE) Federal Energy Management Program (FEMP) Utility Energy Services Contracts (UESC) to implement energy management projects for federal customers. A UESC is a contract between a federal agency and serving utility for energy management services including energy and water efficiency improvements and demand-reduction services. UESCs are authorized by the U.S. Energy Policy Act of 1992, P.L. 102-486 (codified as 42 USC 8256). In addition to reducing energy costs, UESCs help reduce pollution and create jobs in the construction and energy sectors.

UESCs provide a streamlined approach for federal agencies to contract for the broad spectrum of energy management services offered by local utilities. The utility partner assesses the opportunities, designs and implements the accepted energy conservation measures, fronts the capital cost and provides financing for the project. The federal customer has the flexibility to repay the utility over time from energy cost savings resulting from the project, or from appropriations or with a combination of financing and appropriations.

A UESC can be used for any size project and the process has recently become more streamlined with the development of the new UESC Guide. Implementing projects through UESCs continues to be a major force behind many federal facilities meeting energy management goals. To date, federal agencies have used UESCs to invest approximately \$2.7 billion in their facilities.

Target Market

Numerous UESC project opportunities exist at federal facilities in the Valley. Since 1995 the United States (U.S.) government has spent \$2.7 billion on approximately 2,000 UESC projects. Additionally, the Office of Management and Budget and the President of the United States have directed federal agencies to implement at least \$2.0 billion in energy management contracts for federal facilities, which includes UESC funded projects.

IM&S will focus FESP marketing efforts on all federal customers in services territory. This will include marketing to new federal customers and leveraging relationships with existing federal customers. In cases where the federal customer has small or medium size facilities in the Valley, marketing efforts may be directed at the regional headquarters for that agency.

Current customers

IM&S has conducted many successful UESC energy management projects at federal customer facilities since 1999. Retention of current customers is critical to sustaining the FESP business model. The retention strategy will include recognition of federal customers' project successes, program/project review meetings, key account review meetings, and support of strategic energy management initiatives. Existing customers include:

- Department of Defense U.S. Missile and Space Intelligence Center
- Department of Defense U.S. Missile Defense Agency
- U.S. Army Redstone Arsenal
- U.S. Army Ft. Campbell
- U.S. Treasury Internal Revenue Service Memphis

New customers

Marketing efforts will also be directed at new customers to inform them of the benefits of the UESC process and the value that FESP offers. New customers will include:

- National Aeronautics and Space Administration (NASA)
- U.S. Department of Energy
- U.S. Department of Defense
 - U.S. Air Force
 - U.S. Army
 - U.S. Army National Guard
 - U.S. Coast Guard
 - U.S. Navy
- U.S. Department of State
- U.S. Department of Health and Human Services
- U.S. Department of Homeland Security

- U.S. Mint
- U.S. Postal Service
- U.S. Treasury
- U.S. Department of Veterans Administration
- U.S. Department of Health and Human Services
- U.S. Department of the Interior
 - National Park Service
 - Bureau of Land Management
- U.S. Environmental Protection Agency

Unique Selling Proposition

TVA has a long history of providing clean reliable electricity and improving quality of life and economic prosperity in the TVA service area. TVA maintains a strong unique selling proposition in the UESC market because TVA is the serving electric utility for all the directly served federal facilities. Additionally TVA provides electricity for all the local power companies that serve small to medium sized federal facilities in the Valley. A UESC is a contract between a federal agency and serving utility for energy management services. UESCs are authorized by the U.S. Energy Policy Act of 1992, P.L. 102-486 (codified as 42 USC 8256). Only serving utilities can offer UESCs. Energy services companies (ESCO) are excluded from offering UESCs.

Marketing Strategy

IM&S will market the FESP program through direct marketing to directly served federal customers, local power company (LPC) served federal customers, and LPCs. Continuous development of relationships is considered a key to the success in the development of future opportunities for FESP. An emphasis on building and maintaining relationships with federal customers is essential to the sustained success of the program.

Direct Marketing

Direct marketing efforts will include face to face meetings with prospective customers. These meetings will be coordinated with the Industrial Account Managers (IAM) to ensure that the appropriate contacts participate. The main objective of these meetings is to understand the federal customer's energy goals, key performance indicators, and challenges. Additionally, an overview of FESP and UESC is presented along with the benefits of both programs. A follow-up meeting will be scheduled to discuss potential project opportunities which may lead to new projects for FESP and cost effective solutions for the federal customer. Recent new customer meetings include:

- U.S. Department Of Energy Paducah
- U.S. Department of Energy Oak Ridge National Labs

- U.S. Department of Energy Y-12 Complex
- Columbus Air Force Base
- Naval Air Support Mid South
- Milan Army Ammunition Plant
- U.S. Air Force Arnold Engineering Development Center.

Key Events

IM&S will host and participate in key events that provide opportunities to inform federal customer's about FESP and its benefits.

Federal Utility Partnership Working Group (FUPWG) Seminar

IM&S will host the Spring 2015 Federal Utility Partnership Working Group (FUPWG) Seminar in Nashville, April 20-23, 2015. Hosting this event will provide an opportunity to market FESP to federal customers in the Valley. FUPWG is a Department of Energy (DOE) Federal Energy Management Program (FEMP) initiative which brings together federal agencies and their serving utilities across the U.S. to develop cost-effective energy efficiency and renewable energy projects using Utility Energy Services Contracts (UESC). These efforts help federal customers meet their energy goals while successfully fulfilling their missions. FUPWG seminars are open to all federal agency and utilities and attendance is typically around 200. Seminar session topics include UESC best practices, UESC case studies and success stories, new technologies and other topics of general interest to federal energy managers and utility representatives.

Training Opportunities

IM&S will offer training opportunities to federal customers in the areas of energy security, energy efficiency, renewable energy and UESC guidelines. This will inform and motivate federal customers to identify project opportunities using the UESC contract vehicle through FESP. Training will be conducted jointly with DOE FEMP. Training will include the following FEMP courses:

- Federal Utility Partnership Working Group Seminars
- Introduction to UESC Workshops and Webinars
- Advanced UESC Workshops
- Placing UESC Task Orders
- Launching a UESC: "Getting to Yes"
- Agency specific training
- Customized training

Federal/Utility Strategic Partnership Meetings

FESP will collaborate with FEMP to conduct strategic partnership meetings with new federal customers to help identify projects and develop effective project implementation plans. During the strategic partnership meetings FEMP provides comprehensive support to guide federal agencies through the process of implementing UESCs. This includes assistance in developing contract documents, providing document templates, and building partnerships.

Webinars

IM&S will host webinars to inform federal customers and local power companies about FESP and the UESC process. Webinars will be presented jointly with DOE. The webinars will include:

- Overview of FESP
- Overview of the DOE Utility Energy Services Contract (UESC) program
- Benefits of FESP
- Customer eligibility requirements.
- Project selection criteria

Marketing Partnerships

FESP will collaborate with its key contractor partners to identify new market opportunities. Many FESP contractors are involved in various projects at federal facilities located in the Valley. Throughout the normal course of business, these contractor partners identify and bring potential UESC project opportunities to FESP program and project managers. When these opportunities arise, TVA and the contactor partner will continue to conduct follow up meetings with the federal customer to quantify the opportunity and to determine if a potential project exists.

TRAINING

FESP team will complete UESC training as it becomes available including the following:

Advanced UESC Training

Training explains utility energy service contracts (UESCs) and tells how they allow serving utilities to provide significant assistance to Federal agencies through comprehensive energy-efficiency and renewable energy projects. This workshop includes information about financing and performance assurance and examines strategies and methods used by experienced contracting officers and their technical teams from project development to contract award and post acceptance. Attendees will work through exercises designed to develop a project using templates and samples. Registration is limited to Federal employees.

Learning Objectives

- Explain the basics of the UESC authority as a tool for achieving energy and cost savings at Federal facilities.
- Describe the Federal Acquisition Regulation Part that addresses acquisition of utility services
- The type of resources that FEMP makes available to help agencies implement successful UESC projects
- Describe the purpose and content of the initial project scope developed by the agency
- Explain how and why agencies may contract with a serving utility without full and open competition, and what needs to be documented in the contract file
- The difference between a Preliminary Assessment and a Feasibility Study
- The acquisition process for obtaining a Feasibility Study under a GSA AWC
- Describe the relationship, in a UESC project, between a GSA Areawide Contract (AWC), a utility-agency master agreement, the FEMP Model UESC Agreement, and a task order for design and installation of an energy project
- Explain at what point in the process the agency issues a task order for design and installation
- Contents of the task order
- The agency's responsibilities during design and installation
- Requirements for performance assurance of UESC projects
- List FEMP's recommendations for minimum required performance assurance activities for UESC project.

UESC Training for Utility Representatives

Webinar covers utility energy service contracts (UESCs), which allow utilities to provide Federal agencies with comprehensive energy- and water-efficiency improvements and demand-reduction services.

To enter into a UESC, Federal staff and utility representatives must understand the legal parameters, contracting requirements, financing options, and other aspects of these agreements.

This training is designed specifically for utility staff so they have the tools they need to better serve their Federal customers. Utilities not currently offering UESCs will learn the steps in starting a program and find out about resources available from the Federal Energy Management Program to help them identify, connect, and partner with Federal facilities in their service territories

Appendix

Reference documents

TVA Inside net:

TVA-FSO-SPP-13. 07 1 - Overhead Policy TVA-SPP-13.007 - Other Revenue (External Business) TVA-SPP-34.0 - Project Management TVA Safety Manual SPP-23.0 - Customer Relationships Governance DOE FEMP website:

DOE UESC Guide, September 2013

DOE UESC Enabling Documents, June 2015