Energy Smart Industrial

BPA ENERGY EFFICIENCY

Bonneville Power Administration
Energy Smart Industrial
Program Delivery Manual

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Note

The Energy Smart Industrial (ESI) Program Delivery Manual is a supporting document to the contractual agreement between BPA and the program partner. As such, modifications to this manual are administered via BPA Supply Chain. The official version of the ESI Program Delivery Manual resides in BPA Asset Suite.

If during implementation of the ESI program there is a need to modify an element of the ESI Program Delivery Manual, the program partner will advise the BPA ESI team on the modification recommended. The BPA ESI team is responsible for evaluating the recommendation and forwarding their decision to the BPA ESI program manager for further action. The BPA ESI program manager (i.e., also known as the COTR of program partner contract) is responsible for recommending any changes to the BPA Contracting Officer (CO) and the BPA CO makes the final determination on any contract changes. Scheduled modifications to the ESI Program Delivery Manual are targeted to occur bi-annually in January and July. The BPA ESI program manager may elect to implement critical modifications outside of these scheduled periods as appropriate.

The BPA Implementation Manual (IM) takes precedence over the ESI Program Delivery Manual if any terms, conditions or descriptions are contradictory.

The ESI Program Delivery Manual was collaboratively written by various members of the Cascade Core and Expanded Team and the BPA ESI Core and Expanded Team (see Section 8.4).

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BPA Energy Smart Industrial Program Glossary	
Commissioning	The adjustment of control set points, algorithms and operating strategies to optimize energy performance.
CO	Contracting Officer (BPA employee)
COTR	Contract Officer's Technical Representative (BPA employee) A person who has been delegated specific responsibilities by the Contracting Officer, for technical matters relating to a contract.
CP	Custom Project are measures or projects where a deemed method for determining reimbursement is not in place.
CPP	Custom Project Proposal
CRC	Conservation Rate Credit
CUSUM	Cumulative Sum of Differences, an MT&R analysis methodology
ECA	Energy Conservation Agreement
EER	Energy Efficiency Representative (BPA employee) A person that serves as the overall relationship manager between BPA and the utility for BPA relative to energy efficiency, while supporting the Power Account Executives.
EM	Energy Management, an ESI pilot program component
End user	Industrial facility or plant
EPM	Energy Project Manager, a feature of the Energy Management pilot component of the ESI program
ESI	Energy Smart Industrial
ESI engineer	Engineer assigned to the East/West Region utility customers within BPA's service area. They are the ESI program Field Inspectors and technical reviewers of all utility CPPs (including M&V plans), Completion Reports and Annual/Bi-Annual Reports submitted in the PTR system (BPA employee)
ESI EM engineer	Engineer assigned to provide technical oversight of the Energy Management pilot component of the ESI program (BPA employee)
ESI program manager	Industrial sector lead (BPA employee) that provides overall management of all components of the ESI program and is the ESI program Contracting Officer's Technical Representative (COTR).
ESIP	Energy Smart Industrial Partner (program partner contractor)
HPEM	High Performance Energy Management, a feature of the Energy Management pilot feature
HPEM plant energy champion	End user person that is enrolled in HPEM training
HPEM trainer	Facilitator of HPEM training to end users
KAM	Key Account Manager, personnel that provide project level support for lighting projects. KAMs are a feature of the Trade Ally Network component in the ESI program.
M&V	Measurement and verification
MT&R	Monitoring, Targeting and Reporting
MT&R team	MT&R personnel that manage the MT&R plans and integration for T&T and HPEM projects. Consists of the ESI EM engineer (BPA employee) and program partner staff.
O&M	Operations and maintenance

Project assessment	A technical energy study report, generally performed by a TSP consultant that provides all of the necessary components for a CPP to be submitted into the PTR system and pending approval, generation of an incentive agreement that would allow the end user to issue purchase orders and begin project implementation
Scoping assessment	A technical scoping report that is an intermediate step in the CPP development process. A scoping assessment is generally performed by a TSP consultant or the ESIP. A scoping assessment is not sufficient to submit a CPP. The assessment would provide summary of the critical baseline systems at a facility and identify potential energy efficiency measures. The assessment would provide ballpark estimates of efficiency measure energy savings, implementation cost and incentives.
SI	Small Industrial Measures, program component
T&T	Track and Tune, a feature of the Energy Management pilot component
TAN	Northwest Trade Ally Network, a component of the ESI program as well as the BPA commercial sector
Tune-up agent	Technical service provider (TSP consultant, outside expert, or end user employee) that provides a tune-up event in a T&T project
TSP	Technical Service Proposal(s)
TSP consultant	Technical Service Proposal Consultant (BPA's third party contractor)
TWR	Technical Work Request
Utility customer	BPA utility customer with industrial load

SECTION 1 - INTRODUCTION

1.1 Overview

The BPA Energy Smart Industrial (ESI) program has been created to assist BPA utility customers in obtaining cost effective energy efficiency savings in the industrial sector. The ESI program is envisioned as a primary mechanism for BPA utility customers achieving industrial load energy savings goals of 12 aMW in fiscal year (FY) 2010 and 15 aMW in FY2011 (note that this is bus bar savings, unless otherwise noted all other energy savings values in this document are based on site savings). The ESI program encompasses all BPA offered industrial sector programs moving forward. BPA customer utilities will be given the choice of whether to opt in to the ESI program.

The ESI program takes effect from October 1, 2009 through September 20, 2011 with subsequent program renewal thereafter to be considered. The ESI program is designed to meet the varying goals and needs of BPA utility customers and their industrial end users. A variety of program components and offerings have been developed for the ESI program to target a diversity of industrial sectors, project types, and technologies. Innovative energy efficiency offerings ranging from an energy management pilot to trade ally delivered components and measures have been integrated into the ESI program's implementation plan.

The ESI Program Delivery Manual is a supporting document to the contractual agreement between BPA and the program partner. As such, modifications to this manual are administered via BPA contracting.

1.2 Implementation Plan

1.2.1 BPA ESI Team

A third-party contractor to BPA, referred to as the program partner, is the primary administrator of the ESI program. The program partner is managed by BPA through the BPA ESI technical services team.

1.2.1.1 BPA ESI Program Partner Team

Cascade Energy Engineering (Cascade Energy) serves as the prime contractor for the program partner team. Cascade Energy and its subcontractors comprise the program partner team. To date, Cascade Energy has subcontracted to Strategic Energy Group (SEG) and Evergreen Consulting (Evergreen) as part of the program partner team.

Additional subcontractors are added to the program partner team as appropriate moving forward.

The following is a brief summary of the firms that comprise the current program partner team:

Cascade Energy Engineering: Cascade Energy is an industrial energy efficiency consulting firm with offices in Portland, Walla Walla, Salt Lake City and Boise. Cascade Energy provides technical engineering and energy management services coupled with program management and delivery services to utility industrial demand side management (DSM) programs and private industry clients throughout North America. Visit www.cascadeenergy.com for further details.

Strategic Energy Group: Strategic Energy Group is consulting firm based in Portland. SEG designs, implements, and evaluates energy efficiency and energy management programs for utility DSM programs and private industry clients. Please see www.strategicenergygroup.com for further details.

Evergreen Consulting: Evergreen Consulting is based in Portland. Evergreen specializes in the design, management, and delivery of lighting efficiency programs. Evergreen excels at leveraging lighting trade ally networks to deliver lighting energy efficiency projects to utility DSM programs. Evergreen also has provides utility DSM program coordination and marketing services.

1.2.1.2 BPA ESI Technical Services Team

Technical support and oversight of the ESI program from BPA are provided by the BPA ESI technical services team:

Jennifer Eskil – ESI Program Manager: Ms. Eskil is the BPA industrial sector lead and provides overall management of all components of the ESI program and is the ESI program Contracting Officer's Technical Representative (COTR).

Chris Milan – West ESI Engineer: Mr. Milan serves as the ESI field inspector engineer (ESI engineer) for all BPA utility customers with industrial load in the western region: Western Oregon, Western Washington, and Northern California.

Erin Hope – East ESI Engineer: Mr. Hope serves as the ESI engineer for all BPA utility customers with industrial load in the eastern region: Eastern Oregon, Eastern Washington, Idaho, Montana, Nevada, Wyoming, and Utah.

Todd Amundson – ESI Energy Management (EM) Engineer: Mr. Amundson provides targeted expertise and oversight of the Energy Management pilot component and its associated features.

Steve Brooks – Industrial Technical Service Proposal (TSP) Manager: Mr. Brooks provides overall management of ESI program's industrial TSP consultants, including project assignments and contracting.

Jennifer Wood – TSP Portal Coordinator and Industrial Program Specialist: Ms. Wood acts as the coordinator of BPA's TSP Portal and serves as the liaison for the ESI program. She also provides the BPA technical services team with contract administration and project management support.

This comprises the technical support component that BPA provides to the ESI program. BPA also provides other levels of program support including contracting, marketing, and evaluation.

1.2.2 Role of BPA Energy Efficiency Representatives and BPA Engineers in ESI program

The ESI program partner team will provide the marketing and technical support for the ESI program and its components. This will adjust the roles that BPA utility Energy Efficiency Representatives (EERs) and BPA field engineers play within the industrial sector. BPA traditionally used the utility EERs and field engineers to assist utilities with participation in BPA industrial sector programs and provided technical assistance. As BPA transitions to the ESI program, the utility EERs will continue to serve as the overall relationship manager between BPA and the utility as it relates to energy efficiency and supporting the BPA Power Account Executive (AE). Utility EERs will refer industrial-related inquiries from utilities to the ESI program.

In general, BPA field engineers will no longer provide technical assistance (e.g., facility walk-throughs, etc.) to utilities and their industrial end users. Technical assistance for the ESI program is limited to the staff listed in Section 1.2.1.2. Field engineers will refer industrial-related inquiries to the BPA ESI team.

The ESI program utilizes the ESI engineers to provide oversight of technical work products (e.g., project assessments, completion reports, etc.). The ESI engineers are also utilized to assist utilities in transitioning to the ESI program. In a few select cases an ESI engineer will remain in place to manage key end user accounts (in partnership with an ESIP). The BPA industrial TSP manager provides overall management of the industrial TSP consultants that perform project-level technical services in the ESI program. BPA field engineers continue to provide these types of services, as appropriate, for the other sectors.

1.3 Utility Participation in the ESI Program

Utilities select whether to enroll in the ESI program. The ESI program consists of several components available to utilities. Utilities will be able to determine to what extent they participate with each component.

1.4 ESI Program Components

This section provides a brief summary of the components that make up the ESI program:

- Energy Smart Industrial Partner (ESIP)
- Energy Management Pilot, consists of the following pilot features:
  - Energy Project Manager (EPM)
  - Track and Tune (T&T)
  - High Performance Energy Management (HPEM)
- Small Industrial Measures (SI)
- Trade Ally Network (TAN)
- Custom Projects
- Technical Service Proposal (TSP) Consultants

A summary of the key elements of each component is given in Table 1. Additional details on each program component and feature are provided in subsequent sections of this manual.

1.4.1 ESIP Component

An ESIP is a single point of contact for utilities in the coordination of the ESI program and its resources to meet the goals and needs of their industrial energy efficiency program. All utilities that opt in to the ESI program will have an ESIP assigned to them. They will provide and enhance industrial sector services to utilities that were formerly provided by utility EERs and BPA field engineers. The ESIP assists the utility with understanding and implementing the ESI program and utilizing the program resources to assist end users with the development and implementation of industrial projects. There are several benefits that an ESIP provides to a utility:

- The ESIP provides the utility with a single point of contact for information and coordination of the ESI program and resources.
- The ESIP collaborates with utility to meet the goals and needs of their industrial energy efficiency program.
- The ESIP helps generate participation by end users and drives implementation of industrial projects.
- The ESIP serves as an industrial technical resource to a utility.

Table 1: New ESI Program Component Summary

No.	Question	Energy Smart Industrial Partner (ESIP)	Energy Management (EM)			Small Industrial (SI)
			Energy Project Manager (EPM)	Track & Tune (T&T)	High Performance Energy Management (HPEM)	
1	What is being offered?	ESI program representative to utilities and their end users. Provides direct project oversight of CPs and EM projects. Provides high level representation of the TAN and SI programs.	Incentive co-funding of site or end user staffing to deliver projects and savings via CPs and EM projects.	A combination of site or sub-system tune-up (aka, Kaizen Blitz or retro commissioning) and a normalized efficiency tracking tool.	Training an individual site or peer groups of sites through adoption of energy management practices.	A simplified, trade ally driven program for small projects. Program utilizes simple pre-approved tools and emphasizes rapid turnaround, simplicity, and consistency.
2	What is the primary goal?	Accelerating identification, submittal, and completion of traditional CPs and participation in EM.	Increase end user management & expertise devoted to electrical energy efficiency.	Improve end user energy performance through O&M improvements that offer an attractive business opportunity to the end user and documentable, low-cost savings to the program	Increase adoption of core EM principles to drive more capital and O&M projects resulting in increased persistence of savings and a long-term commitment to energy efficiency improvement.	Increase number of implemented small industrial projects in a cost-effective manner.
3	End user size?	All	Typically end users with load greater than 3 aMW.	Sub-System > 1,000,000 kWh/yr or Plant-Wide >4,000,000 kWh/yr.	Site specific or aggregate sites of 3 aMW or greater.	All
4	Funding of services?	ESIP funded directly by ESI program.	EPM incentive co-funding through CRC/ECA that scales by savings targets. Minimum savings goal requirement for participation of 1,000,000 kWh/yr.	Tune-up and initial tracking tool funded by ESI program.	Coaching service funded directly by ESI program	SI program staffing and infrastructure directly funded by ESI program
5	Measure funding?	-NA-	-NA-	CRC/ECA towards portion of implemented action items.	CRC/ECA for MT&R savings.	CRC/ECA
6	Repeat payments?	-NA-	-NA-	Incentives paid for documented savings through ongoing tracking tool.	Incentives paid for documented savings through ongoing tracking tool.	-NA-
7	What are the M&V requirements?	-NA-	-NA-	Ongoing	Ongoing	M&V on sample set of projects

- The ESIP manages and reviews technical work products, as well as submits CPP and completion report entries in the Planning, Tracking and Reporting (PTR) system for utility review and acceptance.
- The ESIP works closely with the utility upon selection of the Energy Management Pilot and Small Industrial measures components.

The ESIP component consists of two levels of personnel, the ESIP and the sector specialist. Again the ESIP directly assists the utility and serves as their single point of contact for the ESI program and resources.

The sector specialist targets key industries where potential for large energy savings exist and experience within that industry is critical for successful program delivery. Data centers and waste water are potential market segments where a sector specialist may be considered. Experience and existing relationships within the industry are prerequisites for sector specialists. Note that the sector specialists serve under the ESIP to preserve the single point of contact relationship between the utility and the ESIP.

For more information on the ESIP program component see Section 2.

1.4.2 Energy Management Pilot Component

The Energy Management pilot component of the ESI program consists of three core pilot features:

1. **Energy Project Manager (EPM):** Direct co-funding of end user staffing to deliver projects and energy savings via traditional CPs and other Energy Management pilot component features.
2. **Track & Tune Projects (T&T):** A combination of site or sub-system tune-up (a.k.a., Kaizen Blitz or retro-commissioning) and a normalized efficiency tracking tool.
3. **High Performance Energy Management (HPEM):** Training an individual site or groups of sites on the process of integrating energy management principles in to their core business practices.

These program pilot features allow end users to tap into the energy management savings potential in a manner that is measurable, cost-effective, and straightforward. Eligible end users are encouraged to participate in one, two, or all three features. For more information on the Energy Management pilot component of the ESI program, see Section 5.

1.4.3 Small Industrial Measures Component

The Small Industrial (SI) Measures component provides a cost-effective mechanism to handle specific efficiency measures where the energy savings on individual projects are

small relative to typical industrial projects. This component allows the ESI program to target small-scale industrial facilities and small systems that are historically underserved by traditional industrial efficiency programs.

The SI component utilizes a trade ally project delivery approach coupled with streamlined administrative processing to minimize project administrative costs. SI provides a simplified and responsive approach to encourage trade ally and end user participation. SI is administered by the SI team which is subset of the program partner team. For more information on the SI component of the ESI program, see Section 5.

1.4.4 Custom Project (CP) Component

CPs are measures or projects where a deemed method for determining reimbursement is not in place. CPs encompass retrofit and new construction efficiency projects that have traditionally been handled by the BPA industrial program, including qualifying lighting projects.

BPA funding is available for the technical services necessary to develop and complete CPs. This funding is geared toward BPA TSP consultants but can also be utilized for non-TSP consultant providers when approved by BPA.

The diminished role of BPA utility EERs and field engineers will affect how CPs are administered in the ESI program. The ESIP will provide and expand the services that BPA utility EERs and field engineers have traditionally provided to the utility. For more information on the CP component of the ESI program, see Section 3.

1.4.5 Technical Services Proposal (TSP) Consultants

BPA funding of TSP consultants is available to all utilities that opt in to the ESI program. Industrial TSP consultants have been hired by BPA to perform project-level technical services for the ESI program. For eligible requests, BPA will provide funding for a TSP consultant to perform specific technical services, such as quick-response time and material (T&M) work, facility scoping assessment, measurement and verification (M&V) support or other miscellaneous consulting services. Several factors have increased the need and utilize the TSP consultants:

- ESIPs and EPMs are in place to promote end user participation in the ESI program and drive implementation of projects.
- The Energy Management pilot T&T feature creates a new project type, operations and maintenance (O&M), where TSP consultants are relied upon for specific technical services.
- BPA field engineers no longer provide technical services for industrial projects.

- TSP consultants are more heavily utilized for scoping and measurement and verification (M&V) work.
- The ESI program energy savings targets are increased to 12 aMW in FY2010 and 15 aMW in FY2011 (versus 10 aMW in FY2007-09). ESI program targets are substantially greater than historic BPA industrial program performance.

The program encourages TSP firms to expand their offerings and experience. For example, the T&T feature of the Energy Management pilot component enlists TSP consultants to provide technical services on O&M projects. This expands the skill set required of TSP consultants. For more information on TSP consultants, see Section 4.

1.4.6 Trade Ally Network (TAN) Component

The ESI program has enhanced the BPA Trade Ally Network (TAN) component which supports lighting trade allies and utilities in the commercial and industrial sectors. Evergreen Consulting is part of the program partner team, and continues to assist TAN in the ESI program.

TAN is enhanced in the ESI program with the addition of lighting Key Account Managers (KAMs). The goal of the KAMs is to increase the number and magnitude of industrial lighting projects for BPA utility customers. Lighting KAMs enhance the current TAN component by providing resources to work one-on-one with trade allies, utilities, and end users at the industrial lighting project level. The KAMs are available to all utilities that opt in to the ESI programmed.

The lighting KAMs are available to provide the appropriate level of support to influence project implementation, such as the following:

- Joint on-site lighting walk-through and/or technical development with a trade ally and/or utility representative.
- Review trade ally proposal to an end user and provide recommendations for enhancing efficiency technology options such as inclusion of controls, use of specific technologies, assumptions for energy calculations, etc. Provide advice/support to improve clarity, brevity and ideas to increase results.
- Joint on-site meeting with end user, trade ally and/or utility to present lighting project proposal to support the complete project value proposition (energy savings, utility incentives, improving light levels, color rendition, consistent color temperature, etc.).
- Advice and counsel to trade allies on matching appropriate lighting technologies to meet end user needs.
- Assistance to trade allies in utilizing utility program lighting analysis, project proposal tools, and other programmatic steps.

Work with trade ally and lighting supply chain (i.e. distributors, manufacturer representatives, etc.) to provide or enhance knowledge and support for technologies and price points.

For more information on the TAN program component of the ESI program, see Section 7.

1.5 ESI Program Organizational Chart

An organizational chart for utilities that opt in to the ESI program is shown in Figure 1. The SI and TAN components are administered by the program partner through trade allies. As a result, an ESIP does not play as close of an oversight role in SI and TAN components on a project level basis, hence the dashed line representation.

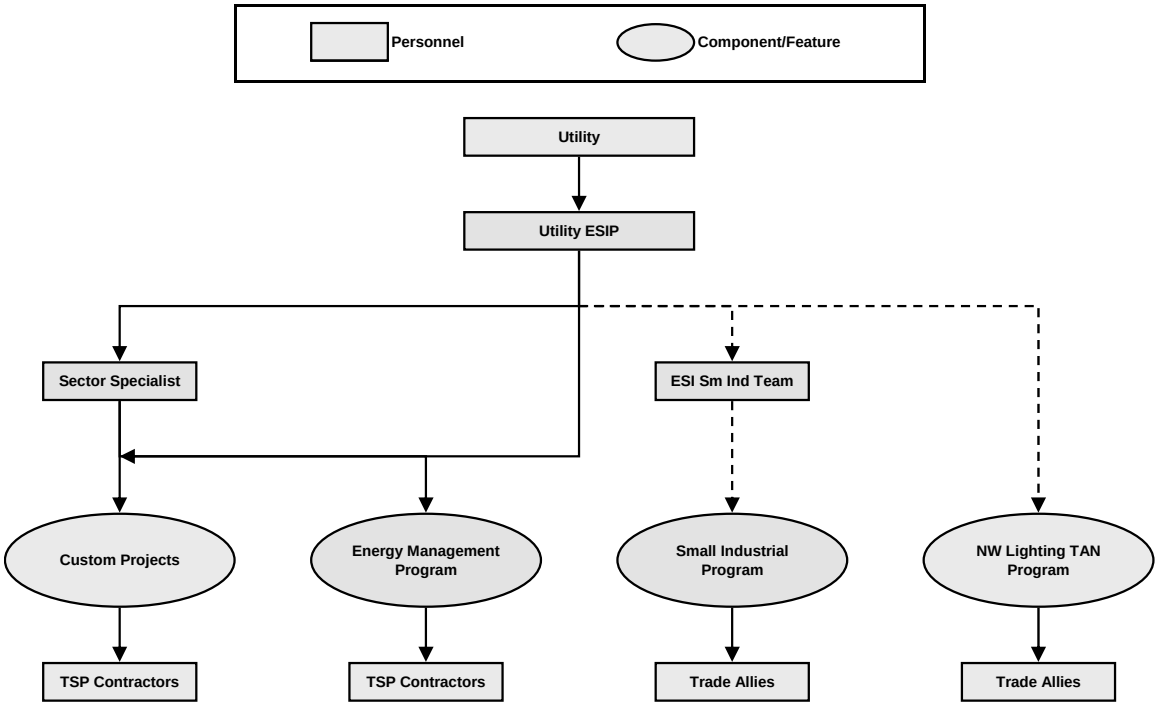


Figure 1: Organizational Chart for Utilities in the ESI Program

1.6 Communication Plan

The ESI program relies on close relationships between the utility, end user, and ESI program staff to provide clear, timely, and effective communication. In addition, program enhancements such as the ESIP component and the TrakSmart database software tool (TrakSmart) provide utility staff with direct access to end user program and project status. A Communication Plan is included in Section 8 and in each appropriate program component section.

Detailed initiative-based communication plans are developed by the ESIP or program partner as needed and are reviewed by BPA energy efficiency staff. All communication templates follow BPA visual identity guidelines and are reviewed by BPA energy efficiency staff.

1.6.1 ESIP Communication Approach

An ESIP will be assigned to each utility. The first step is for the ESIP and utility to develop an account plan. The east or west ESI engineer is available to assist in this process as needed. The account plan focuses on the following:

- Understanding the utility's goals and needs overall and for their energy efficiency program.
- Overview of ESI program components, features and resources; then determining how to best integrate them into the utility's energy efficiency program.
- Developing operating procedures and protocols for the ESIP and utility for program delivery, interacting with end users and managing industrial projects.
- Review of the utility's end user accounts and developing a strategy for engaging program activity.

The overall objective of the ESIP planning is to determine how best the ESI program can serve the goals and needs of the utility's energy efficiency program. This includes determining how to deliver the ESI program within the utility's service territory, developing a strategy to maximize program performance and building a relationship between the utility and ESIP.

1.6.2 TrakSmart Software Tool

Currently all CPs are tracked within the Planning, Tracking and Reporting (PTR) system. The current PTR system has limited access and reporting capability for tracking a project's status or utility participation. To address these limitations, TrakSmart is incorporated as part of the ESI program to complement the PTR system. TrakSmart provides utility staff direct access to project information within their service territory. TrakSmart is managed by BPA. The ESIP is responsible for maintaining the status of projects within the utility's service territory utilizing TrakSmart.

1.7 Marketing Plan

The ESI program marketing goal is to motivate BPA utility customers and their end users to participate in the ESI program and to achieve the industrial energy savings targets.

Marketing plan details are included in the overall Marketing Plan in Section 9 and in each appropriate specific program component sections. Detailed initiative-based marketing plans are developed as needed by the program partner and are reviewed by BPA energy efficiency staff. All marketing materials follow BPA visual identity guidelines and are reviewed by BPA energy efficiency staff.

1.7.1 ESIP Marketing Approach

The primary marketing strategy employed with the ESIP component is the single point of contact, relationship-oriented strategy between the ESIP and the utility, and the ESIP and the end user. This one-on-one model emphasizes simplicity, familiarity, and trust − essential components towards ultimately doing industrial.

1.7.2 Industrial End User Marketing Approach

The ESI program provides an array of program features to target a diversity of end user segments and needs. Rather than provide a "one size fits all" strategy and clinging to historic industrial DSM program models, the ESI program is designed with the following elements:

1. Emphasis on providing utilities and end users with best-in-class technical resources to identify and guide projects to implementation.
2. A complete portfolio of program components to target a diverse landscape of utility and end user goals and needs.
3. Heightened emphasis on Energy Management and O&M opportunities as identified in the draft Sixth Power Plan and reflected by increasing end user interest.
4. Leveraging participation from trade allies that are active in the market place (e.g., lighting and compressed air).
5. Program offerings, strategies, and incentives that can deliver energy savings in any economy.
6. Synergy and consistency with other regional industrial efficiency initiatives (e.g., the Northwest Energy Efficiency Alliance or NEEA, the Northwest Food Processing Alliance or NWFPA, etc) and peer utility industrial DSM programs.

1.8 Quality Control Plan

ESI program quality control details can be found in the Quality Control Plan in Section 10.

SECTION 2 – ENERGY SMART INDUSTRIAL PARTNER

2.1 Overview

The goal of the ESIP component is to provide utility energy efficiency programs with a single point of contact for coordinating ESI programs and resources to meet the goals and needs of the utility's energy efficiency program. The ESIP assists the utility with understanding and implementing the ESI program and utilizing the program components to assist end users with the development and implementation of ESI program projects. There are several benefits that the ESIP component provides:

- The ESIP provide utilities with a single point of contact for information and coordination of ESI program and resources.
- The ESIP collaborates with utilities to meet the goals and needs of their industrial energy efficiency program.
- The ESIP helps generate participation by end users in the ESI program and drives implementation of projects.
- The ESIP serves as an industrial technical resource to utilities.
- The ESIP manages and reviews technical work products, which includes submitting CPP and completion report entries in the PTR system for utility review and acceptance.
- The ESIP works closely with the utility upon selection of the Energy Management Pilot and Small Industrial measures components.

2.2 Implementation Plan

2.2.1 ESIP Description

The ESIP position has been created to provide and enhance the role that BPA utility EERs and BPA field engineers historically provided to utilities' industrial energy efficiency programs. Utilities that opt in to the ESI program are assigned an ESIP. Where appropriate, a sector specialist may also be utilized within the utility as explained in this section.

2.2.1.1 ESIP

An ESIP directly assists the utility as a single point of contact to the utility for ESI program and resources. (Note: In many cases the east/west ESI engineer assists early on with the transition of integrating an ESIP with a utility.)

The ESIP provides ESI program support at the utility, end user, and project levels, shown in Figure 2.

- **Utility Level:** At the utility level, the ESIP provides ESI program representation and support to assist the utility's energy efficiency program.
- **End User Level:** At the end user level, the utility utilizes the ESIP as a resource to help market their energy efficiency program to their industrial and municipal accounts. The ESIP focuses on promoting program participation to end users, identifying potential projects, and providing technical support.
- **Project Level:** At the project level, the ESIP provides oversight of ESI program technical resources and reviews work products along with the necessary steps to secure BPA incentives (CPP generation, PTR entry, etc). At the project level, the ESIP is on point for program delivery of standard CPs and Energy Management projects. The ESIP generates draft CPPs and completion report entries in the PTR system that are submitted to the utility for review and acceptance.

Note the ESIP generally does not provide project level support on deemed projects (e.g., lighting, small compressed air, green motors and utility efficiency efforts).

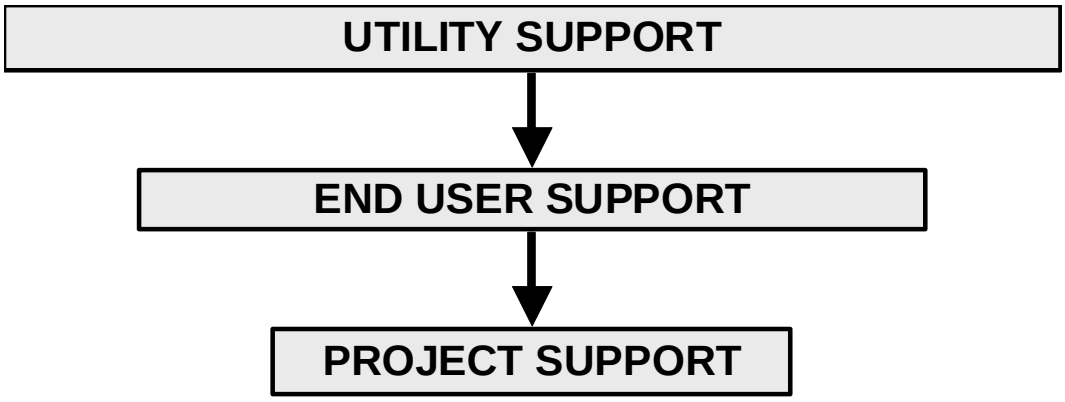


Figure 2: ESIP Component Support Levels

2.2.1.2 Sector Specialist

The sector specialist specifically targets key industries where potential for large energy savings exist and experience within that industry is critical for program delivery. Data

centers and waste water are potential market segments where a sector specialist may be considered. Experience and existing relationships within the industry are prerequisites for sector specialists.

The sector specialist provides the same level of end user and project support as an ESIP to the specific end users in their industry, shown in Figure 3.

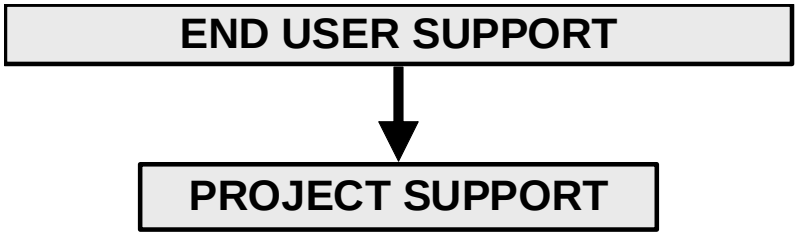


Figure 3: Sector Specialist Program Support Levels

The sector specialist serves under the assigned ESIP (provided the specific industry exists within the utility). This preserves the single point of contact relationship between the utility and the ESIP. The ESIP provides oversight of the sector specialist to ensure that utility's goals and needs for the ESI program are met.

2.2.2 ESIP Organizational Chart

Utilities that opt in to the ESI program are assigned an individual ESIP. An organizational chart is given in Figure 4. The ESIP and sector specialist provides direct oversight of CPs and Energy Management pilot components and manages all elements of participation within these components.

The ESIP provides high level oversight of the Small Industrial (SI) Measures and Northwest Trade Ally Network (TAN) components but does not actively manage the two components on a project-by-project basis. These two components are primarily delivered to end users by trade allies operating independently of the ESIP within the utility's service territory. SI and TAN maintain a working relationship with participating utilities, with the ESIP providing the high-level support. The ESIP provides periodic reporting of activities in these components to the utility and serves as a conduit for the utility to the two components. See Sections 5 and 7 for more information on the SI and TAN relationships with utilities.

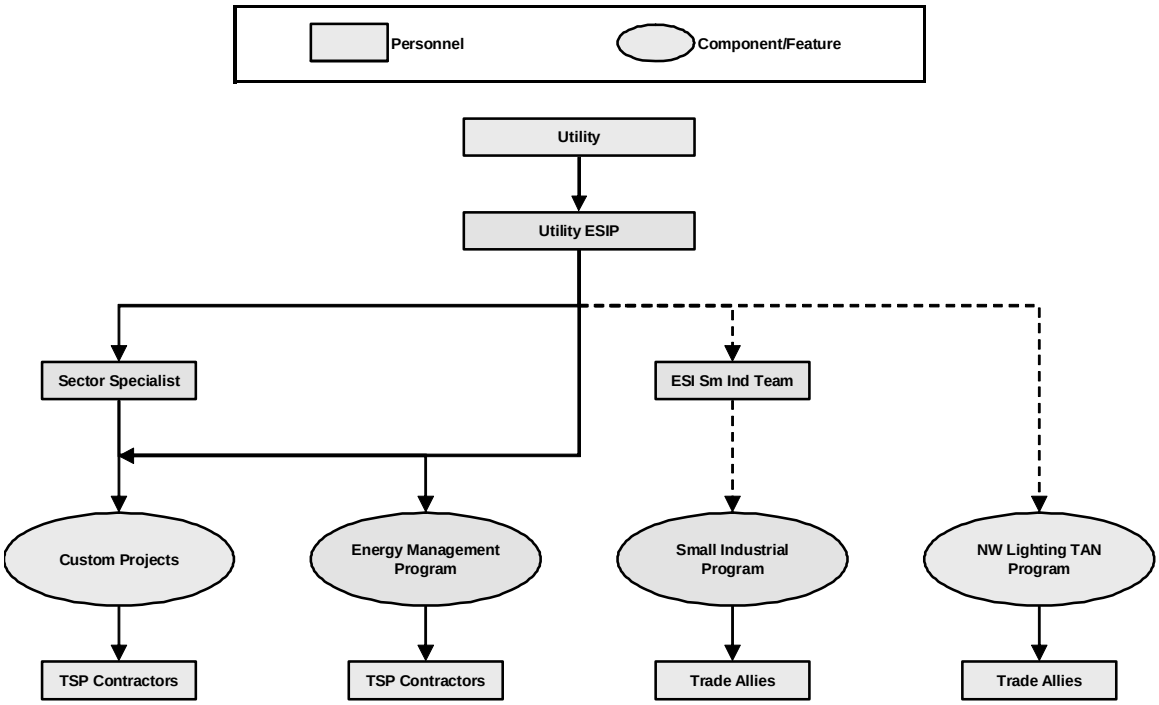


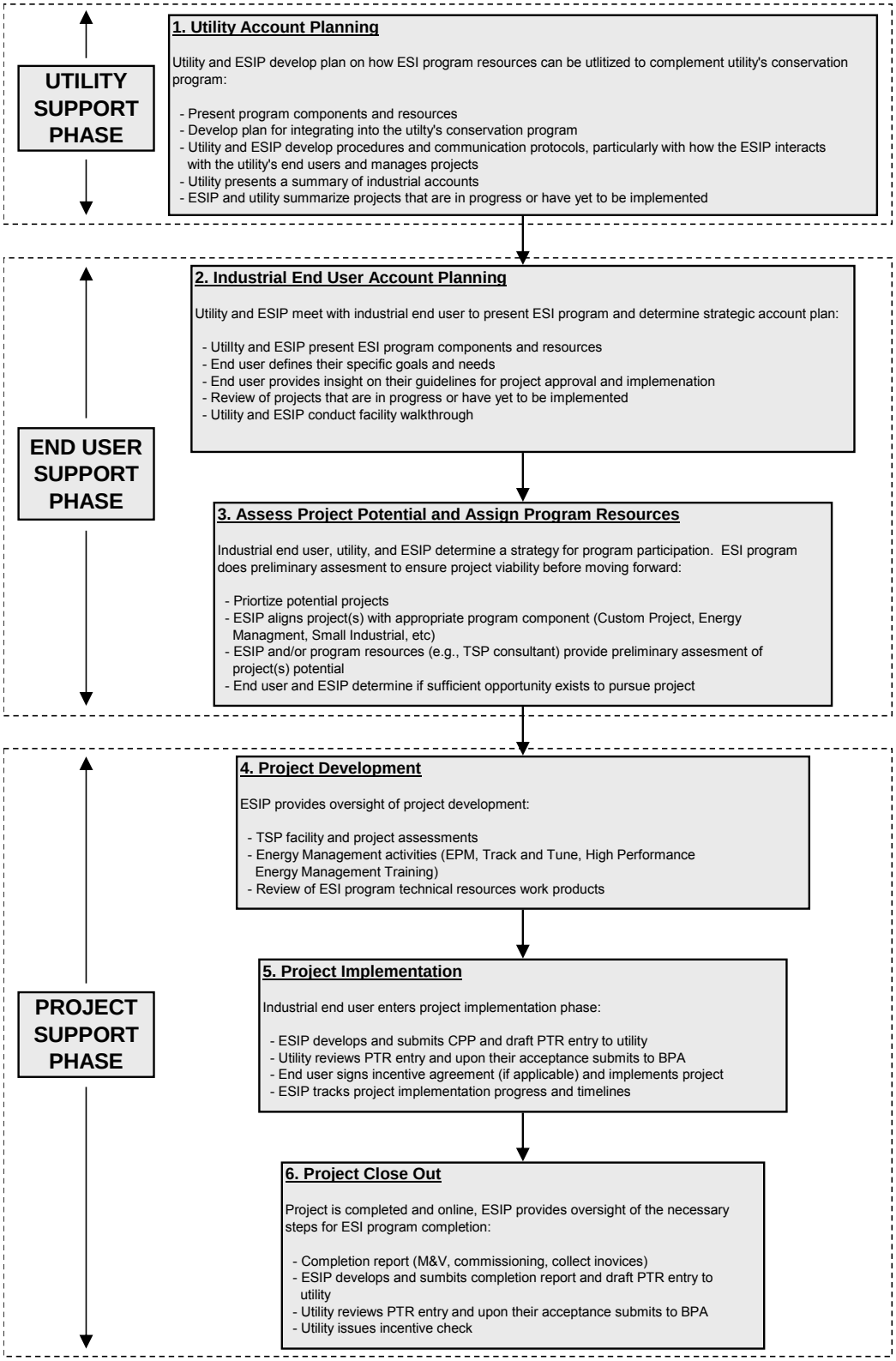
Figure 4: Organizational Chart for Utilities in the ESI Program

2.2.3 General ESIP Process Flow

The ESIP component process flow is broken down into six steps beginning with general account planning with the utility and culminating with a completed CP or Energy Management pilot project by an end user. This is a general process flow that is particularly applicable at the onset of the ESIP's work within a utility; it does not imply that on future projects the ESIP goes through this six step process.

Steps 1 and 2 in the process flow, utility and end user account planning, are non-project specific activities between the ESIP, utility and end user. Details of these two stages are provided in the ESIP Communication Plan in Section 2.3. The transition to project specific steps begins to take shape at Step 3 – Assess Project Potential and Assign Program Resources. Here, the process flow can start to diverge down a specific program path (e.g., traditional CPs or Energy Management pilot). Details of process flow from Steps 3 through 6 are provided in Section 3 for Custom Projects and Section 5 for Energy Management Pilot.

Table 2: Project Process Flow with an ESIP



2.3 Communication Plan

2.3.1 ESIP Utility Account Planning

Utilities that select to opt in to the ESI program have a single ESIP assigned to their utility. The first step is for the ESIP and utility to get together and develop an account plan. ESI engineers are available to assist in this process as needed. The account plan focuses on the following:

- Understanding the utility's goals and needs overall and specifically within their industrial energy efficiency program.
- Determining how to best integrate the ESI program and resources into the utility's industrial energy efficiency program.
- Understanding the protocols for ESI program delivery between the ESIP, particularly with interacting with the utility's end users and managing projects.
- Reviewing the utility's end user accounts and develop a strategy for collaborating to engage program activity.

The overall objective of the account plan is to determine how the ESI program can serve the goals and needs of the utility's energy efficiency program. This includes determining how to deliver the program within the utility service area, developing a strategy to maximize program performance, and building a relationship between the utility and ESIP.

Part of the utility account planning process will include defining ESI engineer involvement with key end user accounts where appropriate.

2.3.1.1 End User Program Delivery

Part of the utility account planning includes defining protocols and procedures for the ESIP working with the utility's end users. The ESIP is a resource to assist the utility in marketing their industrial energy efficiency program to their end users, identifying potential projects, and providing technical assistance. The utility account plan outlines how the ESIP interacts with a utility's end users. In general, the degree of utility involvement and oversight is anticipated to fall into the following categories:

1. **High Level:** The utility accompanies the ESIP on all end user site visits and serves as the primary point of contact to the end user for the ESI program. The utility is involved in each step of the end user's program participation.
2. **Medium Level:** The utility is involved early on in the process with the ESIP and end user. As the relationship and confidence with the ESIP develops the utility takes a less active role. Long-term, the utility is notified of all activities and invited to all site visits and meetings with the end user. The ESIP provides technical assistance for program delivery. The utility invoices BPA for the

incentive, provides incentive payments to the end user and participates in all public relations events.

3. **Low Level:** The utility is kept informed of ESI program progress but does not play an active role in day-to-day ESIP activities. The ESIP works directly with the end user to implement the ESI program in their facility, updating the utility periodically to summarize program status and next steps. The utility invoices BPA for the incentive, provides incentive payments to the end user and participates in all public relations events.

2.3.1.2 Service Standards

Service standards are defined between the utility and ESIP as part of the program delivery. This primarily focuses on communication and response protocols between the utility and ESIP, including the following examples:

- Primary point of contact for end users.
- Guideline for communications to end users.
- Review ESI program standards for response time for responding to voicemails and e-mails.
- Review ESI program standards for response time for review of project related documents.
- Signing of confidentiality agreements and/or information release forms.

2.3.1.3 Technical Report Review

The ESI program relies on TSP consultants to provide technical services during the project development and close out phases (i.e., facility and project assessments, and completion reports). The ESIP is on point for providing initial review of these documents. ESI engineers provide additional oversight on all projects where estimated annual project savings are 1,000,000 kWh or greater.

Utilities are given the opportunity to review these documents as well. Utilities that choose to provide review have guidelines for response times based on the requirements in BPA's contracts with the TSP providers.

2.3.2 ESIP Industrial Account Planning

The next step in the ESIP process is outreach efforts focused on the utility's end users. The goal is for the utility and ESIP to educate end users on the benefits of available program components and features as well as participation steps. The utility and ESIP look to gain a greater understanding of the end users' needs and interest in the ESI program. The end user's decision making process and criteria for implementing projects is

reviewed. The utility and ESIP typically conduct a walk-through of the facility and review projects in progress or projects that have been developed by not yet implemented.

The ESIP, utility, and end user work together to identify potential projects. The ESIP serves as a technical resource for projects and a TSP consultant may be brought in early on to provide additional technical assistance.

2.4 Marketing Plan

2.4.1 Person-to-Person Strategy

The primary marketing strategy that is employed with the ESIP component is the single point of contact, face–to-face relationship developed between the ESIP and the utility, and the ESIP and the end user. This one-on-one model emphasizes simplicity, familiarity, and trust, providing the base for successful engagements with utilities and their end users.

2.4.2 Promotional Events

The ESIP participates in trade shows and events targeting their utility's end users as appropriate. The ESIP attends these events representing the BPA ESI program, not the utility. The ESIP may also work with the utility to identify training events for a utility's end users to attend and/or the utility to host.

An event calendar and event marketing plan is delivered on an annual basis by the program partner as a component of the marketing and communications plan.

2.4.3 Collateral Materials

The ESI program provides design of ESI program specific collateral materials. All marketing materials comply with BPA visual identity standards and are subject to review by BPA energy efficiency marketing prior to distribution.

ESI program collateral materials are available to utilities. In some cases utilities may be able to add their branding to the materials. BPA does not provide customized design of marketing materials for individual utilities.

2.5 Quality Control Plan

See Section 10.

SECTION 3 – CUSTOM PROJECTS

3.1 Overview

This section describes the process flow and roles and responsibilities for Custom Projects (CPs) for utilities that opt in to the ESI program. The CP component of the ESI program is available to utilities to obtain CRC credit and ECA reimbursement for qualifying efficiency projects regardless. The goal of the ESI program is to streamline the CPs process, minimize project development costs, and maximize project implementation and performance.

3.2 General Implementation Plan

3.2.1 CPs Definition

CPs are measures or projects where a deemed method for determining reimbursement is not in place. CPs encompass retrofit and new construction efficiency projects that have traditionally been handled by the BPA industrial program. The following are examples of measures and projects that would not fall into the standard class of CPs that is outlined in this section:

- Small Industrial (SI) Measures component projects.
- Energy Management pilot component Track and Tune (T&T) O&M projects and measures.

Both of these components generate CPs but they are handled somewhat differently than standard CPs.

Industrial lighting projects can also be classified as CPs under the following guidelines:

- Lighting measures that are part of a project that includes other measures that have interactive effects on other measures.
- Lighting projects that are estimated to provide more than 100,000 kWh in annual energy savings.

3.2.2 CP Technical Services Funding

BPA funding is available for the technical services necessary to develop and complete CPs. This funding is geared toward BPA TSP consultants but can also be utilized for non-TSP providers on a limited case-by-case basis.

In general, TSP consultant scopes of work can be broken into the following categories:

- **TSP Scoping Assessments:** A scoping assessment is an intermediate step in the CP development process. A scoping assessment generally does not contain sufficient information for a CPP to be developed. The assessment provides a summary of the

critical baseline systems at a facility and identifies potential energy efficiency measures. The scoping assessment report also provides ballpark estimates of efficiency measure energy savings, project implementation costs, and utility incentives.

- **TSP Project Assessments:** A technical energy analysis report that provides all of the necessary components to develop a CPP to be submitted. Pending utility and BPA approval, an end user could issue purchase orders and begin project implementation.
- **TSP Completion Report:** A technical report that includes the results of the M&V and commissioning as well as all project invoices.
- **TSP Miscellaneous Consulting:** Miscellaneous consulting services to assist the ESI program or advancing CPs. Examples include attending a site visit with the utility and/or ESIP to present a project assessment or revising an existing, unimplemented CPP that the end user has renewed interest in.

BPA may fund all cost-effective TSP consultant scopes of work. For TSPs above $15,000, BPA may require the end user cost-share. BPA may require the end user to cost-share future TSP consultant scopes of work for end users that have received multiple technical services greater than $25,000 with no resulting acquisition projects. BPA retains the right to reject any TSP consultant scope of work at their discretion.

3.2.2.1 ESIP Technical Work Request

The ESIP notifies BPA when technical services are recommended through a Technical Work Request (TWR). The TWR is submitted to the BPA industrial TSP manager via the TrakSmart database software tool (TrakSmart). The industrial TPS program manager then assigns the scope of work to an appropriate TSP consultant. The selection of the TSP consultant is solely BPA's decision.

3.2.2.2 TSP Funding Levels

All scopes of TSP consultant work are classified in the following budget categories:

- **Level 1:** TSP time and materials (T&M) budget not-to-exceed (NTE) $2,500
- **Level 2:** TSP time and materials (T&M) budget not-to-exceed (NTE) $5,000
- **Level 3:** Custom TSP budget based on BPA's approval of a fixed-fee proposal submitted by the TSP consultant

3.2.2.3 TSP Funding Level 1

The BPA industrial TSP manager selects the TSP consultant to perform a Level 1 scope of work. Level 1 funding could apply to any TSP consultant scope of work that meets the Level 1 budget threshold.

The following are some examples of scopes of work that are appropriate for a Level 1 budget:

- A scoping assessment where there are limited TSP consultant travel expenses involved.
- A project assessment on a simple new construction project that does not require a site visit or data monitoring by the TSP consultant.
- A completion report on a CPP with an M&V light plan.
- A site visit by a TSP consultant to assist the ESIP and utility in presenting a project assessment to the end user.

The assigned TSP consultant can provide feedback to BPA if it feels that a Level 1 budget is insufficient to complete the scope of work. BPA can increase funding to Level 2 or approve a Level 3 proposal from the TSP consultant if BPA determines that the increased budget is not appropriate.

3.2.2.4 TSP Funding Level 2

The BPA industrial TSP manager selects the TSP consultant to perform a Level 2 scope of work. Level 2 funding could apply to any TSP consultant scope of work that meets the Level 2 budget threshold.

The following are some examples of scopes of work that are appropriate for a Level 2 budget:

- A scoping assessment for a large end user with multiple subsystems to evaluate.
- A project assessment on a straightforward CP with minimal travel and/or data monitoring expenses.
- A completion report on a CP with minimal travel and/or data monitoring expenses.

The assigned TSP consultant provides feedback to BPA if it feels that a Level 2 budget is insufficient to complete the scope of work. BPA can approve a Level 3 proposal from the TSP consultant if justified. BPA can elect to assign the scope of work to a different TSP consultant if it is felt that the increased budget is inappropriate.

3.2.2.5 TSP Funding Level 3

TSP consultants are required to submit a formal proposal for Level 3 projects that require BPA approval. This generally consists of scope of work where the TSP budget exceeds the Level 2 threshold of $5,000. Level 3 contracts are fixed-fee.

The following are some examples of scopes of work that are appropriate for a Level 3 budget:

- A scoping assessment for an end user with multiple facilities.
- A project assessment on a large CP requiring rigorous data monitoring and analysis.
- A completion report on a large CP with significant data monitoring as part of the M&V plan.

BPA reserves the right to assign the work to any TSP consultant based on the *Best Value* requirements of the Bonneville Procurement Instructions.

3.2.3 CP Report Guidelines

As part of the ESI program, guidelines for content and report format in scoping and project assessments and completion reports are created by the program partner in conjunction with BPA and administered to TSP consultants via the TSP contract statement of work. The TSP consultant is expected to follow these guidelines as part of its contracted scope of work where BPA is providing funding. BPA reserves the right to modify the format requirements at any time based on BPA's contract with the TSP consultant. BPA will inform the program partner if the format is modified.

3.3 Custom Project Process for ESI Utilities

This Section describes the general process flow for CPs for utilities with an ESIP.

3.3.1 General CP Process Flow

The general project process flow for a utility with an ESIP is shown in Figure 5. Process flow begins at the broad utility phase in Step 1, focuses on the end user in Steps 2 and 3, and drills down to a specific CP in Steps 4 through 6. Step 3: Assess Project Potential and Align Resources is where a potential CP begins to take shape. This process flow specific to a CP begins at Stage 3.

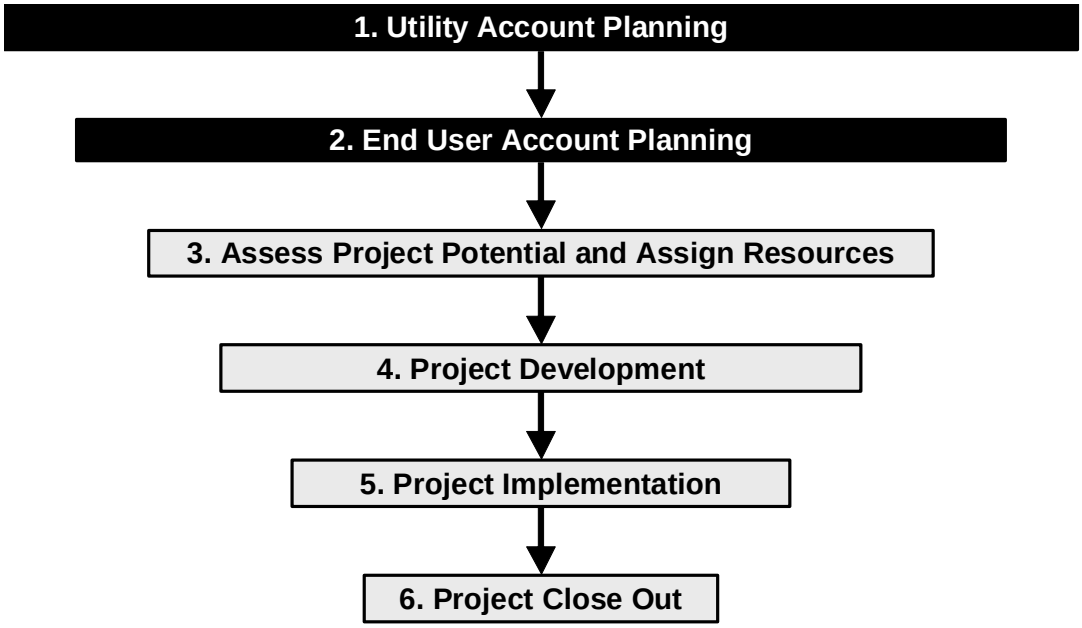


Figure 5: General Project Process Flow with an ESIP

3.3.2 Assess Project Potential and Assign Resources

At this point the end user has expressed interest in participating in the ESI program and viable project opportunities exist. This can be achieved through the utility and ESIP outreach efforts to the end user, marketing the ESI program offerings and identifying potential systems or projects to focus on. It can also be achieved through other methods, such as a TSP consultant or trade ally bringing a potential project lead to the attention of the end user, utility, or ESIP. A flow chart for this stage is shown in Figure 6.

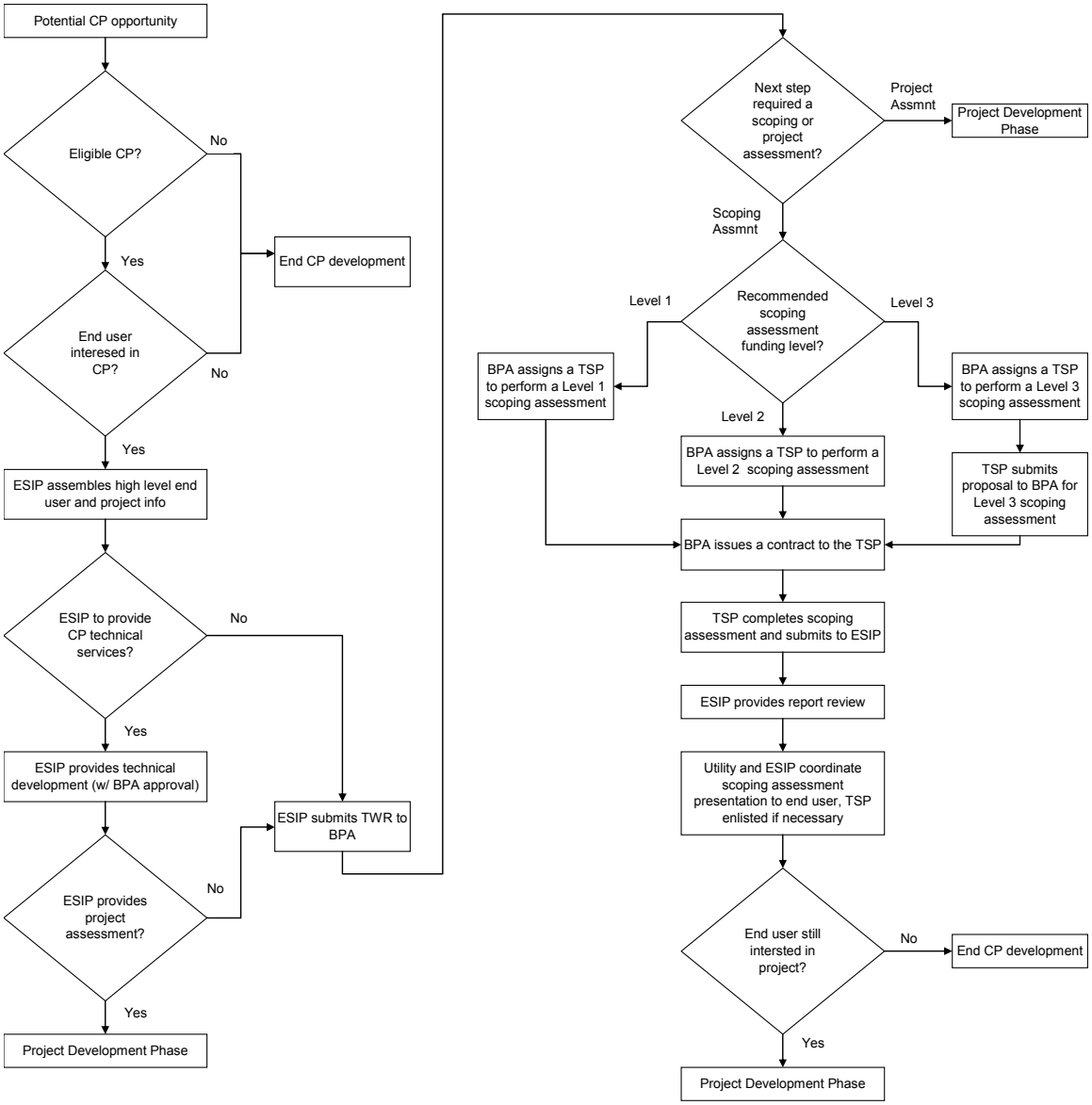


Figure 6: Process Flow for Assessing Project Potential and Assigning Resources

3.3.2.1 Generating Project Leads

The ESIP focuses on generating potential CP leads as part of its marketing effort with end users. The ESIP may enlist a TSP consultant and/or BPA very early on in working with the end user. The TSP consultant can often provide key technical insight that can help build end user interest or have an existing relationship with the end user.

Utilities are also a key avenue for generating project leads. They have valuable relationships with end users and the trade allies that serve them. Utilities with an ESIP no longer notify their BPA field engineer of potential projects. Instead, the utility notifies its ESIP of the potential project, and the ESIP is responsible for guiding the project through the necessary steps to completion.

TSP consultants that identify potential projects can utilize the TSP Portal to notify the ESI program of the project. TSP consultants can also contact the ESIP, the utility, or the BPA industrial TSP manager. (Note that this use of the TSP Portal is in addition to submitting proposals.) For utilities with an ESIP, TSP Portal entries are routed to the ESIP for the particular utility. The ESIP is on point for responding to the request and advancing the project through the program. TSP consultants that bring potential projects to the ESI program are retained to provide subsequent technical services if qualified.

3.3.2.2 Advancing Project Leads

The ESIP is responsible for the initial evaluation of CP leads. The ESIP first determines whether sufficient opportunity for a viable project exists to warrant further investment of ESI program resources. This generally consists of determining whether the end user is interested in the project and whether the CP meets program eligibility standards (e.g., the project would save energy, purchase orders have not been made, does not result in fuel switching, etc.).

The next step is for the ESIP to assemble high level information about the end user (contact info, electric utility rate, a brief description of operations, etc) and the potential CP. The goal is to provide sufficient information for a TSP consultant to move the project forward.

3.3.2.3 ESIP Custom Project Technical Development

The ESIP may also elect to provide technical development of the project at this phase. This could consist of analyzing data from a facility's control system or engine room log sheets; defining the baseline system and energy use; identifying energy efficiency measures and estimating energy savings, implementation costs, and incentives. On simple projects or projects with a fast track timeline the ESIP could generate a finished project assessment that would provide the necessary elements to generate a CPP.

Whether it is appropriate for an ESIP to provide technical services is a judgment by the ESIP. At the project level, the primary focus of the ESIP is to generate and push project leads into the ESI program and drive implementation of those projects. Providing project development of projects pulls the ESIP away from these higher priority tasks. On the other hand, ESIP project development can accelerate the timeline of project implementation, provide efficiencies that

reduce overall ESI program costs, and strengthen the critical relationship between the ESIP and the end user.

The ESIP considers the following factors when determining whether to provide project development:

- **Technical capability:** An ESIP only provides technical development on systems and technologies where they have experience.
- **Incumbent TSP consultant:** If a TSP consultant has a relationship with the facility or end user from past projects, the ESIP makes every appropriate effort to utilize the TSP consultant as early in the technical development process.
- **Simple projects:** Simple and straight forward projects where a project assessment sufficient for generating at CPP can be provided in short order should be provided by the ESIP.
- **Project screening:** Quick technical analysis by the ESIP can determine whether a viable project exists before the ESI program commits to funding a TSP for the next phase.
- **Project timeline:** The ESIP can accelerate project timeline by providing technical services that minimize or eliminate the need to handoff the project to another party. This is beneficial on projects with a fast track timeline.

3.3.2.4 ESIP Technical Work Request

It is anticipated that the ESIP only generates a completed project assessment sufficient for generating a CPP for simple projects or projects with a fast track timeline. In all other cases, additional technical development steps are required to generate at CPP. In general the ESIP utilizes the TSP consultant pool for these next steps. (The exception is if a technical provider that is not a TSP is appropriate. This could occur if there were not a member of the TSP consultant pool that could support a particular project technology, for example.)

The ESIP submits a Technical Work Request (TWR) to BPA so that BPA can assign technical resources to the project. All technical resources assigned to CP development are made solely by BPA (i.e. TSP consultant assignments). Note that the ESIP firm may also be a TSP consultant. BPA can assign TSP work to the ESIP's firm (acting as TSP consultant) at BPA's discretion.

At a minimum the TWR includes the high level information about the end user (contact info, electric utility rate, a brief description of operations, etc) and the potential CP such that the TSP consultant could move forward with the next phase in the project. The TWR also includes whether or not the CP lead was brought to the program by a TSP consultant or if an particular TSP consultant has a previous relationship in good standing with the end user (from the end user's perspective). The TWR also includes any project development work that the ESIP may have performed. Finally, it includes a recommendation from the ESIP for the next steps in project development and estimated dates for each deliverable:

- TSP scoping assessment.
- TSP project assessment.
- TSP completion report.

- TSP miscellaneous consulting.

3.3.2.5 Scoping Assessment

Scoping assessments are technical scoping energy studies that serve as an intermediate step in the CPP development process. A scoping assessment is generally not sufficient to develop a CPP. The assessment's report includes a summary of the critical baseline systems at a facility and identifies potential energy efficiency measures. The report also includes high-level estimates of efficiency measure energy savings, implementation costs, and incentives. A TSP scoping assessment also includes a proposal for the TSP consultant to provide a project assessment.

Scoping assessments are not necessary for all CPs. In many cases a CP can advance to the project implementation phase without a scoping assessment being provided. The ESIP recommends when a scoping assessment is appropriate (with insight from utility, end user, BPA, and TSP consultant where appropriate).

A scoping assessment is generally provided by a TSP consultant; however, in certain cases the ESIP may provide the scoping assessment as outlined previously in Section 3.3.2.3.

The goal of the scoping assessment is to provide the end user with preliminary estimates on a project's scope and economics to determine if realistic opportunity for implementation exists. The scoping assessment step is a relatively low cost screening process use by ESI program staff to determine whether investment in a higher cost project assessment is justified. A scoping assessment also enhances the TSP consultant's understanding of a project by providing them a first-hand opportunity to scope a facility's key systems and identify efficiency opportunities versus acquiring this information second-hand from the ESIP.

The ESIP provides a review of TSP scoping assessments. If appropriate, the utility and/or ESIP presents the scoping assessment to the end user. The TSP consultant may be enlisted to assist in this step. If a viable project is found to exist after the scoping assessment stage, the ESIP submits a TWR recommending the next step in project development, a TSP project assessment.

3.3.3 Project Development

After sufficient screening of a potential project is performed, viable projects move to the Project Development phase. This phase focuses on providing the necessary upfront work to generate at CPP. A flow chart for this stage is given in Figure 7.

3.3.3.1 Project Assessment

Project assessments are technical energy studies, generally performed by a TSP consultant, that provide all of the necessary components for a CPP to be submitted and pending approval, allow the end user to issue purchase orders and begin project implementation. In certain cases the ESIP may perform the project assessment as outlined previously. In most cases BPA assigns a TSP to

perform a project assessment based on an ESIP recommendation in a TWR to move to the project development phase. Note that project assessments are not necessary for all CPs.

Project assessments provide detailed analysis of the baseline system and energy efficiency measures. The equipment, setpoints, and operating strategies for implementing the measures are defined along with costs. Baseline data monitoring is provided when appropriate and each report includes an M&V plan and PTR CPP template. Guidelines for the format of project assessment reports are developed by the project partner in conjunction with BPA and administered via the TSP contract statement of work.

TSP consultant submits draft work products to the industrial TSP manager. The industrial TSP manager and ESIP will provide review. The utility will also be given an opportunity to provide review. The TSP consultant addresses these changes and submits the final work product simultaneously to the ESIP and the industrial TSP manager. BPA makes the final decision on any technical performance or contractual issues that cannot be resolved between the ESIP and TSP consultant.

Service standards will be defined for the timeline of completing the review. Comments will be provided to the TSP from the ESIP upon permission from the BPA industrial TSP manager. Any concerns or issues that a TSP consultant may have, including those that may arise as part of an ESIP review of technical work products, will be directed to the industrial TSP manager.

The ESIP utilizes an appropriate person to provide the review. This could be the ESIP but is not necessarily limited to the ESIP. Another member of the program partner team may be determined to be a more appropriate person to provide review, including personnel that may act as a TSP consultant on other projects. If a technical work product necessitates a review process that is not covered by the methodology outlined in this section the appropriate ESI engineer will be contacted and approve an appropriate course of action.

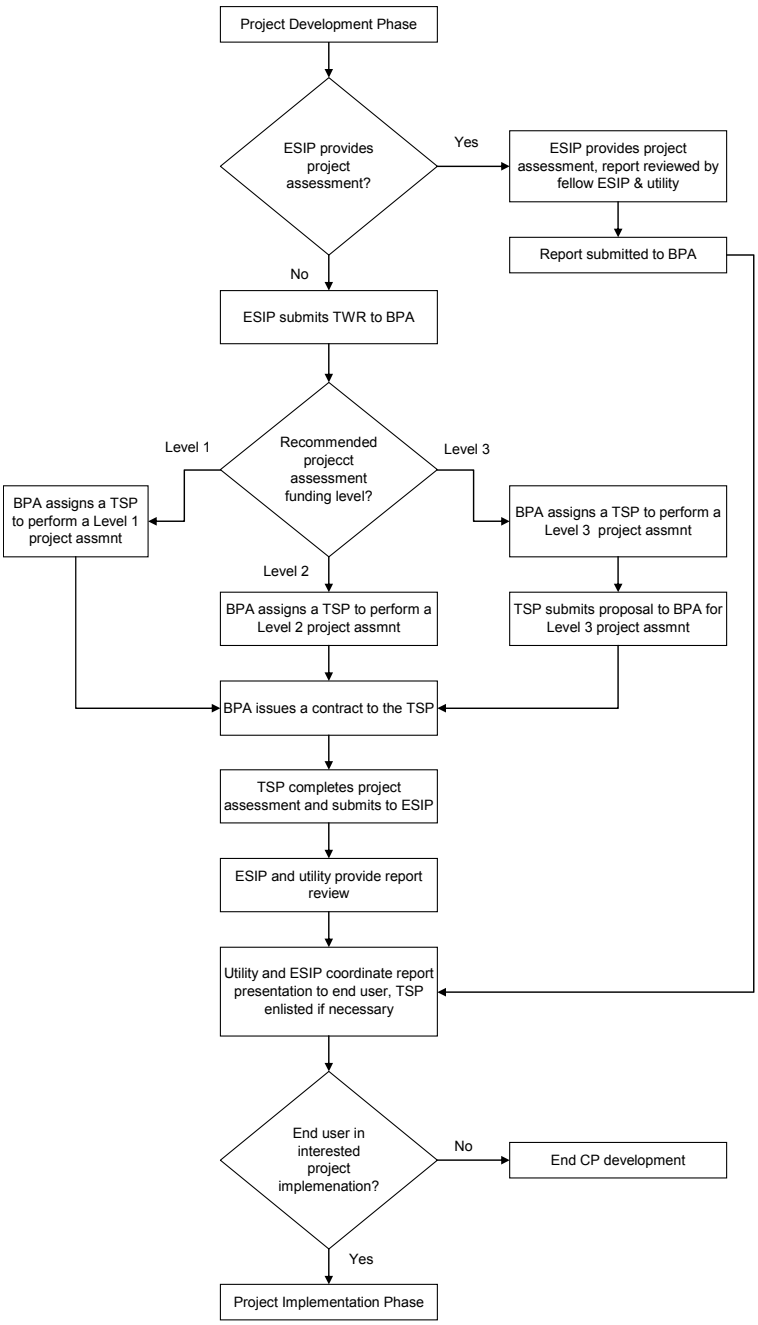


Figure 7: Process Flow for Project Development

3.3.4 Project Implementation

If the end user decides to move forward with implementing the project, the next phase is for the ESIP to guide the project through the utility and BPA process for securing CPP approval so the end user can move forward with implementation. A flow chart for this stage is given in Figure 8.

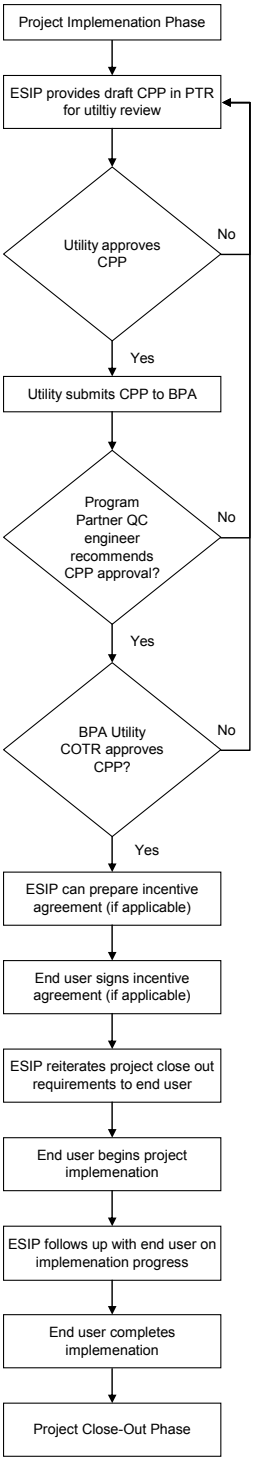


Figure 8: Process Flow for Project Completion

3.3.4.1 CPP Generation in PTR System

The ESIP creates a CPP based on the project assessment report and draft CPP template in the PTR system and submit to utility. The utility reviews the CPP and, based upon their acceptance, submits the CPP to BPA. The program partner quality control (QC) engineer provides a technical review of the CPP and M&V plan and recommends whether it should be approved by the BPA utility COTR. Once the BPA utility COTR approves a CPP, the utility and ESIP coordinate all necessary steps before the end user can begin project implementation. The ESIP is available to generate an incentive agreement for example (if applicable). The ESIP reviews with the end user the steps required for closing out the project once the installation is complete, including the M&V step and the need to collect project specific invoices.

3.3.4.2 Project Implementation

This phase begins once all requirements for an end user to begin project implementation have been completed. The ESIP maintains contact with the end user during the implementation phase and provide updates on status and timelines (using TrakSmart accessible by BPA and the utility).

3.3.5 Project Close Out

Once the installation is complete, online, and operational, the project close-out phase begins. A flow chart for this stage is provided in Figure 9.

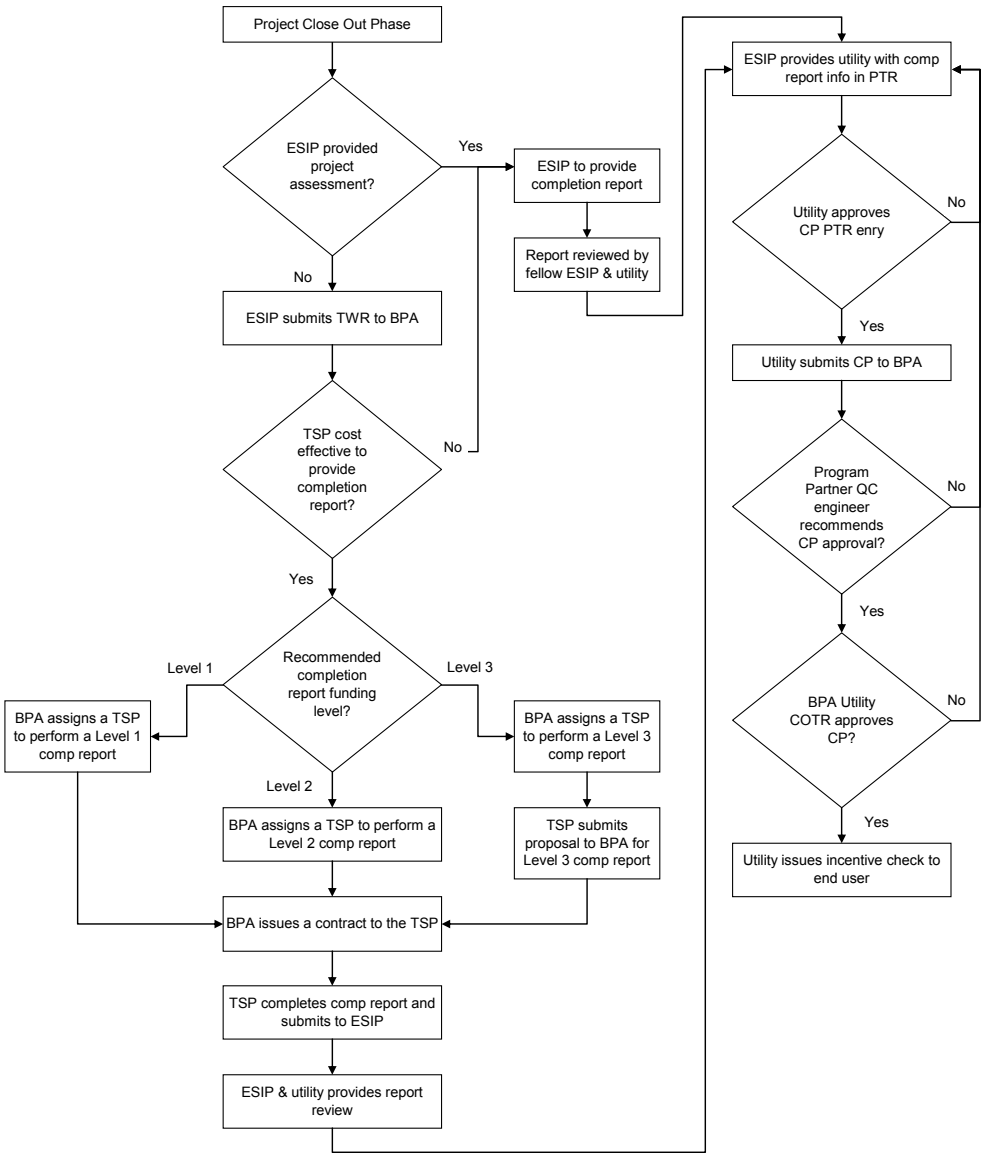


Figure 9: Process Flow for Project Close Out

3.3.5.1 Completion Reports

The ESIP is tasked with oversight of the development of a completion report on an installed CP. In most cases the party that provided the project assessment provides the completion report (i.e., a TSP consultant or ESIP). BPA assigns a TSP consultant to provide a completion report based upon information provided by the ESIP in a TWR. BPA may fund up to 100 percent of the TSP cost to provide a completion report provided that it is cost-effective to the ESI program. For projects where the TSP cost is high relative to project savings, BPA may assign the ESIP to provide the completion report. CPs with low energy savings and high travel costs for the TSP consultant to provide the M&V would fall into this category.

Completion reports include the M&V results, data files, copies and a summary of project invoices, and a summary of final project energy savings and adjustments in savings. The scope

of work for providing a completion report includes commissioning of the project where applicable. Commissioning is the adjustment of control setpoints, algorithms, and operating strategies to optimize energy performance specific to the project.

Funding is provided from BPA for the completion report to include commissioning. BPA may require the end user cost-share a portion of commissioning. BPA may elect to not fund commissioning if it is not applicable or not cost effective.

Completion report review standards are consistent with project assessment review standards, summarized in Section 3.3.3.1.

3.3.5.2 Final Approval and Issuing an Incentive

The ESIP creates a PTR system entry for the completion report. They submit the CP PTR entry to the utility for review. The utility then has the ability to provide approval of the CP PTR entry and submit to BPA. The program partner QC engineer is tasked with performing the final technical review of the CP PTR entry, including the M&V, and provides recommendation to the utility COTR for approval. BPA ESI engineers also provide oversight review of the CP PTR entry for projects where the total estimated energy savings is 1,000,000 kWh/yr or greater. For projects that fall below this savings threshold, ESI Engineers periodically review of a sample of CP PTR entries to ensure integrity.

The ESIP is available to assist the utility in issuing the incentive to the end user at the utility's discretion.

SECTION 4 – TSP CONSULTANTS

4.1 Overview

This section describes role of TSP consultants in the ESI program. The utilization of TSP consultants is expected to increase due to the ESI program due the following factors:

- The ESI program energy savings targets have increased to 12 aMW in FY2009 and 15 aMW in FY2010 (versus 10 aMW in FY2007 and 08).
- ESIPs and EPMs are in place to promote end user participation in the program and drive implementation of projects.
- The Energy Management pilot component's Track and Tune pilot feature creates a new project type (O&M) where TSP consultants are relied upon for technical services.
- BPA field engineers transition to primarily an oversight role. The majority of the technical services previously provided by BPA field engineers are assigned to TSP consultants.

4.2 Implementation Plan

4.2.1 ESI program Changes Affecting TSP Consultants

This section summarizes some of the new ESI program components and how they may affect TSP consultants.

4.2.1.1 ESIP

Utilities that opt in to the ESI program have an ESIP assigned to them. ESIPs market the ESI program to utilities and their industrial end users. The main goal of the ESIP is to generate participation in the program and drive the implementation of the projects. The ESIP also works with the TSP consultant providing technical services on a project. (Note that the BPA industrial TSP manager is the TSP consultant for all contract related matters.)

The ESIP position is not intended to replace TSP consultants. The ESIP works to identify end users interested in participating in the ESI program and notifies BPA when technical services are necessary through a Technical Work Request (TWR). The BPA industrial TSP manager then assigns the scope of work to an appropriate TSP consultant. The selection of the TSP consultant is solely BPA's decision.

For more information on the ESIP program see Section 2.

4.2.1.2 Energy Management Pilot - Energy Project Manager

Energy Project Manager (EPM) is a feature of the Energy Management pilot component that provides a facility with funding for a person to be responsible for implementing energy projects through the ESI program. The EPM is an employee or a direct contractor to the end user.

The EPM does not replace the ESIP or TSP consultant roles. The EPM and ESIP work in tandem with the EPM integrated with the facility inside and the ESIP integrated with the utility and ESI program. The TSP consultant is brought in as needed for technical services. The intention of the EPM is to generate number and magnitude of implemented projects, increasing the level of needed TSP technical services at these sites. For more information on the EPM component of the Energy Management pilot component see Section 5.

4.2.1.3 Energy Management Pilot - Track and Tune

A second feature of the Energy Management pilot component is Track and Tune (T&T). This features focuses on operations and maintenance (O&M) energy savings opportunities. The goal is to provide technical assistance and incentives for end users to "do the little things well."

TSP consultants are utilized to provide technical services on T&T projects. TSP consultants providing technical services for T&T projects are trained and certified on the method used in the T&T process. TSP technical services include scoping facilities for program participation, providing efficiency tune-ups for facilities, developing an O&M action plans for a facilities, and following up with facilities to track progress and ensure that energy savings are sustained and improved over time. For more information on the T&T feature of the Energy Management pilot component see Section 5.

4.2.1.4 Role of BPA Engineers in ESI program

In general, BPA field engineers will no longer provide technical assistance (e.g., facility walk-throughs, etc.) to utilities and their industrial end users. Technical assistance for the ESI program is limited to the staff listed in Section 1.2.1.2. BPA field engineers will refer industrial-related inquiries to the BPA ESI team.

The ESI program utilizes the east and west ESI engineers to provide oversight of technical work products (e.g., project assessments, completion reports, etc.). The ESI engineers are also utilized to assist utilities in transitioning to the ESI program. In a few select cases an ESI engineer will remain in place to manage key end user accounts (in partnership with an ESIP). The BPA industrial TSP manager provides overall management of the industrial TSP consultants that perform project-level technical services in the ESI program. BPA field engineers continue to provide these types of services as appropriate for the other sectors.

4.2.2 TSP Portal

TSP consultants continue to utilize the TSP Portal as a method to notify BPA of potential projects that may require technical services. (Note that this use of the TSP Portal is in addition to submitting proposals.) TSP consultants also have the option to contact the ESIP, the utility, or contact the BPA industrial TSP manager. If a viable project exists, the ESI program strives to enlist the TSP for technical services on the project. For utilities that select the ESI option, project leads that are entered into the TSP Portal are routed to the ESIP and the ESIP is on point to manage the next steps.

For TSP consultants that bring potential projects to the ESI program, BPA recognizes the value of the relationship between end users and TSP consultant firms. The value of the relationship is fully considered when selecting the TSP consultant to contract a scope of wore related to that project.

4.2.3 TSP Consultant Scopes of Work

4.2.3.1 Custom Projects

BPA funding is available for the technical services necessary to develop and complete CPs. This funding is geared toward BPA TSP consultants but can also be utilized for non-TSP providers in a limited case-by-case basis as determined by BPA.

In general, TSP scopes of work can be broken into the following categories:

- TSP scoping assessment (see Section 3.3.2.5).
- TSP project assessment (see Section 3.3.3.1).
- TSP completion report (see Section 3.3.5.1).
- TSP miscellaneous consulting (see Section 3.2.2.2).

BPA may fund all cost-effective TSP consultant scopes of work. For TSPs above $15,000, BPA may require the end user cost-share. BPA may require the end user to cost-share future TSP consultant scopes of work for end users that have received multiple technical services totaling $25,000 with no resulting acquisition projects. .BPA retains the right to reject any TSP consultant scope of work at their discretion.

All TSP technical work is classified into the following budget categories:

- **Level 1:** TSP time and materials (T&M) budget not-to-exceed (NTE) $2,500
- **Level 2:** TSP time and materials (T&M) budget not-to-exceed (NTE) $5,000.
- **Level 3:** Custom TSP budget based on BPA's approval of a fixed-fee proposal submitted by the TSP.

Level 1 and Level 2 budgets apply to any TSP consultant scope of work that meets the respective budget thresholds. The BPA industrial TSP manager selects the TSP consultant to perform the

Level 1 or Level 2 scope of work. TSP consultants are required to submit a formal proposal for Level 3 projects that require BPA approval.

Note that the ESIP may be employed by a firm that is also a TSP consultant. In some cases BPA may assign a TSP consultant scope or work to the firm that is also the ESIP for the project (acting as a TSP consultant).

When appropriate and upon BPA approval ESIPs provide technical services on projects in some cases (not acting as a TSP consultant). A summary of the guidelines for when an ESIP may provide technical services is provided in Section 3.3.2.3.

4.2.3.2 Track and Tune Projects

BPA funding is available for the technical services necessary to develop and complete Track and Tune (T&T) pilot projects. This funding is geared toward BPA TSP consultants but can also be utilized for non-TSP providers in a limited case-by-case basis as determined by BPA. BPA may fund up to 100 percent of all TSP consultant scopes of work. In some instances BPA may require a cost-share for technical services from the end users. Possible scenarios where a cost-share may be required include, but are not limited to, the following:

- Multiple fuels will be evaluated in T&T project (e.g., electrical and natural gas energy based loads).
- Multiple electric power providers to end user.
- TSP consultant pricing limits.

4.2.4 TSP Contracting

The BPA industrial TSP manager determines the TSP consultant assigned to perform technical services. The selection criteria are based on the BPI and the determination of the contracting officer. BPA may choose to competitively bid large scopes of work between multiple TSP consultants before awarding a contract.

4.2.4.1 ESIP Technical Work Requests (TWRs)

The ESIP will submit technical work requests (TWR) to BPA. The TWR can be issued for any TSP scope of work. TWRs are described in detail in Section 3.2.4.

4.2.4.2 Project with Small TSP Consultant Budgets

Assessments contracted through the TSP consultant pool for projects with technical service requirements estimated to be less than $10,000 will generally be contracted by BPA without soliciting bids from multiple TSP consultants. Competition is based on technical expertise, rates, and locality.

Level 1 and Level 2 Statements of Work (SOW) may be template, time and materials contracts developed by the BPA industrial TSP manager. The template approach to SOWs creates a more efficient process for contracting assessments for Level 1 and Level 2 projects where estimated technical service requirements are less than $10,000.

4.2.4.3 Technical Services Request Generated by TSP Consultants

TSP consultants utilize the TSP portal as a method to notify BPA of potential projects. BPA recognizes the value of the relationship between end users and TSP consultant firms. The value of the relationship is fully considered when the assessments are awarded. Note that if a TSP consultant generates a TSP portal entry for a utility that opts out of the ESI program, BPA will forward the entry to the utility. The utility would be responsible for further action.

4.2.5 Expanding the TSP Consultant Resource

Increased participation levels by TSP consultants are essential to the ESI program achieving its annual energy savings goals. This presents an excellent opportunity for TSP consultants to expand and enhance their services to meet this growing need. There is no current plan to add new TSP firms to the existing pool of TSP consultants. Instead, the ESI program encourages TSP firms to dedicate a greater fraction of existing personnel to ESI program projects and hire or subcontract additional personnel.

4.2.5.1 Expanded Expertise

The T&T feature of the Energy Management pilot component enlists TSP consultants to provide technical services on O&M projects. This expands the skill set of TSP consultants that do not already have experience with these types of projects.

The ESI program also strives to gain greater market penetration in historically underserved industrial sectors as well as emerging sectors, including the following:

- Data centers.
- Chemical.
- High tech.
- Waste water.

4.2.5.2 Adding Approved TSP Consultant Personnel and Subcontracting

The TSP Contracting Officer handles the approval of TSP firm personnel. The addition of new personnel (existing TSP firm personnel, new hires, or subcontractors) is governed by the TSP Master Agreement Contract.

SECTION 5 –ENERGY MANAGEMENT PILOT

5.1 Overview

5.1.1 Background

The Energy Management pilot component of the ESI program is designed to help end users achieve the energy savings outlined in the Northwest Power and Conservation Council's draft Sixth Power Plan. The draft Sixth Power Plan has significant energy savings identified from the "Whole Plant" measure bundle. The draft plan outlines three tiers to the Whole Plant measure bundle, which get progressively more aggressive in terms of equipment and system optimization from a capital and O&M perspective. The three Whole Plant measure bundle tiers are:

1. **Plant Energy Management:** Includes achieving energy savings from low or no cost O&M activities and equipment upgrades.
2. **Energy Project Management:** Includes assignment of an energy engineer to track energy cost, identify and prioritize capital projects, and apply more aggressive (than the Plant Energy Management population) system optimization practices.
3. **Integrated Plant Management:** Includes adoption of a company wide energy management system (program). The energy management system includes establishing a policy on energy management, setting goals, assigning responsibility, tracking metrics, etc. This yields "best practices" equipment improvement and system optimization.

5.1.2 Summary of Energy Management Features

The ESI program has designed the Energy Management pilot component to address the Council's draft Sixth Power Plan and respond to input from industrial end users on the barriers and needs to implement energy efficiency. The Energy Management pilot component consists of three core features:

1. Energy Project Manager (EPM) co-funding.
2. Track and Tune (T&T) projects.
3. High Performance Energy Management (HPEM).

These pilot features allow utilities and their end users to tap into the energy management savings potential in a manner that is measurable, cost-effective, and straightforward. Eligible end users are encouraged to participate in one, two, or all three features. The basic elements of the Energy Management pilot component are summarized in Table 3 and are described in detail in later sections.

BPA and the program partner have agreed to offer the Energy Management pilot component of the ESI program as a pilot for the duration of the two year program partner contract. Energy Management pilot components, program partners, and incentive levels are subject to change throughout the duration of the ESI program. Changes to the Energy Management pilot

component will be in alignment with the Implementation Manual and will be based in part on results from evaluation of the pilot program.

Table 3: Summary of ESI Energy Management Program Features

No.	Question	Energy Management (EM)		
		Energy Project Manager (EPM)	Track & Tune (T&T)	High Performance Energy Management (HPEM)
1	What is being offered?	Incentive co-funding of site or end user staffing to deliver projects and savings via CPs and EM projects.	A combination of site or sub-system tune-up (aka, Kaizen Blitz or retro commissioning) and a normalized efficiency performance tracking system.	Training an individual site or peer groups of sites through adoption of energy management practices.
2	What is the primary goal?	Increase end user management & expertise devoted to electrical energy efficiency.	Improve end user energy performance through O&M improvements that offer an attractive business opportunity to the end user and documentable, low-cost savings to the program.	Increase adoption of core EM principles to drive more capital and O&M projects resulting in increased persistence of savings and a long-term commitment to energy efficiency improvement.
3	End user size?	Typically end users with load greater than 3 aMW.	Sub-System > 1,000,000 kWh/yr or Plant-Wide >4,000,000 kWh/yr.	Site specific or aggregate sites of 3 aMW or greater.
4	Funding of services?	EPM incentive co-funding through CRC/ECA that scales by savings targets. Minimum savings goal requirement for participation of 1,000,000 kWh/yr.	Tune-up and initial performance tracking system funded by ESI program.	Coaching service funded directly by ESI program.
5	Measure funding?	-NA-	CRC/ECA towards portion of implemented action items.	CRC/ECA for MT&R savings.
6	Repeat payments?	-NA-	Incentives paid for documented savings through ongoing performance tracking system evaluation.	Incentives paid for documented savings through ongoing performance tracking system evaluation.
7	What are the M&V requirements?	-NA-	Annual, relying heavily on performance tracking system evaluation.	Annual, relying heavily on performance tracking system evaluation.

The energy savings attributed of Track and Tune projects and HPEM are evaluated using Monitoring, Targeting, and Reporting (MT&R) methodologies. MT&R is a method of collecting,

analyzing, and reporting data to provide energy performance feedback to the customer, and energy savings quantification for the program. In both cases, performance tracking systems are utilized to obtain appropriate data for MT&R evaluation. MT&R is described in more detail in Section 5.5 of this manual.

5.2 EPM Implementation Plan

5.2.1 Industrial EPM Co-Funding

The goal of Energy Project Manager (EPM) incentive co-funding is to increase end user management and engineering efforts devoted to electrical energy efficiency projects and increase the number of projects entering the ESI program. EPM co-funding was created to address a commonly referenced barrier to the implementation of industrial energy efficiency projects – namely that the end users are often thinly staffed to the point that energy efficiency efforts (either capital projects or O&M focused efforts) often stall or are never developed due to lack of manpower at the site.

EPM co-funding was structured to work around this barrier. The core principle of EPM co-funding is that the participating end user sets its own annual energy savings goal (in consultation with the utility and ESIP) and then receives EPM co-funding proportionate to that goal (subject to minimum and maximum co-funding levels). If the end user meets its own self-set goals on schedule, EPM co-funding continues. If milestones are missed, EPM co-funding is suspended and ultimately ended if not corrected.

The purpose of the EPM pilot feature is to increase end user participation in the ESI program and completion of energy efficiency projects. EPM co-funding is an "enabling" activity to drive more capital projects, Track and Tune pilot projects, and participation in HPEM. EPM co-funding is not an efficiency measure or project in and of itself, but a means to drive more projects.

EPM co-funding is intended for an end user that wants to launch an aggressive plan to save energy but is manpower-constrained on the project manager, energy engineer, and/or energy manager level. To take advantage of the EPM pilot feature, sites must have one or preferably both of the following:

- Access to sufficient capital for upcoming Custom Projects.
- Sufficient maintenance staff to manage and implement upcoming Track and Tune pilot projects.

Without these associated resources, end users with an EPM co-funding would still be unlikely to meet their goals.

Important points regarding the EPM co-funding:

- The EPM does not replace the utility, ESIP or TSP roles. The EPM and ESIP are envisioned to work in tandem, with the EPM focused at the facility level and the ESIP and the utility available to coordinate ESI program resources. TSP consultants are brought in as needed for specific technical expertise or analytical support. With a high

level of projects anticipated from EPM enrollees, the level of utility, ESIP and TSP consultant support is likely be substantial at these sites. The intent is that the ESI program's investments in ESIP and TSP consultant resources are more productive with an empowered person inside the facility who is focused on energy projects.

- By design, EPM co-funding starts before projects enter in the ESI program system and well before projects are completed. Strong controls are built into the EPM co-funding process to assure progress and avoid deep dry holes, but there is the inherent risk that some end users will not achieve their goals. This is tempered by the fact that some end users may exceed their goals. As such, total EPM co-funding is viewed as a portfolio with a range of outcomes expected, but with attractive overall impact.

5.2.2 EPM Role

The following is a description of the EPM role and the relationship to the ESI program:

- From the perspective of the ESI program, the EPM is the person who serves as ESI program's primary point of contact at a facility and has primary responsibility for implementing electrical energy projects through the ESI program.
- The EPM is an employee or a direct contractor of the end user. The EPM is not employed by BPA, the program partner team or the utility.
- Based upon the EPM co-funding formula, the ESI program effectively (but indirectly) funds a portion, up to all of the salary of the EPM.
- The EPM is always a specific person. However, in some circumstances the co-funding provided can be large enough to support multiple positions for a large end user which sets aggressive goals. The EPM is never a pool of labor without an individual role.
- It is entirely the end user's choice as to who is assigned the EPM role. Depending on needs, the EPM can primarily fill a project management role, a resource energy efficiency management role, or an energy engineering role. The intent of the ESI program is to flexibly support a position(s) which is best-suited to drive electrical energy efficiency projects through the ESI program. The ESIP can be consulted as to what skills are most needed to drive projects at a particular end user, but ESI program does not play a primary role in defining the position or in aiding a recruiting process to hire an EPM.
- It is entirely the end user's choice regarding the compensation paid to the EPM. The EPM co-funding level cannot exceed the pay and overhead for the assigned EPM(s). The end user will need to provide documentation of these costs as part of the co-funding agreement.
- The EPM can be an existing employee, a new hire, or sub-contracted. Additionally, the EPM can already be dedicated to electrical energy savings projects prior to entering into the EPM co-funding agreement.
- The person serving in the EPM role can be switched by the end user, but BPA can elect to terminate the EPM co-funding agreement if the role is shifted more than once per year. The ESI program may elect to terminate the co-funding agreement if the EPM position is vacant.
- Determining the full scope of the EPM's duties is the responsibility of the end user, but EPM co-funding is solely attributed to electrical energy efficiency related work.

- Large end users, with large ongoing savings potential, could sustain one or more positions for the duration of the ESI program. These end users would presumably add staff (either to become the EPM or to backfill behind a person who is assigned EPM duties).
- Conversely, medium-sized end users could partially fund one position for one or two years, but then would tend to tap out their large scale potential. In this context, the end user and EPM are made well aware of the circumstances. Such end user might contract for assistance or temporarily assign an employee to handle a temporary major push.
- The EPM co-funding can be used to fund a regional EPM position whose work extends to multiple sites. In this scenario, the annual savings goal is an aggregate goal for the multiple sites. The sites could be situated in multiple utility territories, provided that these territories were BPA utility customers that have selected to participate in the ESI program.

5.2.3 EPM+ Role

The following is a description of the EPM+ role:

- An EPM+ is an EPM who is also enrolled in the High Performance Energy Management (HPEM) pilot feature offered by the ESI program. This pilot feature is to build energy management (EM) skills on the part of the EPM and to guide participating industrial firms through an EM improvement process. The main distinction between an EPM and an EPM+ is that the EPM+ has slightly more flexibility in how it achieves its Annual Savings Target (i.e., through participation in HPEM).

5.2.4 EPM Project Types

All projects (except for utility self funded projects) contribute to EPM Annual Energy Savings Targets (though no direct savings will not be reported in the PTR system), these include:

- **Conventional CPs and Lighting Projects:** Traditional capital projects, including lighting, with an M&V requirement and deemed lighting projects.
- **Track and Tune Projects**: The Energy Management pilot feature where a mutually agreed-upon list of action items are implemented by the end user and a measurement and tracking system is implemented to assure that savings are achieved and improvements are maintained over time. (Only newly achieved savings count toward the total. Sustained savings incentives do not count.)
- **Small Industrial Measures and Lighting Trade Ally Network:** Small projects, or those driven by the trade allies.
- **MT&R Savings:** For EPMs who are enrollees in the High Performance Energy Management Track (EPM+), monitoring, targeting, and reporting (MT&R-based savings) would count toward the total. See “High Performance Energy Management” in later sections for more details.

- ***Important note:*** Only projects that go through the ESI program count toward the total. For example, if the utility funds the project through a locally offered program and counts the savings to a non-ESI operated program, the savings does not count toward EPM goals.

5.2.5 EPM Participation Steps

5.2.5.1 EPM Agreement

The utility and ESIP review the EPM pilot feature to end users as part of the end user account plan process. An interested end user enrolls in the EPM feature by completing an EPM Agreement with their utility and securing ESI program approval. At this point, the end user may or may not have some specific projects (capital or O&M) or savings targets in mind. The end user, utility ESIP collaborate on ideas for capital or O&M projects and the rough order of magnitude for capital and labor required to achieve various levels of savings.

Once an EPM Agreement is approved, the end user is free to assign a person(s) to the EPM position. An existing employee can be assigned or a new employee/contractor can be hired and assigned. Once the EPM assignment is made, $25,000 in co-funding is provided to the end user as a start-up payment.

At this point an energy savings goal for the EPM is not required. The energy saving goal is determined as a result of the EPM Comprehensive Plan, the next step in the participation process and a required deliverable of the EPM Agreement.

The EPM Agreement is for a one year term (unless negotiated otherwise). After the completion of the first year, the EPM Agreement can be amended for a subsequent year pending utility and ESI program approval.

5.2.5.2 EPM Comprehensive Plan

Once the EPM is assigned, an initial task is to provide an EPM Comprehensive Plan, a deliverable of the EPM Agreement. The EPM Comprehensive Plan is a plan for implementing energy efficiency projects (capital and O&M) and other energy related activities for the year (note the plan must cover the first year but can extend beyond the first year). The goal at this phase is not necessarily to nail down the exact projects and dollars but to gauge the end user's general appetite for projects for the coming year, and screen the customer for likelihood of success. The Comprehensive Plan is due 90 days after the EPM has been assigned and the start-up payment has been provided.

The following is required to be included in the EPM Comprehensive Plan:

- Annual energy savings goal.
- Annual EPM cost, including overheard.
- A summary of planned energy efficiency projects.

- Ballpark estimates of the energy savings, cost savings, and implementation cost of projects.
- Timeline for project development and implementation.
- Metrics for implementation milestones.
- Additional EPM staffing required to execute plan.

Determination of the energy savings goal is a critical part of the EPM Comprehensive Plan as it defines the EPM co-funding level moving forward. The end user should balance the need to be somewhat conservative in this targeting. The end user will need to show progress towards the goal and achieve the goal to receive EPM co-funding moving forward.

The level of EPM co-funding is directly tied to the magnitude of the annual energy savings target goal set by a participating end user. This can be interpreted in two ways: Either the savings goal set by the end user determines the EPM co-funding level, or the desired EPM co-funding level defines the energy savings goal. Big goals equate to high EPM co-funding and low goals equate to low EPM co-funding. The end user can add EPM staffing for co-funding if necessary to implement the plan.

Once the EPM Comprehensive Plan is approved by the ESI Program a co-funding installment payment is provided. The payment is 1/3 the projected annual payment based on the energy savings goal and estimated EPM cost. In the first year of participation, the $25,000 start-up payment is deducted from this amount (note that in subsequent participation years a start-up payment is not provided and therefore is not deducted)

The same EPM Comprehensive Plan process is repeated annually and dictates EPM co-funding for each year. The EPM feature is structured such that the end user is assured that their EPM co-funding continues over a multi-year horizon, provided that goals are met.

5.2.5.3 EPM Comprehensive Plan Implementation Milestones

Implementation milestones occur sixth and twelve months after the EPM is assigned. At the sixth month interval, the end user's planned projects need to meet or exceed the energy savings goal established in the EPM Comprehensive Plan. CPPs must be submitted and approved by the by this time and/or Track and Tune pilot projects must be identified and underway. An additional EPM co-funding payment is provided if the milestone is met. The installment is 1/3 of the annual EPM funding amount based on the energy savings goal in the EPM Comprehensive Plan.

At the twelve month interval the EPM term is considered complete. A review of the actual energy savings achieved from completed projects is performed. The final EPM installment is based on the actual energy savings achieve, capped at the actual EPM cost for the term, less the previous EPM payments.

If a milestone has not been met, EPM co-funding is suspended. As soon as the end user meets the required milestone, co-funding is restored in full. If a milestone is not met within six months after being suspended, the EPM co-co-funding agreement is terminated.

5.2.6 EPM Co-Funding Summary

5.2.6.1 EPM Co-Funding Policies

EPM co-funding payments are handled in the same manner as incentive payments under CRC/ECA agreements:

- EPM co-funding is made from the utility to the end user.
- The BPA reimburses the utility through CRC/ECA.

The following rules specific to the EPM feature apply:

- EPM incentive co-funding is an incentive from BPA to utilities.
- EPM co-funding payments occur at milestone dates (see Section 5.2.6.2). If milestones have not been met, EPM co-funding is suspended. As soon as the end user meets the required milestone, co-funding is restored in full.
- If the milestones are not met within six months after being suspended, the EPM co-co-funding agreement is terminated.
- Longer timelines may be negotiated as needed (prior to entering into the EPM Agreement) where the plan targets large and complex projects. Such projects require other project milestones that gauge progress.
- EPM Agreements and milestones should be structured to coordinate well with end user budget cycles and shut down periods.
- For sites that enter into a series of one year EPM Agreements, the agreements include a hold-over savings clause. This clause allows a site to carryover excess savings (beyond the past year's EPM savings goal) to the next year. Savings can only be carried over for one year. The rationale for this clause is that the ESI program does not want to encourage an end user site to delay implementation of projects.
- In the event that EPM energy savings goals are not achieved and/or an EPM agreement is terminated by BPA, no recovery of past EPM incentive payments will be performed.
- Year 2 and beyond, EPM co-funding may only offered to end users that have achieved their previous year's goal.

5.2.6.2 EPM Co-Funding Formula

The following are the general co-funding formula parameters:

- Minimum annual co-funding per participating site = $25,000.
- Maximum annual co-funding per participating site = $250,000.
- Participants must commit to a minimum of 1,000,000 kWh savings target each year, or have the ESIP present the customer's alternative commitment to BPA for consideration.
- Annual EPM co-funding = $0.025 per kWh of energy savings, not to exceed the total EPM salary plus overhead.

5.2.6.3 EPM Co-Funding Cash Flow Summary

The following is the EPM co-funding incentive cash flow summary:

- The annual EPM funding cycle begins once an EPM Agreement is approved by the ESI program and an EPM is assigned (i.e., an existing employee is assigned or a new employee/contractor is hired and assigned).
- Three EPM co-funding installments at milestone dates are provided per year.
  - The first installment, Payment 1, occurs upon approval of the EPM Comprehensive Plan by the ESI program. The Comprehensive Plan is due 90 days after the EPM is assigned. The installment is 1/3 of the annual EPM funding amount based on the energy savings goal in the EPM Comprehensive Plan.
  - The second installment, Payment 2, occurs six months after the EPM was assigned. Payment 2 is provided contingent on the end user's planned projects meets or exceeds the energy savings goal established in the plan. CPPs must be submitted and approved by the by this time and/or Track and Tune pilot projects must be identified and underway. The installment is 1/3 of the annual EPM funding amount based on the energy savings goal in the EPM Comprehensive Plan.
  - The third and final installment for the year, Payment 3, occurs six months after the Payment 2. Payment 3 is based on the actual energy savings achieved from completed projects, capped at the actual EPM cost for the term, less Payments 1 and 2.
- In the first year of participation, $25,000 in start-up funding is provided once an EPM Agreement is approved by the ESI program and an EPM is assigned. This is essentially an advance on Payment 1 and is referred to as Payment 1a. Payment 1a is intended to provide immediate co-funding for a new end user participant to assign an EPM and begin development of the EPM Comprehensive Plan. After the EPM Comprehensive Plan is approved, the remainder of Payment 1 is provided, referred to as Payment 1b. Payment 1b is 1/3 of the annual EPM funding amount based on the energy savings goal in the EPM Comprehensive Plan less Payment 1a. Note the following:
  - Payment 1b will be $0 if the energy savings goal is 3,000,000 kWh or less. At this savings goal, Payment 1 would be $25,000, the equivalent of Payment 1a.
  - Payment1 1b, 2 and 3 will be $0 if the energy savings goal and energy savings achieved is 1,000,000 kWh or less. At this savings level, Payment 1a would exhaust the $25,000 EPM co-funding level for the year.
  - The Payment 1a and 1b methodology only applies in the first year of participation.

An example of a two-year EPM participation period is shown in Table 4. For simplicity, Table 4 assumes that the total annual EPM cost exceeds the co-funding amount based on achieved energy savings. If this was not the case, the co-funding amount would be limited by the total annual EPM cost.

Table 4: EPM Co-Funding Example

Year 1

Annual Inputs	
Energy Savings Goal	5,000,000 kWh/yr
Actual Energy Savings Achieved	5,100,000 kWh/yr
EPM Co-Funding from Savings Goal	$125,000 /yr
EPM Co-Funding from Savings Achieved	$127,500 /yr

Annual EPM Insallment	Timeline	EPM Payment Amount	Annual EPM Co-Funding To-Date	EPM Payment Methodology
1a	EPM Assigned	$25,000	$25,000	$0.025 per kWh at the 1,000,000 kWh per year minimum savings goal requirement
1b	Comprehensive Plan Approved	$16,667	$41,667	1/3 of the ***energy savings goal*** at $0.025 per kWh less Payment 1a
2	6 Months After EPM Assigned	$41,667	$83,333	2/3 of the ***energy savings goal*** at $0.025 per kWh less Payments 1a and 1b
3	12 Months After EPM Assigned	$44,167	**$127,500**	100% of the the ***energy savings achieved*** at $0.025 per kWh less Payments 1a, 1b & 2

Year 2

Annual Inputs	
Energy Savings Goal	4,000,000 kWh/yr
Actual Energy Savings Achieved	3,700,000 kWh/yr
EPM Co-Funding from Savings Goal	$100,000 /yr
EPM Co-Fundung from Savings Achieved	$92,500 /yr

Annual EPM Insallment	Timeline	EPM Payment Amount	Annual EPM Co-Funding To-Date	EPM Payment Methodology
1	Comprehensive Plan Approved	$33,333	$33,333	1/3 of the ***energy savings goal*** at $0.025 per kWh
2	6 Months After EPM Assigned	$33,333	$66,667	2/3 of the ***energy savings goal*** at $0.025 per kWh less Payment 1
3	12 Months After EPM Assigned	$25,833	**$92,500**	100% of the the ***energy savings achieved*** at $0.025 per kWh less Payments 1 & 2

5.3 Track and Tune Implementation Plan

Industrial Track and Tune is one of three core pilot features of the Energy Management pilot component in the ESI program. The goal of this feature is to provide financial and technical assistance to the end user to "do the little things well" while putting a system in place that allows the ESI program and end user to track energy performance and savings over a multi-year horizon.

This feature centers on operations and maintenance (O&M) savings and not on typical capital-intensive projects. To achieve solid savings of this type, this feature continuously tracks the performance of the area of focus (whole facility, system or process). This tracking establishes the baseline, shows the effect of the initial tune-up effort, and tracks the performance over time to promote continuous improvement and to guard against backsliding. An energy performance tracking system is put in place to document total O&M energy savings and to remove measure life uncertainty. This methodology ensures a reliable, long-term source of savings.

The ESI program serves a wide variety of end user types, sizes, needs, and goals. The Track and Tune pilot feature is structured to accommodate these differences:

- Some end users know exactly what they want to do to tune up a system while other end users are looking for ideas.
- Some end users want to focus on a specific process or system, and others want to look for savings throughout their entire plant.
- Some end users want to tie their tracking system into an existing monitoring system or plant control system, since they already interface with that system regularly.
- Some end users are looking for turn-key, comprehensive online tracking tools that can be accessed by multiple individuals at multiple levels of the organization. The ESI Track and Tune pilot feature offers such tools.

Industrial Track and Tune pilot features:

- A long-term working partnership is established with end users. At a minimum, the partnership extends for the balance of the two-year ESI contract (through September 30, 2011). The ideal term of involvement is for a full five years. BPA is evaluating processes, guidelines and funding mechanisms to extend beyond the end of FY2011.
- End users are equipped with a performance tracking system so that all parties (end user, utility, BPA, ESI program personnel, and the TSP) can gauge energy use and progress. The performance tracking system is based on Monitoring, Targeting, and Reporting (MT&R) methodologies that provide ongoing savings verification for the benefit of both the end user and the ESI program.
- The cost of technical expertise is covered (generally provided by a TSP consultant). The following is provided:
  - T&T Scoping: A walk-through of a facility (or specific system or process as appropriate) to assess the tune-up savings potential and determine the tracking system methodology.

    - Tune-Up: A system tune-up to identify and begin to implement all viable no-cost and low cost upgrades (action items) that save energy while providing a quick payback.
    - Implementation Support: Guide the implementation of as many no-cost and low cost upgrades as possible in order to maximize savings from the tune-up effort and increase the potential of sustained long-term savings.
- BPA incentives are offered for the confirmed implementation of low cost measures (action items) that were the focus of the project. These incentives represent co-funding of labor and material costs to implement the low cost upgrades recommended in the tune-up report.
- Sustained Savings Incentives are offered annually for each year during the period of engagement. These modest annual incentives are based upon the cumulative energy savings achieved over the previous twelve month period relative to the original baseline. This essentially represents a pay-for-performance model where end users are rewarded for maintaining and increasing O&M savings over a multi-year horizon. These incentives are offered in recognition of the fact that it takes work to keep a system performing optimally over time.

5.3.1 Key Strengths of Industrial Track and Tune

- **Focus on Action:** Allows and encourages immediate changes to be made, resulting in immediate savings. This increases the frequency of feedback to participants (make changes, see the savings), which in turn accelerates the learning process and speeds up savings acquisition. This approach resonates with many end users.
- **Save Energy Without Capital Expenditure:** The feature offers end users a different approach to obtaining energy savings. Many end users are not able or willing to invest capital in large equipment upgrades due to market conditions or other constraints. Industrial Track and Tune pilot feature allows those end users to save energy and to be engaged with the ESI program during periods where capital is scarce.
- **End User Engagement:** Energy Management pilot component provides extended end user engagement over a multi-year period. Engaged end users pay more attention to energy, and bring in more savings through all program channels.
    - Track and Tune pilot feature provides formal and informal training of facility maintenance staff, maintenance contractors, and site management as they work side-by-side with the provider of technical tune-up services, the ESIP and ESI MT&R team.
    - The program forges strong, multi-year connections between the participant and the program. A Track and Tune pilot project provides the forum for the ESIP to forge a close, trusting relationship with an end user.
- **Self Documenting:** Energy savings are fully documented as an integral part of the offering, for each site and for the offering as a whole. Extensive project-by-project post-evaluation is not required.
- **Unlock Additional Savings at "Tapped Out" Facilities:** Many end users have completed one or more capital energy projects. This program identifies additional energy saving opportunities at such sites.

- **Identify New Capital Energy Projects:** The tune-up process acts as a system or facility-wide "super-scoping." The process nearly always uncovers additional capital project opportunities, which are fed directly into additional CPs for the ESI program. In addition, substantial understanding of the participant facility and its operations can be leveraged as new capital energy project opportunities arise.
- **Collect Industry Specific Energy Efficiency Knowledge:** In-depth industry-specific knowledge and best practices can be aggregated from the tune-up activities. Industry-specific best practices can be developed and shared throughout the territory.

5.3.2 Track and Tune Participation Steps

The following is a breakdown of the typical project participation process:

1. Provide initial screening.
   - Provided by the utility and ESIP.
2. Perform T&T scoping.
   - Provided by a TSP consultant, outside expert, or end user in-house resources.
3. Sign T&T agreement.
   - Between the end user and utility.
   - Services, schedules, and potential incentives are outlined along with end user commitments.
4. Install T&T performance tracking system.
   - A system for tracking energy savings and supporting baseline documentation.
   - Tracking system costs are eligible for BPA incentives with limitations (including start-up and on-going service costs).
5. Perform tune-up.
   - Provided by a TSP consultant or outside expert.
   - A tune-up report is produced which includes a detailed action item list.
6. Implement action items.
   - Implementation directed by end user.
   - Supported by a TSP consultant, outside expert, or end user in-house resources.
7. Provide T&T completion report.
   - Provided by the ESIP or the TSP consultant.
   - BPA incentives are paid for completed action items.
8. Provide sustained savings incentives over time: Assess tracking data to determine annual sustained savings and annual incentive payment.
   - BPA incentives are paid annually based on actual performance.

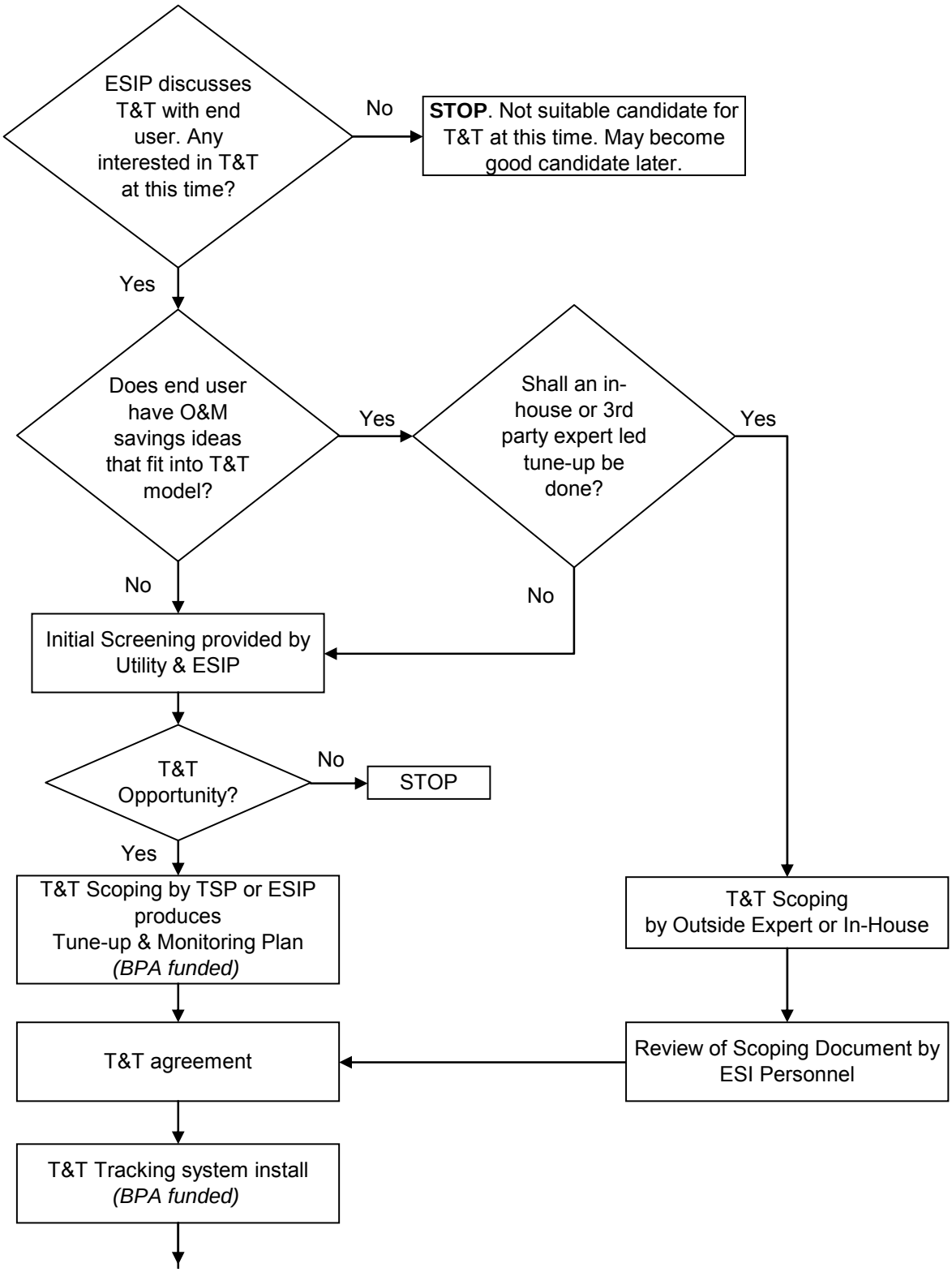


Figure 10: Track and Tune Participation Steps

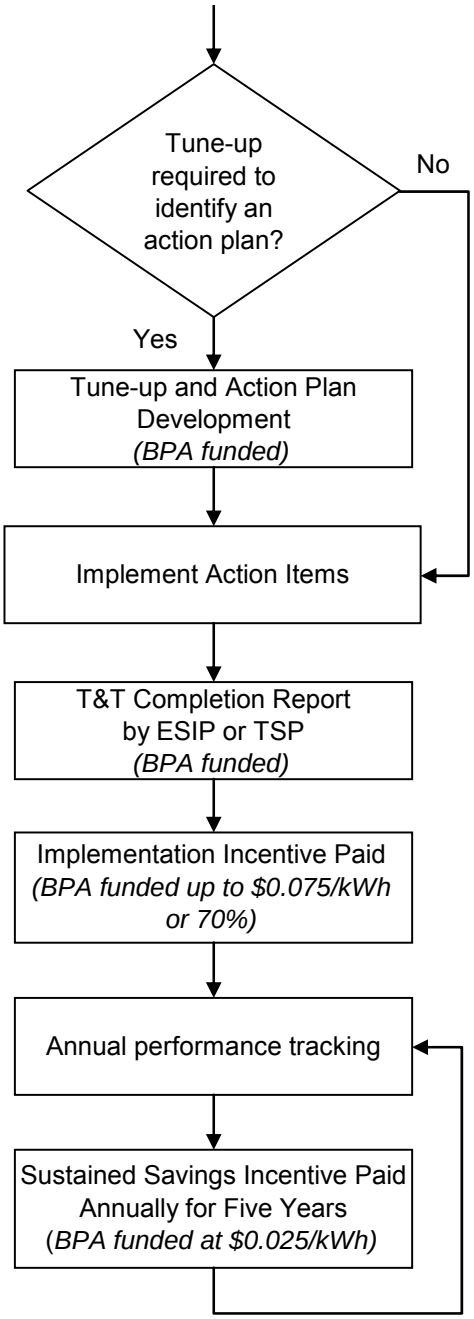


Figure 10: Track and Tune Participation Steps – (cont.)

5.3.3 Explanation of Services

Track and Tune is a multi-step, multi-path pilot feature designed to accommodate the varied needs of end user facilities, systems and processes seen throughout the region. Track and Tune pilot feature is cost effectively performed on a facility, system or process with an annual energy savings potential of at least 250,000 kWh/yr.

5.3.3.1 Initial Screening

The ESIP has a discussion with an end user regarding:

- O&M savings potential at the facility, system or process levels.
- Capital versus O&M opportunities & preferences.
- Rough order of magnitude capital and labor effort required to achieve various levels of savings.
- Track and Tune funding formula.
- Tune-up options:
  - Does the end user have an outside expert in mind?
  - Does the end user have ideas that are eligible for an internal tune-up effort?
  - Does the end user want help in identifying O&M measures?
- Performance tracking system options:
  - Possible hardware and software solutions for tracking systems
  - Expectations for progress and reporting
- End user timelines for CP submissions and CP completion.
- Availability of concurrent enrollment in EPM and HPEM offerings.
- Possible interaction of Track and Tune with a capital project on the same system.

The ESIP can use Track and Tune cost and savings examples to present ballpark numbers to the end user. The ESIP can also run through a Track and Tune presentation outlining program paths and past successes.

5.3.3.2 Scoping & Tune-up Service providers

These services are provided by one or more of the following:

1. Track and Tune TSP consultant: A TSP consultant that has been trained and approved to provide Track and Tune services, with specific knowledge or experience in the system, process or facility type being addressed. The training is managed by the program partner and certification is done by BPA. The industrial TSP manager maintains a list of certified Track and Tune technical providers.

2. Outside expert: There are national experts in specific systems or processes that possess the knowledge and ability to identify no-cost and low cost O&M action items in those systems. These experts may be from outside the region. Additionally, there are TSP consultants who may not yet be an approved Track and Tune TSP consultant who may be appropriate for a specific Track and Tune effort.
3. In-House expert: Some end users have adequate in-house expertise to identify and implement no-cost and low cost changes at their facilities. A good example of this is a compressed air leak reduction effort.

The ESIP may recommend the appropriate technical provider. The industrial TSP manager makes the final selection of the technical provider.

The technical resource funding mechanisms outlined in Section 4 apply to technical services utilized in T&T pilot projects.

5.3.3.3 T&T Scoping

T&T Scoping can be provided by a technically experienced ESIP, a Track and Tune TSP consultant, an outside expert or end user in-house personnel.

1. The scoping looks to answer these questions:
    a. Does the facility, system or process have good savings potential (a high likelihood of 10 percent or more savings)?
    b. Are there enough savings to justify a tune-up effort (250,000 kWh or more)?
    c. What is required for tracking of energy performance over time? What is the best performance tracking system method (a.k.a., MT&R) for this project? See Section 5.5 for more details on MT&R.
    d. How much baseline data must be gathered before proceeding with the tune-up?
    e. How much will the tune-up and implementation support cost?
2. A Tune-up and Monitoring Plan is produced that provides answers to the above questions. It contains all information required to compile the T&T Agreement.
3. T&T TSP or ESIP Led Scoping: The T&T TSP or technical ESIP provides the scoping and produces a Tune-up & Monitoring Plan.
4. Outside Expert or End User Led Scoping: In this category, the end user is supported as follows:
    a. The outside expert or end user provides a Tune-Up and Monitoring Plan.
    b. ESIP and potentially a TSP consultant review the plan and perform a system walkthrough to verify baseline conditions. The following questions are answered:
        i. Are the proposed O&M measures truly no cost or low cost upgrades?

ii. Is the completion of the O&M measures relatively straightforward to verify at the time of final inspection?
iii. Is the tune-up program the best fit for these measures?

c. The ESI MT&R team reviews the Tune-Up and Monitoring Plan, proposes modifications and verifies that the savings seen from the effort will be significant enough to be meaningful. See Section 5.5 for more details on the MT&R team.
d. The Tune-Up and Monitoring Plan is approved or denied.

5.3.3.4 T&T Agreement & Tracking System Installation

Presentation of T&T Agreement: An enrollment agreement must be offered by the utility and signed by the end user before the tune-up effort proceeds. The agreement includes:

a. A statement of end user commitment to the O&M tune-up, implementation and savings maintenance process.
b. A statement of end user willingness to share all data required for tracking of energy performance over time.
c. A summary of roles and responsibilities.
d. A summary of the technical services to be provided by the Track and Tune program.
e. An overview of the performance tracking system method to be used for the project.
f. A summary of the tracking system to be installed and the funding formula related to that tracking system.
g. Statement of the rules for Action Item funding.
h. Statement of the rules for Sustained Savings Incentives.
i. Unloaded labor rates for end user personnel expected to implement action items.
j. A timeline for the process.

Tracking System Installation: The ESI MT&R team oversees the installation of the tracking system to ensure data integrity. The Tracking System must be installed and verified prior to the Tune-up. More details on MT&R are provided in later sections.

5.3.3.5 Tune-Up

Tune-up: A tune-up is designed to identify O&M measures (no-cost and low cost action items). Some no-cost action items may be implemented during a tune-up, but the majority is compiled into a to-be-completed action item list.

a. Provided by a T&T TSP consultant, outside expert or in-house personnel.
b. When provided by a TSP, it is usually the same TSP consultant that performed the scoping.

c. The tune-up effort often includes engineering and technician level personnel. A common team is one engineer and one technician. The technician is usually from an incumbent contractor, so as not to disrupt existing contractor – end user relationships. It is beneficial for the technician to be different from the one regularly performing equipment maintenance at the facility, system or process of focus. This provides a "fresh set of eyes" during the tune-up.
d. A tune-up has the following characteristics:
    i. Focuses on the identification and implementation (when appropriate) of very specific no cost and low cost changes that save electrical energy.
    ii. Requires participation from key end user personnel, including maintenance, operations and management staff. In some cases key contractors or vendors may be enlisted as well. The tune-up is a collaborative effort where ideas and insight come from all parties. There also needs to be end user buy-in to the ideas.
    iii. Focuses on action rather than savings projections.
    iv. Typically a multi-day event often completed all at once but sometimes spread over multiple months (where seasons or production dictates).
    v. Produces a final Tune-up Report containing a list of action items (both completed and to-be-completed), a summary of facility and system operation, a scoping-level savings estimate for the package of action items, and supporting documentation.
    vi. Action items are written clearly and concisely, often providing step-by-step instruction.
    vii. Each action item is discrete and can usually be completed separately from other items.
    viii. Action items are flagged with a High or Normal priority. High priority items are those most critical to achieving savings. All High priority action items must be very "doable", based on the professional judgment of the TSP consultant and ESIP or constitute substantial energy savings relative to the implementation effort. It is likely that 20 percent to 40 percent of the action items will be flagged High priority.
e. The Action Plan Report should contain the following sections:
    i. Executive Summary
    ii. Background
    iii. Results to Date
    iv. Action Items Completed
    v. Action Items to be Completed
    vi. Action Item Implementation Tracking
    vii. Capital Energy Project Opportunities
    viii. Appendices

<u>When a Tune-up is not Required</u>: Some Tune-up and Monitoring Plans provided by outside experts or end user in-house staff are conducive to immediate implementation of pre-identified action items without the need for a tune-up effort. For example, an end user lead air leak reduction plan could be implemented without a tune-up. In this case, the Tune-up and Monitoring Plan may be approved for implementation, allowing end users

to begin immediate action item implementation per the guidelines laid out in the T&T agreement.

Upon completion of a tune-up a report is generated and CPP is submitted.

5.3.3.6 T&T Performance Tracking System

The tracking of energy performance over time is a critical part of the Track and Tune and HPEM pilot features. An ESI MT&R team is responsible for all performance tracking activities.

A performance tracking system is used to document baseline and post tune-up energy use. It is necessary to track any number of key variables in order to develop a meaningful normalized energy use profile.

The most desirable form of measurement is real time electric consumption (kW over time) at the electric meter or sub-metered level with concurrent real time readings of production or other key energy driver variables. Real-time kW profile tracking provides quick feedback when changes are made. It also allows for prompt alarming and response when backsliding occurs. A one to two hour delay for data transmission and processing is acceptable. The measurement system and characteristics (frequency of data collection, duration, key variables, etc.) vary by system and facility.

Other forms of tracking are employed as appropriate:

1. Monthly utility bill tracking (for whole plant tune-ups). Energy use, peak demand and cost are tracked to document true savings over time. Billing period data is often reapportioned to calendar month for accurate year-over-year comparisons. True avoided cost is calculated using effective unit cost and a reducing factor to account for lower peak demand savings versus energy savings.
2. Measured process or subsystem rate. The common example is to measure system air flow (CFM) on a compressed air system to gauge progress of a leak or load reduction effort. The flow data is essentially a proxy for energy use and is correlated to the energy use of the air compressors.
3. Key independent variables such as weather (from weather service), production data (gallons, pounds), throughput data (cases, pounds, pallets) or facility size.
4. Energy savings profiles from capital energy projects. These profiles must be accounted for in order to avoid double-counting of savings. This occurs wherever a capital energy project has been implemented during either the baseline or post tune-up periods.

Variables may be tracked in a variety of ways:

1. Online tracking of real-time data.
2. End user system tracking of real-time data.

3. Online tracking of monthly utility bill data.
4. Manual tracking of monthly utility bill data in spreadsheet format.
5. Manual input of key production variable data into either the online tracking system or the end user system.
6. Automated input of key production variable data may be possible at some end user sites.

In the event that an end user is participating concurrently in a T&T pilot project and HPEM and the ESI program can not differentiate savings attribution by program feature, a collective incentive payment for the total savings will be provided.

The ESIP works closely with ESI MT&R team, the TSP consultant (or outside system expert) and the end user to establish and implement the most appropriate tracking methodology in advance of the tune-up effort. The ESI MT&R team validates the initial dataset to ensure accuracy. The ESI MT&R team also provides technical support during installation of the monitoring system.

The performance tracking system is purchased and installed by the end user with the cost refunded by the utility. The utility then submits a Tracking System Reimbursement request to the ESI program for reimbursement.

The performance tracking system must be in place and a reasonable baseline profile must have been established before the tune-up and implementation phases can begin. This typically involves 60 to 90 days of baseline data for subsystem energy use where new instrumentation had to be installed to define the baseline. For whole plant facility projects, typically 24 months of historical baseline data is acquired. This could be in the form of monthly utility billing histories or production data.

Tracking system costs do not fully scale with T&T project scope (tracking for a small project may cost no less than tracking for a larger project). The funding mechanism for the tracking systems is designed to accommodate this reality. The funding cap for the tracking system goes no lower than $10,000. The cap scales up with project baseline energy use. Actual tracking system costs are expected to typically come in below the cost cap.

5.3.3.7 Action Plan Implementation

Once a T&T Agreement is in place, the performance tracking system is installed, the baseline performance is established, and a tune-up has been performed (where required), the end user has 12 months to implement the action items. A cost per energy savings cap is applied to ensure cost effective acquisition of savings.

End users are supported by the program during this phase. As they implement low cost upgrades they are required to track their unloaded labor hours and all invoices tied to the

action plan implementation. Every hour and invoice record is linked solely to action item tasks.

The end user may present additional low cost action items for consideration during this time. The TSP consultant and ESIP can approve or deny each new action item based on its merits (it must save energy and be low cost, with high likelihood of a quick payback).

Track and Tune TSP consultants are provided with a budget to support the end user as they implement the action items. The budget includes time for implementation meetings and time to follow energy performance over time. Additional time is allowed for impromptu support of the end user as they work through the action item list. Action item completion is tracked, challenging action items are discussed, and energy performance is presented and discussed. The end user decides which action items to complete.

5.3.3.8 T&T Completion Report

An inspection of the completed action items and the creation of the T&T Completion Report occurs no earlier than three months following the tune-up effort, but must commence no later than 12 months following the tune-up. The intent is to allow for at least three months of post tune-up energy performance. This effort commences when the end user has completed its selected action items. This inspection effort (including writing of the T&T Completion Report) is completed by the ESIP, the T&T TSP or through a joint effort of the two. The final report must include the following information:

1. Executive Summary
2. Background
3. Baseline & Savings Documentation
4. Cost Documentation
5. Documentation of Completed Action Items
6. Keys to Continued Success (brief list of set-points and control strategies to maintain, reoccurring items to keep up with, etc)
7. Adjustments to Baseline

Post tune-up performance is analyzed to determine the first year savings from the effort. The first year savings are based upon extrapolation of savings in the first 90 day to generate a forward-looking projection of 1st year savings. In many situations, the TSP will need to apply engineering judgment in this extrapolation where seasonal differences are important. The savings, costs, and incentives are documented in a Track and Tune Completion Report. A final completion report will also be submitted at the end of the five year term of engagement. Each completion report must be reviewed and approved by the ESI program.

5.3.3.9 Sustained Savings Tracking and Incentives

The end user and the ESI program continue to track energy performance after T&T completion:

1. Annual energy savings are retroactively calculated at the end of a twelve month period (on the anniversary of the completion of action items) by the ESI MT&R team. The forward-looking projections that were made at the time of the final inspection are trued up at this point. This process is repeated annually for five year term of engagement.
2. A sustained savings report is generated and submitted to the ESI program for approval by BPA.
3. An annual incentive $0.025 per kWh is paid based on the annual savings seen in the previous twelve months relative to the original baseline. This is a backwards-looking CUSUM-based incentive payment for actual savings. More detail on CUSUM-based methodology is provided in Section 5.5.
4. This series of annuity payments which vary from year to year for the same project and will require adapted utility reporting system procedures currently being jointly developed by the program partner and BPA.
5. Annual savings will be reported to BPA on an incremental basis, relative to the previous year.
6. Fifth year savings are reported with a five year measure life. The rationale for this savings claim is that by the five-year anniversary, the O&M practices that generated the savings within the system of interest have cemented and are highly likely to be sustained. In the end, a Track and Tune project yields a 10-year measure. This approach ultimately brings the Track and Tune measure on par with capital project measure lives as well as the measure lives identified in the draft Sixth Power Plan.

This tracking and incenting of real savings is intended to provide adequate motivation for end users to maintain or increase O&M savings over time. Annual incremental savings are claimed by the program. A utility may elect to defer a portion of energy savings from a T&T project (a.k.a. under-reporting of savings). A utility will be required to define their methodology for claiming T&T project energy savings with the ESIP as part of the utility account planning process.

Table 5 provides an overview of the funding categories, options incentive levels and cost caps.

Table 5: Summary of Funding Support for Track and Tune

Categories of Funding	Option	Funding Source	Funding Levels & Approval	Notes
Scoping	TSP or ESIP	TSP	Funded up to 100% Scope and budget approved by BPA	Work conducted by ESIP or TSP.
	Outside Expert	NA	0%	Outside expert scopes the system or process and submits a Tune-up & Monitoring Plan for approval.
Tune-up	Track & Tune TSP	TSP	Funded up to 100% Scope and budget approved by BPA	
	Outside Expert	TSP	Funded up to 50% Scope and budget approved by BPA	Outside expert must have good references, a reasonable price and reasonable methodology.
	End User In-House Effort	NA	0%	Tune-up and Action Item Implemention occur at once, so tune-up effort included in AI incentive.
Implementation Support	Track & Tune TSP or ESIP	TSP	Up to 100% Scope and budget approved by BPA	Approved as a package with the Detailed Tune-up proposal. Required for all Tune-ups. May include a budget for Outside Expert support.
Tracking System	Provided by ESI Program Turn-Key, or by End User	To Be Determined	Year 1 setup & monitoring cost capped at $0.0025 / kWh of baseline. Cap is never less than $10,000 or greater than $50,000. Actual Year 1 cost is often lower than $10,000. Total Year 2-5 monitoring cost capped at $0.0025 per kWh of baseline, no greater than $50,000.	For customers who have elected to receive the Detailed Tune-up, or who are participating in High Performance Energy Management. Could include meter upgrades, instrumentation, telemetry, control system integration, online software, system support, etc. Installation supervised by ESI MT&R Group.
Action Item Implementation	T&T TSP, Outside Expert or End User	CRC/ECA	up to $0.075 per kWh or 70% of project cost, whichever is less (as identified in final inspection report)	Covers direct labor and material costs to implement recommended low-cost action items.
Sustained Savings		CRC/ECA	$0.025 / kWh per year for 5 years	Paid every 12 months following the final inspection based on actual measured savings (after key variable normalization). Savings from other energy projects are excluded.

5.4 High Performance Energy Management (HPEM)

5.4.1 Primary Goals and Deliverables

The basic objective of the HPEM pilot feature is to assist end users in the adoption of energy management practices. HPEM is the application of the principles and practices of continuous improvement to energy management within an end user's organization. While there are a number of disciplines of continuous improvement (Six Sigma, ISO, LEAN, TQM, etc.), they all share some common elements necessary for their success. Those elements include:

1. Conduct a management assessment
2. Make an organizational commitment
3. Create an action plan
4. Implement the action plan
5. Monitor, track, and report progress
6. Recognize the achievements
7. Re-assess and continue the process

HPEM is delivered in coordination with the other technical assistance and financial incentive components of the ESI program. The benefits of HPEM are:

1. Increased number and size of traditional CPs and T&T projects implemented.
2. Documentation of MT&R based energy savings that go incrementally beyond the contribution of implemented ESI program CP and T&T pilot projects.
3. Increased likelihood of high-complexity or process oriented projects.
4. Greater persistence and realization of energy savings.
5. Improved ESI program relations at the executive level.

The focus for this program includes the medium to large (2 - 4 aMW and greater) industrial end users, including heavy process (pulp and paper, chemical, refinery, etc.) and manufacturing (transportation, high tech, wood products, etc.).

5.4.2 HPEM Program Background

HPEM applies the same proven continuous improvement approach that end users already apply to other aspects of their operations (i.e., ISO 9000+ for quality control, ISO 14000+ of environmental control, 5-Star OSHA programs, Six-Sigma, Lean Manufacturing, etc). While industrial end users understand the concepts of continuous improvement, very few have applied those concepts to energy management. Experience shows that most end users do not have well-defined business practices relating to energy management and treat energy as a "fixed cost" with limited technical improvements as a means of managing that cost. By contrast, HPEM is a business-based, continuous improvement

approach that broadens the focus to include energy management business practices rather than strictly concentrating on technologies to implement.

HPEM helps:

- Build senior management commitment to long-term energy management.
- Creates a strategic initiative for the end user, rather than a series of tactical projects.
- Provides "coaching" support to overcome obstacles to progress and support on-going achievement of savings.
- Integrate energy management into existing systems (i.e. quality, safety, environmental).

HPEM has been proven in industry by a handful of market leaders, such as Frito Lay, Catalyst Paper, and others, and as an energy efficiency program concept in programs such as NEEA's Industrial Efficiency Alliance and BC Hydro's Sustainable Energy Management program. This program builds on the experiences of these end users and programs.

5.4.3 HPEM Versions Offered

HPEM is one of three basic features Energy Management pilot component offered in the ESI program. These pilot features build on each other as an end user adopts a more comprehensive approach. In other words – HPEM is most effective when applied and sub-metered in combination with the EPM co-funding and Track and Tune.

HPEM is delivered through one of two options:

- One-on-one training.
- Structured network group (as described below).

The larger, more complex end users (heavy process industry) are targets for the one-on-one training. The structured network group is a group of approximately ten non-competing end users that go through the adoption of HPEM in a structured process.

5.4.4 HPEM Details

The process includes monthly facilitated meetings and peer to peer networking and learning. The general outline of the monthly Structured Network Group sessions is:

Month 1: Kick off meeting -commitment and goals.
Month 2: Management assessment and development of an action plan.
Month 3: Establish energy teams and gather energy and production data.
Month 4: Establish a baseline, targets, and reporting process.

Month 5: Review technical assessments, projects, and other technical needs.
Month 6: Employee awareness program inauguration.
Month 7: Project implementation and training.
Month 8: HPEM process review with corporate sponsor.
Month 9: Project implementation and training.
Month 10: Project implementation and training.
Month 11: Annual review and year two planning.
Month 12: Recognize and reward.

The structured network group sessions are attended by the utility representative as well as the ESIP to the extent that they can/desire to participate.

Quarterly HPEM Energy Champion Meetings:

The primary audience/attendees for these sessions are industrial energy managers. The purpose of these sessions is to establish a peer to peer network group, while providing training on both management and technical issues. Each quarter may have a management and technical topic (that may relate to each other) such as setting goals and establishing a baseline, or identifying opportunities and tracking progress. These meetings are modeled after the Technical Association of Pulp and Paper Industries (TAPPI) regional quarterly meetings.

The one-on-one training follows a similar progression, but the full engagement is not officially agreed to until after the Management Assessment and Organizational Commitment is completed by the end user.

While the program delivery steps are outlined in a linear process below, it is important to acknowledge that the actual implementation at each end user facility is customized to fit broader business objectives, culture, and operational needs.

The basic steps to deliver HPEM are:

1. *Management Assessment* - The assessment includes discussions with management and plant staff although the heart of the assessment is a two- to three-hour facilitated diagnostic session with cross-functional representatives of the site management team to evaluate current business practices associated with energy management. Typical participants in this workshop include the site/plant manager, accountant/finance manager, operations/production manager, engineering manager, human resources, purchasing manager and/or environmental manager. This ensures a cross section of the business in order to obtain a holistic view of differing operating perspectives.

The workshop achieves the following objectives:

- The management team understands the fundamentals of an energy management system, with specific action items that could apply to their facility;
- Consensus is built on the end user's current practices -and what the high priority action items are to improve;
- Improve the management team's understanding of the utility and ESI program offerings;
- Gain buy-in from senior management by demonstrating the benefits of a structured approach to managing energy and provide the company with an appreciation of the gap between desired performance and current achievement;
- Define critical action items (changes in management policies and practices) and the priority order in which they should be implemented to gain the greatest impact at the lowest cost; and
- Link the critical action outcomes to existing (and future) BPA member utility DSM programs.

The "deliverable" for this step is a management assessment report that documents the findings of the assessment, with the recommended action items, as well as a proposal (with a business case) to participate in the ESI HPEM program.

2. *Organizational Commitment* - After the management assessment, end users make a decision to pursue HPEM in a concerted way, or not. Assuming a commitment is made to participate, the end users sign a "letter of intent", which is non-binding, but outlines the services provided through the HPEM program and the expectations of the end user. The letter of intent (or parts of it) may be used as the foundation of a policy statement, signed by the end user's senior management and communicated as appropriate for that facility.

   The policy statement consists of:

   - Goals and objectives for the project;
   - Accountabilities or assignment of a corporate sponsor and energy champions (who may also be the EPM); and
   - An agreement to work with the HPEM process.

3. *Action Plan* - The management assessment and discussions with end user staff is the basis for a Draft Action Plan that details the 90 day, 120 day, and 2 year activities. Throughout this process, HPEM staff works with the energy champion as well as the utility representative and ESIP, to ensure coordination. Typical action items include both management-and facility-oriented recommendations, each of which is prioritized for action.

Example recommendations may include establishing:

- Policies or directives containing specific goals and objectives for improving energy efficiency and reducing energy costs;
- Plans that outline the portion of the goal that are attained by capital projects, O&M changes, and other behavioral or business process changes -and establish a plan to address each category;
- Energy teams, and/or assigning accountabilities for energy consumption by department;
- Reports of overall facility, department, or system level, energy use per unit of activity (e.g. kWh per ton) and examining results where they show large cost or usage variance from target; and
- Protocols to ensure energy efficiency guidelines are routinely applied in replacement of energy using equipment.

4. *Implement Action Plan* - HPEM trainer works with the end user, utility representative, and ESIP, to ensure successful implementation of the Action Plan by supporting the site team through this process. The HPEM trainer's primary role during implementation is to provide counsel to the corporate sponsor and energy champion through attendance at the energy team meetings and additional telephone, e-mail, and face to face meetings the first three to six months of implementation, The HPEM trainer also incorporates tools and templates such as the energy policy, team meeting agendas, employee awareness materials, etc. during implementation of the action plan.

5. *Monitor, Track, and Report* - An important step in fostering an environment of continuous improvement is to capture appropriate energy-related information, analyze and mine the data for potential opportunities, and manage the information for effective reporting and feedback, ensuring that all appropriate personnel is notified and respond appropriately to identify variances.

   The overall process for this step is:

   - Set energy saving goals;
   - Determine the logical granularity of reporting and tracking for the facility;
   - Establish baseline(s) at the appropriate level in the facility;
   - Establish a tracking and reporting process, with variance triggers;
   - Make improvements (capital and non-capital);
   - Track and report performance; and
   - Calculate energy savings.

   The MT&R analysis process requires:

   - Each end user establishes at least one baseline (more depending on granularity, operating variances, etc.) which represents the current operating conditions as much as possible; and

- The end user and HPEM trainer track the opportunities that are implemented (including capital and non-capital changes) and other operating and maintenance changes that could have material change on energy intensity.

6. *Recognize Achievements* - As end users move through the HPEM process it is important that both management and staff see the benefits, and feel successful, with the process. Management recognition is integral to sustaining the effort. Each organization varies in terms of how people, teams, or efforts are recognized.

7. *Re-Assess and Continue the Process* -The annual review with each end user provides an opportunity to re-engage the corporate sponsor, assess the strengths and weaknesses of the HPEM efforts, set new goals for the upcoming year, and communicate a consistent message of improving energy management for the organization.

5.4.5 HPEM Roles and Responsibilities

HPEM trainer: Primary responsibilities of the HPEM trainer are to:

- Coordinate activities with the utility representative and ESIP.
- Deliver services to end users in the adoption of HPEM.
- Maintain an implemented project register and an opportunity register in conjunction with the end user.
- Develop and maintain an MT&R baseline and energy savings model in conjunction with the MT&R team and the end user.

The program partner will provide additional detail on the HPEM training process in a separate document.

ESIP: Primary responsibilities of the ESIP relative to the HPEM services are:

- Recruit end users in conjunction with HPEM trainer and utility.
- Assist the end user with development of technical opportunities (CPs and T&T projects).
- Collaborate with HPEM trainer and end user on developing a plan to meet targeted savings levels.
- Provide documentation of all CP and T&T projects assessed and/or implemented through the program.
- Optionally participate in the ongoing delivery of the HPEM services.
- Review MT&R-based savings claims and assist with PTR submission for this special form of incentive.

Utility: The primary responsibilities of the participating utility representative are:

- Discuss the delivery process and establish working with the ESIP and end user.
- Participate in the market planning with program staff.
- Assist with end user recruitment.
- Identify and screen potential end users.
- Initial meeting with ESIP and HPEM trainer.
- Optionally participate in the ongoing HPEM process.

ESI EM engineer:

- Final approval of MT&R based savings as an energy efficiency measure for each year of participation.

MT&R team:

- Provide technical support related to the hardware, software, and statistical methods to be used in MT&R analysis. This role applies to both HPEM and T&T pilot projects.

5.4.6 HPEM Incentives to End Users

HPEM participants are eligible for incentives. End users are eligible for a series of annual incentive payments based upon the MT&R-based savings achieved by the end user. The HPEM incentive rate is set in the participation agreement, but would normally be capped at $0.025 per kWh per year.

The HPEM incentive is applied after the following corrections have been applied to the total energy savings measured at the site.

- Subtract measured and verified savings from completed ESI CP projects. These savings may need to be pro-rated based upon the fraction of the twelve month period where the project was installed and operational.
- Subtract estimated prorated savings for additional custom projects which have been installed, but are not officially complete.
- Subtract CUSUM savings from Track and Tune pilot projects when the Track and Tune pilot project is measured at the sub-meter level. The Track and Tune savings are paid at the same rate, and at the same time as the HPEM savings.
- Subtract savings from deemed projects.
- Subtract savings from any other project that was directly or indirectly supported by BPA incentives.
- In the event that an end user is participating concurrently in a T&T pilot project and HPEM and the ESI program can not differentiate savings

attribution by program feature, a collective incentive payment for the total savings will be provided.

The savings are evaluated on annual basis and are measured relative to the original baseline period after the corrections noted above.

Savings are not eligible for incentives when they are associated with any of the following. Some of these situations call for a re-baselining step:

- Fuel switching.
- Outsourcing energy intensive processes.
- Major changes to product line.
- Major changes in production level that go above or below the production levels seen in the baseline period.

Savings can be claimed even if more energy use is being used than during the baseline period, provided that the end user saves energy relative to the regression of the baseline data.

The HPEM incentive applies to the savings achieved in the first year HPEM participation and then for the subsequent four years.

This project is different than a conventional CP since there is no explicit project cost. The incentive is not subjected to a cost cap or an annual limit, provided that appropriate corrections are applied and the limitations are satisfied. All projects through HPEM need to be reviewed for changes in the facility that may have an "appearance" of reduced energy intensity. However those facilities with larger energy savings are subject to proportionally more investigation into the validity of the energy savings.

5.4.7 HPEM Process Flow Steps

1. Initial meeting with utility representative, ESIP, EPM (if applicable) and HPEM trainer:
    a. Discuss the delivery process, establish working agreement.
    b. Identify and screen potential end users.
    c. Develop a recruitment approach at the appropriate level in the organization.
2. End user specific recruitment:
    a. Meet with the end user to explore interest, assess authority, etc.
    b. Discuss one-on-one and structured network group options.
    c. Solicit end user commitment.
    d. Conduct management assessment.
    e. Establish the business case.
    f. Present proposal.

3. Get Go/No Go Decision-with signed letter of intent (assuming a Go) between the following parties:
    a. End user (required);
    b. Utility (required);
    c. HPEM trainer (required);
    d. ESIP (optional);
    e. ESI EM engineer (optional).
4. Coordinate with HPEM energy champion to implement action plan.
5. Establish MT&R baseline and data collection methodology.
6. Evaluate MT&R-based savings at each one year interval and submit CP verification for that one year measure.
7. Active one-on-one training or structured network group participation lasts one year.

5.4.8 HPEM Forms and Tools

Energy Management Assessment Tools:
EnVINTA One-2-Five Energy™: EnVINTA's business energy management assessment tool is well known and has been extensively utilized throughout North America. EnVINTA, or a functional equivalent, will be utilized.

Monitoring, Targeting, and Reporting (M T&R):
MT&R is a statistical analysis tool and approach that helps monitor and analyze energy use, and quantify energy savings from the HPEM program. End users first analyze the drivers that impact energy use and define a relationship between energy and its drivers, most notably production.

MT&R is a statistical program method to calculate HPEM savings that go beyond the sum of the savings of individual CPs (Capital or Track and Tune). It is used as a tool for the HPEM trainer and end user to understand variances in energy use and to identify time periods when the end user was operating highly efficiently (such that the operational practices during these periods can be replicated) or inefficiently (such that inefficiencies can be identified and addressed).

HPEM Letter of Intent:
This is the official engagement agreement to be used by the program to establish participation in either one-on-one training or Structured Network Group.

HPEM Project Log:
This log summarizes all identified, studied, implemented, and completed projects. It is maintained primarily by the end user with the assistance of the HPEM trainer. It is used to subtract out the impact of individual completed projects when assessing meter level performance.

HPEM MT&R Savings Claim and Utility Reporting System Submission Form:

The MT&R-based HPEM savings are treated as a special version of an ESI CP in line with how savings are treated on T&T projects. Refer to Section 5.3 and 5.7. Normally a CP is entered into the utility reporting system "looking forward" based upon project costs and then as a completed and verified project. This form, coupled with required changes to the utility reporting system, enables the ESI program to handle and account for projects of this type.

The MT&R savings are retroactively claimed at the end of a twelve month period. This process is repeated for up to five years (only the first of the five years has the high level of interaction by the HPEM trainer).

5.5 ESI Monitoring, Targeting, and Reporting (MT&R) Overview

5.5.1 Overview

Monitoring, Targeting and Reporting (MT&R) is a technique (based on statistical process control) to monitor and control a system. For the purposes of this program the system may be a whole facility or a system or sub-system within the facility. The objectives of MT&R are:

1. Identify changes in energy intensity over time;
2. Quantify energy savings;
3. Identify areas, or times, to investigate for opportunity; and
4. Provide feedback to staff and management on progress to goal.

The fundamental process of MT&R is:

1. Collect energy, production, and other relevant data.
2. Create an energy performance (regression) model that relates energy consumption to key variables. The model helps "predict" energy consumption based on variation of the key variables.
3. Establish baseline and performance targets for particular operating conditions, product runs, etc.
4. Conduct Cumulative Sum of Differences (CUSUM) analysis to determine the difference between the actual and predicted (or targeted) energy consumption. This analysis is done on an ongoing basis.
5. Report the findings of the CUSUM and investigate why the system improved or degraded.

5.5.2 Application of MT&R to the ESI Program

The MT&R methodology, in conjunction with a process to track specific activities, is used to track and calculate energy savings on the Track and Tune and HPEM pilot features of the Energy Management pilot component.

Like any analysis, the precision of these 'models' is dependent on the quality of data and interpretive techniques used in the analysis. This document outlines the methods and requirements to establish the baselines and savings quantification. The steps and requirements are outlined relative to the fundamental MT&R process outlined above:

1. Collect energy, production, and other relevant data:
    a. The HPEM trainer prepares a standard one to two page background documents that outline the facility, products and/or process, major equipment, key changes in production or process over the last two years, and the facility's energy reduction goal. The document also outlines any other energy related projects that are in process (e.g., CP, T&T project, etc).
    b. Establish the MT&R scope and data sources. The scope of the analysis may be simple, as is the whole facility (with a corresponding single electrical meter), or as complex as MT&R on the whole facility as well as multiple sub-systems (and corresponding sub-meters). The MT&R analyst develops an overall strategy which takes into account the expected areas of improvement, and data collection (and metering) requirements, for that facility. Track and Tune pilot projects also help with the data collection and analysis of the HPEM process.
    c. Collect 24 months of energy, production, and other relevant data. For processes or other situations where the data is unavailable, or clearly not relevant, a smaller duration with more frequent readings may be sufficient.
    d. Review and clean the data – this is generally graphing the energy data relative to the production data, looking for significant changes, outliers, or other anomalies.
    e. Establish and maintain a log of energy-related opportunities and activities. Some activities have engineering estimates of savings (such as capital projects) and others are a brief description of the activity (behavioral). The register helps draw causation between program involvement and model estimates.
2. Create an energy performance (regression) model that relates energy consumption to key variables (production, key temperatures, weather, etc.). The model helps "predict" energy consumption based on variation of the key variables:
    a. The key indicator of a quality model is strong correlation between the key variables and historical energy consumption, as expressed by the R^2 (coefficient of determination). The R^2 ranges from 0 – 1, where 0 indicates the model does not explain the variation in the data and 1 indicates the model explains the variation as much as possible. The baseline model needs to meet a minimum standard to establish eligibility for incentives, depending on level

of sub-metering data available and variables included in model. One of the goals of the pilot program is to establish an appropriate minimum R^2 requirement. The current IPMVP guideline recommends a minimum acceptable R^2 value of 0.75.

   b. If the R^2 is unacceptable, the MT&R analyst meets with the facility personnel to identify additional data or variables to establish a better fit. Alternatively, other statistical techniques may be used to analyze the data.

3. Establish baseline and performance targets for particular operating conditions, product runs, etc. A key requirement for participation in HPEM program is that the end user set a performance goal. This process establishes the baseline from which the goal is measured, and the target to meet the goal. Although the Track and Tune pilot feature does not set a specific target, it does require a well defined baseline that forms the basis for comparison.
   a. Meet with plant staff to identify particular performance periods that represent baseline (current standard practice) consumption as well as those periods that represent other changes in the facility. The current standard practice periods may be broken down (and have distinct models) by time periods (seasonal, cleaning shifts, etc.), production periods (product run mix, production curtailments, etc.).
   b. Once the baselines are established, performance targets can be established. At the most fundamental level, a target can be set by lowering the baseline by the facility energy reduction goal. This becomes the basis for reporting on progress to goal, based on the target.
   c. Significant changes in the facility require that a new baseline be established. At that point, the energy savings from the start of this process up to the change are calculated using the Cumulative Sum of Differences (CUSUM) method. Significant changes include addition of significant energy using equipment, change in product line, and significant change in operations (production levels, feed stock, etc.) and changes in price signals.
4. Conduct CUSUM analysis to determine the difference between the actual and predicted (or targeted) energy consumption. This analysis is done on an ongoing basis, and forms the foundation (with additional review and investigation of other potential changes in the facility) for the annual payments to the end user. The frequency is determined by frequency of data available, reporting process, and the ability of the facility to react to the reports.
      a. Energy savings are calculated on an annual basis, based on the reduction observed from the CUSUM analysis. This analysis forms the basis of payment to the end user. The duration of savings calculations, and payments for energy savings for the Track and Tune and HPEM pilot features are described in their respective program feature descriptions below.
5. Report the findings of the CUSUM and investigate why the system improved or degraded.

5.5.3 MT&R Team

The MT&R team is in place to manage and approve all MT&R strategies and methodologies as well as the T&T performance tracking systems. The MT&R team consists of the BPA ESI EM engineer and two members of the program partner staff, the MT&R engineer and MT&R specialist.

5.5.4 Responsibility for MT&R Model

The development of an MT&R system is a specialized skill that combines:

1. Objective statistical analysis.
2. An understanding of production processes and industrial systems and the independent variables that can influence the energy intensity of those systems.
3. Practical knowledge of electrical sub-metering measurements and other measurements of related process variables.
4. Expertise regarding how to present the data and analysis such that it is visible, understood, and incorporated into the operation and management of an end user's site in a timely fashion.

Depending on the specific context, the development of the MT&R model is created and maintained by an HPEM trainer (where the end user is enrolled in the HPEM program) or by an MT&R team that supports the ESIPs (for Track and Tune pilot projects where no HPEM trainer is involved). In addition, the MT&R techniques are taught to end users in the course of the HPEM program, but savings are always be independently assessed by program personnel where program savings are being claimed and/or MT&R- based incentives are being paid.

5.5.5 End User Requirements Related to MT&R

The end user:

- Provides a minimum of 24 months of energy consumption and corresponding production (or other key variable) data prior to the start of the program at the facility;
- Provides ongoing energy and production (or other key variable) data through the duration of the program;
- Participates in reviewing the analysis to establish a baseline;
- Notifies the utility of significant changes that may impact energy consumption (plant expansion, major equipment changes, changes in O&M of the facility); and
- Maintains an opportunity register that documents the capital projects, O&M changes, and other behavioral changes that impact energy consumption.

5.6 Interaction of Energy Management Measures with Other Energy Efficiency Measures

As described, tracking systems and MT&R models will be the primary tools to evaluate energy savings from Track and Tune and HPEM pilot measures, respectively. Other factors must also be taken into account when objectively assigning savings to these measures.

End users that are active in one or more the energy management offerings are very likely to be pursuing multiple energy efficiency projects. BPA-supported energy efficiency projects could include many or all of the following:

- One or more conventional CPs;
- Deemed measures;
- Small Industrial measures;
- Subsystem level Track and Tune pilot measures;
- Facility level - Track and Tune pilot measure; or
- Facility level - High Performance Energy Management

These projects will typically occur on staggered timelines.

In addition the influence of independent variables on energy use (as outlined in the MT&R section), the savings will need to be accurately assigned to measures such that there is no double-counting of savings nor double payment of incentives.

Facility level savings are always evaluated on the gross level and then a prioritization is applied with residual net savings going to the facility level EM pilot measures:

- First claim to energy savings:
  - Custom projects with completed M&V (for projects completed since the EM baseline was established).
  - Deemed measures (for projects completed since the EM baseline was established).
- Second claim to energy savings:
  - Subsystem level Track & Tune pilot projects.
- Claim to the residual savings can only go a single measure that is evaluated on the facility level. It can be any one of the following three:
  - Facility level Track & Tune;
  - HPEM; or
  - Facility level Track & Tune concurrent with HPEM.

5.7 Reporting of Savings and Incentive Payment

The Energy Management pilot component offers four separate energy efficiency measures that involve ongoing tracking:

1. Subsystem level Track and Tune;
2. Facility level Track and Tune;
3. Facility level HPEM; and
4. Facility level HPEM concurrent with Track and Tune.

Since savings will change over time for these measures, special methods are applied when reporting the energy savings into the PTR system.

There are several guidelines in terms principals regarding how savings are reported:

1. These measures are all considered to have up to 10 year measure lives. These measure lives are consistent with those presented in the draft Sixth Power Plan.
2. For T&T, savings for measures will be reported and incentives will be paid six separate times. The basis for reporting of savings and payment of incentives is 90 days after the action items are completed, the Action Item Completion Date, as specified by the end user. Subsequent annual incremental energy savings reporting and incentive payment milestones are performed every twelve months from the Action Item Completion Date for a period of five years.
3. Incremental savings will be reported annually for HPEM. The basis for reporting of incremental savings and payment of incentives occurs twelve months after an HPEM agreement is signed.
4. For T&T and HPEM, subsequent reporting milestones are not considered separate measures, but rather incremental savings corrections to the original measure.
5. For T&T and HPEM, additional claimed savings for each period are measured and reported relative to the verified total performance of the previous period.
6. For T&T and HPEM, the level savings being achieved at the end of the five year measurement period will be assumed to extend for five additional years.
7. For T&T and HPEM, there is the risk that the utility and BPA will report negative savings for some measures in some years where performance backslides relative to the prior year. Any decrease in savings will be reported as a negative amount, but incentives will still be paid on total annual verified savings.
8. For T&T and HPEM, to mitigate the risk of reporting negative savings, utilities have the choice to under-report savings in the early years of the five year period. The under-reported savings are deferred applied to subsequent years. A utility's methodology for reporting savings will be agreed upon with the ESIP an ESI EM engineer as part of the utility account planning process before participation in the T&T and HPEM pilot features.
9. For T&T and HPEM, the sustained savings incentive is based upon energy savings measured relative to the original energy baseline.

The following pages show illustrative examples of how savings would be reported and incentives paid, beginning with Table 6. A slightly simpler version would apply for HPEM. This example does not include the more complex scenario where the utility under-reports savings. An example of the under-reporting scenario will be provided at a later date.

Table 6: Track and Tune Example: Savings and Associated Payment of Incentives

Project Assumptions:

Cost to implement action items $ 20,000

Funding Levels:

Action Item Funding $0.075 per kWh
Action Item Cap 70%
Sustained savings bonus $0.025 per kWh

Period	System Energy Use (kWh)	T& T Savings relative to baseline (kWh)	T&T "Booked" Savings relative to previous period	T&T Action Item Incentive ($)	T&T Sustained Savings Incentive ($)	T&T Total Incentives ($)	T&T Measure Life for saving booked at this time (yr)	T&T Measure Cost ($/kWh)*
Baseline Year	2,000,000	-	-					
Project completion report at 90-day mark	1,750,000	250,000	250,000	$ 14,000	0		10	
Year 1 completion report update	1,600,000	400,000	150,000	$ -	$ 10,000		9	
Year 2 completion report update	1,700,000	300,000	(100,000)	$ -	$ 7,500		8	
Year 3 completion report update	1,550,000	450,000	150,000	$ -	$ 11,250		7	
Year 4 completion report update	1,650,000	350,000	(100,000)	$ -	$ 8,750		6	
Year 5 completion report update	1,450,000	550,000	200,000	$ -	$ 13,750		5	
Totals	1,450,000	550,000		$ 14,000	$ 51,250	$ 65,250		$ 0.12

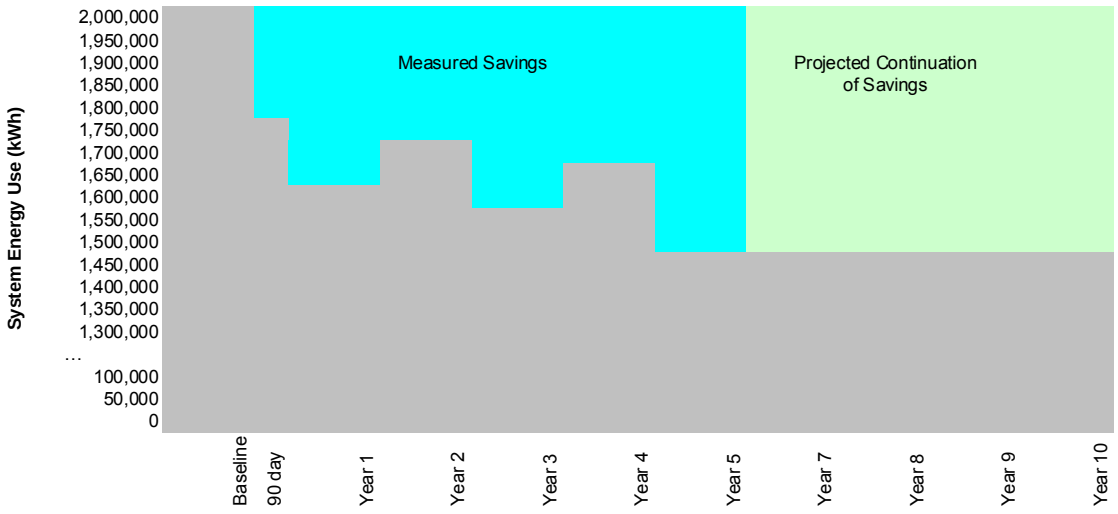


Figure 11: Track and Tune Example – Profile of Energy Use

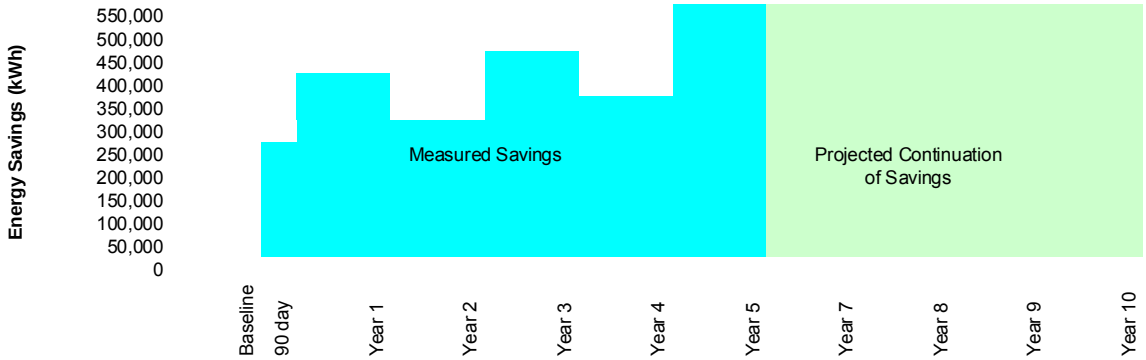


Figure 12: Track and Tune Example - Profile of Energy Savings

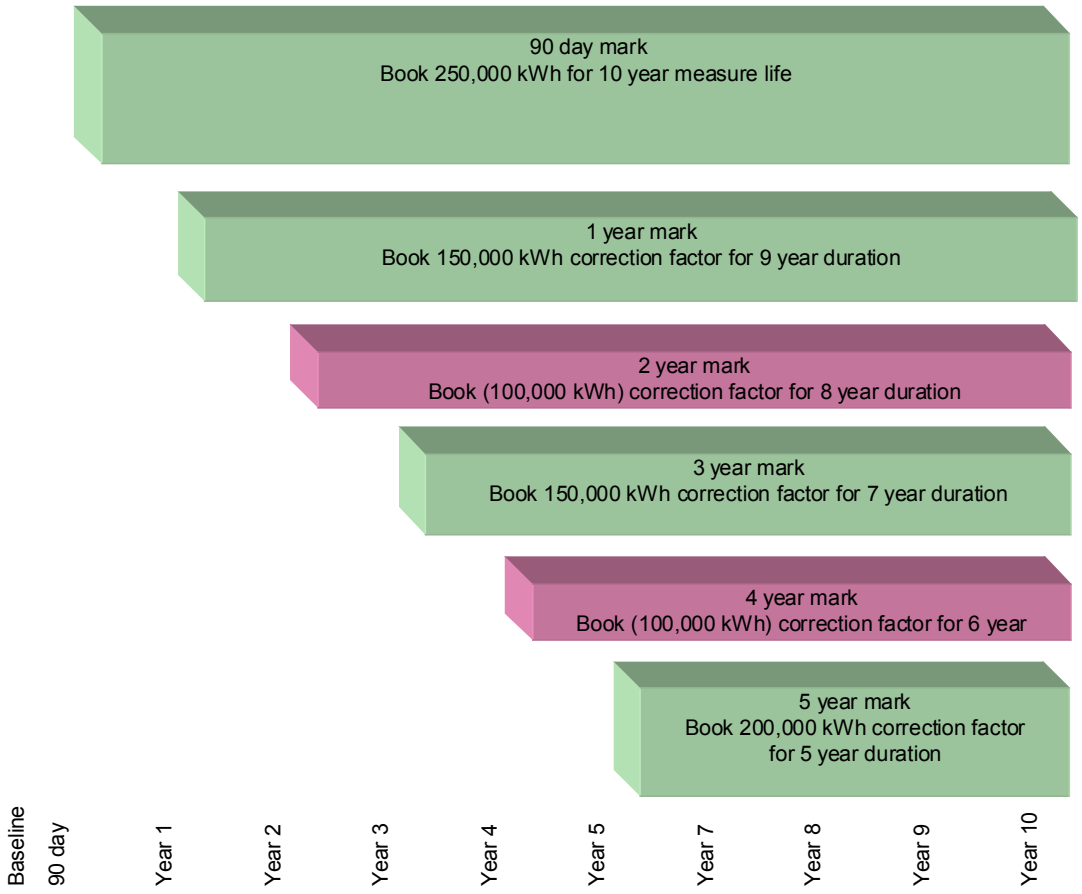


Figure 13: Track and Tune Example: Graphical Representation of Savings Reportings

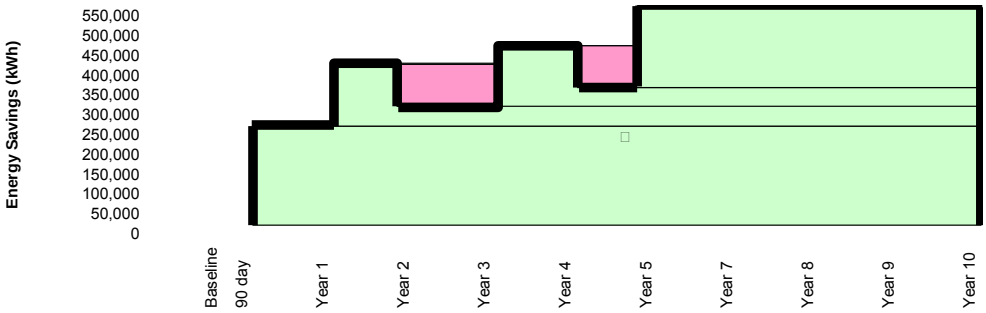


Figure 14: Track and Tune Example: Superimposed Reporting of Savings Match the Measure Savings Profile

5.8 Communication Plan Related to ESI Energy Management Pilot

The Energy Management Pilot communication plan is closely aligned with the overall communication plan for the ESI program. However, the EM-related elements require special attention to communications (and marketing) for several reasons:

- All three of the Energy Management pilot features are new to BPA, utilities, and the end users.
- All Energy Management pilot features involve more end user interaction over a longer-term horizon than a single conventional CP.
- To optimally deliver these offerings new specialized roles are being defined and the individuals filling these roles must be included in the communication plan.
- The Energy Management pilot component requires the highest level of end user engagement of any the ESI program components.

The primary focus of the communication plan is to align activities with BPA member utilities to ensure a coordinated and collaborative delivery process, which includes the following coordination activities:

Program Planning: The HPEM trainer and ESIP meet with the utility staff to:

- Review utility goals and objectives.
- Introduce the three EM offerings and the benefits to the end user and the utility.
- Present criteria for identifying likely end user candidates for EM.
- Present marketing/sale plan and how we coordinate efforts.
- Identify key markets and potential end users.
- Plan cooperation and coordination with utility on end user specific accounts.
- Outline the schedule for recruitment and service delivery.
- Specify next steps for implementation.

Maintain a Target End User List: The ESIP and HPEM program staff establish a list of organizations and end users that are targeted for Energy Management pilot features to communicate with utilities.

End user Communication Procedures: Program staff includes the utility representative in all communication with the end user initially and establish the level of communication that the utility representative would prefer as the project moves forward.

End user Delivery Activities: In addition to ensuring the utility representative is aware of the communication with the end user during the delivery of HPEM, it is particularly important that utilities are active participants in specific elements of the delivery process, such as reviewing the action plan, meeting with the end user energy champion to review past energy audits and proposed plant or operational changes, identifying training needs, etc.

Detailed initiative-based communication plans are developed by the ESIP and HPEM program staff as needed and are reviewed by BPA Energy Efficiency marketing staff. All communication templates follow BPA visual identity guidelines and are reviewed by BPA Energy Efficiency marketing staff.

5.9 Marketing Plan Related to Energy Management Pilot

The marketing plan for the Energy Management pilot component is closely aligned with the overall ESI program's marketing plan.

The marketing and sales approach for all three Energy Management pilot component features is direct contact, with and through the local utilities. The ESIP leads these efforts (or in the case of HPEM jointly leads with the HPEM trainer). The marketing efforts begin with an account planning session with the local utility representative and the ESIP, to identify target end users and conduct a primary screening for the end user. It is anticipated that the program will need to target two to three times the goal, depending on the market, business conditions, and other factors.

Given the specific and targeted nature of this effort, the marketing materials consist of targeted presentations, letter templates, etc. as opposed to glossy brochures or other high-volume material. The intent of the marketing efforts is to present the program as a joint effort with the utility, and as such these marketing materials are co-branded with the utility to the extent possible.

It is important for the marketing materials to:

- Provide a basic understanding of the three Energy Management pilot component features. These are new, outside of the box offerings which must clearly explain the offering both to our program contact, but also to others within the end user and utility organization who are a step removed from our involvement, but may need to support or approve a project of this type.
- Outline the compelling business case (costs and benefits) to implement Energy Management and participate in one or more of the three pilot features.
- Clearly outline the expectations (costs, resources, time) to the end user.
- Connect the Energy Management pilot components with ESI program and member utility's other technical and financial offerings.
- Include case studies and success stories of other Energy Management -related projects.

The primary objective of the outreach activities is to identify member utilities and end user companies that are ready, willing, and able to implement energy management effectively in their organization. The Energy Management pilot component features are not a good fit for all companies and the marketing effort should screen those out while encouraging those companies that yield the greatest energy savings from participation.

All three pilot features are geared toward medium to large end users.

Detailed initiative-based communication plans are developed by the ESIP and HPEM program staff as needed and are reviewed by BPA Energy Efficiency marketing staff. All communication templates follow BPA visual identity guidelines and are reviewed by BPA Energy Efficiency marketing staff.

5.9.1 Additional Marketing Criteria for HPEM

In addition, the following attributes identify end users that are more likely to benefit from HPEM:

- Experience with management systems in other business areas (ISO, TQM, etc.)
- Experience with continuous improvement processes.
- A strategic business objective (through company cost reduction, greenhouse gas reduction, etc.).
- Strong links between energy and the core business.
- No current major organizational changes (mergers, bankruptcy, etc.)
- A cross functional organization (operations, maintenance, engineering, etc.) with some technical expertise.
- Prior experience implementing technical energy projects.
- Progressive executive managers and policies.

The screening process begins with the account planning with the utility, and continues with the first few discussions with the end user directly. Recruitment of end users leverages existing relationships of organizations and stakeholders that can both identify candidate companies that are learning organizations, and provide introductions or otherwise facilitate an introduction to senior management in targeted markets. We heavily leverage our outreach efforts through industrial trade associations, service providers and allied groups. Such relationship building is handled through direct contacts with organization leaders supported by presentations and collateral communications where appropriate.

5.10 Quality Control Plan for Energy Management Pilot

Quality Control is a particularly important element for the Energy Management pilot component, for the following reasons:

- Energy Management pilot component involves three core pilot features that are new to BPA staff, utility staff, TSP consultants, and end users. The steps must be clear and the offers, rules, limitations, and participation steps must be very clear and well-documented for the benefit of all parties.
- The program Energy Management pilot components features involve end user engagement over time. In two instances, savings are measured and claimed on an annual basis. These methods require clear documentation of baselines, and of related projects that overlap and interact.
- Energy Management pilot component intends to quantify and claim energy savings on the plant level. Some of these savings require a comprehensive knowledge of related energy projects to avoid double-counting of savings.
- Energy Management pilot component introduces new specialists (examples: MT&R team, Track and Tune TSP consultant specialists, and HPEM trainer).

The Energy Management pilot component's quality control plan follows the overall ESI program Quality Control Plan. The T&T and HPEM pilot measures are considered Custom Projects, and therefore follow the overall process and requirements of the Custom Project Quality Control Plan as well. Energy Management is a pilot component and therefore potential changes to the quality control plan are likely to occur. In addition to adhering to the Quality Control processes noted above, the Track and Tune and HPEM pilot measures require some more specific control processes, which generally follow the delivery process for each of these pilot measures. These more specific processes are:

Track and Tune Quality Control Procedures:

- Initial Screening: The ESIP works with the utility and ESI EM engineer to establish screening criteria for Track and Tune end users and pilot project types.
- Scope and Tune-Up (Action Plan): The ESI EM engineer and industrial TSP manager approves the scope of the pilot project, as well as the TSP consultant (or outside expert) assignment to the pilot project prior to the enrollment agreement being presented to the end user.
- Performance Tracking: The program partner team conducts a technical review of the tracking strategy as well as the tracking system installation to ensure that the analysis and data are appropriate for the pilot project.
- Action Plan Implementation: The program partner tracks and reviews the end user action plan items and identifies critical elements for the final inspection.
- Final Inspection: The program team conducts the final inspection and provides the ESI EM engineer with a brief report noting the work that has been completed, any outstanding issues, and the request to approve payment. ESI

engineers have the opportunity to participate in the Final Inspection process with the program partner at their discretion.

- Sustained Savings Incentive: The program partner tracks the performance of the pilot project over time, documents significant variance (positive or negative) in the energy savings and investigates those changes. The program partner provides documentation of these changes, and investigation, to the ESI EM engineer with the request for approval of the incentive payment

HPEM Quality Control Procedures:

- Initial meeting with utility representative, ESIP, and HPEM trainer: The program partner works with the utility and the ESI EM engineer to establish screening criteria for end user participation in the HPEM measure.
- End user specific recruitment: The program partner secures approval from the ESI EM engineer on end users prior to submittal of a proposal to participate in the HPEM program.
- Establish MT&R baseline and data collection methodology: The ESIP and HPEM trainer submits the baseline data, period, and energy savings analysis methodology to the ESI EM engineer for review.
- Evaluate MT&R-based savings at each one year interval: The ESIP and HPEM trainer tracks, investigates, and documents significant changes in the facility and notify the BPA ESI EM engineer of any significant impact, or adjustments, to the energy savings analysis. The program partner provides the BPA EM ESI engineer with an MT&R report, outlining the baseline and savings analysis for incentive payment approval.

The specifics of the offering as it relates to special tools, requirements, agreements, and steps were outlined in previous sections.

Given the limited number of end users in this program component, the quality control strategy relies heavily on one-on-one relationship based communication, where we actively solicit feedback. Program staff consults with the senior facility contact, and the facility primary contact, on a quarterly basis to assess program progress and issues. Second, the senior facility contact is given explicit access to the senior program staff, at the beginning of the engagement, in the event there is an issue they need to address at that level.

SECTION 6 – SMALL INDUSTRIAL MEASURES COMPONENT

6.1 Overview

The Small Industrial (SI) Measures component of the ESI program provides a cost effective mechanism for handling specific efficiency measures where the energy savings on individual projects are small relative to typical industrial projects. This allows the ESI program to target small scale industrial facilities and small systems that are historically underserved by traditional industrial efficiency programs.

The SI Measures component uses a trade ally-based project delivery approach coupled with streamlined program processing to minimize project administrative costs. The SI Measures component provides a simplified and responsive approach to encourage and facilitate trade ally and end user participation in the program.

6.2 Implementation Plan

6.2.1 Small Industrial Measures Projects

6.2.1.1 General Small Industrial Measures Project Definition

A potential SI Measures project satisfies both of the following conditions:

1. **Small Size:** Estimated annual project energy savings generally will not exceed 200,000 kWh. Projects of this size justify a streamlined analytical approach, including M&V, due to the small scale of the savings and incentive.

2. **Simple Analysis:** The scope of the project must be relatively simple such that template calculator tool (e.g., the Northwest Regional Compressed Air Tool) can be used for analysis. Systems of greater complexity, such as four air compressors serving a common header, are beyond the scope of a template calculator tool even if the compressors are small.

Typically, annual energy savings for SI Measures projects is less than 100,000 kWh and rarely exceed 200,000 kWh. Savings in the 10,000 to 40,000 kWh/yr range are most common. The SI Measures component includes both deemed measures and CP measures.

6.2.1.2 Types of Small Industrial Measures

Measures that are planned to potentially be included in the SI Measures component are outlined in Table 7. Note that only the VFD air compressor and load/unload air compressor measures are approved to be utilized in the SI at this time. Approval and integration of the other measures listed in Table 7 is planned for fall 2009.

Approval by the RTF is required for measures to be considered deemed. Four of the compressed air measures in Table 7 are expected to be deemed. Several of the custom refrigeration measures listed in Table 7 may also be appropriate deemed measures. SI measures are handled as CPs until they are approved as deemed.

Table 7: Planned Small Industrial Efficiency Measures

Category	Measure	Notes	Anticipated Measure Type	
			Custom	Deemed
Comp Air	VFD Air Comp	75 hp or less	X	
	Load/Unload Air Comp	75 hp or less	X	
	Zero Loss Drains			X
	Cycling Refrig Dryers			X
	Increased Air Storage			X
	Efficient Filters			X
Refrigeration	ECM Fan Motors		X	
	System Controls	e.g., Sporlan iCold	X	
	Evap Fan Controls	e.g. Frigitek or VFD	X	
	Defrost Controls		X	
	Efficient Condensing Unit		X	
	Efficient Condenser		X	
	Fast Acting Doors		X	
Industrial VFDs	Pumps		X	
	Ventilation Fans		X	
	Process Fans		X	
	Conveyors		X	
	Dust Collection		X	

Each SI measure has minimum defined criteria for qualification in the program. For example, the VFD air compressor measure requires that the compressor be 75 hp or less. Satisfying these criteria alone is not sufficient for a project to qualify as a Small Industrial Measures project. The SI Measures team may determined that the energy savings analysis required to accurately estimate the energy savings associated with the project is beyond the capability of the calculator tool to reasonably estimate. The SI Measures team will determine whether a project qualifies for the SI Measures component. If a project is estimated to generate energy savings significantly over 200,000 kWh per year a project will likely not qualify as a SI measure (due to exceeding the M&V light energy savings criteria).

There are no restrictions for SI measures based on the size of the facility, size of the system, or magnitude of energy savings.

6.2.2 Project Delivery Strategy

6.2.2.1 Small Industrial Measures Team

Cascade Energy personnel comprise the SI Measures team. The team is based in Portland, Oregon. In general the SI Measures team provides the following:

1. Marketing of the SI Measures component to trade allies.
2. Ongoing trade ally support over time as they participate in the program.
3. Review and administration of SI Measures projects from inception through completion and close-out.
4. Development of SI measures and calculator tools.

6.2.2.2 Role of Trade Allies

The SI l Measures team works with trade allies as the primary mechanism for generating SI measures projects. The SI Measures team strategically markets to trade allies and provides ongoing training and support as they participate in the program. Engaged trade allies target potential projects using the benefits of the SI Measures component as an integral part of their sales process, collect the necessary project information and complete measure calculator tools, and submit the tools to the SI Measures team for review and processing.

6.2.3 Project Process Flow

There are three general processing paths for SI measures projects:

1. **Deemed Measure Projects:** Projects where the end user or trade ally completes an application form to apply for a rebate. The incentive amount and the energy savings are predefined on a per-unit basis. Rebates are usually structured so that the applicant submits the application with a copy of the invoice after completing the installation. Preapproval by the funding utility is not necessary per BPA reimbursement requirements for deemed measures, but the utility may elect to impose a pre-approval requirement as desired to manage budget. Some utilities may wish to use a provisional requirement – for example, incentive amounts in excess of $1,000 require approval before equipment is purchased

2. **Deemed Calculators:** Projects that utilize template measure calculators approved by the RTF. Deemed calculators may generate a custom energy savings and/or incentives based on user inputs value (rather than strictly deemed values)

depending on the measure. Future modifications to the PTR system could allow the deemed calculators to be uploaded directly in to the PTR system.

3. **Custom Projects:** Projects where both the estimated energy savings and incentives are determined based on the output of a template measure calculator (approved by BPA ESI engineers but not necessarily by the RTF). These projects are submitted into the PTR system in the same manner as standard CPs (see Section 3 for more details). The completed calculator tool would provide the necessary information for the CPP to be generated in the PTR system. Calculators are preapproved by BPA ESI engineers, but not necessarily by the RTF.

Details of SI Measures project process flow is shown below in Figure 15.

6.2.4 Process for Adding Measures to Small Industrial Measures Component

New SI measures and calculator tools are added as developed, particularly in the first six months of operation. Development of an approved SI Measures calculator typically involves the following tasks:

- Meet with trade allies who install and service the related equipment. For each proposed measure, discuss feasibility, application details, reliability concerns, savings potential, and cost. Determine the most relevant and important inputs to the calculator.
- Consult with BPA ESI engineers on the measure, calculator requirements, and potential market impact. Obtain funding from BPA to develop tool if appropriate.
- Develop a pilot calculator tool that provides a reasonable energy savings estimate and is simple and straightforward for the trade ally to utilize.
- Test the calculator on several pilot projects and solicit feedback from the trade allies involved. Make revisions to the tool as appropriate.
- Perform additional iterations of testing as appropriate.
- Submit to BPA ESI engineers for approval for general use in the SI Measures component.
- Incorporate measure and tool into standard measure offered by the ESI program.
- Where appropriate, obtain approval from the RTF for the measure/tool to be used.

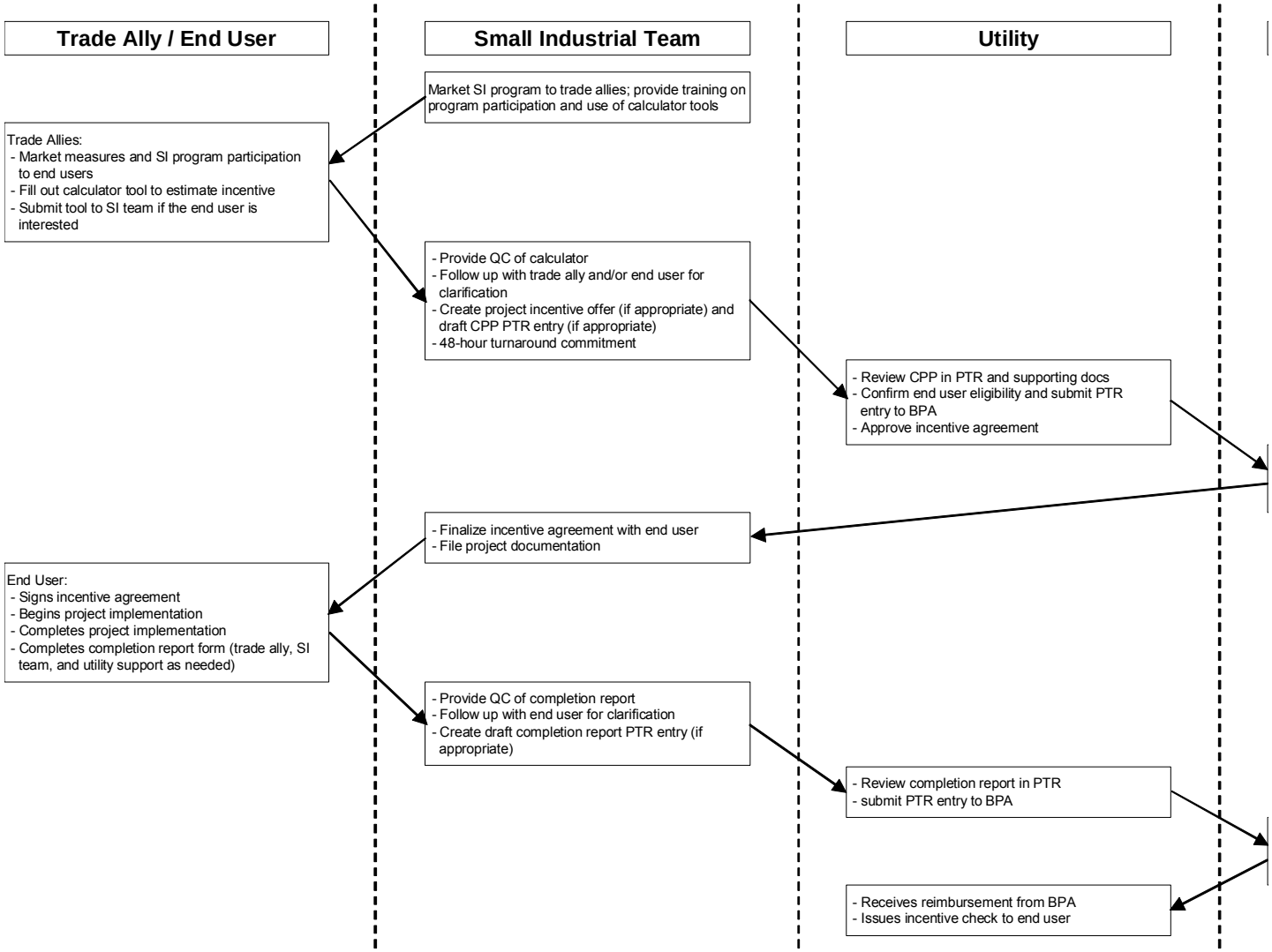


Figure 15: Small Industrial Measures Project Process Flow

6.2.5 Process for Determining whether to Seek RTF Approval of Custom Project Measures

For most new SI measures, the SI Measures team will create a draft calculator tool for analysis and measure processing. The BPA ESI Engineers provide review of the tool and approve for use in the SI measure feature as a CP measure. At this point the SI Measures team would be able to process projects for the measure as a CP measure.

The ESI program and the SI Measures team may elect to have the tool be approved as a deemed calculator. Approval from the RTF is required for a tool to be classified as a deemed calculator. A deemed calculator measure offers the following advantages to the SI measures feature:

- Deemed calculators can be uploaded in to the PTR system and eliminate the need to manually enter custom project information.
- BPA approval of deemed calculator measures is not required before the end user can issue purchase orders and begin implementation. Only utility approval of a deemed calculator measure as a CPP in the PTR system via submitting the entry to BPA is required.
- Deemed calculator measures can have reduced M&V requirements. (Note that the SI Measures team currently does not intend to provide a reduced level of M&V for deemed calculator measures versus CPs, but could conceivably take advantage of this aspect in the future).

The SI Measures team will consider the following factors in determining whether to pursue RTF approval of a CP calculator tool to a deemed calculator tool:

- Anticipated number of projects: The greater the number of projects that a tool will handle the more value that deemed calculator streamlined steps provides.
- Need to reduce project processing time: Deemed calculator measures require less program administrative steps and would reduced the turn around time for processing projects.
- Non-ESI program benefit: Deemed calculators could be utilized by other BPA sectors (i.e., commercial and agricultural) or other regional DSM program (e.g., Energy Trust of Oregon, etc.).

6.3 Communication Plan

The SI manager, a member of the program partner SI Measures team, coordinates with the participating utility and their assigned ESIP to coordinate SI activity, goals, procedures, outreach, availability of funding, and any other relevant matters. Utilities may utilize the ESIP as the primary interface to the SI Measures component or they may interface directly with the SI manager, as desired.

The SI manager establishes with each participating utility an understanding on how best to handle project administrative steps, including project review and approval, and document in an account plan. The ESIP is available to assist in this process. The SI Measures team provides entry and uploading of draft project data into the PTR unless the utility prefers to provide this function. In addition, the SI Measures team stays in contact with utilities by e-mail and/or phone to provide notice of projects awaiting approval. Figure 16 shows the general relationship between utilities, end users, trade allies, and the SI Measures team.

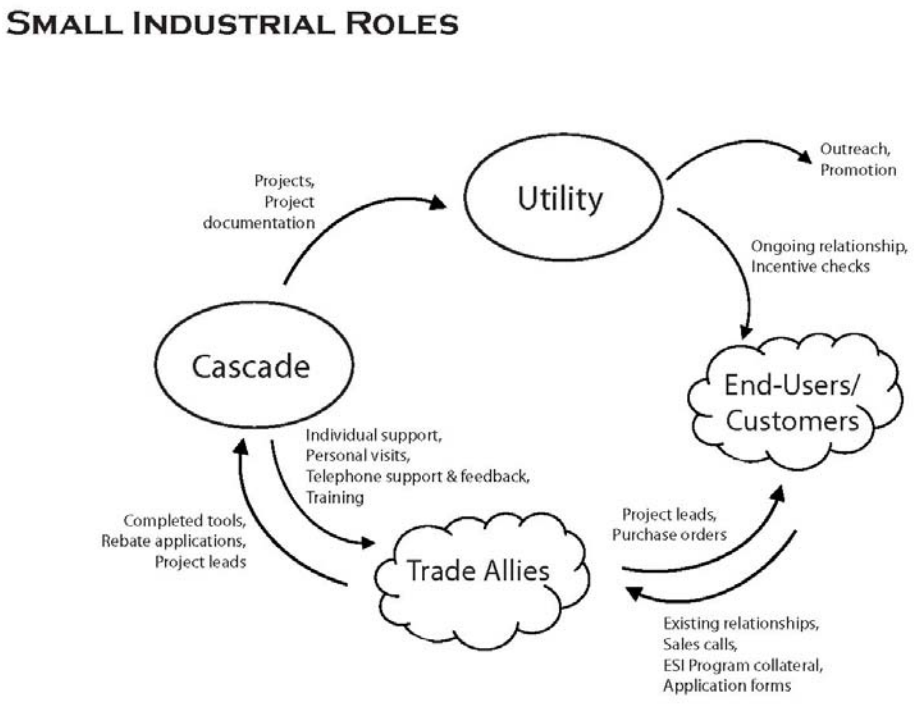


Figure 16: Small Industrial Measures Feature Typical Communications

The SI manager provides a report on SI measure activity to the utility and ESIPs on a quarterly basis.

6.4 Marketing Plan

Marketing for SI consists primarily of reaching out to trade allies to provide them an opportunity to participate, then to give them a responsive and supportive experience as they see how the program works and how it can help them and their end users. Nothing breeds more project volume with a trade ally than a great experience with the first few projects.

6.4.1 Marketing to Trade Allies

The trade ally role is essential to the short-term market penetration and long-term growth of the program. Trade allies spend every day out in the field calling on current end users and developing relationships with new ones. As a result, they are well positioned to identify and cultivate SI project opportunities where a perceived benefit to the trade ally exists. Trade allies provide the following:

- Identify leads, call on end users, and bring in the majority of the project leads.
- Use the calculator tools to propose and sell energy efficient equipment options.
- Collect and assemble the information needed to apply for utility incentives (and BETC tax credits, where applicable) on a turnkey basis.
- Provide feedback and suggestions on program and process improvements to the SI Measures team. The SI Measures team requests feedback periodically during the regular ongoing contacts with the vendors.
- Follow through after the sale, setting up the new equipment properly and ensuring that affected systems perform as expected.

The key to developing a successful relationship with a trade ally that leads to program participation is to make every effort to be responsive and to present a clear program interface to the trade ally. There is a direct relationship between process clarity and trade ally buy-in and participation. Lack of clarity hinders program participation and growth potential.

The SI Measures team role is to continuously and proactively reach out to trade allies to advance their ability to identify viable project leads, promote tax credits and utility incentives to help close sales, and push projects through to completion. This is accomplished primarily by working directly with the trade allies on their leads and projects, helping them to use the deemed calculator tools as intended, and expediting project communication and paperwork processing.

Specific tasks include:

- Identify, recruit, and meet with trade allies. Enlist their interest and involvement. Introduce them to the program, the tools, and the administrative process. Sign them up as participating trade allies, which puts them on the list to receive e-mail updates to tools, forms, program changes, and utility-related news. Trade ally contact and participation information is maintained in a SI Measures database.
- Periodically visit each trade ally. Provide personalized training by working through a few projects with each trade ally, enabling them to see by experience that it really is straightforward and worth their while to participate.
- Stay in regular contact via telephone, e-mail, and periodic e-mail newsletter.

- Act as the go-to person for questions or issues relating to SI measures. Pick up on indicators of potential interest in the other ESI program offerings and actively transmit leads to appropriate parties.

6.4.2 Cooperative Outreach to Utility Customers

The SI Measures team can work with utilities to develop collateral, newsletter pieces, PR opportunities, case studies, or presentations to increase awareness and participation in specific market segments as utilities may request.

When working with utilities on these efforts, initiative-based marketing plans are developed by SI Measures team as needed and are reviewed by BPA Energy Efficiency Marketing staff. All marketing materials and templates follow BPA visual identity guidelines and are reviewed by BPA Energy Efficiency Marketing staff.

6.5 Quality Control Plan

6.5.1 Measurement and Verification

6.5.1.1 Custom Projects and Deemed Calculator Projects

SI measure CPs, including deemed calculator projects, generally utilize the M&V light approach. Data logging is generally not performed on M&V light projects. A project completion form is created for each specific measure type. The form is created by the SI Measures team in conjunction and with approval from the BPA ESI engineers. The form provides all of the required information for a completion report. The end user is on point to complete the form with assistance from the trade ally and SI Measures team. The form is required to be signed and dated by the end user. Utilities may choose to inspect projects as desired.

6.5.1.2 Deemed Measure Projects

Deemed measure projects utilize the rebate application and accompanying invoice to verify project completion. Utilities may choose to inspect projects as desired. The SI Measures team also provides an inspection on a sample of projects (approximately 5 to 10 percent). To date, there are no deemed measures in the ESI program.

6.5.1.3 Quality Assurance

In addition to the above, the SI Measures team performs a more detailed quality assurance approach involving data logging to verify equipment operation and scheduling

on a sample of completed projects. A target of 5 to 10 percent of projects has this more comprehensive quality assurance performed.

This quality assurance approach provides a more detailed and useful feedback for the design of subsequent calculator tools and program administrative processes. It is not intended to modify the energy savings and the resulting incentive paid to the end user of projects of the sample set that have quality assurance performed. Rather, the purpose is to measure project, calculator, and trade ally performance and apply those results moving forward.

SECTION 7 – NORTHWEST TRADE ALLY NETWORK

7.1 Overview

This section describes enhancements to the Northwest Trade Ally Network (NW TAN) component that is incorporated in the ESI program. The TAN is an existing BPA initiative that supports lighting trade allies and utilities in the commercial and industrial sectors. With the transition to the NW TAN component of the ESI program, Lighting Key Account Managers (KAMs) are added to the TAN initiative to increase the number of industrial lighting projects and magnitude of energy savings realized by BPA utility customers. The KAMs feature within the NW TAN is available to utilities that enroll in the ESI program. The TAN actively markets the KAM enhancement of the existing initiative through its Web site, the trainings that are provided, and ongoing utility and trade ally interactions. The Lighting KAM feature is expanded upon in this section. More information on TAN can be found at www.northwest-lighting.org

A summary of the modification to the existing TAN is shown in Figure 17.

7.2 Implementation Plan

7.2.1 Background

TAN is a BPA initiative that helps lighting trade allies grow their businesses through participation in utility lighting efficiency incentive programs. TAN helps trade allies participate in utility incentive programs, offers valuable trainings and industry news, and provides useful forms and resources. TAN is provided by a third-party contractor to BPA, Evergreen Consulting.

Through the TAN, trade allies (electrical contractors, distributors, manufacturer representatives, designers and regional manufacturers) and utilities can work cooperatively to help end users make cost-effective, energy-efficient lighting choices. Trade allies can expand their businesses through the sale of products and services related to energy efficient commercial and industrial lighting in both retrofit and new construction markets.

Figure 17: ESI TAN Modifications

Overall purpose of the NW TAN: Improve communication and resources to lighting trade allies to increase the quantity and quality of commercial and industrial projects completed by BPA utility customers.

Comparison of Base Level and Expanded Services

Base Level Services*	**Expanded Services**
Regional trade ally/utility technical lighting training sessions (10+ sessions in WA, OR, ID, MT)	Two (2) FTE outreach personnel to support completion of industrial projects working with trade allies, utilities, and the BPA/program partner team**
Maintain/grow master trade ally list to increase completed C&I projects (432 in 11 states currently)	One (1) FTE outreach person to work with electrical distributors and manufacturer representatives to support/complete C&I projects*
Establish, maintain, and enhance NW TAN website to support allies and utility programs: www.northwest-lighting.org	Increased NW TAN team support to utility programs to grow effectiveness and results of their commercial and industrial lighting programs*
Produce and distribute a bimonthly e-newsletter on lighting technology, utility programs, sales tips for selling energy-efficient lighting; etc.	Provide NW TAN team support to national/regional end-user customers and trade allies needing coordinated services to participate in utility programs*
Support C&I lighting utility program manager collaboration & information sharing, and other actions to improve regional program consistency for enhanced results	
Provide input and support to improve BPA lighting calculator, incentives, and other BPA program tools and processes to increase results	
Maintain toll-free hotline for trade ally and utility program support	
Develop and implement a turnkey C&I lighting program (currently with three utilities) to grow program results.	

** Funded through BPA NW TAN contract with Evergreen Consulting Group*
*** Funded through BPA ESI contract with program partner*

The TAN provides trade allies with valuable support services at no cost, including:

- Bi-monthly e-newsletter with relevant information.
- Contact information and maps of regional utility incentive programs.
- Technical workshops.
- Online and telephone support.
- Industry events calendar.

7.2.2 ESI Program Enhancements to TAN

Evergreen Consulting (Evergreen) is a member of the ESI program partner team and continues to provide TAN with the transition to the ESI program under the existing TAN contract. With the ESI program, Lighting KAMs are funded by the ESI program to enhance TAN. The KAMs are employed by Evergreen and will specifically target the industrial sector. The goal of the Lighting KAMs is to increase the number and magnitude of industrial lighting projects for BPA utility customers. Lighting KAMs enhance the TAN initiative by providing experienced resources to work one-on-one with trade allies, utilities, and end users on a project-level basis.

Lighting KAMs work primarily with lighting trade allies to identify, support, and provide technical/marketing and sales assistance to propose and complete industrial lighting projects in cooperation with the respective utility and their end user. Lighting KAMs are also available to utilities and ESIPs to support lighting projects that they identify and/or develop.

7.2.2.1 Role of Lighting KAMs

The primary role of the Lighting KAMs is to provide project specific support on industrial lighting projects that are implemented within utility energy efficiency programs. Lighting KAMs leverage their past experience and relationships in working with selected trade allies serving the industrial market.

Lighting KAMs target trade allies that serve the industrial lighting market (e.g., lighting contractors, distributors, manufacturer's representatives, and others) and identify current and future lighting projects for each. Lighting KAMs assist trade allies with driving end users to implement projects and participate in their respective utility energy efficiency program. This approach is currently employed with the Energy Trust of Oregon (ETO) lighting initiative.

Lighting KAM positions are staffed with personnel that have a demonstrated experience in the sales and installation of energy efficient industrial lighting projects. Lighting KAMs also have previous experience in working with utility energy efficiency programs.

The Lighting KAMs are available to provide the appropriate level of support to influence project implementation, such as the following:

- Joint on-site lighting walk-through and/or technical development with a trade ally and/or utility representative.
- Review trade ally proposal to an end user and provide recommendations for enhancing efficiency technology options such as inclusion of controls, use of specific technologies, assumptions for energy calculations, etc. Provide advice/support to improve clarity, brevity and other proposal improvements to increase results.
- Joint on-site meeting with end user, trade ally and/or utility to present lighting project proposal to support the complete project value proposition (energy savings, utility incentives, improving light levels, color rendition, consistent color temperature, etc.).
- Advice and counsel to trade allies on matching appropriate lighting technologies to end user needs.
- Assistance to trade allies in utilizing utility program lighting analysis, project proposal tools, and other programmatic steps.
- Work with trade ally and lighting supply chain (i.e. – distributors, manufacturer representatives, etc.) to provide or enhance knowledge and support for technologies and price points.

Lighting KAMs are also available to respond to utilities and ESIPs on lighting projects that they identify and/or develop. Utilities are required to be signed up as members of the TAN and opt in to the ESI program to utilize the Lighting KAMs. This can include technical assistance, provide lighting audits, and identification and support of trade allies. Lighting KAMs do not provide services such as PTR entry and completion reports.

7.2.2.2 Lighting KAM Organization

Lighting KAM staffing will be equivalent to two full time employees (FTE). The KAMs are funded by the ESI program to enhance the TAN program. The KAMs are deployed by region. The West Region KAM serves utilities in Western Oregon, Western Washington, and California. The East Region KAM serves utilities in Eastern Oregon, Eastern Washington, Idaho, Montana, Nevada, and Utah. Lighting KAM trade ally assignments are also be deployed by region, with measures taken to accommodate trade allies that operate in both the West and East regions.

Roger Spring of Evergreen Consulting is extending his current BPA-contracted role of providing overall management oversight and direction of the existing TAN initiative to NW TAN component of the ESI program. This includes oversight of the Lighting KAMs.

7.2.2.3 Trade Ally Participation

Trade allies can join the TAN program through an application process. There is no cost to the trade ally for membership.

It is anticipated that twenty to thirty trade allies will actively work with the Lighting KAMs at the onset of the program. In order to receive Lighting KAM support trade allies routinely share their industrial project prospect lists with the Lighting KAM. The trade allies will also share their resulting sales and installations as they occur as a requirement to have support available from the Lighting KAMs.

Lighting KAMs prioritize prospective projects with each trade ally for support based on the magnitude of the project, KAM transaction cost to potentially gain success (transaction cost being a combination of investment in time, travel, etc.), likelihood of end user implementation, and the overall resources from the utility and ESI program that may be necessary to influence the project.

7.3 Communication Plan

7.3.1 Utility Account Planning

As part of the utility account planning process the ESIP will introduce the KAM feature to the utility and help determine strategy for performing lighting projects. The ESIP can assist the KAM with establishing a working relationship with the utility. Utilities are encouraged to provide details to their KAM of prospective projects with their end users as well as general end user interest in lighting projects. The ESIP is available to assist the utility throughout this process.

Utilities are asked to provide a summary of project participation steps and requirements such that the KAM can serve as a resource to the trade ally or end user for future participation. The utility account plan is approved by the utility and KAMs and documented by the KAMs.

Ongoing communications with utilities generally occurs at the project-specific level as trade ally project opportunities with end users develop. Utility representatives are contacted prior to any direct communication between the Lighting KAM and the end user.

7.3.2 Trade Ally Account Planning

Communications between the KAMs and trade allies occurs in a number of ways. Initial communications with trade allies is one-on-one, face-to-face sessions to explain the support that could be provided and to review trade ally project prospect lists. A specific

account plan is documented with each trade ally to identify planned actions, timelines and responsibilities.

7.4 Marketing Plan

7.4.1 Trade Ally Recruitment

Evergreen has over fifteen years experience of developing and managing commercial and industrial lighting programs in the Northwest and currently manages the TAN initiative. This work, coupled with input from utilities, shapes an initial list of potential trade allies for the Lighting KAMs to engage. In addition to this initial effort, the Lighting KAMs actively recruits key trade allies on a one-on-one, targeted basis.

Several trade allies have already been approached to determine the feasibility of the Lighting KAM concept to BPA utility customers based on their positive experiences with the concept in the ETO program. Based on this contact, it is anticipated that the trade allies will support the Lighting KAM concept and actively participate since it will provide more sales results to their companies.

7.4.2 Trade Ally Training

Lighting KAMs provide one-on-one training to trade allies as appropriate. This training or consultation cover matching specific lighting technologies to meet end user needs as well increasing project energy and cost savings potential by adding controls and other appropriate technologies.

7.5 Quality Control Plan

Roger Spring provides overall management oversight and direction to the Lighting KAMs. This oversight includes periodic contact with a selected sample of trade allies and utilities. With the utility's permission, contact is made with their end users to confirm their overall satisfaction and evaluation of project quality. Mr. Spring (and/or Evergreen senior staff) meets with each Lighting KAM during the initial six months of operation and at least once a month thereafter.

7.5.1 Project Participation

Trade ally members are required to provide their respective Lighting KAM with project prospect lists in order to receive KAM support. Trade allies are also required to share their resulting sales and installations as they occur to continue to have support available from the Lighting KAMs.

The KAM screens the trade ally's project prospect list to identify industrial projects with BPA utility customers. The KAMs only provide in-depth support for industrial projects within BPA utility customers. (Note that KAMs may provide brief, low-level support for projects that fall outside this category in an effort to strengthen and maintain the overall relationship with key trade allies.)

7.5.2 Project Performance Tracking

Lighting KAMs are responsible for tracking and reporting their impact on projects that occur within utilities. Project tracking includes the following:

- Utility, end user, trade ally information;
- Project energy savings;
- Project description (i.e., efficiency components); and
- A brief description of Lighting KAM influence on project.

Data tracking may be done via TrakSmart but is not required in the PTR system. Project tracking is reported monthly to the program partner and overall BPA ESI program.

SECTION 8 – COMMUNICATION PLAN

8.1 Overview

This section explains the general communication plan for the ESI Program. Communication plans specific to ESI program components are included in their respective sections. The ESI program communication plan seeks to achieve the following goals:

- Communication and messaging are prepared and implemented in a manner that is clear, consistent and easily understood by all target stakeholders.
- Communication actions are purposely planned and executed to meet the needs of all stakeholders involved in the program although individual communications include targeted messaging.
- BPA and the program partner include communications as a consistent item on internal meeting agendas, trainings, and other activities.

Detailed initiative-based communication plans are developed by the program partner as needed and reviewed by BPA ESI program manager and Energy Efficiency Marketing staff. All communication materials and templates follow BPA visual identity guidelines and are reviewed by BPA Energy Efficiency Marketing staff.

8.2 Utility and ESI Program Ongoing Communication Plan

This section covers the long-term communication plan between utilities and the ESI program.

8.2.1 ESIP

The ESIP position is intended to serve as the primary contact between utilities and the ESI program. Utilities that are interested in aggressively implementing industrial energy efficiency projects are strongly encouraged to utilize their ESIP to the fullest extent.

8.2.1.1 Utility Account Planning

Utilities that opt in to the ESI program will have an individual ESIP assigned to their utility. One of the first initial steps is for the ESIP to meet with the utility and develop an account plan. The ESI Engineers are available to assist in this process as needed. The

account plan focuses on developing a mutual understanding and plan for the utility and ESIP to work together moving forward. The Utility Account Plan includes defining protocols and procedures for the ESIP working with the utility's end users. The Utility Account Plan also includes defining service standards (i.e., communication and operating protocols) between the utility and ESIP for program delivery. More detail on Utility Account Planning with ESIP can be found in Section 2.

8.2.1.2 General ESIP Communication

The ESIP is available to the utility to represent the ESI program and to serve as a primary point of contact for all matters related to the ESI program. The ESIP is available by phone and e-mail. Face-to-face meetings are encouraged and are arranged by appointment.

8.2.1.3 Quarterly ESIP Reporting

The ESIP provides a quarterly report to the utility and BPA summarizing ESI program status within their service territory. TrakSmart is utilized for obtaining project specific data. A Quarterly Utility Report template is submitted to BPA for review and approval.

8.2.2 TrakSmart

TrakSmart is utilized to track all potential CPs under development for utilities with an ESIP. Each utility has the ability to directly access TrakSmart and project specific data for their territory.

8.3 End User and ESI Program Communication Plan

The ESIP position is intended to serve as the primary resource to assist utilities' program outreach efforts to their end users.

The ESIP assists the utility to provide ESI program representation to the utility's end users. Communication protocols are established for all parties according to the Utility Account Plan. See Section 2.3 for more details on the communication plan between ESIPs and end users.

8.4 BPA and Program Partner Communication Plan

8.4.1 Core Team Meetings

The ESI program core team consists of the following personnel:

BPA ESI technical services team:

- Jennifer Eskil
- Chris Milan
- Erin Hope
- Todd Amundson
- Steve Brooks
- Jennifer Wood

Program partner team:

- Marcus Wilcox
- Rob Morton
- Josh Bachman

The ESI program extended team consists of the following personnel:

BPA ESI extended team:

- Danielle Gidding
- Carol Lindstrom
- Abigail Howard

Program partner extended team:

- Mark Hamilton
- Roger Spring
- Ian McNickle

The core team will meet within the first two months of Phase 2. The core team determines an appropriate ongoing meeting schedule thereafter. Extended team members are asked to participate in core team meetings as appropriate.

A detailed team communication plan that is updated and distributed on an as-needed basis is maintained by the program partner marketing lead.

8.4.2 Program Partner BPA Reporting

8.4.2.1 Monthly Reporting

The program partner generates a monthly report to BPA summarizing ESI program status. The report relies heavily on TrakSmart to generate statistics of ESI program status as well as relationship reporting for all milestones defined in TrakSmart. TrakSmart is utilized to generate all project related data. The program partner provides a monthly reporting template to BPA for approval. Monthly reports are submitted to BPA on the tenth business day of each month in electronic format.

8.4.2.2 Annual Reporting

The program partner generates an annual report to BPA summarizing ESI program status. The program partner provides an annual reporting template to BPA for approval. Annual reports are submitted to BPA on the twentieth business day of the first month of the new fiscal year in electronic format (e.g., October).

8.4.2.3 Final Report

The program partner generates a final report to BPA summarizing ESI program performance at the end of the contract period. The final report is submitted to BPA on the tenth business day following the expiration of the contract in electronic format.

8.4.2.4 COTR Program Updates

Per the COTR request, up to two custom reports are generated per month not to exceed two pages in length. The program partner has five business days upon request to deliver a custom report.

8.4.2.5 Utility EER and Power AE Communication Plan

No reoccurring reporting mechanism specific to utility EERs or Power AEs is planned at this time. Both may receive the reports outlined in the previous sections upon request to the ESI program manager. Utility EERs and Power AEs may contact the ESI program manager for updates on activities within their respective utilities' service territories.

8.4.3 ESI Marketing Communication Plan

The program partner team includes a marketing position to oversee the strategic and creative development of all marketing materials (collateral materials, template development, advertising, Web site, etc). BPA provides oversight of all marketing materials and plans developed by the program partner. Service standards are defined between the program partner marketing person and BPA Energy Efficiency Marketing staff for preferred methods of communication and responsiveness.

8.5 TSP Consultant Communication Plan

This section explains the communication plan between TSP consultants and the ESI program. Specific details of CP process flow and associated TSP consultant involvement are provided in Sections 3 and 4.

8.5.1 TSP Portal

The TSP Portal continues to be available for TSP consultants to notify the ESI program of potential projects. If a viable project exists, the ESI program strives to enlist the TSP consultant for technical services on the project. For utilities that opt in to the ESI program, project leads that are entered into the TSP Portal are routed to the ESIP, by the industrial TSP manager, to manage the next steps. For utilities that opt out of the ESI program, the TSP entries are routed instead to the utility to manage the next steps.

For utilities that enroll in the ESI program, the BPA industrial TSP manager is in place to assist the ESIP, utility, and TSP consultant in this process. Note the following regarding TSP Portal entries:

1. An e-mail is sent to the TSP consultant upon submittal informing that the entry has been received.
2. The TSP consultant is notified of an approval, clarification, or modification required for the entry.
3. Any inquiry regarding a TSP entry or the TSP Portal in general should be directed to the BPA TSP Portal coordinator.

8.5.2 BPA Industrial TSP Manager

The BPA industrial TSP manager determines which TSP consultant is assigned for each scope of work. The BPA industrial TSP manager is also the primary point of contact for any TSP-related contractual issues.

8.5.3 TSP Communication Plan for ESI Utilities

The industrial TSP manager is the primary contact for a TSP consultant that is providing technical services on a project. The ESIP provides general project recommendations for technical services via TWRs submitted to the industrial TSP manager. The TSP consultant submits draft work products to the industrial TSP manager for review.

8.6 Regional Stakeholder Communication Plan

No formal or recurring communication reporting with regional stakeholders (e.g., other Northwest efficiency initiatives, trade allies, trade associations, etc) is planned at this time. However, various marketing activities are planned for these stakeholders as found in Section 9.

A broad range of regional stakeholders have been identified as target audiences for the ESI program. This includes, but is not limited to the following examples:

Efficiency Programs

- Northwest Energy Efficiency Alliance (NEEA)
- WSU Energy Extension
- State Energy Offices
- Northwest Industrial Assessment Centers (e.g., OSU, UW, etc.)
- Northwest Power and Conservation Council (NWPCC)
- Utility Associations (e.g., PNGC, NWPPA, PPC, etc.)

Trade Ally Sectors

- Compressed Air
- Refrigeration
- Pumps
- Lighting
- Industrial Design/Build

Trade Associations

- NWFPA
- TAPPI
- Northwest Pulp and Paper Foundation

8.7 ESI Transition Communication Plan

This section outlines the strategy for handling TSP consultant and CPP matters during the transition period from previous BPA industrial sector efforts to the new ESI program:

Technical Service Proposals (TSP)

1. Effective immediately all industrial TSP Portal entries are routed to the ESI industrial TSP manager. The BPA ESI engineers are available to assist.
2. TSP consultant scopes of work currently in process:
    a. TSP consultant contracts not issued by the ESI industrial TSP manager that are still in process:
        i. The current BPA field engineer will remain in place to manage contracts through their completion.
    b. TSP consultant contracts issued by the ESI industrial TSP manager that are still in process:
        i. The ESI industrial TSP manager will remain in place to manage contracts through their completion.
        ii. After October 1, 2009, any new TSP contract approval is contingent on the respective utility enrolling in the ESI program. Only utilities that have opted into ESI can obtain BPA funding for TSP consultant services after this date.
        iii. After October 1, 2009 and prior to Phase 2 program partner contract approval, the BPA ESI engineers are on point to assist the ESI industrial TSP manager in response to TSP consultant requests for their respective utility that has enrolled in the ESI program.
        iv. After Phase 2 program partner contract is approved and prior to an ESIP assigned to a participating utility, a non-utility specific ESIP is on point assist the ESI industrial TSP manager in response to TSP consultant requests. This only applies to utilities that have opted in to the ESI program. The BPA ESI engineer is in place for all utilities that have not enrolled in the ESI program.
        v. Once an ESIP is assigned to a utility, the ESIP is on point to assist the ESI industrial TSP manager in response to TSP consultant requests.
3. Legacy TSP/dry hole information will be provided to the program partner.
4. TSP consulting work after 10/1 until TrakSmart is operational – all ESI technical service requests will be utilizing the TSP Portal.

Custom Project Proposals (CPP)

1. After October 1, 2009, BPA field engineers can hand off any industrial CPPs submitted and accepted in the PTR system, at their discretion to the appropriate ESI engineer.

2. Any CPP not submitted as a completion report by September 30, 2009 and not approved by the utility COTR within 10 business days will be reviewed by the appropriate ESI engineer to determine whether to keep the current BPA field engineer assigned to the project or transition to a non-utility specific ESIP.

SECTION 9 – MARKETING PLAN

9.1 Overview

This section explains the high-level marketing plan for the ESI program. Marketing plans specific to ESI program components and features are also included in the respective sections.

The goal of the high-level marketing plan is to motivate BPA utility customers and their end users to participate in the ESI program to achieve program energy savings targets. Market players such as TSP consultants and other regional stakeholders (efficiency programs, trade allies, and trade associations) are leveraged to help create project flow in the market place.

9.2 Marketing Resources and Protocols

The program partner team includes a marketing position to oversee the development of all marketing materials (collateral materials, template development, advertising, website, etc). The program partner marketing person will develop a tactical marketing plan for the ESI program including summaries of collateral materials, presentation templates, Web site strategy, etc. All collateral and materials developed by the program partner marketing person will be reviewed and approved by the BPA ESI program manager prior to deployment. Service standards are defined between the program partner marketing person and BPA for preferred methods of communication and responsiveness.

9.2.1 Marketing Collateral

The intent of the marketing effort is to present the ESI program as a joint effort with the utility; therefore, these marketing materials are co-branded with the utility to the extent possible. It is important for the marketing materials to:

- Provide a clear understanding of the benefits of the ESI program components and features, and how to participate.
- Outline the compelling business case (costs and benefits) for each ESI program component.
- Clearly outline the expectations (costs, resources, time) to the utility and end user.
- Focus on providing a base-level of understanding for the three Energy Management (EM) pilot features. These are new; “outside the box” features which must clearly explain how utilities and end users participate, as well how energy savings are determined and incentives paid.

- Connect the Energy Management pilot component features with ESI and the member utility's other technical and financial offerings.
- Include case studies and success stories of ESI program component projects.

9.3 Target Markets

Four key target segments have been identified as part of the ESI program marketing plan:

1. BPA utility customers with industrial load
2. End users
3. TSP consultants
4. Regional stakeholders

Each target market will have a unique set of roles, motivations, needs, and objections. Each target market will be further defined in the following sections.

9.4 BPA Utility Customers

9.4.1 Utility Market Definition

This market is defined by BPA utility customers that have an industrial load. Due to the aggressive goals of this program, it will be necessary to partner with as many utilities as possible. However, targeted efforts should begin with the utilities with the largest load and expand to all utilities shortly thereafter.

To develop an effective marketing strategy for partnering with utilities, it is useful to divide the utility market into certain segments:

- Industrial load size
  - Top 20 (average load ≥ 200,000 MWh)
  - Others (average load ≤ 200,000 MWh)
- Sector dependency (e.g. pulp and paper, metal processing, manufacturing, food processing, etc)
- Utility personnel bandwidth (people assigned to industrial, energy conservation, etc)
- Geography (break into regions that can be serviced by ESIPs)
- Specific legislative requirements (WA I-937, etc)

The ESI program is targeted towards utilities that are interested in utilizing ESI program resources to augment their industrial energy efficiency efforts.

9.4.2 Utility Market Strategy

The marketing strategy for utilities is based on providing ESI program resources to meet the goals and needs of the utility's energy efficiency program, and to build a strong relationship between the utility and ESI program based on proven performance and trust. It is understood that utilities will have certain motivations and objections so it is critical for BPA and program partner personnel to recognize these for each individual utility.

The following tasks are envisioned for marketing the ESI program components to utilities:

Item	Action Plan
1	Notify internal BPA utility EERs and Power AEs of change in industrial program offerings, commitment needed by utilities, and timelines
2	Development and review of utility participation documents to include (but not limited to): ▪ Program overview ▪ Program offering matrix ▪ Program team and contact lists ▪ Presentation kit including PowerPoint presentation kit and other items for face-to-face meetings ▪ End user facing materials
3	Review of utility ESI components at Utility Sounding Board
4	Review of utility ESI components at Industrial Utility Focus Group
5	Determine appropriate role/responsibility for BPA utility EERs
6	Determine appropriate role/responsibility for BPA Power AEs in rollout process and communications with utility management personnel
7	Prepare and provide training to BPA Power AEs
8	Determine appropriate BPA ESI and program partner personnel for targeted one-on-one meetings with targeted utilities
9	Define/determine "targeted" utilities based on criteria: ▪ Industrial load ▪ Utility interest in achieving significant energy savings ▪ ECA and/or CRC "reportable" kWh savings (not on non-standard agreement with BPA) ▪ Industrial customers in targeted category as determined by BPA and program partner
10	Schedule and conduct one-on-one meetings with targeted utilities to select participation options and begin development of utility coordination plan
11	Prepare and distribute e-mail notifications and/or letters to all utilities with industrial customers
12	Schedule and conduct a general ESI presentation/conference call for west and east side utilities to provide general awareness of the program, participation options and timeframes
13	Develop and maintain process for tracking utility choices for participation in the ESI program

9.4.2.1 Contact Personnel

It will be very important to target the appropriate personnel at each utility, and leverage any existing relationships that may exist with the utilities. Personnel from BPA and the program partner with existing utility relationships should be utilized for setting up initial meetings with the correct personnel at utilities. This will help ensure a smooth introduction of the ESI program, and aid in building trust with the utilities.

9.4.2.2 Utility Needs and Requirements

Many utilities will have the following needs and requirements that the ESI program can help them achieve:

- Adhering to regulatory requirements (i.e. WA I-937, etc);
- Spending their budget on value- added activities;
- Successfully funding their internal efficiency program administration costs;
- Serving their end user customers well, and being positively viewed by them;
- Preserve the overall profitability and viability of their end use customers;
- Create an environmentally conscience image due to successful energy conservation; and
- Attract new industrial end users to their territory due to proactive and efficient energy practices.

It will be important, in both verbal and written communications, to address these topics such that the benefits of the ESI program are clear.

9.4.2.3 Utility Barriers and Objections

It is expected that the following items could be barriers and objections for certain utilities:

- 100 percent pass through of incentives to end users;
- Fixed incentive levels;
- Load decrement (going away April 1, 2010);
- CRC/ECA available funding;
- Past conflicts and/or disagreements with BPA, including those that exist outside of energy efficiency (strained relationships);
- Trust in the program partner and/or TSP consultants;
- Internal bandwidth of utility personnel; and
- Sufficient efficiency program staff to achieve goals.

It will be critical to address each utility's barriers and objections by utilizing ESI program talking points, fact sheets, and verbal explanations to help them work through their objections.

9.4.2.4 Utility Communication Plan

The program partner and BPA will employ the following strategy to market the ESI program components to utility customers:

1. General Awareness: The program partner and/or BPA will conduct general outreach efforts to multiple utilities via conference call and/or organized events. All conference calls and organized events are conducted under the BPA Energy Smart Awareness umbrella and positioned as a BPA ESI program event. Collateral materials outlining the ESI program and benefits will be created to support these activities.
2. Utility-Specific Focus: As appropriate, the program partner and/or BPA ESI technical team will conduct face-to-face meetings with utilities to present the ESI program and its components. The Power AEs and utility EERs are informed, well in advance of the initial face-to-face meeting, by the BPA ESI program manager and may be asked to attend these meetings in cases when a BPA and/or program partner team determines it may facilitate communications. The AE and utility EER will be informed when a utility agrees to participate in the ESI program.

9.4.2.5 Keys to Success for Utility Adoption

The key components for successful utility adoption include:

- A clear understanding of each utility's needs and requirements, and how to service them.
- A clear understanding or each utility's barriers and objections, and how to overcome them.
- A clear explanation of the ESI program (both verbally and written).
- Develop and build trust with utilities based on having them set the rules for how to interact with their end users, and how the utility will oversee the process.

9.5 Industrial End Users

9.5.1 Industrial End User Market Definition

The ESI program specifically targets end users in the industrial sector. The industrial sector encompasses any fixed equipment, building or complex for the production of goods in connection with waste water systems, data centers, and any storage, processing (transportation) or other activity involving farm products off the farm.

Common industries served by BPA utility customers include pulp and paper, food processing, forest products, petro-chemical, metal mining, data centers, general manufacturing, high tech manufacturing, and municipal water systems.

The program partner will work in collaboration with the utility to define a set of criteria for how to prioritize target end users. Criteria for segmenting end users would include:

- Size of industrial load;
- Attitude towards working with utility and program partner;
- Importance of reducing energy consumption compared to other business objectives;
- End user's historic participation in energy efficiency programs;
- Utilities ability to connect with key decision makers at end user sites;
- Number of existing projects in the pipeline; and
- Is the end user in construction or expansion mode.

9.5.2 Industrial End User Market Strategy

The ESI program was created to assist utility energy efficiency program initiatives within the industrial sector. Utilities maintain key relationships with end users that can be effectively utilized to drive efficiency project implementation. In serving BPA utility customers, it is critical to recognize that their largest, most significant accounts are generally industrial end users. As such, ESI program activities that interface with a utility's industrial end user must be closely coordinated with the utility and utility approval must be provided before action can be taken.

The ESI program has created an array of program components and features to target a diversity of end user segments and needs. Rather than provide a "one size fits all" strategy, different program components and features have been incorporated to reach a broad set of end user needs:

- ESIP - The ESIP and sector specialist component has been created to provide end users with a single-point of contact with the ESI program and a technical resource to identify and prioritize potential projects.

- Energy Project Manager (EPM) - This feature of the Energy Management pilot component has been created to provide salary co-funding for a position within a facility focused on implementing efficiency projects and improvements. This addresses a critical bottleneck for end user's not implementing projects: insufficient staffing to facilitate project implementation.
- Track and Tune (T&T) – This feature of the Energy Management pilot component has been created to provide end users with an option for implementing efficiency improvement with limited or no capital investment. This allows the program to reach key end users that otherwise may not participate in the program if it was limited to capital efficiency projects.
- High Performance Energy Manager (HPEM) – This feature of the Energy Management pilot component provides training to end users to enable them to advance energy efficiency initiatives at their facilities.
- Small Industrial (SI) Measures – This component targets specific, highly repeatable efficiency measures that are geared towards smaller industrial projects and end users. This expands the ESI program offering to including small facilities that have been traditionally been underserved by BPA industrial programs.
- Northwest Trade Ally Network (TAN) – The TAN provides the enhanced lighting feature which includes two Key Account Managers (KAMs) to work with lighting trade allies to incorporate efficiency components into their project sales portfolio and provides assistance with navigating the steps of utility energy efficiency program participation. This increases the number and magnitude of industrial lighting projects implemented in BPA utility customers.

9.5.2.1 Contact Personnel

Utility and the ESI program personnel with existing end user relationships should be utilized for setting up initial meetings with the appropriate end user personnel. This will help ensure a smooth introduction of the ESI program and aid in building trust with the end users.

Typical target personnel may include: General Manager, Facilities Manager, Operations Manager, or Maintenance Manager.

9.5.2.2 End User Needs and Requirements

Many end users will have the following needs and requirements that the ESI program can help them achieve:

- Increase profitability
- Maintain or reduce controllable energy costs

- Efficiently scale energy use with an increase or decrease in operations
- Achieve corporate mandates for sustainability/green initiatives
- Satisfy supply chain requirements for sustainability/green initiatives

9.5.2.3 End User Barriers and Objections

It is expected that the following items could be barriers and objections for certain end users:

- Lack of available capital;
- Lack of manpower with in-house personnel;
- Lack of energy experience of in-house personnel;
- Lack of understanding on how to participate in the program;
- Fiscal year timing and budget cycles;
- Past poor experience with an efficiency program;
- Perception of how time consuming it will be;
- Will the project move at an acceptable rate (too slow is not worth it);
- Unwillingness to share technological advancements as they pertain to efficiency;
- Trust of utility/BPA/program partner/TSP consultant; and
- Technical credibility of utility/BPA/program partner/TSP consultant.

Many of these concerns and objections can be overcome with education about the program component details, successful case study examples, references and testimonials.

9.5.2.4 End User Communication Plan

The utility and ESIP will employ the following strategy to market the ESI program components to end users:

1. Targeted Meetings – The ESIP and utility will directly contact those end users where they believe the end user is a good prospect for the program, and the contact person in known.
2. General Awareness – The ESIP and utility will determine an effective communication approach for that utility's target end users. Common methods may include: introductory email and/or letter, introductory luncheon, etc.
3. Promotional Events – The ESIP participates in trade shows and events targeting their utility's end users as appropriate. The ESIP attends these events representing the BPA ESI program, not the utility. The ESIP may also work with the utility to identify training events for a utility's end users to attend and/or the utility to host.

9.5.2.5 Keys to Success for End User Adoption

The key components for successful adoption among end users include:

- A clear understanding of each end user's needs and requirements, and how to service them.
- A clear understanding or each end user's barriers and objections, and how to overcome them.
- A clear explanation of the ESI program (both verbally and written).
- Effectively communicate specific benefits to the end user so they clearly understand why they should participate in the program.

9.6 TSP Consultants

9.6.1 TSP Consultant Market Definition

TSP consultants are a BPA pre-approved pool of consultants available to perform technical services required to advance projects through the ESI program and/or utility energy efficiency programs. Approximately twenty industrial TSP consulting firms are available to provide industrial technical services for BPA.

TSP consultants provide a wide range of technical expertise including: energy efficiency, compressed air, refrigeration, pumps, fans, waste water, lighting, HVAC, build/design, process engineering, and assorted equipment vendors.

TSP consultants can generally be broken down in to the following categories:

- Efficiency Firms: Consultants whose core business is providing technical services to DSM programs.
- Design/Build Firms: Firms that provide industrial design/build engineering services as a significant part of their core business in addition to technical services to DSM programs.
- Vendor Firms: Firms that provide capital equipment as a significant part of their core business in addition to technical services to DSM programs.

The ESI program must recognize the differing motivations and expertise that each category of firm brings to the ESI program:

- Efficiency Firms:
    - DSM technical services are their core business.
    - A limited resource within the region.
    - The ESI program will be competing with other regional DSM programs for their services.

- Design/Build Firms:
  - Design/build engineering services are their core business, DSM technical services are a secondary.
  - May be less familiar with ESI program participation process and expectations.
- Vendor Firms:
  - Capital equipment sales are their core business, DSM technical services are a secondary.
  - May be less familiar with ESI program participation process and expectations.
  - The ESI program needs to be cognizant of potential conflicts of interest and provide appropriate oversight as a result.

9.6.2 TSP Consultant Market Strategy

Historically there has been a steady demand for TSP consultants within the BPA industrial program. However, with the rollout of ESI program there will be a significant increase in the need and utilization of TSP consultants. In sum, there are a number of factors driving the increased need:

- ESIPs and EPMs are now in place to increase end user participation in the program and drive implementation of projects.
- The Track and Tune pilot feature creates a new project type (O&M) where TSP consultants are relied upon for technical services.
- BPA field engineers and ESI engineers no longer provide scoping or energy studies for industrial projects.
- The ESI program energy savings goals are increased to 12 aMW in FY2010 and 15 aMW in FY2011 (versus 10 aMW in FY2007 to FY2009).

In addition, there is no current plan to add new TSP consulting firms to the existing pool of industrial TSP consultants. Instead, the ESI program encourages TSP consulting firms to dedicate a greater fraction of existing personnel to ESI program projects and hire or subcontract additional personnel.

With an increasing demand for work it will be critical for the program partner to maintain strong relationships with the TSP consultants, and help drive their increased participation in the ESI program.

9.6.2.1 Contact Personnel

Key members of the program partner core team will contact and meet with high level decision makers at the TSP consulting firms to maintain and strengthen relationships. This may include conducting conference calls, arranging face-to-face meetings, and hosting informational sessions.

These activities will be essential for obtaining commitment to support the growing TSP consulting needs required by the ESI program.

9.6.2.2 TSP Consultant Needs and Requirements

TSP consultants will typically have the following needs and requirements that the ESI program can help them achieve:

- Increase workload in a profitable manner;
- Take on projects with an appropriate level of risk (within their expertise level);
- Maintain / Increase market share; and
- Expand their skill set, expertise, and experience base.

9.6.2.3 TSP Consultant Barriers and Objections

It is expected that the following items could be barriers and objections for certain TSP consulting firms:

- BPA contracting process and contracting requirements;
- Opportunity cost of doing BPA work;
- Cascade acting as program partner/ESIP/TSP;
- Fear of losing existing relationships with facilities;
- Risk of not making money or scope expanding beyond budget;
- More satisfying work is available with other programs;
- Process to participate perceived as too complex; and/or
- Take away key personnel from higher priority core business objectives.

Many of these concerns and objections can be overcome with education about the program details, and in person meetings to address their concerns.

9.6.2.4 TSP Consultant Communication Plan

For any details or issues regarding the TSP consultant's contract, their primary contact at BPA is be the ESI industrial TSP manager.

For normal day-to-day consulting work the TSP will primarily interact with the ESIP and end user for that corresponding project.

9.6.2.5 Keys to Success for TSP Consultant Adoption

The key components for successful adoption among TSP consultants include:

- A clear understanding of each TSP consultant's needs and requirements, and how to service them;
- A clear understanding or each TSP consultant's barriers and objections, and how to overcome them;
- A clear explanation of the ESI program (both verbally and written); and
- Effectively communicate the specific benefits to the TSP consultant so they clearly understand why they should participate in the program.

9.7 Regional Stakeholders

9.7.1 Regional Stakeholder Market Definition

A broad range of regional stakeholders have been identified as target audiences for the ESI program to market to, as outlined in Section 8.6. These include, but are not limited to the following examples:

Efficiency Programs

- Northwest Energy Efficiency Alliance (NEEA)
- WSU Energy Extension
- State Energy Offices
- Northwest Industrial Assessment Centers (e.g., OSU, UW, etc.)
- Northwest Power and Conservation Council (NWPCC)
- Utility Associations (e.g., PNGC, NWPPA, PPC, etc.)

Trade Ally Sectors

- Compressed Air
- Refrigeration
- Pumps
- Lighting
- Industrial Design/Build

Trade Associations

- NWFPA
- TAPPI
- Northwest Pulp and Paper Foundation

9.7.2 Regional Stakeholder Market Strategy

The general marketing strategy with regional stakeholders is to leverage their influence on utilities and industrial end users to accelerate participation in the ESI program. Regional stakeholders can expand and elevate the ESI program marketing messages to these parties. BPA retains the primary relationship with regional stakeholders on ESI activities. The program partner marketing person will report to the BPA ESI program manager.

9.7.3 Trade Ally Sectors

9.7.3.1 Trade Ally Value to ESI Program

Trade allies are in the field meeting with end users on a day-to-day basis. Trade allies work with end users on projects, know when projects are happening, and often have the greatest direct influence on whether an end user would participate in the ESI program as part of a project.

9.7.3.2 Trade Ally Marketing

The following marketing activities could be implemented to effectively reach and leverage trade allies:

- Key personnel from the program partner and/or BPA will speak at events and trade shows to generally educate about the ESI program. The desired outcome is for the trade allies to be informed and supportive of ESI program efforts, and to ultimately influence end users to participate in the program.
- The program partner would provide general marketing materials about the ESI program that could be given by trade allies to prospective end users.
- Joint mailings (trade ally and program partner) to end users.

9.7.4 Trade Associations

9.7.4.1 Trade Association Value to ESI Program

Trade associations have an ability to reach a broad range of trade allies and end users, in particular higher level management members with decision making authority. Trade associations also have the ability to create initiatives that members would agree and abide by such as a memorandum for all members to contribute to energy savings.

9.7.4.2 Trade Association Marketing

The following marketing activities could be implemented to effectively reach and leverage trade associations:

- Key personnel from the program partner and/or BPA will speak at events and trade shows to generally educate about the ESI program. The desired outcome is for the trade association members to be informed and supportive of ESI program efforts, and to ultimately influence end users to participate in the program.
- Ads / press releases placed in trade association literature promoting and explaining the ESI program to its members.
- Joint mailings (trade association and program partner) to end users.

9.7.5 Peer Efficiency Programs

9.7.5.1 Efficiency Program Value to ESI Program

Efficiency programs are already delivering their own initiatives within the marketplace. Therefore, they have the ability to also market the ESI program in the marketplace as a compliment to their existing programs. They also have the ability to conduct R&D on new technology, processes, and equipment that could be used to further improve energy efficiency.

9.7.5.2 Efficiency Program Marketing

The following marketing activities could be implemented to effectively reach and leverage efficiency programs:

- Key personnel from the program partner and/or BPA will speak at events and trade shows to generally educate about the ESI program. The desired outcome is for the efficiency program members to be informed and supportive of ESI program efforts, and to ultimately influence end users to participate in the program.
- For efficiency program contacts who are highly influential or impactful, key personnel from the program partner and/or BPA will speak with them directly in person or on the phone.

SECTION 10 – QUALITY CONTROL PLAN

10.1 ESI Program Project Management and Tracking

The TrakSmart software database system (TrakSmart) is utilized to track all completed documents and key steps associated with utilities and end user facilities. TrakSmart will be used as the primary tracking and storage system for all appropriate utility, end user, and project specific information. TrakSmart outlines each step in the project process to ensure the projects advanced according to protocol and all key information is properly documented.

10.2 Savings Attribution Strategy

Energy savings achieved by the ESI program are only reported once in the context of evaluating total overall program performance, payment of incentives, etc. However, it is recognized that multiple ESI program components and features may influence the acquisition of energy savings. Where this occurs, the ESI program attributes influence to each involved component and feature in evaluation of performance.

10.3 ESI Program Documents and Materials

10.3.1 Electronic Document Storage

The program partner and BPA ESI technical team utilizes the TrakSmart tool as the primary site to store template forms, completed forms, tools, and reports. A Microsoft SharePoint site is utilized to store the latest version of ESI program general program documentation (guidelines, marketing materials, etc.) that the TrakSmart tool is not capable of effectively storing.

10.3.2 Electronic Document Version Control

The TrakSmart and SharePoint sites are actively managed by the program partner to ensure that the latest version of program documentation is available. Standard file naming conventions are utilized for documents. This includes incorporating the version date (e.g., YYYY-MM-DD_document description) to clearly indicate the latest version. For example, the ESIP Technical Work Request form could be stored as 2009-10-01_ESIP_TWR.pdf. Obsolete versions of documents are to be removed from the TrakSmart and SharePoint sites in conjunction with uploading the latest version.

E-mail notification of version updates are made to the appropriate parties. For example, if a revised version of the ESIP Technical Work Request is created, an e-mail notification with the attached revised version is sent to each ESIP. Each ESIP is responsible for utilizing the latest version upon receipt of notification. Each ESIP would have the ability to access the SharePoint site to obtain the latest version as a secondary method.

10.3.3 Electronic Project Storage Conventions

Each utility, end user, and CP has a unique, centralized storage location and naming convention. A cascading folder structure by utility, end user facility, and project is utilized. Network storage includes appropriate security and data backup strategies.

This storage is only for documents that cannot be stored in TrakSmart. The TrakSmart site is the primary storage location for all completed utility, end user, and project specific documents (excluding strategic or confidential information).

10.3.4 Document Precedence

Completed electronic documents are considered the official version of documents and have precedence over hard copy versions. Descending precedence order is the PTR version, TrakSmart version, other electronic version, and hard copy version. Any hard copy version of a document serves as the back up to the electronic version. Any hard copy of program documentation (e.g., signed forms) is scanned and stored in electronic .pdf format by the program partner.

10.4 Decision Making Protocols and Issue Resolution

If during implementation of the ESI program there is a need to modify an element of the program, the program partner will advise the BPA ESI team on the modification recommended. The BPA ESI team is responsible for evaluating the recommendation and forwarding their decision to the ESI program manager for further action. The BPA ESI program manager (program partner COTR) is responsible for recommending any changes to the BPA CO and the BPA CO makes the final determination on any changes.

In general, technical related concerns are directed to the ESI engineer and policy or utility related concerns are directed to the BPA program manager.

10.5 Quality Control of Field Work

Corrective action(s) will be taken to address any deficiencies identified during the program partner QC review process of ESI program work.

10.5.1 Program Partner QC Engineer Staff

The program partner includes engineering staff that provides technical review of industrial sector CPP and CP completion report submittals from utilities in the PTR system. A minimum of two engineers are available to provide this service with additional personal added as the work load requires. Personnel that fulfill this role shall not also serve as ESIPs. The program partner will strive to not utilize the QC engineer as a TSP consultant. The QC engineer shall not provide review of a project in which they are involved with outside of the QC engineer function.

10.5.2 QC Review of PTR Entries

The program partner QC engineer provides a review of each CPP and CP completion report submittal from utilities in the PTR system and provides recommendation for approval or additional information to the BPA utility COTR when appropriate. For projects where total annual energy savings exceeds 1,000,000 kWh the BPA ESI engineers are also involved in the review process as necessary. TrakSmart is utilized to track who provides review and when. The assigned BPA ESI engineer has the final decision making authority on any technical issues regarding the review or acceptance of technical work products.

The ESI team and utility COTR will comply with the Implementation Manual review and comment service standards.

10.5.3 Quality Control of TSPs and TSP Consultants

TSP consultant submits draft work products to the industrial TSP manager. The industrial TSP manager and ESIP will provide review. The utility will also be given an opportunity to provide review. The TSP consultant addresses these changes and submits the final work product simultaneously to the ESIP and the industrial TSP manager. BPA makes the final decision on any technical performance or contractual issues that cannot be resolved between the ESIP and TSP consultant.

Service standards will be defined for the timeline of completing the review. Comments will be provided to the TSP from the ESIP upon permission from the industrial TSP manager. Any concerns or issues that a TSP consultant may have, including those that may arise as part of an ESIP review of technical work products, will be directed to the ESI industrial TSP manager.

The ESIP utilizes an appropriate person to provide the review. This could be the ESIP but is not necessarily limited to the ESIP. Another member of the program partner team may be determined to be a more appropriate person to provide review, including personnel that may act as a TSP consultant on other projects. If a technical work product necessitates a review process that is not covered by the methodology outlined in this

section the appropriate BPA ESI engineer will be contacted and approve an appropriate course of action.

10.5.4 Quality Control of the ESIP

After the first six months of ESIP participation, or as determined by BPA, the utility and select end users are contacted to gauge ESIP performance. An appropriate periodic review schedule is defined thereafter. The performance review is formally documented and referenced in future reviews.

10.5.5 Quality Control of the EPM

EPM performance is measured based on meeting predetermined project and savings goals. This is outlined in detail in the Energy Management pilot component, see Section 5.

10.5.6 Quality Control of the HPEM

After the first six months of HPEM participation the end user is contacted to gauge HPEM performance. The performance review is formally documented and referenced in future reviews.

10.5.7 Quality Control of Trade Allies

Trade allies participating in the SI Measures and TAN components are reviewed as needed. The program partner is responsible for following up on any program specific complaints or issues as they relate to trade allies. The SI Measures team or TAN (Evergreen) shall submit a report to the BPA ESI program manager when complaints or issues are submitted by utilities or end users and the appropriate next steps that will be taken to resolve the issues. When the issues are resolved, a final report will be submitted to the BPA ESI program manager.

10.5.8 Quality Control of Program Partner Sub-Contractors

Each sub-contractor is reviewed after the first six months of program participation. An appropriate periodic review schedule is defined thereafter. The performance review is formally documented and referenced in future reviews.

10.5.9 Issue Resolution Tree

An issue resolution tree is shown in Figure 18.

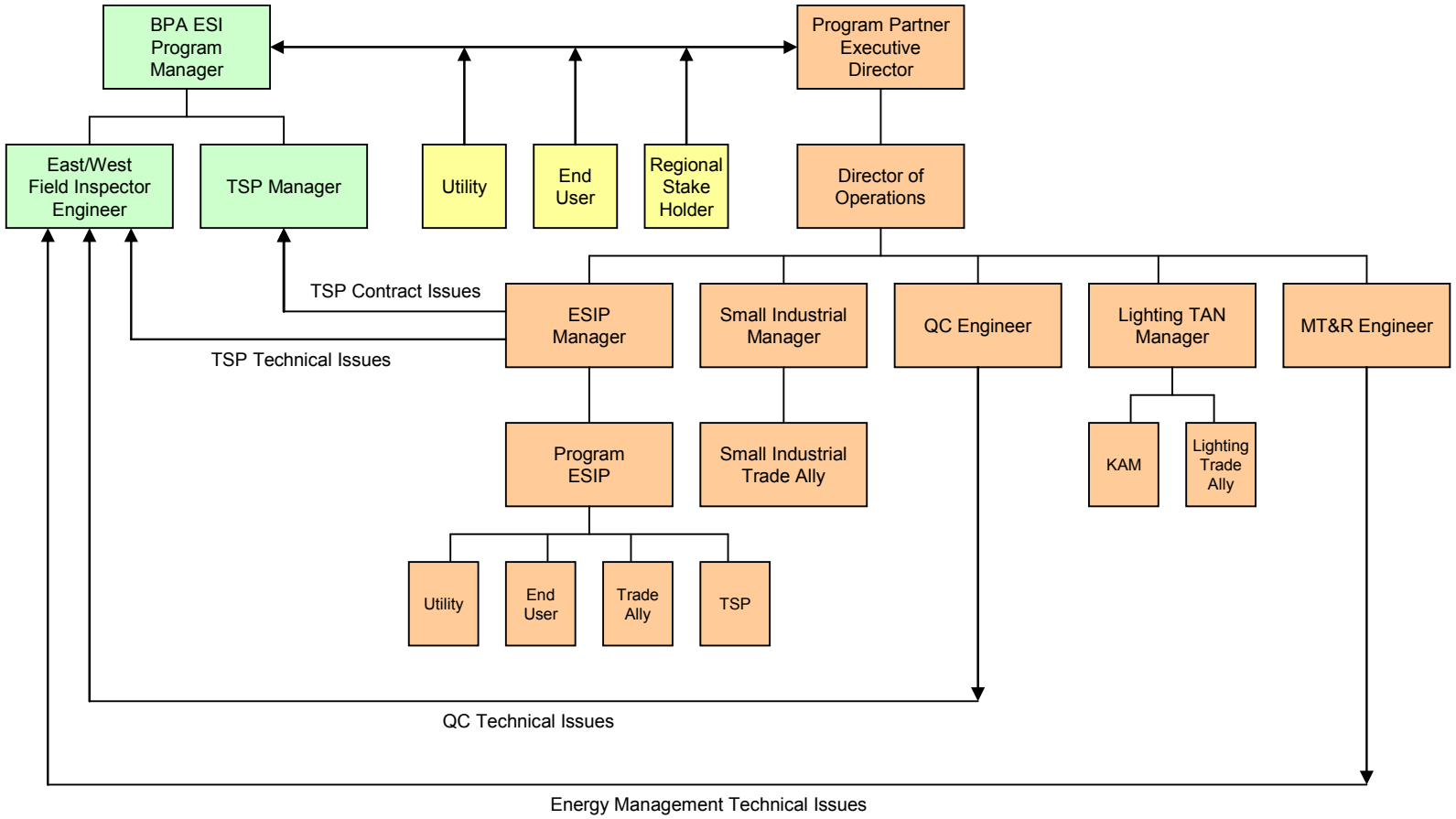


Figure 18: ESI Program Issue Resolution Tree