**Step-by-Step Procedure for Guaranteed Energy Savings Projects**

The Montana Energy Performance Contracting Program provides detailed steps and procedures for the Entity and the qualified energy service provider (ESP) to develop and implement an energy performance contract (EPC) project. This process has been designed to provide a way for the Entity and ESP to complete EPC projects successfully, within the framework established by the Montana statutes and program requirements.

Figure 1 below illustrates the basic steps of an EPC project. The steps allow the Entity to determine if EPC is a good solution, identifying cost-saving measures through an audit, negotiate the contract scope, finance and implement the project, and ensure guaranteed savings are achieved. The step-by-step approach allows the Entity and ESP to investigate and move one step at a time, in a logical way, with decision points along the way.

**Figure 1** – Basic Steps of an EPC Project in the EPC Program

The two major tasks of the EPC process are the investment grade audit and the energy performance contract. These tasks are completed by the ESP with the IGA report completed and accepted by the Entity prior to proceeding with the EPC. The Entity also has control over which cost-saving measures will be included in the EPC project.

Communication is a key element throughout the EPC process. The process places responsibilities on the ESP and the Entity for communication and reporting activities. It is important to keep DEQ informed early and throughout the process to ensure a successful EPC project. DEQ is capable of providing assistance and technical review for all aspects of the EPC process.

# Introduction/Project Identification

1. Initial contact

The ESP typically makes the initial contact with the Entity, although occasionally the Entity may choose to investigate energy performance contracting on their own. This may be the Entity’s first encounter with EPC and the sales pitch may be quite intriguing to the Entity. The promise of fixing problem areas and updating and improving the facility with guaranteed cost savings to cover the project cost can make many Entities take notice.

1. Pre-screening

The Entity together with the ESP (if the ESP made the initial contact) conducts a preliminary investigation to determine if the project is a good fit for EPC. Items to consider include:

* project size
* annual utility bills
* comfort or maintenance problems
* equipment age
* other funding possibilities
* any plans for renovation or retention

The information that should be gathered includes:

* Monthly utility data, including units and costs, for 36 months
* A list of facilities and buildings owned by the Entity that may be considered for an EPC project
* General information for each facility or building including:
  + Construction history – year built, additions, renovations
  + Building area
  + Occupancy – number of people, hours of operation, days, seasonal
  + Construction – walls, roofs, windows, doors, etc.
  + Lighting – types and controls
  + HVAC – system types, capacity, controls, exhaust fans, age, etc.
  + Plant – boilers, chillers, pumps, etc.
  + Domestic/Service water heating – heater, storage, temperature, use, etc.
* Construction drawings, specifications, and owner’s manuals
* Areas of concern or facility needs
* Future changes in operation

Some guidelines regarding cost-savings in the pre-screening process include:

* Utility savings for most EPC projects typically do not exceed 30%. A range of 15-25% is common.
* Depending on the source, the finance term is typically 15 or 20 years.
* Ignoring cost escalation (the ESP generally does not guarantee escalation), the savings should pay for the financing over a period of about 80% of the finance term (11-12 years for a 15-year term or 16 years for a 20-year term). This will provide funding to cover the cost of financing (origination fees, interest, etc.).
* The potential project size that could be supported by an EPC may be estimated by the product of the utility costs, savings percentage, and 80% of the finance term.

Based on these guidelines, a facility with $20,000 annual utility costs could potentially support an EPC project of $75-80,000.

The ESP and/or Entity should notify DEQ of the possibility of an EPC project. DEQ will provide technical assistance including initial project review and education related to the EPC process. The Entity may discuss the EPC process and project potential with internal staff, qualified ESPs, industry experts, peers, A&E Division (for state-owned facilities) and/or DEQ.

1. Financial considerations

The Entity reviews its financial abilities and potential funding sources. As a minimum, the Entity should allocate in its budget the full cost of the IGA. This is to ensure that the Entity is financially capable to pay for the cost of the IGA in case the project does not proceed to the EPC phase in a timely manner.

The Entity should also begin its investigation of financing options, whether bonds, loans, grants, capital budgets, or other financial resources.

# RFP – ESP Solicitation and Selection

1. Entity develops a Request for Qualification (RFQ) for Selecting an ESP

If the Entity decides that EPC may be a suitable option to meet their needs, the Entity develops a Request for Proposal to conduct an investment grade audit. The IGA will be the basis for any EPC that follows. There is no other selection step in the EPC process. The ESP selected for the IGA will be the ESP for any potential EPC based on the IGA.

DEQ has developed a template for the RFP that the Entity may use with minimal modification. The RFP does not request a price or cost for the IGA services for two reasons. First, the project is not fully defined at the RFP stage, so it is difficult to provide a firm price. Second, the ESP could use the IGA as a marketing tool or loss leader to get the EPC project. The “loss” would be recovered in the EPC phase.

Instead of requesting a cost or price for the IGA, DEQ recommends using the Cost and Pricing Tool that is an attachment to the RFP. This provides a means of differentiating the ESPs based on their pricing structure – markups, overhead and profit. When used appropriately, this tool limits the ability for the ESP to increase its margins through the course of the EPC process.

The Entity gathers and organizes information about the facility (or facilities) and the proposed project to complete the Technical Facility Profile section of the RFP, including:

* utility use and cost history
* completed upgrades
* plans for renovations or changes
* comfort and maintenance issues
* capital needs or funds available
* desired outcome
* other pertinent details about the proposed project.

The project scope may list all facilities for the Entity and then a subset of facilities to be considered for this specific phase or project. This allows the Entity to expand the project scope without issuing another RFP. It also allows greater competition if the ESP can see a greater potential project and long-term relationship with the Entity.

1. Entity issues RFQ

The Entity should give at least 14 days' public notice for the RFP. The notice must be published according to applicable procurement laws. The Entity must send RFQs to at least three ESPs on the qualified energy service provider list.

Prior to the response deadline, the Entity may provide additional information for the proposed project and may conduct a walkthrough of selected buildings.

The ESPs are expected to respond to the RFP. Appropriate responses include submitting a proposal or sending a letter declining participation in the project. Failure to respond is unacceptable.

1. Entity evaluates ESPs

The Entity evaluates the proposals based on capabilities and criteria including:

* design, engineering, installation, maintenance, and repairs associated with cost-saving measures
* overall project management
* projects of similar size and scope
* post-installation measurement and verification of guaranteed cost savings
* in-state projects and Montana-based contractors;
* commissioning of projects
* training of building operators;
* conversions to a different fuel source; and
* quality of technical approach

As noted above, price or cost is not part of the selection process. The main reason is that the project scope is not fully developed to allow the ESP to put together a bid for the project at the time of the proposal. It is best to negotiate fees with the selected ESP.

The Entity may request some basic pricing information, such as a range of percentages of total project costs, by which they may make a comparison between ESPs. The Cost and Pricing Tool is designed to serve this purpose. The key goal is to select the ESP that is most qualified to meet the specific needs of the project for the Entity.

Depending on the number of ESP responses, the Entity may develop a “short-list” of ESPs it wishes to interview. The Entity holds interviews of ESPs. The ESP’s interview team should consist of the individuals that will be assigned to this project. The ESP should be prepared to present in detail the criteria provided in their proposal and Entity requirements.

1. Entity Decision Point! Entity chooses an ESP or rejects all

After evaluation of the interviewees, the Entity may

1) select an ESP,

2) decline if none of the ESP responses are acceptable and re-open interviews with non-short-listed ESPs, or

3) consider options that may include a new RFP or a different delivery method (e.g. design-bid-build, design-build, etc.)

# Negotiate Investment Grade Audit

The IGA is the first major task in the EPC process. It is critical that the IGA is completed with sufficient detail as all guaranteed savings are based on the data collected and the IGA report. Section 5 has more detailed information regarding the investment grade audit and report.

The Entity negotiates the investment grade audit contract with the selected ESP. It is recommended that the Entity use the Investment Grade Audit Contract (“IGA Contract”) template. The Entity and ESP agree on the project scope, including buildings to be audited, total square footage and audit price.

The Entity shall negotiate an IGA Contract with the most qualified provider at a price that the Entity determines fair and reasonable, considering the scope of the services rendered. If the Entity is unable to negotiate a satisfactory contract with the most qualified provider, negotiations with that firm must be formally terminated and the Entity shall select the next most qualified provider until an agreement is reached or the process is terminated.

The Entity and the ESP sign the IGA Contract. Upon request, the ESP sends an electronic copy of the fully executed contract to DEQ.

# Investment Grade Audit

1. ESP begins Investment Grade Audit

The ESP identifies cost-saving measures, develops the baseline and provides preliminary cost and savings estimates. The ESP and the Entity identify potential utility incentives, grants, loans and other financing sources.

1. ESP presents preliminary findings

The ESP presents a preliminary assessment of energy use, savings potential, potential cost-saving measures and potential for developing an EPC.

1. Entity Decision Point! Entity may continue or stop here

If preliminary findings do not fulfill the Entity’s requirements, the Entity may terminate the process at this point. Refer to the IGA Contract for details.

# Investment Grade Audit Report

1. ESP completes IGA

The ESP completes the IGA in accordance with statute and contract documents, particularly the IGA scope of work. The Entity reviews the IGA report. The report includes the following information:

* Overview including contact information and summaries of cost-saving measures and annual energy and water consumption;
* description of the facility including existing equipment, systems and conditions;
* baseline consumption for energy and water and baseline rates for utility commodities;
* detailed descriptions of cost-saving measures including existing conditions, calculations, estimated costs, and guaranteed savings;
* preliminary commissioning plan;
* preliminary measurement and verification plan following the IPMVP; and
* project cash flow analysis identifying guaranteed savings, O&M savings, M&V costs, and other economic factors regardless of guarantee status.

1. ESP submits IGA to DEQ for review prior to acceptance

Before accepting the IGA report, it is recommended that the Entity request the ESP to send a copy of the IGA report to DEQ for review. This is mandatory if state funds are used to finance the project. Otherwise the ESP provides DEQ with a copy upon request.

1. Entity accepts IGA

The Entity signs the Certificate of Acceptance for the IGA report. The ESP submits an electronic copy of the IGA COA and the final IGA report to DEQ upon request.

# Proceed or Evaluate Alternatives

Once the IGA report has been accepted, the Entity must decide whether it will proceed with an EPC or explore alternative means to complete the project or portion thereof. In most cases, the Entity will move to the next step to begin implementation of measures identified in the IGA report. The Entity has the option to:

* + - * 1. Proceed with the EPC as recommended in the IGA report;
        2. Proceed with the EPC with modifications (possibly reduced scope) to keep the project within the financial ability of the Entity or requirements of the EPC Program;
        3. Terminate the EPC and proceed with implementation of measures through design/build, design/bid/build or other construction process. At this point the savings guarantee is terminated. An alternative procurement method may also be required as the EPC procurement method is only permitted for EPC projects.
        4. Terminate the EPC and do nothing.

The IGA contract contains the time frame that the Entity may decide whether or not to proceed to the EPC. Typically, this period is 90-120 days. If the Entity decides to terminate the EPC process at this point, the Entity is responsible for paying the ESP for the IGA under the terms specified in the IGA Contract.

# Negotiate Energy Performance Contract

The energy performance contract is the second major task in the EPC process. It is during this phase that the ESP completes the design and implements the cost-saving measures negotiated from the IGA report. The Certificate of Acceptance for the IGA report must be completed prior to proceeding to the EPC phase. The ESP must also submit the Proposed Project Summary Report to DEQ before signing the EPC.

1. Entity and ESP negotiate an Energy Performance Contract

Using the Energy Performance Contract template, the Entity and the ESP negotiate the contract. The energy performance contract finalizes the details of the project from scope of work through measurement and verification. It is critical that the Entity understand each part of the contract and the services to be provided. The contract should be reviewed by the Entity’s legal services.

1. Project financing

The ESP helps the Entity arrange or procure financing. Although some ESPs may provide financing either directly or through a third party, most prefer the Entity to secure the financing. The main obligation for the ESP in financing is to provide the technical information to the financial institution to secure the financing.

1. Entity and ESP sign EPC

The Entity and the ESP sign the EPC. Upon request, the ESP sends an electronic copy of the executed contract to DEQ.

# Construction and Commissioning

*Refer to the signed EPC and the current Commissioning Guidelines for additional requirements.*

1. ESP completes design of retrofit work and obtains approval from Entity

The ESP completes the project design with input from the Entity. The Entity typically has the right to approve subcontractors and equipment for the project.

1. ESP installs and commissions measures

Commissioning is an important process in any construction project. Commissioning ensures that the installation is complete and functioning as intended under various loads and conditions. While commissioning may be completed by the ESP or independent third party, it is important that the Entity also be present for checkout and testing. Commissioning should be a prerequisite for substantial completion. Application for payment is made according to the contract terms. Final acceptance and payment should not occur until after the commissioning report and other documents are received and accepted.

1. Entity signs Certificate of Acceptance

The Entity issues the Certificate of Acceptance for Installed Equipment, or similar notice of project completion, and sends an executed electronic copy to DEQ. Performance period begins.

1. ESP submits Post-Installation Report

The ESP updates counts, runtime and other assumptions to match installed conditions and issues a Post-Installation Report to the Entity.

# Project Performance – Measurement and Verification

*Refer to the signed EPC and the current Measurement and Verification Guidelines for additional requirements.*

1. Measurement and Verification

Measurement and verification (M&V) is required for all EPC projects. The cost for M&V is included in the EPC and paid for by the Entity during the initial monitoring period (minimum of three years). M&V should follow the guidelines established in the IPMVP.

1. ESP performs ongoing project monitoring

During the guarantee period, the ESP shall measure and verify reductions in utility use and costs attributable to the cost-saving measures of the EPC. The ESP performs the ongoing project monitoring (recommended quarterly during the first year) and notifies the Entity of any significant changes in operation that could affect the savings calculations.

1. Entity informs ESP of significant changes in operation

The Entity informs the ESP of any significant changes in operation that could affect the savings calculations. Changes that may affect the savings calculations include:

* operating hours
* facility use
* equipment (new or additional)
* occupancy

The EPC should include a section that describes how potential changes will be handled during the guarantee period.

1. ESP determines annual savings

Using the IPMVP procedures, the ESP determines the units of energy and water saved by the cost-saving measures as well as any O&M cost savings as negotiated with the Entity and determined through the EPC. The utility savings are then multiplied by the baseline unit costs or the actual utility rates. The cost savings are then compared to the guaranteed cost savings to determine whether or not the savings guarantee has been met. Escalation rates are applied only to determine the amount of a potential shortfall payment.

1. ESP submits annual M&V report

For each year of the guarantee period, the ESP submits the annual M&V report to the Entity and sends an electronic copy to DEQ. The recommended format of the report is provided on the EPC website. The Entity and DEQ review the report and provide comments to the ESP. The ESP addresses comments from the Entity and DEQ, finalizes the report and sends an electronic copy to the Entity and DEQ. The ESP then makes any shortfall payment to the Entity.

1. Guaranteed savings shortfall

If the guaranteed savings are not met during any year of the guarantee period, the ESP shall pay the Entity the difference between the actual (measured) savings and the guaranteed savings.

If the guaranteed savings are not met for any year in the initial monitoring period, then the ESP is responsible for the M&V costs until guaranteed cost savings are achieved for a term of consecutive years equal to the initial monitoring period.

If there is a shortfall, the Entity and the ESP may negotiate the terms of M&V and the shortfall payment for the remainder of the EPC finance term.

1. Excess guaranteed savings

If the actual (measured) savings exceed the guaranteed savings in any year of the guarantee period, the excess savings remain with the Entity. Excess savings may not be used to offset any shortfall in previous or subsequent years of the guarantee period.

1. Modifications for M&V

Modifications to the M&V process during the guarantee period are limited to those mutually agreed to by the Entity and the ESP.

# Project Closeout

The ESP provides the Project Summary Report to DEQ that includes basic project information – cost, financed cost, savings, etc. – using a form provided by DEQ. After receiving the EPC Project Summary Report, DEQ may post the results of the project on its website.

As a final part of the EPC, the ESP may work with the Entity to develop a complete marketing overview of the project including photos and quotes, for sharing in DEQ marketing efforts. The case story may be posted on the DEQ website for EPC.