

**REPORT**

# **Better Practices for Performance Contracting: Focus on Review Process**

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## OBJECTIVE

Advanced Energy was under contract with the Department of Environmental Quality (DEQ) through U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, State Energy Program Grant CFDA # 81.119 FOA 0000650 to support the expansion of Energy Performance Contracting (EPCs, also called Energy Savings Contracts) in North Carolina to K-12 schools, community colleges and local governments (called governmental units). The Utility Savings Initiative (USI) staff administered the activities under the grant, and Advanced Energy acted as a consultant to the governmental units throughout the entire process. Specifically, during the four years of this grant, Advanced Energy provided one-on-one support services to 21 governmental units at the request of USI. Advanced Energy engineers documented what went well throughout the process and what could be improved. The main objectives of this report are

- To clarify the role of the qualified reviewer and third party engineering firm in EPC
- To identify best practices for third party involvement that streamline the process, reduce costs of review and improve successful executions of the Energy Services Agreement (ESA)
- To define roles and responsibilities throughout the process and educate governmental units on data they should be requesting or decisions they should be making along the way

## BACKGROUND

North Carolina General Statute § 143-64.17 Energy Savings Contracts and North Carolina Administrative Code Subchapter 41b – Guaranteed Energy Savings Contracts provide the basis for Energy Performance Contracts and the rules by which this type of business is conducted in North Carolina for both state and local governmental units (also referred to as “owner”). According to the statute, the State Energy Office, currently the DEQ USI staff, oversees parts of the process.

A qualified reviewer (QR) is defined as “an architect or engineer who is (i) licensed in this State and (ii) experienced in the design, implementation, and installation of energy efficiency measures.” The QR is required by legislation or statute at certain points throughout an Energy Performance Contract.

- The QR can be employed by the governmental unit if there is someone on staff with the appropriate qualifications. If no one on staff has these qualifications, the governmental unit will need to contract with a QR.
- A third party or owner’s representative can also serve as the QR. However, the role of this position may extend beyond the legislated requirements for a QR, and the level of involvement varies by project.

The major stages for the Energy Performance Contract include



Table 1 summarizes the requirements and/or recommendations for QR or third party engagement throughout this process, from before RFP release (when a governmental unit is just considering a project) to selecting an Energy Services Company (ESCO) to move forward with the IGA.

**Table 1: Summary of Qualified Reviewer or Third Party Involvement – Pre-RFP to IGA Agreement**

Step/Agency	State Agencies and Universities	Community Colleges	Local Government	K-12 Schools
<i>Preliminary Audit of Facilities</i>	As Requested by Owner	As Requested by Owner	As Requested by Owner	As Requested by Owner
<i>Review of RFP before Issuance</i>	USI Review Required	USI Review Required	USI Review Required	USI Review Required
<i>Pre-Bid Meeting</i>	Not Recommended	Not Recommended	Not Recommended	Not Recommended
<i>Proposal Evaluation</i>	Required if no QR on staff	Required if no QR on staff	Required if no QR on staff	Required if no QR on staff
<i>Participation in Oral Interviews</i>	As Requested by Owner	As Requested by Owner	As Requested by Owner	As Requested by Owner
<i>Financial Proposal Review Once One ESCO Selected</i>	Required if no QR on staff	Required if no QR on staff	Required if no QR on staff	Required if no QR on staff

The fees for the QR can be financed by the project or paid for by the governmental unit. Usually, governmental units are pursuing energy performance contracts because they have budgetary constraints. Therefore, the USI requested that Advanced Energy provide feedback on which tasks were beneficial to the project and evaluate the number of consulting hours throughout the stages. General guidelines for these fees include the following:

- Preliminary Audit of Facilities – The goal for this stage is to evaluate whether the governmental unit was a good candidate for Performance Contracting. Under this grant, the deliverable was a brief audit report was provided to the governmental unit and USI staff noting high level opportunities that could be used in the forms for the RFP template.
  - The preliminary audit was provided to ten governmental units, six of which moved forward with releasing an RFP.
  - The consulting hours required for the preliminary audit and report ranged from 20 to 47 hours. The consulting time was affected by travel time, the number of buildings and the level of involvement or advice requested by the governmental units. By managing expectations, this stage could realistically be completed in 20 to 24 hours.
- Proposal Evaluation – There are three parts to the proposal evaluation: reviewing the written proposals, participating in the oral interviews and reviewing the financial proposal from the top ranked ESCO.
  - Proposal evaluation was provided to eight government units, six of which moved forward with an IGA. A site visit was included for most of these entities to confirm the information contained in the proposals.
  - The time required for the proposal evaluation ranged from 30 to 54 hours. The level of effort was affected by travel time, the number of proposals received and the level of involvement requested from the government entity. Because the level of effort depends on the number of proposals and interviews, a QR should estimate costs based on the number of proposals. With knowledge of the facilities, one proposal can be reviewed in 4 to 6 hours, while the review of the financial proposal could take another 3 to 4 hours.

## EXPECTATIONS AND ROLES – THROUGH PROPOSAL REVIEW

### Preliminary Audit of Facilities – Not required

The preliminary audit is not required for a QR; however, it does help inform the review of ESCO proposals in response to the RFP and ensures that the Energy Conservation Measures (ECMs) match the facilities. The possible roles for a third party at this stage are the following:

- Walk through all potential buildings and learn government unit needs
- Guide owner on which facilities to consider
- Fill out requirements and issues to address in Buildings to be Analyzed forms
- Help assemble information for the RFP and pre-bid meeting
  - 3-year billing history for project buildings
  - Occupancy, use and schedule of buildings
  - Indoor air requirements
  - Temperature and humidity requirements
  - Lighting level requirements
  - Prior audit or survey reports
  - Schematics/prints and equipment lists

#### **Better Practice: Early Involvement Helped Streamline the Proposals**

At one community college, the third party engineer did a preliminary walk-through and helped write the RFP. This early involvement allowed the engineer to recommend applicable ECMs and remove water conservation from the priorities, and it helped guide the ESCO response to what the owner wanted and streamlined proposal review.

### Review of RFP before Issuance – Not required

The review of RFP before issuance is not required for a QR; however, it helps inform the QR of owner expectations from the project and prepare for the proposal review process. The possible roles for a third party are the following:

- Review proposed timeline of project
- Suggest modifications to the review matrix based on owner's stated goals
- Review "Buildings to be Analyzed" forms

## Pre-Bid Meeting – Not required

Only one pre-bid meeting was attended under the grant. Because the questions addressed at the pre-bid meeting were not technical, it was not recommended to have the third party at future pre-bid meetings. Some governmental units could opt to have their third party serve as a full owner's representative. The possible roles for a third party are the following:

- Attend pre-bid meeting
- Run pre-bid meeting if desired
- Provide assistance to owner in answering technical questions

### **Better Practice: Early Owner Education on M&V**

We recommend meeting with the owner and going through why M&V is important and why the project M&V plan activities should be evaluated when reviewing the proposals. Advanced Energy developed an Introduction to M&V presentation to be used by USI Staff or ESCOs. The goal is to make sure the governmental unit understands the risks in M&V and to help the third party and owners get on the same page at the very beginning for M&V.

## Proposal Evaluation – Required

***By general statute, every governmental unit is required to have a QR review RFP responses: “A qualified reviewer shall be required to evaluate the proposals and will provide the governmental unit with a letter report containing both qualitative and quantitative evaluation of the proposals. The report may include a recommendation for selection, but the governmental unit is not obligated to follow it.”***

The QR is expected to

- Provide an unbiased review based only on the text submitted in the proposal
- Submit qualitative comments showing the positives and negatives of each proposal

We recommend having the reviewer walk through all major facilities included in the proposal before review, either before or during the RFP.



The reviewer may

- Score the ESCO proposals according to the evaluation matrix
- Participate in the oral interviews
  - If the QR participates in the oral interviews, questions should be asked that only clarify the information contained in the proposal and not strengthen it.
- Participate in ranking the proposals after oral interviews and in selecting the highest ranked ESCO

### **Financial Proposal Review – Required**

Once the highest ranked ESCO prepares Attachments A, B and C, the QR is required to review the project financials, including ECM costs and savings, total project costs and cash flow for the project from selected ESCO. Comments generally focus on

- The match between the original proposed ECMs and the cost proposal
- The likelihood of realistic achievement of estimated savings and implementation costs
- The breakdown of project costs for engineering fees, overhead, etc. (looking closely at percentages)
- Any discrepancies in the annual projected savings or costs of the cash flow analysis
- The match between costs in each attachment where appropriate

***Once the final proposal is submitted, the QR should prepare a stamped letter summarizing his or her evaluation of the proposal.***

## REVIEW OF INVESTMENT GRADE AUDIT

### When is a Qualified Reviewer or Third Party required?

Table 2 summarizes the requirements and/or recommendations for QR or third party engagement from beginning of the IGA through the performance period (the review of the annual reconciliation report).

**Table 2: Summary of Qualified Reviewer or Third Party Involvement – IGA through Performance Period**

Step/Agency	State Agencies and Universities	Community Colleges	Local Government	K-12 Schools
<i>Review of IGA</i>	Recommended by LGC and USI	Recommended by LGC and USI	Recommended by LGC and USI	Recommended by LGC and USI
<i>Review of the ESA (Legal Contract)</i>	As Requested	As Requested	As Requested	As Requested
<i>Verification of Construction and Installation as Part of Acceptance</i>	To Be Determined by Owner	To Be Determined by Owner	To Be Determined by Owner	To Be Determined by Owner
<i>Review of Annual Reconciliation Report</i>	Required	Recommended	Recommended	Recommended

Again, the fees for the QR or third party reviewer can be financed by the project or paid for by the governmental unit.

- Review of the IGA – Previous guidelines provided by USI staff for these fees based on experience were 1-2% of the total project cost. For small (<\$2 million) and large (>\$20 million) projects, it may be important to add a floor and ceiling to the costs.
  - Review of the IGA was provided for 10 governmental units, eight of which moved ahead with their ESA.
  - The number of hours spent on review ranged from 54 to 230, with an average of 143 hours. The low end represented the smallest project (3 buildings, \$522,000 financed cost). The high end represented the largest project (21 buildings, \$12.3 million), which included an additional step in the IGA.

- The level of involvement throughout the IGA varied based on governmental unit request and ESCO communication. Some projects allowed the third party to be involved early and all the way through the IGA. Early involvement did increase the level of effort overall, but in general seemed to increase transparency, improve decision-making and help ensure project satisfaction in the long term.

## Review of IGA

This step is not required by statute, but a letter from the QR confirming that he or she has reviewed the IGA at the end of the process is recommended by the Local Government Commission (LGC) and USI.

There should be joint meetings between the ESCO, USI and the owner to address issues and come to agreement. The QR can be brought in as requested by the owner and can represent the owner as the third party. The USI should be copied on all major correspondence and be involved enough to address concerns throughout the IGA. It is the owner's project; the third party is a representative of the owner, but is not the project engineer. Therefore, the owner has the final say on any recommendations offered by the third party.

### **Better Practice: Emphasize That the Project Met Owner Requirements**

The qualified reviewer is only required to acknowledge conformity with the RFP process. The job of the third party is to inform the governmental unit of potential issues that may jeopardize energy savings. The QR review letter provided at the end of the IGA can state that the ESCO has met owner requirements.

Establishing roles and responsibilities early is critical. The expectation from the USI is that the third party representative should be a quality assurance consultant, facilitator and expediter.

In general, the third party should move the process along more smoothly and quickly and add value to the project. The job of the third party is to inform the owner of potential issues that may jeopardize energy savings and provide education to the owner about risks to the project. In certain cases, the third party will likely disagree with methodologies employed by the ESCO or with particular aspects of the project.

In the end, all parties are trying to weigh risks versus cost while producing a project that benefits the owner's facilities.

### Recommendations Throughout IGA

- ✓ Establish a single point of contact or project manager for the ESCO

**Better Practice: Establish Single Point of Contact**

One person from the ESCO needs to facilitate the process of the IGA.

Many ESCOs have multiple departments and subcontractors working on the IGA. For example, some have completely separate engineering and Measurement and Verification (M&V) departments, and they may subcontract modeling or lighting and water evaluations. One person from the ESCO needs to facilitate the process of the IGA. If questions arise, this person will forward them to the appropriate individuals within their own organization or to subcontractors, and will follow any discussion or discrepancies.

**Better Practice: Keep All Parties in Communication**

The ESCO, owner, USI staff and third party need to all stay in communication and informed of decisions through the IGA.

- ✓ Include assigned USI staff and owner on all correspondence and invite them to or inform them of meetings between the ESCO and third party

Some questions and discussions can get technical. Owners may opt out of meetings but need to be kept informed of their progress and of any problems addressed. Throughout this grant, we found several projects in which the third party and ESCO started re-engineering the project without informing the owner.

- ✓ Get all parties together periodically throughout the IGA process

Several important phases or steps are outlined in Figure 1. At a minimum, all parties should get together to review the documents and questions outlined. Some projects established periodic

check-in meetings, and in certain cases, the third party was not needed. Being explicit at the beginning about the major phases for decision making should help expedite communications.

- ✓ Set a realistic IGA schedule and stick to it; if the schedule needs to be modified, all parties must be informed

Several projects supported throughout the grant set an aggressive schedule for the IGA phase – from 1.5 to 3 months based on the size of the project or the number of stakeholders that needed to be involved. These projects had more major delays than those that set a realistic schedule from the beginning.

**Better Practice: Set Realistic IGA Schedule**

Set realistic goals for the IGA to leave enough time for data collection and the necessary reviews. One community college project delivered the IGA report on time according to the original schedule in the RFP, while the ESCO for another was upfront in the interview process that the requested schedule was not achievable. In this case, a new, more feasible expectation was set.

An aggressive schedule may not leave enough time to collect data, perform adequate measurements and data logging or deal with unexpected problems.

**Better Practice: Cross Functional Employees Engaged Throughout Whole Project**

Some projects had staff that were part of the interview process involved throughout the whole IGA. Owners should have a high level of engagement; a project champion who takes an active role in managing the project and running the check-in meetings is desirable.

- ✓ Create a team of decision makers and representatives of the owner that is engaged in the project

These individuals should represent cross-functional departments from the government unit: financial, maintenance/engineering, board members, etc. It is important to make sure that the controller (or VP of finance) is involved and that all decision making is not made only by facilities staff.

The primary staff member for one governmental unit often missed check-in meetings, making it

difficult to maintain continuity in decision making. Another project that we assisted after construction had numerous government unit staffing changes by the time it reached construction acceptance. These changes led to discontinuity on the owner's side. For example, the person who signed the IGA retired immediately, and therefore the new maintenance person responsible had no input on the agreement. During the review of the first annual report, it was difficult to understand what was agreed to.

- ✓ Create a good stakeholder engagement plan

At the beginning of the project, it is important to be explicit about when certain decision makers will be required.

Community colleges, counties and K-12 schools all have boards that may want to weigh in on parts of the project. There is only a statutory requirement that the County Commissioners pass a resolution stating that they not reduce the utility budget by the amount of the savings so that the loan can be re-paid out of the savings.

However, some boards operate with more direct involvement in decision making for the project. The board and local governmental unit need to agree that they both want to do a project, ideally even before the RFP. Sometimes boards have turnover in the middle of a project, and this timing of turnover and project acceptance may need to be considered.

Projects occasionally end up terminating the process for one reason or another. The board of the governmental unit needs to understand and trust the process and the M&V, and must want the final project.

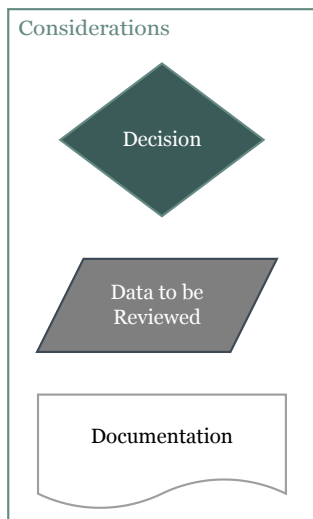
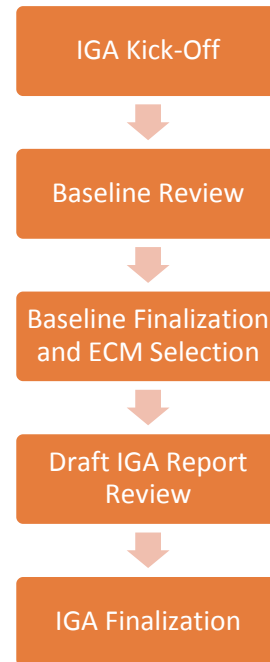
### **Better Practice: Stakeholder and Board Engagement Plan**

One good example of engagement was educating the board and waiting until it was ready to release an RFP. This step helps keep the project moving. For governmental units that have an involved board, it is important that the ESCO stay in contact with the board and share information regularly through their primary contact. In some cases, the third party or USI staff were available to answer questions.

## IGA Phases and Recommended Review Process

There are distinct phases and decision points for the owner throughout the IGA. This section focuses on how information can flow more smoothly between the owner, ESCO, USI and third party reviewer. The idea is to avoid only sharing the IGA report once it is nearly complete, and to inform the owner, third party and USI of how decisions are made based on what is learned from the data collected.

The phases are shown in the diagram on the right. Some ESCOs use the terminology to follow construction progress, while others use percent completion, such as 30%, 60%, 90% and 100% or 50%, 75% and 100%. However, percent completion is difficult to identify because each project can be unique in the discovery process, and sometimes project engineering has to be revisited multiple times.

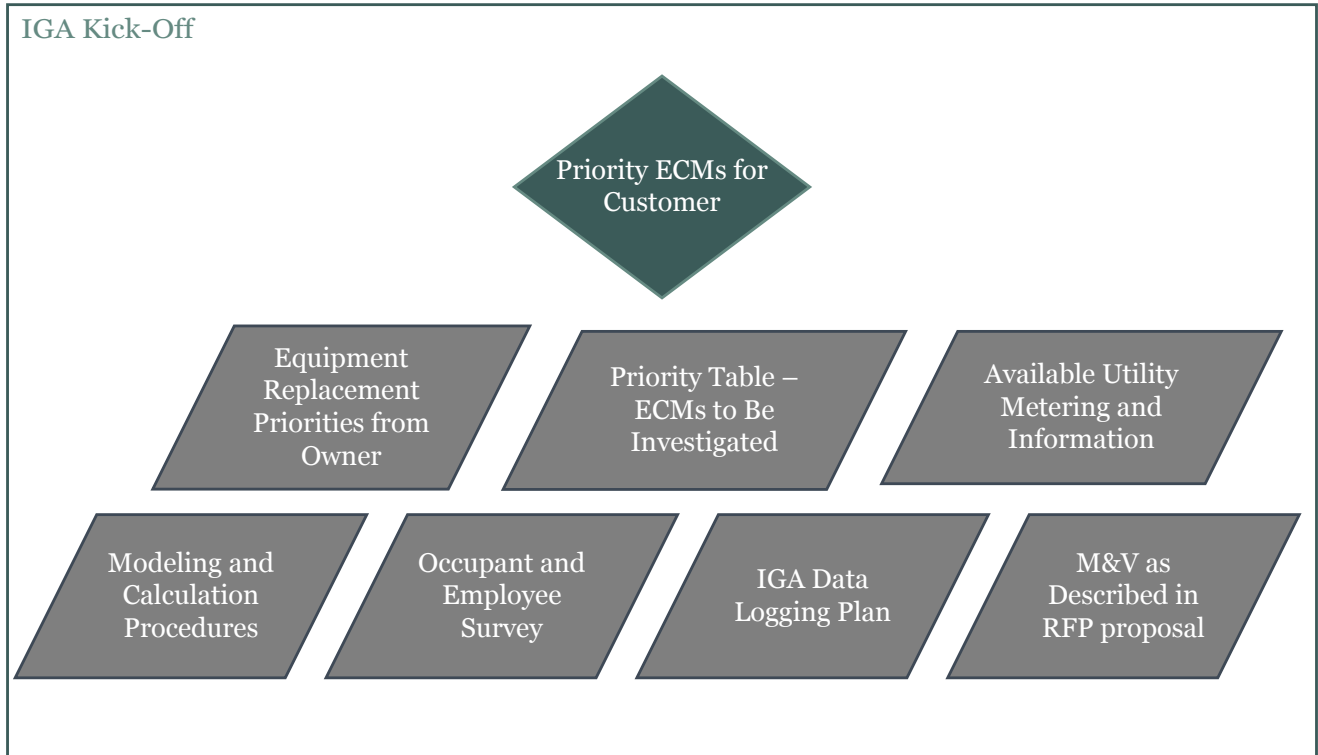


Based on our experience providing technical review, the following sections outline recommendations for each of the phases above:

- Decisions to be made by owner
- Data to be Reviewed – Information that can be shared or discussed
- Documentation – Schedules that should be shared at each phase



## IGA Kick-Off



The main goal of the kick-off meeting is to establish the priorities for the owner in the project, such as ECMs to be investigated, the communication and stakeholder plan and the plan for collecting the necessary data.

### *Equipment Replacement Priorities from Owner*

Certain pieces of equipment or ECMs often drive owners to do a performance contract. In the review of several projects, we found that a measure is occasionally added to the overall project at the 50 or 60% phase of the IGA. It is better practice to be explicit about priorities at the beginning of the project.

### *Occupant and Employee Survey*

There will be information that needs to be collected from occupants or employees outside of the project team. For example, it may help to survey building occupants about comfort or humidity and whether they often employ space heaters. It also might be useful to talk to facilities staff



about manual overrides. This list could go on, but it is important that the parties involved understand the best source of information needed to move forward.

### *Available Utility and Metering Information*

Some owners have all of their utility information available during the RFP phase, which is good practice but does not always happen. At the beginning of the IGA, there needs to be discussion about whether the utility metering data is enough for the project or whether additional sub-metering will be necessary.

### *IGA Data Logging Plan*

Sharing the initial data logging plan will help establish whether there are anticipated gaps in information. Because the IGA is typically scheduled to take only 3 months, sometimes data collection will be sub-optimal. It is better to acknowledge data limitations early to try to ward off any issues.

The goal is to get the correct data during the baseline and to make sure that information flows into the M&V plan. The minimum M&V guidelines can start to be used as a reference at this phase.

- Are key measures being data-logged appropriately?
- Will there be enough areas logged in lighting to represent a baseline?
- Will a chiller or HVAC system be monitored for long enough to get a representation of performance?
- Are appropriate measurements taken? For example, should power be measured instead of amps?
- Are there aspects of the project that may not have data logging in the baseline phase? Is this acceptable?

### *Modeling and Calculation Procedures*

Moving forward, it is helpful to know what methodology is proposed for calculations.

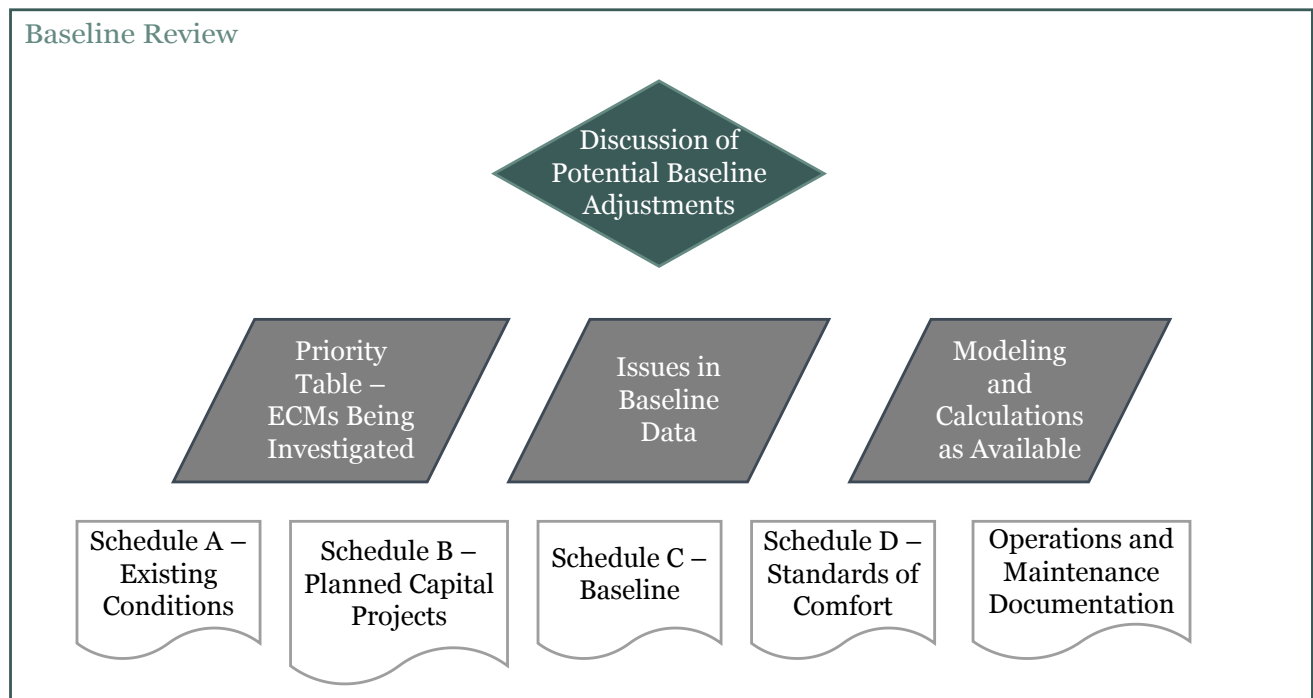
- Will there be a bin spreadsheet analysis or hourly analysis that can be shared directly?
- Is there a specific modeling software? Some are open source while others are proprietary and expensive.
- Will the to-be-shared information be actual files or the input and output files?
- Is there a shared drive or cloud storage for this information?

### *M&V as Described in RFP Proposal*

Even though the actual M&V plan is not developed fully until later, it is good practice to reiterate the importance of M&V to minimize owner risk in the project.

- Were there any potential red flags in the M&V as described in the RFP?
- How much was proposed to be spent on M&V in the proposal phase?

### **Baseline Review**



### *Issues in Baseline Data*

During data collection to establish the baseline, issues may arise that affect decisions, timelines or the rigor of M&V. As information becomes available, it should be discussed with the third party and governmental unit.

- Are there any issues with data collection – bad loggers, bad placement or delays in collection?
- Are there any issues with documentation in the building blueprints or facility plans where information is not available and must be assumed?

- What is the utility usage by building?
- Are there any anomalies in the baseline usage?
- Is a three-year average appropriate, or should some other period be used?

#### *Modeling and Calculations as Available*

- Are there any technical errors in the assumptions or calculations? Example: Does the R-value for the windows match the physical description?
- Modeling – What methodology is used to calibrate the models?
- Is the proper rate used in the analysis?
- Are the rate schedule components documented and applied properly? Are time-of-use or demand charges taken into account properly, or is an average rate used?

#### *Operations and Maintenance Documentation*

- Is proper documentation of guaranteed maintenance savings provided?
- Does the owner understand when maintenance is their responsibility?

#### *Recommendations*

- ✓ Provide good documentation on approval of a baseline adjustment

In many projects, issues are found during the IGA that may show that the owner’s facilities are actually using less energy than expected, and a baseline adjustment may be warranted. Common reasons for this occurring include the following:

- Lights have been allowed to burn out and were not replaced because they are difficult to reach or there is a lack of maintenance money. In this situation, the facility is considered to not currently meet code requirements or standards for lighting levels.

**Better Practice: Provide Good Documentation on Approval of Baseline Adjustment**

Transparency with regard to baseline adjustments facilitates decision making, and sufficient documentation outlasts staff or board turnover. At one community college, the discussion of baseline adjustment was brought to the Board of Commissioners because it was significant compared to the overall savings. The approval of a baseline adjustment by the Board was provided in writing.

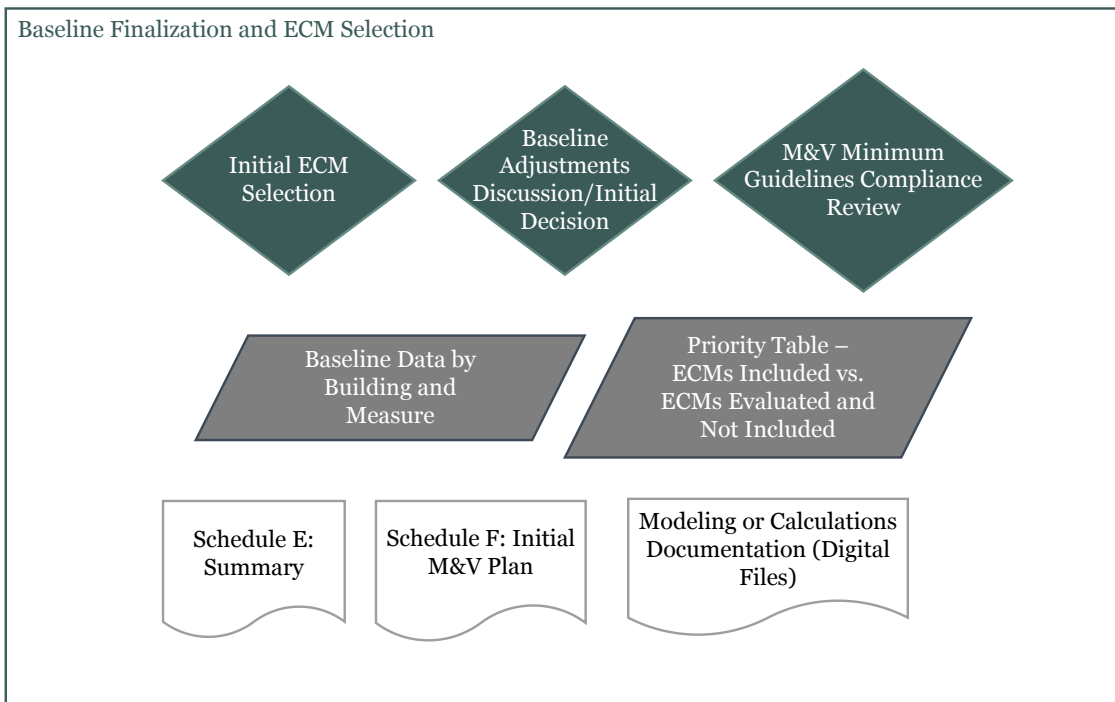
- Outside air ventilation dampers have been closed permanently or disabled. In this case, the facility does not meet code or standards for indoor air quality.

Good documentation of the baseline adjustment can be accomplished by

- Providing the actual and adjusted baselines in writing in the IGA. They should be stated in the Baseline in Schedule C, not in the fine print.
- Including documentation in writing that comes from the governmental unit or its board, such as an acknowledgement letter or email.

If formal questions need to be addressed, a tracking sheet should be started to catalogue comments and responses. Each issue should be logged with a date, and documentation that a discussion addressed the issue or answers should be provided. It works best to use a tracking spreadsheet and then close issues as they are resolved, but be sure to keep the history so it can be provided in documentation with the final IGA. A template will be provided on the USI website.

### Baseline Finalization and ECM Selection



Although this grant project focused on technical issues throughout the IGA, it should be noted that several projects were delayed over the ESA contract language and legal issues. It was noted that the ESA needs to be reviewed earlier by the ESCO, governmental units and USI to expedite the approval process toward the end of the project. To address this issue, the ESA boilerplate is now approved as part of the ESCO selection process.

#### *Baseline by Building and Measure*

- The baseline should be presented by ECM if savings are going to be verified by M&V Option A and B. Baselines should be presented by building for ECMs verified by M&V Options C and D.
- Baseline methodology needs to be clearly presented along with any data logging activities that have helped inform the baseline.
- Does the owner understand how the baseline is calculated, taking into account current code requirements of ventilation for heating and air conditioning modifications?
- Is it an actual baseline or an adjusted baseline?

#### *Schedule F: Initial M&V Plan*

At this point, the ESCO and third party should be referring to the “Minimum Requirements Guidelines” document.

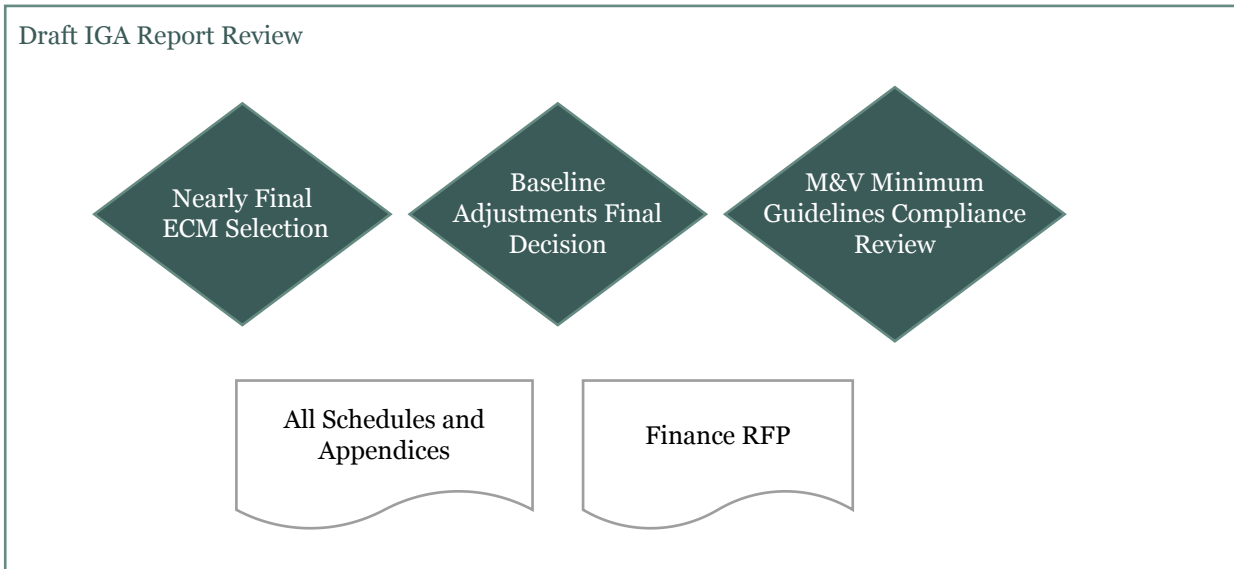
- Are the proposed protocols appropriate for the specific measures and titled correctly?
- If any measures do not conform to minimum guidelines, they need to be documented.

#### *Modeling and Calculations as Available*

Again, the ESCO and third party should be referring to the “Minimum Requirements Guidelines” document.

- Are there any technical errors in the assumptions or calculations?
- Is the information presented clearly enough to show how the calculations were performed and how the variables were determined for both the baseline and savings?
- Was the process of energy model calibration documented and does it meet minimum guidelines?

## Draft IGA Report Review



Projects that were reviewed at each stage often had changes in the baseline or ECMs that were made between the prior phase and the draft report. The reasons for these changes should be discussed. There could be adjustments to the baseline or savings because of a technical review. On the other hand, if the governmental unit wants more ECMs in the project, explanation is needed regarding how the adjusted savings are sufficient to make the project viable.

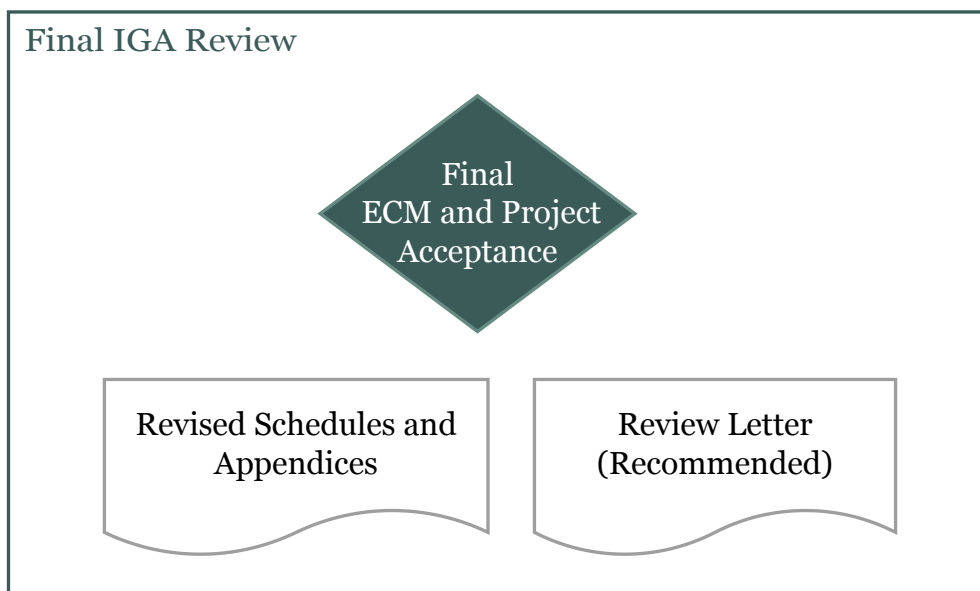
The draft IGA report should include all schedules following the instructions provided by the USI and appendices that provide backup documentation, such as modeling files, rate schedules, engineering specifications and audit reports. ECMs, baseline adjustments and M&V decisions should be mostly finalized at this stage. Because the finance RFP is just now being released, there may be some minor changes. In our experience, some ECM changes occurred because of fluctuations of the bank interest rate. Ideally, these changes should not be major ones requiring engineering not previously discussed.

A problem that was noted, but not resolved, is that the timing of the bank loan and the LGC approval meeting is somewhat constraining. The bank loan is usually locked for only 30-45 days, and the LGC wants 30 days to review the project. These timelines are not flexible, so the bank loan guarantee is not long enough to allow any significant project changes. The only

recommendation for this problem is to ensure reviews have happened early enough to prevent any significant project changes at this point.

At this stage, state governmental units should schedule an All Hands meeting before the project goes to the Council of State. Attendees include the ESCO, governmental unit, third party, USI and treasurer representative. This approach has not been formally done for projects that go to the local government commission, but it could be considered.

### Final IGA Report/Acceptance



The job of the third party is to inform the owner of potential issues that may jeopardize energy savings, such as by overlooking certain agreements such as required long term maintenance or assumptions in calculations that are fixed through the performance period. The QR review letter provided at the end of the process, which is recommended by the LGC and USI, can state that the ESCO has met owner requirements.

### **Review of the ESA**

If requested by the governmental unit, the third party can review the ESA. Because Advanced Energy focused on the technical review process, this activity was not included under the grant.

### **Project Acceptance – Verification of Construction and Installation**

If requested by the governmental unit, the third party can serve as an owner's representative and conduct verification, such as witnessing M&V activities and doing visual walk-throughs throughout construction. This activity will increase cost and is not required, and Advanced Energy did it for only one governmental unit.

### **Review of Annual Reconciliation Report**

The estimate that is used for the review of reconciliation report is to budget 1 to 1.5% of annual savings for a QR review. Statute requires state entities to have a qualified reviewer for the Annual Reconciliation Report. It is not required for local governments to use a qualified reviewer, but it is recommended by the USI.

Advanced Energy only provided this service for two projects. Some aspects that were included were

- Proper application of utility rates as stated in the M&V plan
- Review of respective ECM scope changes and determination of the effect on the guaranteed savings

## **OTHER OBSERVATIONS**

The overall goal of the USI team under this grant was to improve the process of EPC with a focus on opening markets to K-12 schools, community colleges and local governments. Many state governmental units had already successfully started or completed EPC projects, and to have a thriving market in North Carolina, it would be necessary to make smaller projects at K-12 schools, community colleges and local governments feasible.

- Small EPC (less than \$2 million) did not turn out to be as promising as originally thought. The size of most projects did not reach the financial threshold of less than \$2 million. Only one project under the grant turned out to be less than \$2 million, and this project ended up not requiring a bank loan. Feedback received during this grant stated



that the financial institutions were not interested or as competitive in small loans under \$2 million.

- There was a hope to be able to aggregate the county government, school district and community colleges into one larger project. This approach was attempted in two areas, but neither project moved forward. One project failed to reach the RFP phase, and the other terminated the process when neither proposal met the highest needs of the individual governmental units. Although this method seems feasible, it is politically challenging.
- The types of security instruments allowed in North Carolina are more restrictive than other states and the federal government. The security is increasing the cost of projects, which may prohibit smaller projects. Only a handful of financial institutions are involved in EPC.
- Many of the local governmental units have not invested in their infrastructure, and many buildings are not up to modern standards or code. For example, they may not have adequate ventilation air, or their mechanical room design may not meet requirements. In some cases, the projects end up leaving significantly deficient buildings as is and continuing to operate.