

Removing the Negative Incentive

Jennifer Eskil and Erin Hope, Bonneville Power Administration

ABSTRACT

Industrial rebate dollars rarely find their way back to the budget of the department initiating the energy conservation measure. This problem creates a negative incentive for plant managers to participate in energy efficiency improvements.

As industrial sector energy efficiency targets increase, it is imperative that we identify, acknowledge, and creatively address this barrier that has become a negative incentive and sizeable deterrent in program participation.

The Bonneville Power Administration (BPA) investigated the purchasing and maintenance habits of motor end-users along with the decision making processes of motor service centers. By restructuring the typical end-user incentive strategy and engaging motor service centers, BPA was able to remove the negative incentive by ensuring rebate dollars are directly applied to the budget of the department initiating the energy conservation measure.

Introduction

Many electrical utilities offer incentives or rebates to their customers for energy efficiency equipment or improvement measures. The incentives or rebates are typically offered in the form of reimbursement after the equipment is purchased or installed. For some small commercial equipment, the incentives or rebates may be offered as a discount at the time of purchase, but these are rarely offered for industrial equipment and measures.

Incentives and rebates paid after the equipment is purchased do not help many commercial and industrial projects as the budgets are normally fixed and the facilities often lack the ability to temporarily increase a project's budget while waiting for a payment from their utility. This is particularly true when the project is budgeted for one fiscal year and the incentive or rebate is received the following fiscal year. Most facilities require small-to-medium projects be purchased in the year the project was budgeted. This requirement is based on maintaining clear and accurate accounting of the capital projects and maintenance budgets. Receiving an incentive or rebate that applies to a previous year's budget combined with potential increased project costs can have a negative effect on the decision to install energy efficient equipment.

The focus of this paper is to evaluate some of the issues that result when incentives or rebates are paid *after the project is completed*. One resulting issue is a commercial or industrial facility choosing not to pursue the incentive or rebate available for more efficient equipment or measures; which often results in the project being less efficient. The Bonneville Power Administration (BPA) considered these issues as it developed the Green Motors Initiative (GMI) and influenced the initiative's design.

The terms "incentives" and "rebates" in relation to energy efficiency are often interchangeable, though they do have different meanings. For the purpose of this paper, incentives and rebates will be considered the same and will refer to a financial benefit received by the commercial or industrial facility from their serving utility, or its representative, for the

installation of energy efficient equipment. The financial benefits are normally in the form of a payment to the facility.

There are two general types of incentives. The first type, *reimbursement incentives*, pay the incentive to the facility after the measure has been purchased, installed, and any required energy savings verification is completed. The second type, *cost reduction incentive*, is less common and pays the incentive towards the cost of the equipment or measure at the time of purchase, thereby reducing the cost paid by the facility up front. Both types typically require the facility to submit an incentive application and cost documentation to qualify for the incentive payments.

Both incentives share the same purpose, to help the facility reduce the overall cost of implementing more energy efficient equipment and measures as part of a larger facility project or as a stand-alone energy efficiency project. Utilities will often limit the incentive amount to a specific percentage of the eligible project cost. These costs may be an incremental part of the total project based on the energy savings or the overall project cost, depending on the utilities' requirements and the scope of the project.

BPA is a Federal Power Marketing Agency under the U.S. Department of Energy (DOE). BPA does not serve end-use customers directly with the exception of a few very large Direct Serve Industries (e.g., aluminum production facilities). BPA provides wholesale electric power to over 140 public utilities and federal customers generated from the Federal Columbia River Power System's federal dams, one non-federal nuclear plant and other non-federal hydroelectric and wind energy generation facilities. In addition, BPA develops and funds energy efficiency programs for its utility customers to provide incentives to their end-use customers. Utilities choose whether to participate in BPA's programs or to develop and fund their own programs.

Why Incentives Are Not Always Part of the Project

When facilities consider a project, either for maintenance or capital improvement, energy efficiency incentives are not always considered. This could result from not knowing or fully understanding their serving utility's programs; however, it could be a conscious decision made by the facility to not pursue the incentive. Many of the industrial facilities served by BPA's utility customers are familiar with the incentive programs offered and some make a conscious choice not to pursue the incentives.

When developing the GMI, BPA conducted informal surveys with a variety of industrial facilities to better understand why some choose not to pursue energy efficiency measures as part of their projects. One issue identified was the difficulty with completing the necessary applications or simply put, the incentives were "not really worth the paperwork required". Another key issue was the reimbursement incentives. The incentive paid after the completed project was rarely credited to the correct budget or was simply credited to the company's general fund. It was also apparent that the larger the company or facility, the less likely the reimbursement incentive made it back to the correct department's budget. When incentives were identified, often senior managers would request the incentives be applied for from the utility but held others responsible when the project's budget was exceeded. For example, in one case an energy efficiency measure increased a project's budget by \$10,000; however, the reimbursement incentive totaled \$15,000. The incentive payment was issued after the project was completed and the project budget closed. The project's final budget records reflected the \$10,000 over

budget, not the \$5,000 net savings. This kind of scenario can create a negative incentive for plant, project, and maintenance managers to pursue energy efficiency incentives.

Cost reduction incentives, or incentives paid at the time of equipment purchase, were proposed to alleviate the issues caused by reimbursement incentives. For typical industrial capital improvement, budgets are planned and approved one to two years in advance of the project start. To increase a project's budget often requires either senior management approval, or that funds be transferred from another project. General maintenance or expense budgets are set the prior year and spent sparingly throughout the following fiscal year in the event of a major unplanned equipment failure. For either case, the budgets are planned and approved at least one year prior with very little funding to spare.

Three general types of projects or project budgets were identified as being potentially impacted by reimbursement incentives. The first type is large capital improvement projects where energy efficiency improvements are a small increment of the entire project. The second type is capital improvement projects where energy efficient improvements are the primary reason for the project. The third type is general maintenance projects that are typically financed using expense dollars, instead of capital dollars.

On large capital improvement projects, reimbursement incentives typically have a small to negative impact depending on the increased costs associated with installing the measure. If the energy efficient measure potentially results in a project being over budget, it may not be considered. As earlier discussed, capital improvement projects are developed and approved up to two years prior to the project being started, and may require significant justification and paperwork if additional funding were necessary. In these types of projects, the reimbursement incentives are often received too late to be applied toward that specific project's budget or there are accounting restrictions that prevent the incentive from being applied to the capital improvement budget. One simple solution serving utilities can employ is to offer an incentive through a vendor at the time equipment is purchased, also known as a *cost reduction incentive*.

For capital improvement projects where energy efficiency is the primary reason, the projects are typically approved and funded based on the incentives and most often would not be considered without incentives. Several facilities have created a method prior to the project start up to account for reimbursement incentives. One common method is to apply the incentive to an efficiency budget to help fund future projects. For one facility, their efficiency budget relied on incentive reimbursement funds for all future projects. The facility's parent company would match any incentives received with additional funding for the energy efficiency budget.

When a maintenance project or repair is planned and there are opportunities for energy efficient improvements, how would an incentive influence the project and would a reimbursement or cost reduction incentive work better? Based on discussions with several industrial plant and maintenance managers, reimbursement incentives typically do not influence the maintenance project; in fact they generally have a negative effect. Why? This is due to two primary reasons. First, a facility's maintenance budget is usually limited, and if the efficiency measure increases the repair costs, the facility may exceed their annual maintenance budget. If the measure has a negligible effect on the repair costs, it would be installed but may be considered standard practice and not be eligible for utility incentive. The second issue is the mixing of expense and capital funding. Some facilities are very cautious with what is funded through a maintenance budget and what is funded through capital improvements. Often when an

efficiency measure can be considered as either a maintenance expense or a capital improvement, most facilities' will use capital funding; otherwise it could be interpreted as an accounting violation.

Several facilities have considered the risks and administrative costs to pursue reimbursement incentives (especially smaller ones) and have decided it is not worth the effort or benefits. Many facility personnel surveyed believe an incentive applied to a project's upfront costs could significantly reduce or eliminate many of these issues. The project or maintenance budget would then directly benefit from the incentive.

The Green Motors Initiative Approach

Background

The Green Motors Initiative (GMI) was launched by BPA on October 1, 2008. The initiative's goal is to provide incentives that encourage motors to be rewound in accordance with the standards developed by the Green Motors Practices Group (GMPG). These standards are based on the Electrical Apparatus Service Association's (EASA) best practices and technical notes. As of May 2009, 71 Public Utilities and 6 Investor Owned Utilities across 5 states participate in GMI. There are 49 motor service centers that are certified and offer green motor rewinds.

The GMPG is a non-profit organization that identifies, promotes, and verifies only qualified motor service centers. The group is comprised of, directed, and managed by motor service center industry peers. The standards established by the group were evaluated and approved by the Northwest Power and Conservation Council's Regional Technical Forum (RTF) as providing 0.5 percent to 1.0 percent motor efficiency improvement as compared to standard motor rewind practices. It is this efficiency improvement and deemed savings value from the RTF that is the basis of the GMI.

Incentive Structure

The GMI approach is a cost reduction incentive where the motor service center provides, on behalf of the participating utility, a credit to the industrial facility's invoice for the green motor rewind. This incentive structure removes many of the negative issues associated with reimbursement incentives. This has resulted in the GMI receiving significant interest and participation from both plant and maintenance managers.

The GMI is designed to keep all paperwork and program requirements consistent regardless of the utility serving the industrial facility. The GMPG works as the 'central clearinghouse' collecting all paperwork, contacting utilities for eligibility verifications, and tracking the incentive payments paid to each motor service center. The incentives for a green motor rewind are paid through the motor service center as a credit on the invoice for the motor repair. The motor service center agrees to acknowledge the incentive on the invoice and that it is provided by the GMI on behalf of the industrial facility's serving utility and includes the name of that utility.

Participating motor service centers verify with the GMPG that an industrial facility's serving utility is participating in the initiative and that the facility is eligible for the incentive. After verifying the facility's eligibility, the service center tests and rewinds the motor following

the GMPG standards. When the motor is completed and has passed the post-rewind tests, the service center can submit a claim to the GMPG. Typically, the service center submits these claims electronically, twice a month. Again, the information submitted by the motor service center is consistent regardless of the facility's location or who the serving utility is.

When the GMPG receives the incentive claims from the motor service center, they verify the information is correct, the facility's eligibility was previously verified, and the submitting service center is certified. If all information is correct and verified, GMPG pays the incentive directly to the service center.

On a monthly basis, the GMPG compiles the information from all the service centers into reports for each participating utility and invoices the utility. For BPA participating utility customers, the GMPG provides each utility their own individual report and BPA receives a report documenting all of their customer utilities. BPA pays the GMPG for the incentives for participating customer utilities.

Benefits

Several benefits have resulted for both the commercial or industrial facilities and the motor service centers. These benefits include:

- ◆ *Facility Benefits*
 - ▲ Incentive reduces the motor rewind cost by \$1 per horsepower (HP) for all qualifying motors.
 - ▲ No paperwork or forms to fill out, mail-in, or keep track of.
 - ▲ No verifying incentive checks credited to the correct budget.
 - ▲ Motor rewinds are classified as repair expenses and not capital expenditures.
 - ▲ Green motor rewinds result in an average energy savings of 0.5 to 1.0 percent as compared to typical motor rewinds.
 - ▲ Independent 3rd party verification of all participating motor service centers.
 - ▲ Increased motor reliability; often motor efficiency correlates to its reliability.
 - ▲ Peace of mind knowing the certified motor service center is familiar with both your motor and the initiative.

- ◆ *Motor Service Center Benefits*
 - ▲ Simple, consistent paperwork regardless of the industrial facility's serving utility.
 - ▲ Independent 3rd party verification of their shop practices.
 - ▲ Opens the door for them to bring other energy efficiency incentives to their customers.
 - ▲ Receives \$1/HP incentive for qualifying motors to offset the cost of the additional testing and maintaining shop certification.
 - ▲ Reduced warranty costs by improving the reliability of the motor.

These benefits help encourage participation and remove many of the negative incentives experienced in other initiatives and programs. These benefits have proven to be both financial and operational.

Conclusions

Because the incentives lower the actual cost of the energy efficiency measure to the facility, they are considered cost reduction incentives, not reimbursement incentives. By providing a cost reduction incentive and requiring the motor service center to submit the incentive information, many of the negative issues associated with industrial program incentives are removed. By directly benefitting the facility and the actual budget that is paying for the motor rewind, it encourages more participation by facility and maintenance managers.

This payment method also allows the motor service center to receive an incentive to reduce the additional costs incurred to complete the required paperwork and maintain their certification.

The GMI structure also establishes a method for future programs or initiatives to be set up through participating motor service centers. It establishes a network with a direct communication and incentive path between a utility and multiple motor service centers serving the utility's customers. This allows the utility to utilize the service centers to help deliver their industrial efficiency program and the service center to benefit directly from the utility incentive.