

➤ **Compressed Air Efficiency – Product Changes**

Public Service proposes to add new prescriptive rebates for “Plan A” Variable Speed Drive (VSD) compressors to the Compressed Air Efficiency product in 2011.

Public Service currently rebates compressors that replace working compressors. Public Service proposes to add prescriptive rebates for VSD Compressors which will be used for new capacity, or to restore diminished capacity. Public Service is introducing the additional rebates to increase participation and to address vendors’ concerns that the majority of the market for efficient compressors is for the purpose of new capacity.

Table 1: Compressed Air Efficiency Rebate Summary

Compressor Size	"Plan A" New or Restored Capacity
10 HP	\$1,000
15 HP	\$1,500
20 HP	\$2,000
25 HP	\$2,500
30 HP	\$3,000
40 HP	\$4,000

The addition of the “Plan A” VFD compressor measure does not affect overall product goals, budgets, rebate eligibility, or the product’s M&V process.

The Modified Total Resource Cost (MTRC) for the added “Plan A” VFD compressor measure is estimated to be 2.32 and is expected to have a beneficial impact to the overall MTRC for this product. This ratio includes an estimate of the rebates paid to participants and other utility costs attributable to this measure.

➤ Compressed Air Product

A. Description

The Colorado Compressed Air Efficiency Product helps customers address inefficiencies in their compressed air systems. The product encourages repair and redesign of existing systems, and encourages the purchase of efficient options for new and replacement systems. The product has three components:

1. Prescriptive rebates for the most common high-efficiency options such as no-loss air drains, and certain Variable Frequency Drive (VFD) compressors. The current “Plan B” option is for variable speed drive compressor(s) that are a one-for-one replacement of actively functioning load/no-load compressor(s). Through 60-day notice in 2011, a “Plan A” option is being added to rebate a new VFD compressor(s) that either adds capacity or replaces a non-functional existing compressor(s).
2. Rebates for studies that help customers identify efficiency opportunities from fixing leaks as well as from redesign or replacement of system components.
3. Custom rebates for implementation of unique improvements identified by the studies. Improvements can include capital purchases, such as qualifying compressors and “process” changes, such as piping modifications or horsepower reductions.

If customers choose to improve compressed air equipment, as identified in the study, rebates are available through the Custom Efficiency Product for any size equipment. For equipment over 50 horsepower, it is expected that the customer will participate in the study portion of the product prior to submitting for a custom efficiency rebate. Examples of equipment replacement that may qualify for the custom equipment rebate include:

- Replace an oversized 50 horsepower compressor with a 40 horsepower compressor.
- After completing a compressed air study, replace an existing 150 horsepower air compressor with two 75 horsepower compressors and controls.
- After completing a compressed air study, replace an existing 150 horsepower air compressor with a 150 horsepower variable frequency drive compressor.

All electric commercial and industrial customers within Public Service’s service area are eligible to participate in the Compressed Air Efficiency Product. The primary target is a larger business customer that has some or all of the following characteristics:

- Demand of 500+ kW
- Operates within energy intensive industries (e.g., food processing, mining, etc).

In addition, there is a secondary target of small business customers that may have these characteristics:

- Demand of less than 500 kW
- Limited internal resources to purchase, install, and finance projects
- Limited technical expertise
- Focus on short-term paybacks

Members of the trade are also targeted, including equipment manufacturers and installers, as well as design engineers and electricians.

Settlement Terms

The Company agrees to implement a 50% increase in the rebate offered for this product. The Settling Parties agree that the 2011 DSM electric budget shall be increased by \$98,401 to accommodate the increased rebate offered in connection with the Compressed Air (custom) product.

B. Goals, Participants & Budgets

Goals and Participants

For 2011, goals were established at the portfolio level by Xcel Energy's management team, considering recent trends, and longer-term experience. The team also reviewed all DSM Product goals and completed an initial allocation of the goals to each product. This allocation was based on a review of past product performance and the allocation from the prior year's 2010 goal.

2011 planned participation was derived from the prior year's 2010 goal, trade participant feedback, and an evaluation of potential customers within the Colorado service area. The participation was also adjusted due to the recent trend of customers bundling their compressed air measures within Public Service's interdisciplinary programs.

Budgets

Once goals were established, the budget process is generally the same for Compressed Air as with the other DSM products. Historical cost and participation information is tracked and analyzed to project budgets. Comparative spending analysis of past year activity is conducted but is not the determining annual factor, since other external variables like promotions, materials and staffing exist. Experience from Minnesota products is used as a checkpoint.

For the Compressed Air Product, rebates, internal labor, and third party consulting drive most of the budget. The following is information pertaining to these specific drivers.

- **Rebates** – The budget for rebates is established by estimating participation for the product and multiplying by the rebate per kW amount plus an additional amount in the event that Public Service runs special promotional incentives to stimulate participation.
- **Internal labor** – Compressed Air Efficiency is a labor-intensive product. It is one of the few products in Colorado that has prescriptive, study-based, and custom components. The study and custom components require Xcel Energy staff to conduct detailed analysis for preapproval of each opportunity. Labor is typically around 30% of the product cost.
- **Third party consulting** – In early 2010, Public Service transferred the project analysis duties from a third party consultant to our in-house engineering staff. The consultant continued to provide measurement and verification (M&V) duties. In 2011 the third party consultant will continue to support M&V projects. Consulting expenses are expected to decrease, as a percentage of total costs, over time as Public Service uses internal labor to conduct project analysis work.

C. Application Process

The customer can learn about the product through various channels including the account manager, compressed air vendor, website literature or product advertising. Applications must be signed by the customer but can be submitted by customer representatives including: building owners, contractors engineering firms, energy services companies, and equipment vendors. Typically, the customer or a vendor selling to the customer identifies a project and starts the application process, as described below.

Compressed Air Prescriptive Measures

For prescriptive measures, Compressed Air's application process is similar to our other prescriptive products. Customers may apply for rebates by completing the application and providing a detailed invoice for the newly installed equipment. The customers may submit for a rebate after the equipment has been purchased and installed. For compressors, higher rebates are available for variable speed drive compressor(s) that are a one-for-one replacement of actively functioning load/no-load compressor(s) which is referred to as "Plan B". Rebates are also available for variable speed drive compressor(s) that add to production capacity or replace non-operational compressors (also known as "Plan A"). The equipment must be new and meet all the qualifications detailed on the application. After the customer has installed the equipment, the application and invoice must be submitted to Public Service within twelve months of the invoice date. Once the paperwork is completed and submitted, rebate checks will be mailed to the customer as indicated on the application within six weeks.

Compressed Air Studies

First, the customer contacts a participating compressed air vendor/contractor and requests a study estimate. A trade network list is available from Public Service if the customer has not chosen a vendor. The customer submits the Compressed Air Efficiency study application and the proposed cost of the study to the Public Service representative. To receive preapproval, the study application must propose to include the following components:

- An ultrasonic leak survey — locate and tag air leaks; estimate the cost of inefficiencies due to system leaks and misuses.
- An efficiency report — system recommendations and estimate of energy cost savings due to each recommendation.
- Characterization of major compressed air system components including:
 - Compressor number, type, capacity, pressure rating and age
 - Compressor motor size, efficiency and age
 - Type, capacity and age of dryers and other conditioning equipment
 - Type of automatic compressor controls, if any
 - Description of major compressed air end uses
 - Location and layout of piping and major system components
 - Inspection of compressed air system components and identification of problem areas

- Identification of system loading of major compressed air users including size, frequency and duration of use.
- Flow and/or electric metering results.
- Summary of the results of the leak and unregulated demand inspection, including the location and approximate size of each leak.
- Summary of the execution steps and cost estimate to repair the leaks, unregulated end-uses and inefficient compressed air applications.
- Recommendations for improvements to customer's maintenance procedures.
- Recommendations for follow-up actions to improve operation and efficiency, including the installation of new equipment.

To receive the study rebate, the customer must deliver the completed study report and must repair at least 50% of the air loss due to leaks and/or waste as identified by the study. When the report is complete and the customer has repaired the leaks, the customer will inform their Public Service account manager. The customer and Account Representative review the list of identified leaks, and notes the repair status of each leak. The customer and Account Representative both sign the verification section of the application and submit it to the product manager along with copies of invoices and other required information as stipulated in the preapproval letter. Public Service will reimburse the customer for the study portion of the project within six weeks of when the information described above is received.

Custom Compressed Air

If the customer chooses to implement recommended capital improvements to the compressed air system, they may apply for preapproval of their equipment replacement through the Custom Efficiency Product application process. Please see the Custom Efficiency section for a description of the process to be followed.

D. Marketing Objectives, Goals, & Strategy

Marketing Strategy

Account managers and compressed air vendors are the primary marketing conduits for this product and market the product through their direct relationships with customers. In addition, following are strategies that will help meet product goals in 2011.

Target Industrial Customers. Industrial customers make up a sizeable untapped market that has the potential to bring in large compressed air projects. Public Service will target these customers with direct mailings to create awareness and answer questions about the product.

Partner with Trade Allies. Trade allies will be a significant factor in the success of this product. Working directly with these trade allies will help them to identify customers for the product early in the planning stages of a project. The trade allies must be educated to see how incorporating Public Service's rebates into their bids can be beneficial to their business.

Vendor Training. Currently there are only three major providers of compressed air studies in the Denver market. Competition amongst this group is high due to the limited market size. For this reason, it is best to approach these trade allies individually rather than offer a group training

format. Throughout 2011, we will schedule several one-on-one meetings with these trade allies. The meetings will provide a forum to review the vendor's work, make recommendations for a better end product and solicit feedback on the effectiveness of the product.

Marketing Collateral. Marketing collateral is an important tool to provide customers with useful, easy to follow guidelines for the product. Public Service continuously solicits feedback from customers and trade allies to improve these materials. Collateral is available in soft and hard copy format for customers, trade allies, and internal Public Service staff. Customers and trade allies can request hard copies of the material or they can access material on Xcel Energy's website. The collateral available includes:

- **Compressed Air Feature Sheet** – Tool that helps describe the product to customers and trade allies. It provides examples of projects that may qualify, business reasons to participate, and a summary of the procedures to follow.
- **Compressed Air Application for qualifying prescriptive measures** – The document lists qualifying prescriptive measures. The customer fills out several sections including technical information related to the proposed and existing equipment.
- **Compressed Air Study Application** – The document that customers fill out to start the process of participation. The customer or vendor is asked to fill out several sections including information on the business location, account manager, applicable rates, project description, technical information related to proposed and existing equipment, equipment supplier and project verification upon completion.
- **Vendor List** – A list of trade allies who have submitted studies in the past or expressed an interest in participating in the product. The list is provided for the convenience of customers who do not have a working relationship with a vendor. Public Service does not endorse any particular company over another.
- **Compressed Air Study Template** – This tool is a detailed example of what Public Service would like to see at the completed stage of a study.

E. Product-Specific Policies

Compressed Air studies and custom projects require pre-approval before purchase and installation. This process is in place to help insure free ridership is kept to a minimum and that rebates are awarded to projects that are technically and financially sound. All compressed air equipment projects must have a payback period between one and fifteen years.

The system requirements include:

- Electrically driven compressed air systems
- Minimum 50 horsepower total installed air compressor capacity (excluding backup equipment)
- Systems must operate at least 40 hours per week (2,000 hours per year)

F. Stakeholder Involvement

Customers, trade allies, and other stakeholders are currently engaged at the specific project level. Feedback is garnered individually from each participant and once a trend develops (positive or

negative), Public Service makes a change to the product design. If it is a small change, it is then discussed internally and possibly with a few key trade allies and, if deemed acceptable, implemented. A larger change would possibly involve review by the product's external technical resources or other third party consultant.

G. Rebate Levels

The Compressed Air Efficiency product helps customers lower operating costs by offering rebates on compressed air studies and by providing rebates on compressed air equipment. Rebates apply to new and leased equipment, but not to used equipment. All rebates are subject to Product-Specific Policies (Section E) and Program-Level Policies (Business Program, Section E).

Study rebates levels are described in the filed Planning Assumptions, and are described in the study funding application and the company web site.

Prescriptive rebates for compressed air equipment are available for No Loss Air Drains and select Variable Speed Drive Compressors. Prescriptive rebate levels are shown in the Planning Assumptions, rebate application, and company web site.

The product provides custom rebates for all other compressed air equipment projects that start in 2011 of up to \$600 (an increase of 50%) per KW saved.