

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE  
REPORT ON THE USE OF SBC FUNDS FOR  
ENERGY EFFICIENCY PROJECTS AT PSNH FACILITIES**

**Compliance Report for Calendar Year 2012**

**I. INTRODUCTION**

The enabling language contained in New Hampshire statute RSA 125-O: 5 authorizes PSNH to utilize a portion of the funds collected from the System Benefits Charge (SBC) to fund energy efficiency projects and energy saving measures at Company facilities. The complete text of the relevant statute is included below:

***CHAPTER 125-O  
MULTIPLE POLLUANT REDUCTION PROGRAM***

**Section 125-O: 5**

125-O: 5 Energy Efficiency, Renewable Energy, and Conservation and Load Management Incentive.

- I. In order to encourage energy efficiency, energy conservation, renewable energy, and the reduction in local emissions which result, the integrated multi-pollutant strategy shall promote energy efficiency and conservation through conservation and load management programs.
  
- II. Public Service Company of New Hampshire (PSNH) may utilize SBC funds equivalent to the unencumbered amount, if any, rolled over from the prior program year for energy efficiency projects at facilities owned and operated by PSNH, provided that the company made a good faith effort in the prior program year to meet the goals approved by the public utilities commission for its core energy efficiency programs, and provided that the SBC funds used by PSNH shall not exceed 2 percent of all SBC funds collected in the prior program year. PSNH may utilize these funds to implement approved core energy efficiency initiatives or measures at PSNH's facilities that are cost effective and which enhance the efficient use of energy at PSNH facilities. Any energy savings resulting from the use of these funds by PSNH at its facilities will not be included in the calculation of PSNH's energy efficiency program goals, any shareholder incentive, or any other incentive program. In any year that PSNH utilizes SBC funds, PSNH shall submit a report to the public utilities commission and the department detailing how these funds were utilized, and will make the report available to interested parties. Any party may request that the public utilities commission schedule a hearing to review these reports and the expenditure by PSNH of rolled over SBC funds at its facilities.

Source. 2002, 130:2, eff. July 1, 2002. 2008, 182:10, eff. June 11, 2008.

Although the statute was enacted in July 2002, PSNH did not select specific projects at its facilities that would qualify for use of SBC funds to offset the cost of energy efficiency improvements until calendar year 2006. Projects were completed and funds were used in 2006-2008 and in 2011-2012 (no projects were completed in 2009 or 2010) for energy efficiency investments at company facilities and the attached report will describe the project for calendar year 2012 as required.

### III. SCREENING PROCESS AND SELECTION CRITERIA

In evaluating PSNH facility projects, the minimum criterion was that the project would have to qualify for incentives had it been undertaken at a customer facility. However, PSNH choose to go beyond this minimum threshold condition to ensure that projects with high energy savings for the dollars invested were given priority. The following describes the process that was established to ensure that high-value projects were identified and screened:

- PSNH undertook an assessment of its facilities to identify energy saving opportunities and estimated costs. In 2010, no projects were completed, in 2011 (6) projects were completed, and in 2012 (1) project was completed. PSNH continues looking for energy efficiency opportunities in the operating company facilities.
- The projects were then ranked based on the cost per kilowatt-hour saved.
- The facility audit results were then presented to the PSNH Capital Budget Review Committee which meets monthly to review major capital projects. The Committee has representation from all functional areas (e.g. customer operations, customer service, energy delivery, generation, etc.). The Committee's role was expanded to include cross-functional review, oversight, and approval of SBC-funded energy saving projects. The following criteria were considered when selecting projects:
  - All else being equal, projects with a lower cost/kWh saved were given priority over those with a higher cost/kWh saved.
  - The cost to save a lifetime kWh must be less than or equal to 8 ¢/kWh.  
NOTE: The Energy Service (ES) rate, which closely approximates the PSNH actual costs to supply a kWh, was 9.13 ¢/kWh when this criterion was established (the rate in October, 2013 is 8.62 ¢/kWh). Use of this criterion ensures that demand-side energy saving projects will be lower cost than their supply-side alternative.
- Additional consideration is given to new construction and to projects located in facilities undergoing renovations independent of the identified efficiency project.

#### IV. PSNH ENERGY EFFICIENCY PROJECT FUNDING

Table 1 below details the total available funding (set at a maximum of 2%) based on PSNH's actual kWh sales<sup>1</sup>.

**Table 1**

	2008	2009 <sup>1</sup>	2010	2011	2012
Beginning Balance	\$1,824,321	\$764,939	\$764,939	\$503,269	\$600,000
+ 2% PSNH Set Aside		\$0	\$238,330	\$230,791	\$37,529
- PSNH EE Projects (see Note 2)	\$1,059,382	\$0	\$0	\$134,060	\$37,529
- One-Time Transfer to CORE EE	\$0	\$0	\$500,000	\$0	\$0
Year-End Fund Balance	\$764,939	\$764,939	\$503,269	\$600,000	\$600,000

Note 1: In 2009, PSNH did not transfer \$275,699 in unencumbered funds for energy efficiency projects at PSNH facilities.

Note 2: The \$500,000 in PSNH Projects was actually transferred to the 2010 CORE NH Energy Efficiency Programs per a February 19, 2010 filing recommending proposed budget changes and approved in Commission Order 25,099 issued April 30, 2010.

#### IV. GOOD FAITH EFFORT

PSNH made a good faith effort to meet the goals approved by the Commission. As part of the Core Energy Efficiency Programs filing and proceedings, PSNH projected certain goals in the various programs for the number of customers served, number of rebates (Small Commercial and Industrial) or rebate dollars (residential lighting) distributed or the amount of funds invested in new construction or retrofit programs (Large Commercial and Industrial). PSNH substantially met or exceeded these goals. PSNH also exceeded the projected cost/benefits of the services provided to the nonresidential sector and for the overall portfolio as well as the projected lifetime kilowatt-hour savings for the residential and non-residential customer sectors. Due to PSNH's ability to complete energy efficiency projects at a cost below those estimated in the initial filings, there were unencumbered funds in some programs.

Table 2 lists the project completed at PSNH facilities which utilized SBC funding in 2012. This project is described in more detail in section 1 of this report.

**Table 2**

No.	Project Location and Description	Project Cost
1	Portsmouth Area Work Center - Lighting	\$37,528.50
TOTAL		\$37,528.50

<sup>1</sup> The 2% was only available if there was a sufficient unspent balance at the end of the program year.

## **V. SUMMARY**

As of the beginning of 2012, a total of \$600,000 of unencumbered funds was available for investment in beneficial energy efficiency projects at PSNH facilities in 2012. Based on 2012 year-end results, the additional 2% funding was calculated to be \$37,529 (the actual amount was \$282,288 but was reduced to comply with the \$600,000 cap). PSNH completed one project in 2012 totaling \$37,529, leaving a year-end balance of \$600,000 going into 2013.

These projects provide a way for customers who do not participate in the CORE Programs to benefit from cost-effective investment of SBC funds. The energy savings that will accrue from these projects reduce the amount of energy that is considered PSNH “company use” – a benefit which flows to PSNH customers through the Energy Service rate. The following sections more fully describe the specific energy efficiency project that was completed.

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# 1. Portsmouth Area Work Center

1700 Lafayette Rd, Portsmouth, NH

## **Description:**

The Portsmouth Area Work Center consists of offices, a conference room and a lunchroom in the office section of the building. New high efficiency T8 fixtures with reduced wattage lamp and ballast systems replaced the facility's existing lighting. The existing lighting fixtures were +/- 20 year old T8 32W fluorescent fixtures with prismatic lenses that were in some cases cracked, yellowing and provided inadequate lighting in the office area. The existing lighting in the garage consisted of 250W Metal Halide fixtures.

The project completed in February of 2012 included replacement of all the existing lighting in the facility as follows:

- Removed 291 existing fixtures and installed 260 new high efficient T8 fixtures with reduced wattage 28W lamp and ballast systems. The total includes replacing the 250W metal halide fixtures in the garage area with high efficient low bay T8 fluorescent fixtures. The outdoor fixtures were replaced with LED wall packs and pulse start metal halide fixtures.
- Installed 44 occupancy sensors in various locations throughout the building.
- Installed new LED exit signs to replace the incandescent exit signs.

<b>Project Cost</b>	<b>Lifetime kWh Savings</b>	<b>Cost / Lifetime kWh Savings</b>
\$37,528.50	1,053,312	\$0.034

## **Project Timeline:**

This project was reviewed by PSNH's Capital Budget Review committee and completed in February of 2012. The project has a simple payback of 5.3 years.

## **Benefits:**

- Greatly reduced energy used for lighting
- Increased light levels
- Improved lighting quality
- Lower maintenance costs
- Reduced wattage 28W T8 lamps used throughout the building
- Annual energy savings of 81,024 kWh



Figure 1a: Portsmouth AWC Garage Lighting (Before)



Figure 1b: Portsmouth AWC Garage Lighting (After EE Upgrade)

## Summary of 2012 PSNH Facility Projects

The \$37,529 spent in 2012 on one major project at PSNH facilities resulted in substantial energy savings of 81,024 kWh annually and 1,053,312 kWh over the life of the equipment. The average cost / lifetime kWh savings was \$0.034 and the simple payback for this 2012 project was 3.9 years.

Furthermore, the SBC funds were invested in a manner that benefits customers, the community, and the employees. These energy savings also result in the reduction of greenhouse gas emissions, an important part of the multi-pollutant bill. The following chart shows both the reduction in oil and the greenhouse gas reductions.

<b>Estimated Energy Savings for Rate G Customers</b>						
	<b>81,024</b>	kWh	X	13.00	year measure life =	<b>1,053,312</b> Lifetime kWh Savings
X	<u>\$ 0.11414</u>	per kWh				<u>\$ 0.11414</u>
	<b>\$ 9,248</b>	annual energy savings				<b>\$ 120,225</b> Lifetime energy savings
<b>Reduced Oil Consumption</b>						
	81,024	kWh	X	0.069	gallons of oil/kWh =	<b>5,591</b> gallons/year
<b>Reduced Power Plant Emissions</b>						
	<b>CO2 (a "greenhouse" gas)</b>					
	81,024	kWh	X	1.107	lbs/kWh	= <b>89,694</b> lbs/year
	<b>SO2 (a cause of acid rain)</b>					
	81,024	kWh	X	0.00175	lbs/kWh	= <b>142</b> lbs/year
	<b>NOx (a cause of acid rain)</b>					
	81,024	kWh	X	0.00054	lbs/kWh	= <b>44</b> lbs/year