

Public Service Company of New Hampshire
Report on the use of System Benefits Charge Funds for
Energy Efficiency Projects at PSNH's Facilities

Projects Completed in 2013

I. Introduction

New Hampshire statute RSA 125-O:5 provides PSNH with the authorization to utilize a portion of the revenue collected from the System Benefits Charge (SBC) to fund energy efficiency projects at facilities owned and operated by PSNH. In any year PSNH utilizes SBC funds for this purpose, a report detailing how the funds were used must be submitted to the Public Utilities Commission and to the Department of Environmental Services.

For reference, the relevant text of the NH statute is provided below.

Multiple Pollutant Reduction Program

Section 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.

Energy efficiency projects completed at facilities owned by PSNH provide a way for customers not participating in the CORE Energy Efficiency Programs to benefit from cost-effective energy efficiency investments using System Benefits Charge funds. The energy savings resulting from these projects reduce PSNH's company use – a benefit which flows to customers through PSNH's Default Energy Service rate or through PSNH's distribution rates. This report summarizes the projects completed in calendar year 2013.

II. Project Screening Process and Selection Criteria

To screen energy efficiency projects at its facilities, PSNH utilizes the same cost effectiveness methodology used to screen energy efficiency projects at customer sites. If multiple projects are identified in a given year, those projects with higher energy savings as compared to the level of investment are given priority. Below is a summary of the selection process that has been utilized over the past several years to ensure high-value projects are identified.

- PSNH assesses its facilities to identify projects with energy saving opportunities and to develop estimated costs.
- The projects are ranked based on the cost per kilowatt-hour saved.
- The projects are reviewed and selected based on the following criteria:
 - ✓ All else being equal, projects with a lower cost per lifetime kilowatt-hour saved are given priority over those with a higher cost per lifetime kilowatt-hour saved.
 - ✓ The cost to save a lifetime kilowatt-hour must be less than or equal to 8 cents per kilowatt-hour. (Note: PSNH's Default Energy Service rate closely approximates PSNH's actual cost to supply a kilowatt-hour. Eight cents per kilowatt-hour is lower than the Default Energy Service rates that were in effect in 2013. Using this criterion ensures that any demand-side energy efficiency projects chosen are lower cost than the supply-side alternative.)
 - ✓ Additional consideration is given to new construction projects and to projects located in facilities undergoing renovations independent of the identified energy efficiency project.
- PSNH continues to review energy efficiency opportunities at its facilities on an annual basis.

The number of projects completed since 2010 are summarized below:

<u>Year</u>	<u>Number of Projects</u>
2010	0
2011	6
2012	1
2013	2

III. Energy Efficiency Project Funding Balance

The table below summarizes the calculation of the energy efficiency project funding balance from 2008 through 2013. The maximum year-end balance cannot exceed \$600,000, as approved by the Commission in its secretarial letter dated November 4, 2010 in DE 09-170. If unencumbered energy efficiency funds remain at the end of a program year, the 2% set aside calculation is based on the lesser of 1) two percent of the actual energy efficiency program system benefits charge funds collected in the prior program year based on PSNH's actual delivered kilowatt-hour sales or 2) the amount needed to result in a \$600,000 year-end balance.

At the beginning of 2013, the project funding balance was \$600,000. PSNH completed two projects at its facilities at a total cost of \$210,693. Two percent of the actual energy efficiency program system benefits charge funds collected in 2013 equaled \$284,551. The final set aside amount was reduced to \$210,693 in order to comply with the \$600,000 year-end balance cap as shown below.

	2008	2009	2010	2011	2012	2013
Beginning Balance	\$1,824,321	\$764,939	\$764,939	\$503,269	\$600,000	\$600,000
+ 2% Set Aside for Projects at PSNH's Facilities		\$0	\$238,330	\$230,791	\$37,529	\$210,693
- Cost of Projects at PSNH's Facilities	\$1,059,382	\$0	\$0	\$134,060	\$37,529	\$210,693
- Transfer of Funds to CORE Programs	\$0	\$0	\$500,000	\$0	\$0	\$0
Year End Balance	\$764,939	\$764,939	\$503,269	\$600,000	\$600,000	\$600,000

(1) In 2009, PSNH did not set aside \$275,699 in unencumbered system benefits charge funds for projects at PSNH's facilities.

(2) \$500,000 was transferred to the 2010 CORE Energy Efficiency Programs budget as approved by the Commission in its Order No. 25,099 dated April 30, 2010.

IV. Good Faith Effort to Meet the 2013 Energy Efficiency Program Goals

As part of the 2013 CORE Energy Efficiency Program Plan, PSNH projected program participation, lifetime kilowatt-hour savings, spending and cost/benefit goals. PSNH made a good faith effort to meet or exceed the 2013 goals as approved by the Commission as shown in PSNH's Annual Report and Performance Incentive Calculation filing dated June 2, 2014 in DE 12-262.

V. 2013 Project Descriptions

The following two projects were completed in 2013 at a total cost of \$210,693.

<u>Project Location and Description</u>	<u>Project Cost</u>
1) Schiller Station Re-Lighting Project	\$196,493
2) Chocorua Work Center LED Lighting Project	\$14,200
Total	\$210,693

1) Schiller Station Re-Lighting Project

400 Gosling Road, Portsmouth
Completed in January 2013

Project Overview: Replace Aging Inefficient Lighting Systems

This re-lighting project consisted of replacing 25+ year old light fixtures with new, energy efficient fixtures and adding occupancy sensors where feasible and safe. New lighting was installed in 23 different locations (both interior and exterior). A total of 386 metal halide, high pressure sodium, and T12/T8 fluorescent and incandescent fixtures were replaced with 369 high efficiency fixtures with high-performance (HP) T8 / T5 lamp and ballast systems and LED Wall Pack fixtures. In addition to the reduction of the number of lamps, there was also a reduction in the wattage of the fixtures in many locations. This project also provided safer and better quality lighting throughout the station.

Schiller Station Re-Lighting Project Summary	
Project Cost	\$196,493
Annual kWh Savings	292,470
Lifetime kWh Savings	3,290,179
Project Cost / Lifetime kWh Savings	\$0.060

Schiller Station Project Illustrations

Machine shop before project



Machine shop after project



Motor control area before project



Motor control area after project



2) Chocorua Work Center Exterior LED Lighting Project

169 White Mountain Highway, Tamworth
Completed in December 2013

Project Overview: Replacement of Exterior Yard Lighting

This project consisted of replacing sixteen 400 watt metal halide and high pressure sodium cobra heads and pole heads with sixteen 140 watt LED fixtures. The LED fixtures have superior lighting characteristics over the metal halides. They are significantly more efficient, brighter and have a more even distribution of light. This will help to improve worker safety at night and the visual quality of yard security cameras.

Chocorua Work Center Lighting Project Summary	
Project Cost	\$14,200
Annual kWh Savings	22,368
Lifetime kWh Savings	290,784
Project Cost / Lifetime kWh Savings	\$0.049

Chocorua Work Center Project Illustration

Yard lighting before project



Yard lighting after project



VI. Overall 2013 Project Summary

The results of the two projects completed in 2013 are summarized in the table below.

Overall Project Summary	
Project Cost	\$210,693
Annual kWh Savings	314,838
Lifetime kWh Savings	3,580,963
Project Cost / Lifetime kWh Savings	\$0.059

The System Benefits Charge funds utilized for energy efficiency projects at PSNH's facilities were invested in a manner that benefits both PSNH's customers and employees. The energy savings achieved as a result of these projects also reduces greenhouse gas emissions, an important aspect of the Multiple Pollutant Reduction Program. The following chart summarizes the equivalent reduction in oil used to generate electricity and the reduction in greenhouse gas emissions achieved as a result of these projects.

Reduced Oil Consumption				
314,838 kWh	X	0.069 gallons of oil/kWh	=	21,724 gallons/year

Reduced Power Plant Emissions				
CO2 (a "greenhouse" gas)				
314,838 kWh	X	1.107 lbs/kWh	=	348,526 lbs/year
SO2 (a cause of acid rain)				
314,838 kWh	X	0.00175 lbs/kWh	=	551 lbs/year
NOx (a cause of acid rain)				
314,838 kWh	X	0.00054 lbs/kWh	=	170 lbs/year