

**Public Service of New Hampshire  
(PSNH)**

**Energy Rewards  
Request For Proposal  
2012  
for  
Energy Efficiency Projects**

**January 10, 2012**

PSNH expressly reserves the right to disregard any submission not conforming with the requirements contained in this Request for Proposal ("RFP"), to seek clarifications of any submissions, to negotiate modifications to any submissions, to change the requirements of the RFP unilaterally, including the RFP schedule, and to withdraw its plans for the solicitation process as described herein. Subsequent legislative, judicial, regulatory, or administrative actions may require PSNH to modify or withdraw its plans as described in this RFP. A Respondent's preparation for this process, submission of information in response to this RFP, or participation in this process shall not operate to vest any rights in that Respondent or to create any obligation for PSNH.

## I. Introduction and Program Summary

The Request for Proposal (RFP) program, described in this RFP, is intended to capture energy efficiency potential from projects that are not going through the existing PSNH nhsaves@work rebate programs and to help the PSNH identify what the market requires as incentives to “move the market.” The program offers incentives for measurable Energy Savings achieved by the installation of energy efficiency Measures as specified in a project agreement. The program operates through a bidding process, as described by this document. The minimum Customer size is **350 kW of Peak Demand, the minimum project Energy Saving is 100,000 kWh per year and the minimum project size is \$150,000.** Multiple Customer Sites may be aggregated to satisfy these demand, kWh and project size requirements.

Commercial and industrial (C/I) Customers of PSNH and energy service companies and other third party service providers representing PSNH C/I Customers will be eligible to participate in this program. The respondents to the RFP can be any Customer, organization, group or individual willing to contract with PSNH to provide Energy Savings from an approved energy efficiency project. It is expected that Bidders typically will be firms or joint ventures that have a staff of professionals trained to identify energy efficiency opportunities, calculate potential savings, design system modifications, manage construction and installation of energy efficiency Measures, and measure Energy Savings. Because one of the goals is to assess the degree to which projects require incentives, this program will not have published incentives. Each proposal will need to identify the required incentive amount. The Company or a third party contractor will evaluate all bids to this solicitation based upon a comparison of Energy Savings and other price and non-price variables. Non-price variables include such factors as whether the project includes items other than lighting (HVAC and process) and whether the environmental impacts reduce on-site emissions or waste stream impacts. All projects must be qualified on the basis of established cost-effectiveness criteria.

Eligible improvements will include energy-efficient equipment, products, and Measures that are cost-effective. The estimated savings will be required to be verified using approved protocols. The estimated savings will be measured from a Baseline of the more efficient equipment of what the Customer would install without utility intervention or code required minimum efficiency. In the case of early replacement of existing equipment, the savings may be measured from a Baseline of the energy efficiency of the existing equipment for the remaining expected life of the existing equipment and Baseline stated above for all additional years of the new equipment's life. Published PSNH guidelines will be used to determine equipment lifetimes. Any energy efficiency Measures required by law or code, or that represent standard industry practice, will not be eligible for the program.

The document is divided into seven main sections:

- I. Introduction and Program Summary - provides a description of the program and specifies the general requirements (pages 2-3)
- II. Definitions - defines the most frequently used terminology in the RFP (pages 4-6).
- III. RFP Procedure and Corresponding Schedules - defines the RFP process and timeline (pages 7-8).
- IV. RFP Process - presents the major contents of the RFP and specifies the proposal requirements. It also provides procedures and a menu of methods for measuring and verifying energy consumption and savings required for a Bidder to receive incentive payments in the program (page 9).

- V. Qualifications - specifies both the Bidder and project qualifications (pages 12-13).
- VI. Technology - specifies the technologies that can be used for the proposed projects (pages 14-15) .
- VII. Proposal Evaluation - provides the Scoring Methodology which will be used to evaluate and rank proposals (pages 16-20).
- VIII. Utility Payment Requirements (page 21).
- IX. Bidder Response Package - provides the format and forms necessary to respond to the RFP (page 22).
- X. Measure Life Table
- XI. Sample RFP Letter of Agreement with Terms & Conditions

## II. Definitions

**Annualized Energy Savings:** This is the same as Energy Savings as defined below.

**Baseline:** Actions that a Customer would be inclined or required to take without utility intervention in the project.

For **Replacement Measures** the Baseline shall be the more efficient of what the Customer would install without utility intervention or code required minimum efficiency.

For **Early Replacement Measures** the Baseline will be existing conditions for the remaining life of the existing equipment and the Baseline for Replacement Measures, as stated above, for all additional years of the new Measure's life.

For **Retrofit Measures** the Baseline will be the existing condition.

**Bidder:** A participant submitting a proposal in response to this RFP. The bidder may be a PSNH customer or a company representing the customer.

**Bidder's Conference:** A conference is for the purpose of answering questions related to this solicitation. Entrance to the conference will be open to any interested party.

**Calendar Year:** The twelve-month period beginning January 1 and ending December 31.

**Company:** Public Service of New Hampshire (PSNH)

**Comprehensiveness:** The extent to which cost-effective Measures across and within energy end uses are addressed and/or installed in a proposal.

**Width Comprehensiveness:** The extent to which comprehensive Measures are addressed/installed across multiple end uses. For example a project that addresses lighting, HVAC and process Measures.

**Depth Comprehensiveness:** The extent to which Measures are addressed/installed within any given end use. For example optimizing a compressed air system as opposed to simply installing a more efficient air compressor.

**Customer:** A company or individual who purchases electric distribution services from PSNH under one or more non-residential rate tariffs.

**EESP:** Energy efficiency services provider

**Energy Savings:** The difference in estimated electrical consumption for a typical Calendar Year between Baseline operating conditions and operation after energy efficiency Measure implementation.

**Facility:** A commercial or industrial sector building or equipment located in PSNH's service territory currently using electrical distribution services from PSNH.

**Incremental Cost:** The difference between the Installed Costs of the Baseline and high efficiency conditions for any Measure.

The **Total Incremental Cost** is the sum of the Incremental Costs for all Measures in the proposal.

**Installed Cost:** The cost of bringing a Measure to a complete and operating condition. It includes the cost of design, engineering, supervision, commissioning, materials, labor and all other necessary costs. Financing costs are not considered part of the Installed Cost.

The **Total Installed Cost** is the sum of the Installed Costs for all Measures in the proposal.

**Letter of Agreement:** The contract that will be entered into between PSNH and any successful Bidder. It will be negotiated on an individual basis between PSNH and each successful Bidder. A sample of this Agreement is enclosed.

**Measure:** Any device or system designed, specified, or installed through PSNH program offerings or provided by successful Bidders that increases the end use efficiency of electric consumption, relative to a defined Baseline standard of efficiency. Any Measure that is eligible for RFP solicitation must satisfy PSNH's installation and verification protocols, and minimum technical requirements and standards.

**Replacement Measure:** A Measure that is being considered where Energy Savings is not the primary reason for the improvement. Examples may include, but are not limited to, installing a new chiller to replace one that had reached the end of its useful life; an improved lighting design being considered during the remodeling of a space; or a more energy efficient option being considered during the replacement of a failed piece of equipment.

**Early Replacement Measure:** A Measure where a piece of equipment is being considered for replacement prior to the end of its expected life due primarily to energy efficiency considerations. For example, the replacement of an inefficient, operating, 10-year old air compressor that has an expected life of 20 years.

**Retrofit Measure:** A Measure that is being considered where Energy Savings is the primary emphasis. The existing situation must be operating correctly and expected to be able to continue for an indefinite period. For example, efficiency improvements which are achieved by converting a chilled water pumping system from primary pumping to variable volume primary/secondary pumping.

**Measure Lifetime:** The anticipated useful life of a Measure as stated in the Measure Lifetime Attachment 3, Section X of this RFP. The accepted lifetime for any type of Measure not listed in the referenced listings will be determined by PSNH on request.

**Measurement and Verification (M&V) Protocol:** Standards for inspection procedures, and the Measurement and Verification of Energy Savings.

**Proposal Tracks:** There are two tracks of projects specified in this RFP, the Project Track and Study Track (See Figure III-1).

The **Project Track** will seek proposals that can be developed in a short period of time and still have sufficient detail to accurately estimate Energy Savings, project costs and other parameters.

The **Study Track** will seek proposals for projects which appear to have sufficient Energy Savings but need additional study due to complexity, Study costs or other reasons.

**Requested Utility Incentive:** A payment requested from PSNH under the Energy Rewards RFP Program to help the Bidder to complete the implementation of the Study or Measures specified in the proposal.

**Peak Demand:** The highest billed electric demand (kW) during the 12 billing periods prior to date that the RFP was issued.

**Proposed Project(s):** All terms and conditions of the Bidders' proposal described on the forms and tables supplied in the response package, in addition to all supporting documents. A proposal may include one or more Measures to be implemented in one or more customer facilities.

**Site:** A distinct Facility or geographic location with an associated PSNH electric account. A single Facility with more than one associated PSNH account will be considered a single Site. Multiple buildings, such as a campus, with one associated PSNH account will be considered a single Site.

**Study:** A detailed energy, engineering and economic evaluation of the Measures proposed as part of a Study Track proposal.

**Study Cost:** The cost to conduct the Study in a Study Track proposal in order to fully document the project scope including all Energy Savings calculations and associated costs.

### **III. RFP Procedure**

The RFP solicits responses for Project Track and Study Track proposals. Proposals in each track will be evaluated and ranked based on criteria listed in the RFP. The timeline for each track is shown in Table III-1 below. A project flow diagram illustrating the Project Track and the Study Track is included as Figure III-1.

The Project Track will seek proposals that can be developed in a short period of time with sufficient detail to accurately estimate Energy Savings, project costs and other parameters. These proposals typically will be for less complex projects or may involve projects that previously have been studied and did not move ahead for economic or other reasons. Project Track proposals will compete for a pool of project funding specifically reserved for this track. Project Track proposals which reach final evaluation and are unsuccessful in this first round of competition for funding will be eligible to compete for Study Track project funding.

The Study Track will seek proposals for projects which appear to have sufficient Energy Savings but need additional study due to complexity, engineering Study costs or other reasons. Study Track proposals first will compete for a fixed pool of Study funding. After the studies are completed, the detailed proposals will compete a second time for the available project funding.

All projects selected for funding will require a Letter of Agreement (LOA) between PSNH and the other parties involved in the project to be executed prior to project implementation. The LOA will specify the general terms and conditions of the agreement, details of the energy-savings Measures, incentive payment terms and any verification and Measurement required prior to incentive payment.

The current funding available for PSNH incentives of this RFP is approximately \$388,000.

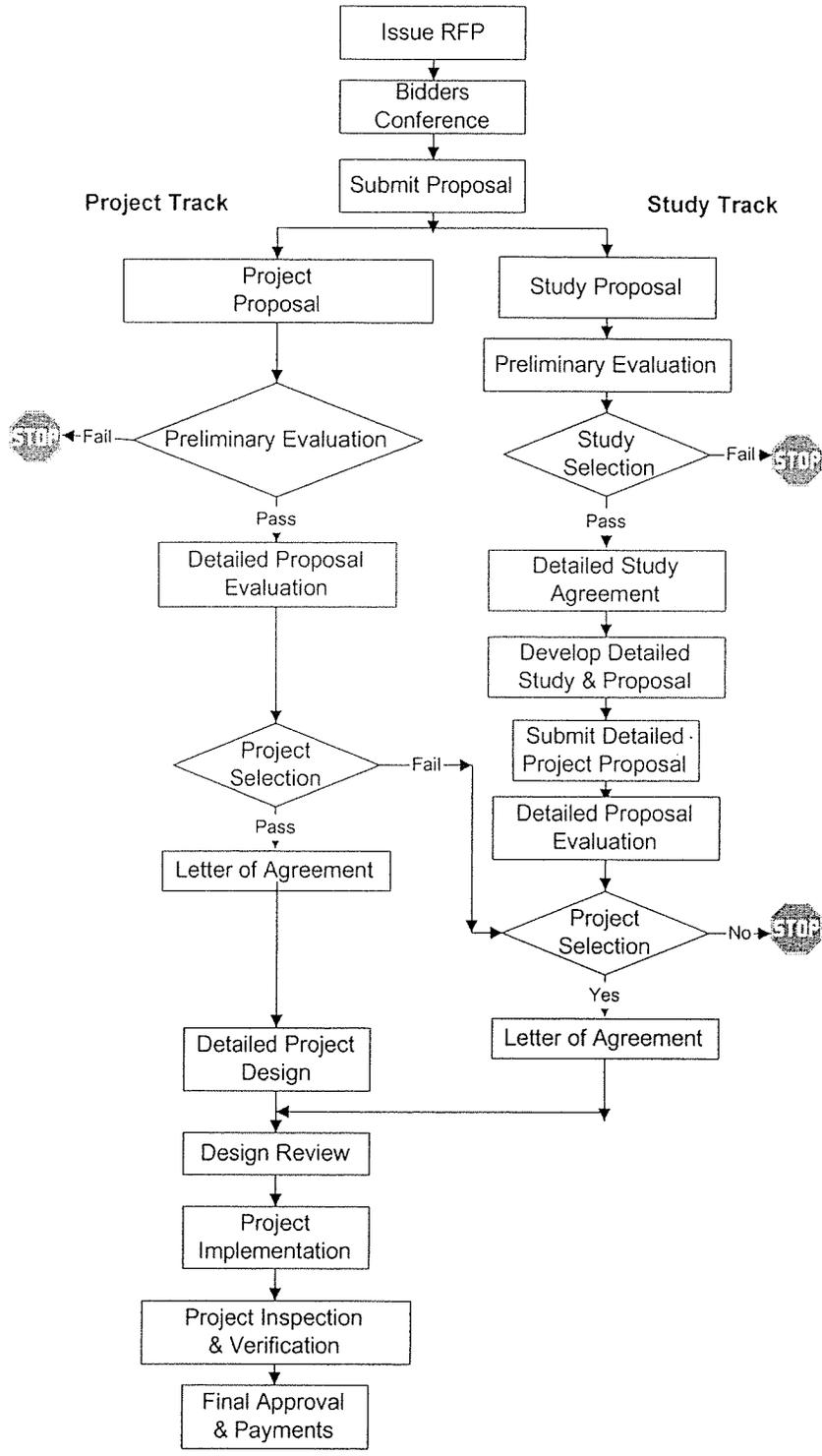
PSNH reserves the right to provide incentive payments at levels different than stated above at its sole discretion.

Table III-1 RFP Timeline

PSNH Energy Rewards RFP 2012 Timeline

Action	Week No																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Issue RFP Notice				■																				
Bidders Conference					■																			
Proposal Development by Bidders																								
Proposals Due																								
Accelerated Project Track																								
Project Proposal Evaluation																								
Award Projects																								
Study Project Track																								
Study Proposal Evaluation																								
Award Studies																								
Perform Studies																								
Final Evaluation																								
Award Projects																								

**Figure III-1  
 RFP Program Flow chart**



## **IV. RFP Process**

### **4.1 Bidder's Conference**

A Bidder's Conference to answer questions concerning this RFP will be held on Monday, January 10, 2012 at, PSNH Energy Park, 780 North Commercial Street, Manchester, NH 03105. The meeting will be from 10:00 a.m. – 12:30 p.m.. Bidders and customers who are interested in attending this meeting should register online at:  
<http://www.psnh.com/Business/Commercial/Workshop.asp>

(under Business Customer Trade Shows and Seminars Section) or contact Kristi Davie by telephone at (603) 634-3303 or by e-mail at [daviekl@psnh.com](mailto:daviekl@psnh.com). It is suggested that all interested parties attend this meeting in order to be fully informed on any issues that may be clarified. It is the responsibility of any Bidder not attending this Bidder's Conference to request a copy of the clarifications given at the meeting. It is also the responsibility of any Bidder not attending this meeting to request that they be added to a correspondence list that will be used to inform all potential Bidders of any clarifications issued after the Bidder's Conference. These requests should be made to Kristi Davie at the phone number or e-mail address shown above or at the mailing address listed in section 4.2 below.

### **4.2 Proposals Due**

All proposals must be received by 2:00 p.m. on Friday, February 24, 2012.

Any proposal not received by the date and time specified will be returned unopened. Fax and e-mail responses will not be accepted. Please submit all proposals **UNBOUND**.

All proposals must be submitted to:

Public Service of New Hampshire  
Attention: Gary LaCasse  
PO Box 330  
Manchester, NH 03105-0330

Overnight Delivery Address  
PSNH Energy Park  
Attention: Gary LaCasse  
780 North Commercial Street  
Manchester, NH 03101

### **4.3 Proposal Requirements**

#### **4.3.1 Cost-Effectiveness**

The expected Customer benefits arising from the implementation of the proposal must exceed the total Installed Cost of the proposal. The methodology for determining the Customer benefits are found in Section 7.2, Benefit/Cost Ratio.

#### **4.3.2 Proposal Format**

All proposals must be submitted on the forms provided electronically with this RFP.

#### 4.3.3 Qualifications

The Proposal must demonstrate compliance with the requirements of Section V, Qualifications, by providing the appropriate information requested in the Proposal Information and Site Information forms, the BCR Estimation spreadsheet and the Bidders Certification.

#### 4.3.4 Proposal Completeness

All proposals must include all required information. The following information will constitute a complete proposal:

1. Completed Proposal Information Form for the appropriate proposal track.
2. One completed Site Information Form for each distinct Site in the proposal.
3. One completed Measure Information Form, with substantiating energy use calculations attached, for each Measure in the proposal.
4. A completed Benefit/Cost Ratio estimation using the provided Microsoft Excel spreadsheet.
5. A letter of intent from every PSNH Customer who is participating in the proposal and who has not signed off as a Bidder.
6. Completed and signed Bidder's Certification.

Any proposal which is not complete may be disqualified.

#### 4.3.5 Calculation of Energy Savings and Other Economic Benefits

All estimates of Energy Savings and other benefits must be made using accepted engineering methods and standards. Manual calculations, spreadsheets and computer models may be used for any calculation. Any proprietary spreadsheets or computer models must be available for review if requested. All Baseline and operating assumptions must be clearly presented and defended. All equipment capacities and operating efficiencies and other similar data must be substantiated by a testing organization rating or manufacturer's data if no testing standards exist. In addition to the summary information required in the response forms, sufficient backup information must be presented to enable a parallel calculation of estimated Energy Savings during the review process. Any proposal which does not provide this backup information as part of the bid response or provide it in a timely fashion during the review process may be disqualified.

## **V. Qualifications**

### **5.1 Bidder Qualification**

A Bidder can be any organization, group or individual willing to contract with PSNH to provide Energy Savings as specified in the bid document. Bidders may include PSNH Customers, energy efficiency service companies and other firms, joint ventures or individuals capable of designing and implementing energy-saving Measures. Each Bidder is required to demonstrate their ability in providing energy services for projects of a similar nature and size to the scope of the Proposal.

PSNH's commercial and industrial Customers can participate as a Bidder by developing projects at their own commercial or industrial facilities.

### **5.2 Project Qualification**

Proposed projects must meet the following criteria to be eligible under the PSNH program. The specific criteria are discussed in detail in the following sections.

#### **5.2.1 Facility Type**

The PSNH RFP program is open to non-residential Facilities that are electrical distribution Customers of PSNH.

#### **5.2.2 Customer Size**

The minimum Customer size is 350 kW of Peak Demand at the proposed Site during the twelve billing periods prior to RFP issue date. The Bidder may aggregate smaller Customers or Sites, in accordance with Section 5.2.4, in order to meet the Customer size requirement. Smaller projects so aggregated shall result in the creation of a single Proposal for purposes of the PSNH Letter of Agreement.

#### **5.2.3 Minimum Electrical Energy Savings**

The Proposal's total estimated Site electrical Energy Savings must be at least 100,000 kWh per year. The Bidder may aggregate smaller Customers or Sites, in accordance with Section 5.2.4, in order to meet the Energy Savings requirement. Smaller projects so aggregated shall result in the creation of a single proposal for purposes of the PSNH Letter of Agreement.

#### 5.2.4 Aggregated Customer Sites

The following rules apply to aggregation of Customer Sites for bidding: It is the responsibility of the Bidder to document, to the satisfaction of PSNH, that the Customer Sites meet the criteria listed in Sections 5.2.3, 5.2.4.1 and 5.2.4.2.

##### 5.2.4.1 Similar Customer Sites

Any number of Customer Sites may be submitted per bid if they are similar, such as a chain of grocery stores. This type of aggregation is contingent upon the Customers and Sites meeting all of the following requirements:

- The same EESP
- Similar Measures
- The same functional use
- Similar energy consumption patterns

##### 5.2.4.2 Dissimilar Customers or Sites

If the Customer Sites do not meet the requirements of Section 5.2.4.1 up to ten Customer Sites may be aggregated per bid.

#### 5.3 Measure Qualification

Only Measures meeting the conditions of Section VI, Technology, are eligible to be considered for Energy Savings and PSNH incentives. In addition, use of high efficiency products in the measures is encouraged

(ie, use of CEE HPT8 lighting lamps and ballasts (<http://www.cee1.org/com/com-It/com-It-main.php3>), fixtures meeting PSNH's lighting fixture efficiencies per the Large Business Retrofit Program Retrofit Lighting Instructions (<http://www.psnh.com/SaveEnergyMoney/Large-Power/Large-Business-Retrofit-Program.aspx>))

NEMA Premium Motors and high efficiency HVAC packages.

#### 5.4 Prior Work

Any Measures which have been contracted for or the installation started prior to signing of a Letter of Agreement will not be eligible to have the Energy Savings counted or PSNH incentive provided under this program.

Any measures which are part of an unexpired Letter of Agreement between the Customer and PSNH will not be eligible to have the Energy Savings counted or PSNH incentive provided under this program.

## VI. Technology

### 6.1 Eligible Measures

Any Measure which saves electrical energy (kWh) at the Customer's site without fuel switching is eligible for consideration in this RFP. Some examples of eligible measures are listed below.

#### Lighting Technologies

- Lighting efficiency projects
- Lighting Design projects
- Lighting control projects
- Daylighting controls
- Occupancy sensors

#### HVAC & Refrigeration Technologies

- Chiller replacement projects
- Space cooling and refrigeration compressor replacement projects
- Packaged cooling unit replacement projects
- Variable-air-volume conversion projects
- Air side economizer projects
- Water side economizer projects
- Air handler and pump motor efficiency upgrades
- Air handler and pump variable speed drive installations
- Variable speed drive installations on chilled water and condenser water pumps
- Energy management systems that control HVAC&R equipment
- Cooling tower motor efficiency upgrades
- Cooling tower motor variable speed drive installations
- Control installations for HVAC equipment
- Special window glazing and glazing treatments in air conditioned buildings
- Exterior and interior window shading in air conditioned buildings
- Heat transfer (including heat pumps) to heat sinks, such as ground source cooling in air conditioned buildings
- Projects that upgrade the efficiency or controls of heating equipment
- Exhaust hood and fan projects
- Chiller and boiler heat reclaim
- Refrigerated case door projects

#### Non HVAC/Non-Lighting Technologies

All projects that do not fall in the other two categories such as:

- Industrial process applications
- Variable speed drive installations on industrial fans and pumps
- Trimming impellers on industrial fans and pumps
- Projects improving building hot water efficiency
- All motor projects that do not fall under HVAC
- Electrical savings resulting from the installation of water flow controls
- Compressed air system optimization

## 6.2 Ineligible Measures

The following Measures and types of Measures are ineligible for participation in this RFP:

- Any power producing project such as co-generation and self-generation
- Any Measure involving switching from electric energy to another fuel (fuel switching)
- All Measures which do not save electrical energy (kWh) at the Customer's Site
- New construction projects
- All technologies with a Measure Lifetime of less than 3 years
- All technologies that are below federal and state minimum standards
- All Measures that decrease building plug loads, such as "Green Plugs" or computer inactivity time-out controls
- All Measures that are removable without the use of tools, such as screw in compact fluorescent lamps
- Projects that save energy because of business operational changes
- Load shifting technologies that do not reduce electrical consumption (kWh)
- Any technology that is not commercially available

## VII. Proposal Evaluation

### 7.1 Evaluation Criteria

The Company will use four major evaluation criteria to rank the proposals received.

1. **Requested Utility Participation** - The Company's most important goal of this program is to assess the degree to which projects require incentives, so the Requested Utility Incentive included in a proposal carries the largest weight in the scoring. This value indicates what percentage of the total project cost is requested for the Measures to be installed. The lower this percentage, the higher the score for this value will be.
2. **Cost-Effectiveness** - All projects require that the benefits from implementing the project exceed the costs to install them. These benefits include savings from reduced electrical usage, reduction of other on-site energy usage and environmental and other non-energy benefits with a quantifiable economic value for the Customer. The more favorable a project's benefit/cost ratio is, the higher its score will be. The calculation of the Benefit/Cost Ratio is explained in Section 7.3.
3. **Comprehensiveness** - The Company values a project's systems design Comprehensiveness and will give credit to those proposals that include system designs beyond equipment replacement. Examples of this would be a project that deals with the energy efficiency of an entire plant compressed air system as opposed to only installing a more efficient air compressor and a project that installed a new chiller, converted to variable volume, primary/secondary pumping and installed discharge air reset controls as opposed to only installing a chiller. Projects that do not include system designs beyond equipment replacement will receive no credit under this category. The Company will also give some credit for projects that install non-lighting Measures, and this credit will be based on the percentage of total Energy Savings that is from the installation of non-lighting Measures.
4. **Environmental Benefits** - Credit also will be given for those projects with non-quantifiable environmental benefits not related to electrical Energy Savings, for example, lower air pollution due to reduced space heating fossil fuel usage, but give no credit to projects that do not identify them. Environmental benefits with a quantifiable economic benefit are not considered in this criteria because they are already included in the Cost-Effectiveness criteria.

**Note:** All projects must be completed by: December 1, 2012

### 7.1.1 Project Evaluation

For the Project Track and for the detailed proposals in the Study Track, the Company will examine the four criteria as described above. The information necessary to evaluate these criteria must be specified within each proposal so that the proposals may be ranked to determine which projects ultimately will be selected for PSNH incentives. Table VII-1 shows the criteria the Company will use to evaluate each proposal, defines how much weight that criteria has on the overall scoring, and identifies the way in which the Company will calculate these values for each proposal.

**Table VII-1 Project Track Evaluation Criteria**

	Criteria	Weighting Factor	Value
1	Requested Utility Participation	40	$1 - \frac{\text{Requested Utility Incentive}}{\text{Total Installed Cost}}$
2	Cost-Effectiveness	40	Multiply BC (benefit/cost) number by 10. The maximum score is 40.
3	Comprehensiveness		
	System Design	7	Score = 1 for Improved System Design Considerations Beyond Equipment Replacement, otherwise Score = 0
	Technology	3	$1 - \frac{\text{Lifetime Lighting Savings}}{\text{Total Lifetime Savings}}$
4	Environmental Benefit	10	Score = 1 for Non-Quantifiable Environmental Benefits not Related to Electrical Energy Savings, otherwise Score = 0

### 7.1.2 Study Evaluation

For the Study proposals in the Study Track the Company will examine requested utility participation at two levels, the requested utility participation in the cost of the Study and the anticipated requested utility participation in the implementation of the Measures. This will result in six evaluations for the evaluation of Study proposals in the Study Track. Table VII-2 shows the criteria the Company will use to evaluate each proposal, defines how much weight that criteria has on the overall scoring, and identifies the way in which the Company will calculate these values for each proposal. The values provided to determine the scoring for Criteria 1 must be the actual Requested Utility Incentive for the study and the actual total cost of the Study. The values provided to determine the scoring for criteria 2 - 4 should be estimates, the accuracy of which will be determined by the extent of preliminary design that has been performed. The apparent accuracy of these estimates will be used by PSNH in the overall evaluation of the bid.

**Table VII-2 Study Track - Study Evaluation Criteria**

	Criteria	Weighting Factor	Value
1	Requested Utility Participation in Study	10	1 - $\frac{\text{Requested Utility Incentive for Study}}{\text{Total Cost of Study}}$
2	Requested Utility Participation in Implementation	30	1 - $\frac{\text{Estimated Requested Utility Incentive}}{\text{Estimated Total Installed Project Cost}}$
3	Estimated Implementation Cost-Effectiveness	40	Multiply BC (benefit/cost) number by 10. The maximum score is 40.
4	<b>Comprehensiveness</b>		
	System Design	7	Score = 1 for Improved System Design Considerations Beyond Equipment Replacement, otherwise Score = 0
	Technology	3	1 - $\frac{\text{Estimated Lifetime Lighting Savings}}{\text{Estimated Total Lifetime Savings}}$
5	Environmental Benefit	10	Score = 1 for Non-Quantifiable Environmental Benefits not Related to Electrical Energy Savings, otherwise Score = 0

## 7.2 Benefit/Cost Ratio

A Microsoft Excel spreadsheet named PSNH RFP2012 BCR Estimator R1.xls is included in the provided electronic documentation to aid in estimating the Benefit/Cost Ratio.

The Benefit/Cost Ratio for each project can be estimated as follows:

For each project measure, enter the following information:

1. Enter measure description.
2. Total project measure cost , \$
3. Annual measure electrical energy savings, kWh
4. Measure life in years- refer to Measure Life Table in Section X.
5. Project measure type: Enter "comfort cooling", "heating", "lighting" or "process" as the measure type. If more than one measure type is involved, use the measure with the largest annual savings. For year round fan and pump applications use "process" as a measure type.
6. System design considerations- enter "yes" or "no". (ie. was the system optimized and not just a replacement of a component).
7. Quantifiable environmental benefits- enter "yes" or "no". Are there other non electric environmental benefits (ie. annual savings of natural gas, town water, recyclable materials, etc.).
8. Rebate amount requested, enter total for all project measures.
9. The BC (Benefit/Cost ratio) will be calculated. The number must be 1.0 or greater. The higher the BC number the more cost effective the project is.

## **VIII. Utility Payment Requirements**

### **8.1 Conditions for Payment**

All conditions which must be met prior to the payment of any PSNH incentive will be specified in the Letter of Agreement offered to any successful Bidder. No utility payments will be made until all specified conditions have been fulfilled to the satisfaction of PSNH. These conditions will include, but may not be limited to, properly completing the installation of the specified measures in a project, the successful completion of an inspection of the Measures in accordance with the Measurement and Verification protocol developed for each Measure and a completed W-9 form being provided for the entity receiving the utility payment. Payment for the Study phase of a successful Study Track proposal will be made upon completion of the detailed Study and project proposal and submission of a completed W-9 form for the entity receiving the utility payment.

### **8.2 Timing of Utility Payment**

The check for utility payment will be processed within thirty (30) days of the successful completion of the conditions for payment and delivered to the payee as soon thereafter as practical.

### **8.3 Measurement and Verification Protocol**

All Measures must have a Measurement and Verification (M&V) protocol which will constitute the inspection process that must be successfully completed before any PSNH incentives will be paid. The actual M&V protocol to be used for any Measure will be developed as part of the PSNH technical review of the proposal and will be specified as part of the Letter of Agreement for successful proposals. The M&V protocol will be sufficient to demonstrate that the Measure has been installed as specified in the Letter of Agreement and that conditions necessary to achieve the estimated Energy Savings have been met. It is not PSNH's intent to measure energy performance over the long term. Long term savings potential will be addressed as part of the PSNH technical review of the Measure. The individual or firm conducting the PSNH technical review will be responsible for conducting or supervising all M&V functions. All M&V costs will be paid by PSNH.

### **IX. Bidder Response Package**

The items listed below are supplied as electronic documents on an accompanying disk or as part of the electronic RFP package.

1. Study Track Proposal Information Form (if used)
2. Project Track Proposal Information Form
3. Measure Information Form
4. Site Information Form
5. Bidders Certification
6. Sample Customer Letter of Intent
7. PSNH RFP2012 BCR Estimator (Excel Spreadsheet)

X. Attachment

**Public Service of New Hampshire  
 ( PSNH)  
 Measure Life Table**

The average length of time we expect energy savings to occur:

Type	Measure	Measure Life (yr)
BUILDING ENVELOPE	Low Emissivity Glazing	15
	Reflective Glazing	20
	Roof or Wall Insulation	20
COMPRESSED AIR	Energy Efficient Compressor	13
	Compressed Air Dryer	15
	Compressed Air Leak Repairs	2
COMM'L/INDUSTRIAL COOLING	Refrigeration Systems	15
	Refrigeration Compressors	15
	Refrigeration Controls	10
	Comprehensive Chiller Project	Call for determination
CUSTOM	Custom Equipment or Systems	Call for determination
HVAC	HVAC Equipment or Systems	13
	EMS or HVAC Controls	10
	Chillers	20
	Enthalpy Economizer	10
LIGHTING	Lighting Systems	13
	Lighting Occupancy Sensor Controls	9
	Lighting Daylight Dimming Controls	9
	LED Lighting Systems	Manufacturer's Warranty
MOTORS	Motors	15
VFD DRIVES	VFD Drives	13

The Lifetime of Measures not listed will be determined on a case-by-case basis.

## XII. Sample RFP Letter of Agreement with Terms & Conditions

### PSNH Energy Efficiency Services LETTER OF AGREEMENT (LOA)

XXX, XX, 2012

XXX  
Attention: Mr. X  
XXX  
XXX, NH 03452

Reference: Energy Efficiency Services Project # RFP-XX-2012  
PSNH Acct #XXXXXXXXXX

Dear Mr X:

To encourage electric energy efficiency, Public Service of New Hampshire, (hereinafter, "PSNH") is pleased to offer XXX (hereinafter, the "Customer") an RFP Energy Efficiency Incentive in connection with the installation of energy efficiency measures as proposed at the Customer's facility located at XXX, XXX, NH, subject to the following terms and conditions:

1. The attached RFP2012 Energy Efficiency Services Standard Terms and Conditions, as well as the attached Exhibit A (Summary of Project EEMs) are part of this Agreement.
2. The Energy Efficiency Measure ("EEM" or "measure") must be installed and operational by the Customer and accepted by both the Customer and PSNH by December 1, 2012.
3. The Customer shall provide invoices for the measure installed in Exhibit A of this Agreement.
4. PSNH agrees to pay Customer an incentive for each EEM that complies with this Agreement, up to the amount specified for the individual EEM (maximum of \$XXX if all the EEMs are completed and operating). Payment will be made directly to the Customer or designee following inspection and acceptance by PSNH and compliance with all the terms of this Agreement. PSNH will make adjustments to the individual measure incentives if the installed measure cost is less than what was estimated in the Exhibit A.
5. The Customer is not obligated to install the measures referred to in this Agreement, and, at any time, may decide to forego the listed incentive payment.
6. This Agreement shall be signed before the measures are installed. No payment shall be made for EEMs not listed in the Exhibit A, or for measures installed before this Agreement is signed by the Customer and PSNH.
7. This Agreement shall be administered and interpreted under the laws of the State of New Hampshire. If any part is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the terms and conditions shall continue in full force and effect.
8. Please indicate your acceptance of the terms of this Agreement and the RFP2012 Standard Terms and Conditions attached hereto and incorporated herein to the Project Administrator. A countersigned copy of this Agreement will be returned to the Customer. This Agreement shall be valid only if accepted by the Customer and countersigned by PSNH within thirty (30) days from the date of this Letter of Agreement.

The two original agreements are to be returned to:

Gary LaCasse, Project Administrator  
PSNH Energy Park  
780 North Commercial Street  
Manchester, NH 03105-0330

Signature of Customer Representative

\_\_\_\_\_  
 Name

\_\_\_\_\_  
 Title

\_\_\_\_\_  
 Date

Signature of PSNH Representative

\_\_\_\_\_  
 Name

\_\_\_\_\_  
 Title

\_\_\_\_\_  
 Date

Reference: Energy Efficiency Services Project # RFP-XX-2012  
 PSNH Acct # XXXXXXXX

Letter of Agreement  
 Exhibit "A"

Measure	Description	Estimated Annual Savings, kWh	Installed Measure Cost	Measure Incentive	Incentive, % of Measure Cost
EEM 1	XX	XX	\$XX	\$XX	XX%
EEM 2	XX	XX	\$XX	\$XX	XX%
EEM 3	XX	XX	\$XX	\$XX	XX%
EEM 4	XX	XX	\$XX	\$XX	XX%
EEM 5	XX	XX	\$XX	\$XX	XX%
EEM 6	XX	XX	\$XX	\$XX	XX%
EEM 7	XX	XX	\$XX	\$XX	XX%
EEM 8	XX	XX	\$XX	\$XX	XX%
<b>Project Totals</b>		<b>XX</b>	<b>\$XX</b>	<b>\$XX</b>	<b>XX%</b>

## RFP2011 STANDARD TERMS AND CONDITIONS

This Agreement entered into by and between Public Service Company of New Hampshire, a New Hampshire corporation having its principal place of business in Manchester, New Hampshire (herein referred to as "PSNH"), and the Customer as identified in the Letter of Agreement (herein referred to as "Customer"). Execution of the Energy Efficiency Services Letter of Agreement shall constitute acceptance of these Terms and Conditions.

Now, therefore, in consideration of the mutual covenants and agreements contained herein, the Customer and PSNH agree that the Customer's participation in PSNH's nhsaves@work Energy Rewards RFP Program (herein referred to as "NHSERP"), shall be subject to the following terms and conditions:

1. No Energy Efficiency Measures (herein referred to as "EEMs") will be deemed eligible for an incentive payment under PSNH's NHSERP unless they are identified in the Energy Efficiency Services Letter of Agreement and have met NHSERP acceptance criteria as evidenced by a completed Letter of Agreement signed by the Customer and PSNH.
2. All incentives are contingent upon continued approval of the NHSERP by the NH Public Utilities Commission and authorization to recover said amounts from the System Benefits Charge. The incentive amount cannot exceed the total project cost.
3. Pursuant to a Commission order, the Customer agrees the utility will capture all kW and kWh savings associated with the installed EEMs and the Customer agrees to forgo applying directly or indirectly for any ISO-NE capacity payments resulting from this energy efficiency project.
4. If the Customer installs all the EEMs identified in the Letter of Agreement, the Customer will be eligible for an incentive payment as listed in the Letter of Agreement.
5. This payment will be made to the Customer after the project is installed and verified by PSNH and/or PSNH's Quality Assurance Contractor. The EEMs must be installed, inspected, and accepted by PSNH before December 1, 2012. Payment will be made within 60 days of said verification and after PSNH has received all applicable invoices.
6. Customers who install generation within one year of the date they install measures for which they receive a monetary incentive must refund all or a portion of the incentive. The refund amount is determined as follows: (1) Customer generation which exceeds 50% of the customer's annual maximum kW demand would be required to refund 100% of the incentive amount; (2) Customers installing lesser amounts of generation would be required to refund a percentage of their incentive equal to the size of their generation expressed as a percent of their annual maximum kW demand times two. For example, a 500 kW customer installing 25 kW of generation would be required to refund 10% of their incentive amount ( $= 25/500 \times 2$ ). Any such refund amount would be repaid within 60 days of PSNH's request for payment. This requirement shall preclude any and all forms of self-generation (other than generation used for emergency supply during service outages on PSNH's transmission and distribution system), cogeneration, and purchases of electricity from a supplier whose supply is not distributed by PSNH. This provision shall not prohibit the Customer from testing emergency generators on a periodic basis, nor prohibit the Customer from participating in a PSNH demand reduction program using the Customer's emergency generator(s). The Customer is free to purchase its electrical needs from a competitive energy supplier; however, this supply must be delivered through the PSNH meter.
7. EEMs for which PSNH has provided monetary incentives under NHSERP must remain operating and in their original location (or a mutually agreed upon location served by PSNH) for the term of this Agreement. PSNH reserves the right to inspect for compliance with this provision during the term of this Agreement.
8. Should the Customer breach the terms of article 6, the Customer agrees to pay damages to PSNH equal to the full refund amount within 60 days of PSNH's demand for said payment as full settlement of the breach. The Customer agrees that the damages specified within this Agreement are not a penalty but represent a reasonable estimate of the damages PSNH would suffer as a result of the Customer's failure to comply with the terms of this Agreement.
9. The term of this Agreement is the period of time commencing with the date on which PSNH offers this incentive by delivering the letter of agreement and ending three (3) years after the Customer receives the incentive payment.
10. In the event that the Customer has any outstanding (overdue) balances due and owing to PSNH, the incentive payment may be withheld at PSNH's option, and used to offset such outstanding debt(s).

11. The rights and obligations in this Agreement shall be binding upon any lessees, assigns, and future owners of those facilities at the Customer's Project site. The Customer agrees to include the restrictions contained in this Agreement in leases, purchase and sales agreements, contracts or other similar documents relating to the use and ownership of the facilities at the project site.
12. PSNH does not guarantee or warrant any energy savings. Factors that are impossible to predict, including but not limited to facility expansion, cutbacks, or weather changes, all may impact the Customer's future electrical energy use and cause actual savings to vary from estimated savings. Any and all warranties are between the Customer and the installer or the manufacturer of installed EEMs.
13. The Customer agrees to allow PSNH to perform an on-site evaluation of the installed EEMs as part of the NHSERP program evaluation. This evaluation is strictly for informational purposes, to determine the EEM's real and long-term savings. The evaluation will not alter the incentive amount in any way and the results will be treated confidentially by PSNH.
14. PSNH is not a merchant in EEMs. Any and all warranties, either expressed or implied warranties of merchantability and fitness for a particular purpose are hereby DISCLAIMED between PSNH and CUSTOMER. THE CUSTOMER shall look to the manufacturer, vendor and/or installer for COPIES AND ENFORCEMENT OF any warranties or guarantees.
15. The Customer is responsible for the safe and proper disposal of all wastes, hazardous or otherwise, and equipment, machinery or devices replaced by the EEMs installed under the Letter of Agreement. Equipment, fixtures, machinery or devices replaced by the EEMs may not be reinstalled in any location in PSNH's service territory.
16. This Agreement shall only be amended by a written document executed by duly authorized representatives of both parties.

To participate in the NHSERP project, the Customer must execute the letter of agreement by a duly authorized representative and return it to PSNH. A signed copy of the fully executed Letter of Agreement will be returned to the Customer.

## 1. Southeastern Container

Executive Drive, Hudson, New Hampshire

Produces 8 oz. to 2 liter size plastic bottles for Coca-Cola Bottling companies

### 2005 RFP

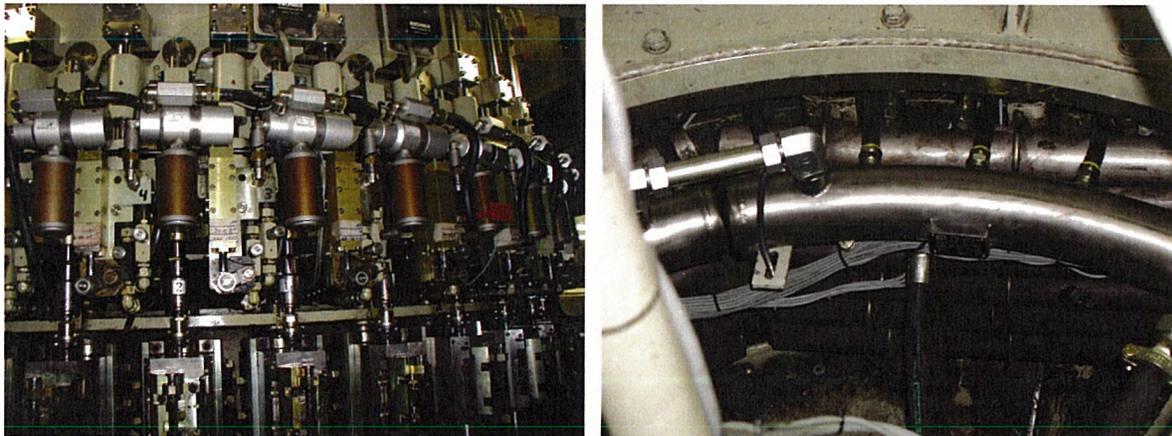
Project Cost	Incentive	Incentive (% of Project Cost)	Lifetime kWh Savings	Project Cost / Lifetime kWh Savings
\$401,688	\$214,000	53%	40,156,555	\$0.010

### EEM 1: High Bay Lighting Retrofit

Replaced high bay 400 watt and 1000 watt metal halide lighting fixtures with 4-lamp and 6-lamp high output T5 lighting fixtures with fixture mounted occupancy sensors.

### EEM 2: Air Recovery System

This Technoplan Air Recycling System (ARS) was manufactured in Switzerland and installed by their US Representative, Connell Industries, Inc. of Rahway, NJ. The system was installed on Southeastern Container's blow molding bottle machine. The ARS system included installation of 40 air recovery canisters, three air storage tanks and overall controls to recover air after the preform bottles are blown to two liter finished sized products.



**Bottle machine outfitted with air recovery system**

The compressed air system takes atmospheric air to 120 psi in the first stage and then in two subsequent stages to approximately 500 psi. Normally the air from this process is exhausted to atmosphere. The ARS system recovers this air at a pressure between 120 and 500 psi, thus allowing reuse of this air. There was some difficulty in getting the system to work properly. The problem was the electronic sensing modules could not react fast enough for the large two liter volume of air. The ARS was refitted with mechanical sensing modules. The mechanical modules are manually set and do not affect the energy savings.



Bottle preforms entering bottling machine



Finish product, 2-liter plastic bottles

### **Measure 3: Compressor Controls**

Southeastern Container has four 500 hp Ingersoll Rand (IR) compressor systems. This measure replaced standard IR controls to one of the compressor systems. The new controls take into account indoor and outdoor ambient air conditions as well as compressor motor amps to adjust compressor inlet and bypass valves. This control system increases the compressor throttling range and reduces blow off time thus increasing compressor efficiency and energy savings at part load conditions.



500 hp air compressor



New air compressor control cabinet

## 2. Smiths Medical ASD, Inc.

Bowman Drive, Keene, New Hampshire

Smiths Medical is a leading global provider of medical devices for the hospital, emergency, home and specialist environments.

### 2011 RFP

Project Cost	Incentive	Incentive (% of Project Cost)	Lifetime kWh Savings	Project Cost / Lifetime kWh Savings
\$602,673	\$201,680	33%	19,277,577	\$0.031

### EEM Measure 1A: Replace Air Compressors

A 250 hp air cooled flooded oil air compressor was originally proposed to replace their 250 hp variable displacement and two 100 hp modulating air compressors. The customer requested a change to the replacement air compressor to a 350 hp water cooled oil free air compressor. The larger size air compressor would handle their entire compressed air needs thus eliminating an additional 100 hp air compressor. There were three reasons the customer wanted to make this design change:

1. The oil free air compressor eliminates use of oil mist eliminator, thus prevents any possible oil contamination to the compressed air system. Since Smiths Medical produces medical products, this supplies better air quality for their manufacturing processes.
2. The water cooled air compressor is more efficient than an air cooled air compressor by approximately 15%.
3. The waste heat from the air compressor is used to preheat water for their HVAC hot water heating coil as well as their domestic hot water.



350 hp water cooled air compressor



Hot water recovery system

**EEM Measure 1D: Leak Load/Demand Reduction**

This measure included leak detection and repair of the plant compressed air system and installation of engineered air nozzles and solenoid valves to isolate compressed air to idle manufacturing equipment.

**EEM Measure 2: HVAC VFDs**

There were two air handler 50 hp supply air fans controlled by inlet vane dampers. The dampers were replaced with variable frequency drives to maintain positive pressure in production and clean room areas while controlling the fan motors.



**50 hp Supply Air Fan VFD**

**EEM Measure 3: Lighting Occupancy Sensors-Bowman Drive warehouse**

Occupancy sensors were installed (fixture mounted) on a 120 highbay high output T5 fixtures at their Bowman Drive Warehouse.

**EEM Measure 4: Lighting Occupancy Sensors-Production Avenue Warehouse**

Occupancy sensors were installed (fixture mounted) on 111 highbay high output T5 fixtures at their Production Avenue Warehouse.



**High Output T5 Fixtures with occupancy sensors**

### 3. Durgin and Crowell Lumber Company, Inc.

Fisher Corner Road, Springfield, New Hampshire

Durgin and Crowell is an Eastern White Pine sawmill that since its founding in 1976 has grown to become one of New England's largest manufacturers of kiln-dried Eastern White Pine lumber, annually producing up to 30 million board feet.

#### 2011 RFP

Project Cost	Incentive	Incentive (% of Project Cost)	Lifetime kWh Savings	Project Cost / Lifetime kWh Savings
\$180,799	\$80,000	44%	7,003,997	\$0.026

#### Energy Efficiency Measure (EEM) 1: Air Compressor Replacement

Installed a new 135 hp variable speed drive (VSD) air compressor manufactured by Gardner Denver to replace their 150 hp modulating air compressor. As part of this measure a 2,120 gallon air receiver (compressed air storage tank) was also installed and incorporated in their compressed air process. Pre and post measurements of pressure and air flow of their compressed air system was measured to confirm savings.



New 135 hp VSD air compressor



2,120 gallon air receiver (compressed air storage tank)

#### EEM 2: Install no-loss drains and low-pressure drop filtration

These measures were installed to optimize the air compressor system (and savings) by reducing pressure loss in the air distribution system.

#### EEM 3: Install cycling air dryer

This cycling dryer was installed to replace a less efficient non-cycling dryer. This more efficient equipment removes moisture from the supply air delivered.

**EEM 4: Replace HID lighting with HIF lighting**

Replaced one hundred eighty (180) 400 watt metal halide lighting fixtures with 6-lamp high performance T8 fixtures with attached occupancy sensors. This decreased wattage by almost 50% with additional savings attributed to the use of occupancy sensors.



Lumber storage area with new highbay high performance T8 lighting fixtures