

## New Construction Program

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The New Construction Program is specially developed for commercial and industrial customers who are building new facilities, undergoing major renovations of an existing facility, or replacing failed equipment.

The New Construction Program provides prescriptive incentives as well as technical services that will facilitate the identification and installation of premium efficient equipment. Call National Grid to arrange a convenient time to learn about strategies for designing and constructing a better building.

### Prescriptive New Construction Application & Instructions

*For New Facilities, undergoing major renovations of an existing facility, or replacing failed equipment*

#### 1. Is your project eligible?

- Equipment shall be new and shall be installed in a commercial, industrial, institutional, educational, or municipal building within a National Grid's service territory

#### 2. Is the equipment you intend to buy eligible?

- Product types listed on this form are eligible for prescriptive incentives. However, additional measures not listed here may be eligible for custom incentives using the Custom New Construction Application.

#### 3. Pre-Approval requirements:

- Contact National Grid **before** purchasing and installing the equipment
- To see if the energy efficient measure (EEM) qualifies for an incentive:
  - i. Submit a completed application form with an authorized signature and after reading the Terms and Conditions governing the program.
  - ii. Submit a copy of the Manufacturer's technical specification sheets ("cut sheets") for each type of eligible equipment to be purchased
  - iii. Once pre-approved, a "pre-approved incentive letter" will be issued

#### 4. Installation and incentive requirements:

- Once pre-approved, purchase and install the qualifying equipment within twelve (12) months of National Grid's pre-approval
- Return the required information to National Grid once your project has been complete:
  - a) A copy of the completed and signed pre-approved application.
  - b) A copy of the pre-approval incentive letter
  - c) Manufacturer's technical specification sheets ("cut sheets") for each type of eligible equipment purchased are required.
  - d) A copy of your invoice indicating Proof of Purchase must indicate type, size, make, and model number of the equipment and date of purchase and installation must accompany each incentive application form.
  - e) At the post-installation verification, the customer is required to sign the post-installation customer acknowledgement section of the original application.

#### Program details:

This incentive program covers applications created on or after January 1, 2010. Details of this Program, including incentive levels, are subject to change without prior notice. Contact National Grid for the latest program details.

**NEW CONSTRUCTION**

# 2010 Compressed Air

**Customer Information**

COMPANY NAME \_\_\_\_\_ APPLICATION DATE \_\_\_\_\_

INSTALLATION SITE \_\_\_\_\_ PHONE NUMBER \_\_\_\_\_

CONTACT PERSON \_\_\_\_\_ FAX NUMBER \_\_\_\_\_

E-MAIL ADDRESS \_\_\_\_\_ SQ. FT. (covered by this application) \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

MAILING ADDRESS (if different) \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

ELECTRIC COMPANY NAME \_\_\_\_\_ ELECTRIC ACCOUNT # (or copy of electric bill) \_\_\_\_\_

GAS COMPANY NAME \_\_\_\_\_ GAS ACCOUNT # (or copy of gas bill) \_\_\_\_\_

**BUILDING TYPE:** (select one)      **TOTAL FACILITY SQ. FT.** \_\_\_\_\_

<input type="checkbox"/> Assembly	<input type="checkbox"/> Fast Food	<input type="checkbox"/> Hotel	<input type="checkbox"/> Multi Story Retail	<input type="checkbox"/> Religious	<input type="checkbox"/> Small Retail
<input type="checkbox"/> Automobile	<input type="checkbox"/> Full Service Restaurant	<input type="checkbox"/> Large Refrigerated Space	<input type="checkbox"/> Multifamily high-rise	<input type="checkbox"/> K-12 Schools	<input type="checkbox"/> University
<input type="checkbox"/> Big Box	<input type="checkbox"/> Grocery	<input type="checkbox"/> Large Office	<input type="checkbox"/> Multifamily low-rise	<input type="checkbox"/> Small Office	<input type="checkbox"/> Warehouse
<input type="checkbox"/> Community College	<input type="checkbox"/> Heavy Industrial	<input type="checkbox"/> Light Industrial	<input type="checkbox"/> Other _____		
<input type="checkbox"/> Dormitory	<input type="checkbox"/> Hospital	<input type="checkbox"/> Motel			

**PROJECT TYPE:** (select one)

<input type="checkbox"/> Change in the use or Function of the Building Space	<input type="checkbox"/> New Building	<input type="checkbox"/> Expansion of an Existing Building	<input type="checkbox"/> Planned Replacement of Equipment
<input type="checkbox"/> New Equipment for New Process or Expanded Operation	<input type="checkbox"/> Renovation of Existing Equipment	<input type="checkbox"/> New Controls for Improved Operations	<input type="checkbox"/> Replacement of Failed Equipment

**Payment Method**

CHECK PAYABLE TO: (fill in data below)     Customer     Vendor/Installer

TAX ID# \_\_\_\_\_      COMPANY TYPE: Check one:     Incorporated,     Not Incorporated,     Exempt

**Vendor Information**

VENDOR/INSTALLER \_\_\_\_\_ STREET ADDRESS \_\_\_\_\_

CONTACT PERSON \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_ E-MAIL \_\_\_\_\_

**Customer Acknowledgement**

**Pre-Installation** — I certify that all statements made in this application are correct to the best of my knowledge and that I have read and agree to the Terms and Conditions on the back of this form.      **ANTICIPATED COMPLETION DATE:** \_\_\_\_\_

**AUTHORIZED SIGNATURE** \_\_\_\_\_      **NAME** (print) \_\_\_\_\_      **DATE** \_\_\_\_\_

**Post-Installation** — I certify that I have seen the Energy Efficiency Measures that have been installed and I am satisfied with their installation.

**AUTHORIZED SIGNATURE** \_\_\_\_\_      **NAME** (print) \_\_\_\_\_      **DATE** \_\_\_\_\_

**For Program Administrators Only**

Required Inspections	Date	Inspector	Project Costs:	
Pre-Inspection:			Labor \$:	
Post Inspection:			Material \$:	
Approval	Date	Program Manager		
Pre-approved Incentive:				
Final Incentive:				

**Compressed Air Measure Information**

**Table 1: Air Compressor Incentives**

Horsepower	Incentive per HP Load/No Load	Incentive per HP Variable Speed or Variable Displacement
>15 to <25	\$45	\$90
>25 to <50	\$45	\$90
>50 to <75	\$45	\$110

**Table 2: Refrigerated Dryer Incentives**

CFM Range	Incentive per CFM Cycling & VSD Dryers
Less than 100 CFM	\$7.00
100 to 199 CFM	\$6.75
200 to 299 CFM	\$5.75
300 to 399 CFM	\$5.25
400 and greater CFM	\$5.00

**Table 3: Storage Incentives**

Incentive per Gallon
\$2.75

**Table 4: Compressed Air System Incentive Calculations**

Air Compressor Description (Manufacturer & Model)	Rated HP & CFM	Operating PSI	Control Type	Primary Storage	Hours/Wk and Loading	Compressor Loading (% Rated CFM)	Incentive Dollar per HP	Requested Incentive Dollars
<b>Example:</b> Gardner Denver Modulating 50 HP Model: #ABCDEF	50 HP 220 cfm	110 psi	Mod	100 gal	90 hrs/wk	10hr@90% 30hr@30% 50hr@60%		
<b>Existing:</b>								
<b>Proposed:</b>							\$	\$

**Table 5: Refrigerated Dryer Incentive Calculations**

Refrigerated Dryer Manufacturer	Model Number	Dryer Type Cycling or VSD	Annual Operating Hours	Primary Storage	Rate CFM	Incentive Dollar per HP	Requested Incentive Dollars
<b>Existing:</b>							
<b>Proposed:</b>						\$	\$

**Table 6: Compressor Storage Incentive Calculations**

Air Compressor CFM	Compressor Control Type: L/NL, VSD or VD*	(A) Required Storage in Gallons	(B) Existing Storage in Gallons	(C) = (A - B) Additional Storage Requirement in Gallons	(C) x \$2.75 Incentive per Gallon	Requested Incentive Dollars
<b>Existing:</b>						
<b>Proposed:</b>					\$	\$
<b>Total Requested Incentive from Compressed Air and Storage</b>						\$

\* Control Type: L/NL - Load/ No Load    VSD - Variable Speed Drives    VD - Variable Displacement

## Compressed Air Eligibility Requirements and Incentive Details

Prescriptive incentives are available for air compressors in accordance with the following rules.

- Accessory devices that will be installed along with compressors will be handled as separate stand alone Custom Approach while the compressor, receiver for the same project continue on the standard prescriptive incentive track. Examples of such accessories include; low pressure drop filters and zero loss drains.
- Proposed compressor installations that satisfy all the requirements of the Prescriptive Approach, that also include significant energy conservation measures involving modifying the distribution system or reducing air consumption at the end uses, may apply for incentives under the Custom Approach.

### A. Prescriptive High Efficiency Air Compressor Incentives

1. Only new oil flooded rotary screw compressors for single compressors systems are eligible for prescriptive incentives. For scroll, reciprocating and oil free compressors follow the Custom Approach.
2. Only compressors with nameplate horsepower equal to or greater than 15 HP and less than or equal to 75 HP are eligible for Prescriptive incentives. For compressors with capacity rated in kW, rating shall be converted to HP for compliance check  $[= (kW) / (.746kW/HP)]$ .
3. Proposed compressor must have; Load/No Load, Variable Frequency Drive or Variable Displacement capacity control.
4. Prescriptive incentives are only applicable to compressors that operate at 145 psi or below.
5. Primary storage is required on all projects
  - a. For load/no load machines the minimum requirement is 4 gallons per acfm of compressor capacity.
  - b. For VFD or Variable Displacement machines, the minimum requirement is 2 gallons per acfm of compressor capacity
  - c. Where the limitations on the size range of available storage vessels (400 or 600 gallons etc) requires the purchase of more then the minimum required storage volume, an incentive will be provided for up to 1gallon/acfm compressor capacity beyond the required minimum. *Example: if calculated minimum is 460 gallons, standard storage available is 600 gallons, 75 acfm compressor rating, the incentive paid is for 535 gallons. (460 + 75 = 535) Assumes there is not existing storage.*
  - d. Storage from any existing tank mounted compressors remaining on site may not be counted toward minimum requirements.
  - e. Contact your National Grid representative for assistance with storage rules.
6. Compressors must run a minimum of 2,000 hours a year. To calculate run hours, include only the hours that the end uses supplied by the compressor are operational, not the operating hours of the facility.
7. Compressors with VFDs must have as a minimum a 3% impedance series reactor in its AC power input connection.
8. Provide a cut-sheet on compressor that states capacity (CFM) at the operating pressure specific to this project.

## Important Information on Variable Frequency Drives

VFDs can be sensitive to overvoltages that occur when power factor correcting capacitor banks on the utility power system are switched on. To qualify for an incentive payment, each VFD must include a series reactor (inductor, choke) in its AC input connections. Your VFD supplier should assist in the sizing of the reactor. Minimum requirement is a 3% impedance reactor, based on the horsepower of the VFD to be installed.

In some instances your supplier may find it necessary to install 5% reactors and, rarely, additional filtering devices to meet acceptable current and voltage harmonic distortion requirements.

If your power factor is less than 0.8 (80%), we recommend that you consider power factor correction concurrent with the installation of drives.

The use of VFDs which incorporate pulse width modulation (PWM) may produce over-voltages which may cause premature failure of AC induction motors not rated for use with an inverter. We recommend that when installing PWM drives, you consider utilizing inverter rated motors.

### B. Refrigerated Dryers for Air Compressors

- Dryers must serve a single air compressor with an input power rating of 75 HP or less.
- Dryer sizing shall be in line with the design capacity (acfm) of the single compressor it serves.
- Dryers shall be refrigerated, "thermal mass", cycling design. VSD refrigerated dryers also qualify.
- Dryers with VSDs must have a minimum of 3% impedance series reactor in its AC power input connection.
- Dryer must operate a minimum of 2,000 hours.