

The New Construction Program is designed 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 an electric National Grid's service territory

2. Is the equipment you intend to buy eligible?

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

3. Pre-Approval requirements:

- Contact your National Grid representative before purchasing and installing the equipment
- To see if the energy efficient measure (EEM) qualifies for an incentive:
 - i. Review the Terms and Conditions governing the program, then submit a completed application form with an authorized signature
 - 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
 - iv. Cool Choice and MotorUp applications only — Pre-approval is required for incentive or rebate totals greater than \$5,000.00

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 your National Grid representative within 30 days of the installation:
 - i. A copy of the completed and signed pre-approval application
 - ii. If there is a change in equipment, please submit a new manufacturer's technical specification sheets ("cut sheets") for each type of eligible equipment purchased
 - iii. 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
 - iv. 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 28, 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 Variable Speed Drive

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:				

Measure Information

Please review the eligibility requirements on page 4. Attach invoices, product specification sheets and other relevant documentation to this application. VSDs installed in process applications, waste water or municipal water supply applications may use the Custom Application process, which requires detailed energy savings calculations.

Table 1: Select VSD Installation Type

BDF	Boiler Draft Fan	FWP	Boiler Feed Water Pump	PE	Process Exhaust and Make-up Fan
BEF	Building Exhaust Fan	HWP	Hot Water Circ Pump	RFA	HVAC Return Air Fan
CTF	Cooling Tower Fan (Single Speed only)	MAF	Make-up Air Fan	SFA	HVAC Supply Air Fan
CWP	Chilled / Cond Water Pump	PCP	Process Cooling Pump	WHP	WS Heat Pump Circ Loop

Table 2: Select VSD Size

Horsepower	Incentive	Horsepower	Incentive	Horsepower	Incentive	(*) VSDs on all VAV fan installations ≥ 25 hp and cooling tower fans ≥ 7.5 hp are NOT eligible for incentives.
5	\$1,350	15	\$1,850	30	\$2,800	
7.5	\$1,500	20	\$2,100	40	\$3,150	
10	\$1,650	25	\$2,450	50	\$3,550	

Table 3: Controlling Parameters

DP	Pressure Differential	DT	Temperature Differential	OTH	Other Specify _____
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Table 4: From Tables 1, 2 & 3 above, fill in using one line for each VSD & Motor. Attach specification sheets and invoice copies to this application

Installation Type (Table 1)	VSD & Motor Horsepower (Table 2)	Controlling Parameter (Table 3)	Annual Hours of Operation	Alternate or Back up? <input type="checkbox"/> Alt.	Location/Designation	Requested Incentive per VSD (Table 2)
				<input type="checkbox"/> Alt.		
				<input type="checkbox"/> Alt.		
				<input type="checkbox"/> Alt.		
				<input type="checkbox"/> Alt.		
				<input type="checkbox"/> Alt.		
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				<input type="checkbox"/> Alt.		
				<input type="checkbox"/> Alt.		
				<input type="checkbox"/> Alt.		
				<input type="checkbox"/> Alt.		
Attach a separate list for additional unit(s)					Total Requested Incentive (this page) \$	

Important VSD Information

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

VSD Installation Information Form

(required for all BDF, PCP, PE, & WSP installations)

Equipment Information

Fan or Pump ID(s) _____ (Example: Feedwater Pump #1; Condenser Water Pump #1)

Device Code: _____ (Use list of applications types from page two, or describe other)

Type of area(s) served by fan(s) or pump(s): _____

Equipment served by the fan (s) or pump (s): _____

If fan, note type: _____ (centrifugal, forward curve, backward curve, axial, etc)

Fan or Pump Nominal HP _____ (if multiple motors, list individual HP's)

Nominal HP	Nameplate motor efficiency

Fan or Pump Manufacturer: _____ Model: _____

Full Load Design Conditions: Flow _____ (CFM, GPM) Pressure _____ (inches static, feet of water, PSI, other?)

Existing Controls: _____ (discharge damper, inlet guide vanes, outlet control valve, bypass valve, etc.)

Existing Set Point: _____ (inches static, feet of water, PSI, other?)

Operating Hours

The fan or pump operates the following hours: (Example: 0600 to 1800)

Summer

Winter

Weekdays _____ to _____ Weekdays _____ to _____

Saturdays _____ to _____ Saturdays _____ to _____

Sundays _____ to _____ Sundays _____ to _____

Number of shifts per weekday: _____

Number of shifts per weekend day: _____

Motor Load

Option 1: (retrofit): Measured input power under full load: _____ **kW**, (true RMS power) _____ Power Factor _____

Option 2: (retrofit): Measured current and voltage under full load: _____ Amps _____ Volts

Load calculation = _____ Volts X _____ Amps X _____ PF = _____ **kW**

Option 3: (retrofit or new): Estimated Fan or Pump Load: _____ %, Estimated Power _____ **kW**

If estimating load, provide description, assumptions and formula used to calculate power: _____

Proposed Operations

The proposed VSD will be automatically controlled to maintain the following set points:

Flow _____ (CFM, GPM, other?) Pressure _____ (inches static, feet of water, PSI, other?)

Other? (describe): _____

Table 5: Estimated VSD speed in future operations

Percent Load	Summer		Winter	
	Weekday	Weekend	Weekday	Weekend
90% to 100%				
80% to 90%				
60% to 80%				
20% to 60%				
Totals (100%)				

Eligibility Requirements

Prescriptive Incentives will be provided for the installation of Variable Speed Drives (VSD) from 5-100hp for ONLY the installation types outlined in Table 1:

- a. Supply Fan on constant volume supply air handler and VAV packaged HVAC unit [SFA]
- b. Return Fan on constant volume return air handler and VAV packaged HVAC unit [RFA]
- c. Boiler Draft Fan [BDF]
- d. Cooling Tower Fan [CTF]
- e. Chilled and Condenser Water Distribution Pump [CWP]
- f. Boiler Feed Water Pump [FWP]
- g. Water Source Heat Pump Circulation Pump [WHP]
- h. Heating Hot Water Pump [HWP]
- i. Process Cooling Pump [PCP]
- j. Process Exhaust and Make-up Fan [PE] (non VAV system)
- k. Water Supply or Waste Water Pump [WSP]

All other VSD applications MUST file a Custom Application

VSDs must be controlled by an automatic signal in response to modulating air/water flows. The VSD speed must be automatically controlled by differential pressure, flow or temperature. Applicants must demonstrate significant load diversity that will result in savings through motor speed variation. **Motors must operate a minimum of 2,000 hours annually.**

NOTE: The following VSD applications are NOT eligible for prescriptive incentives under this application:

1. Forward curve fans with inlet guide vanes,
2. Variable pitch vane-axial fans,
3. Replacement of previously failed VSD,
4. VSD used for balancing,
5. Two-speed cooling tower fans,
6. VSD used as two-speed control of fan or pump,
7. VSD used to mitigate over-sized motor installation.
8. Installations required by the current Building Code.