

109 N. Huber Street Anamosa, IA 52205 Phone: 800-927-6068 Email: memberservices@mvec.coop www.mvec.coop

# **Commercial Adjustable Speed Drives**

PLEASE complete ALL sections and sign form to ensure proper and prompt payment of rebate. **Customer Information** Check if wind or solar generation is installed. Company Account Number Phone Facility Address (equipment location) City State Zip Code Mailing Address (if different than facility address above) City State Zip Code First Name (contact person) Last Name **Email Address** GENERAL BUSINESS DESCRIPTION: (e.g. Manufacturing, School, Grocery, Office, etc.) System Designer/Contractor Information (person responsible for final equipment specifications) Mailing Address City State Zip Code Company First Name (contact person) Last Name Phone E-mail Address **Equipment Information** INSTALLATION TYPE: O New Construction **Rebate Table** Additional/New Drives in Existing Facility **Rebate Per Load Type** Code Horsepower ASD2 \$40 Variable (fans, pumps) ASD5 \$15 Fixed ( all other) **DATE INSTALLED** Note: Minimum annual operating hours is 1,000 **INSTALLED SYSTEM COST** Enter Code and rebate per horsepower from Rebate Table: Controlled **Drive** Motor Annual Rebate per Type of Code Manufacturer Model Efficiency Efficiency Operation Motor Controlled Rebate Usage **Hours** Horsepower\* % Horsepower **TOTAL REBATE** \*DO NOT INCLUDE HORSEPOWER OF REDUNDANT (Secondary Back up) MOTORS No Rebates for Replacements. Maximum rebate = \$10,000 per facility Attach contractor invoice and manufacturer's specification sheets. **Customer and System Designer Agreement** By signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program. Customer Name/Title System Designer Name/Title Customer Signature Date System Designer Signature Office Use Only: Notes: **Authorized Amount** Cooperative ID

**Employee Name** 

Check box if you want rebate applied as a bill credit.

Form C3 (Rev. 12/24)

### **Terms and Conditions - Adjustable Speed Drive Incentives**

Program Offer: The Program covers products purchased and/or services rendered on or after January 1, 2025.

### Requirements for ASD Installations:

- The ASD must have either an input line reactor or isolation transformer. The minimum requirement is that a 3% impedance reactor, based on the horsepower rating of the ASD, be installed.
- The National Electric Code should be followed for all applicable
- wiring and grounding.
  System designer or installing contractor should ensure that the ASD installation meets the Harmonic Test for Eligibility (see below) or ensure that the entire facility complies with IEEE Standard No. 519 after completion of the ASD installation or retrofit. Failure to comply with this rule may be cause for the Utility to deny the request for a rebate.
- In the case of new motor installations, the motor to be controlled must be NEMA Premium efficiency motor.
- Rebate requests for over \$5,000 shall require pre-approval.
- Maximum rebate is \$10,000 per facility
- Rebates are not available for replacement drives.

### **Harmonic Test for Eligibility**

- 1. Enter total ASD load to be supplied by the transformer (include sum of existing ASD loads). Total driven motor HP multiplied by 0.85 is a fair kW estimate of power in kW..... 2. Enter the kVA rating of the transformer supplying power to the ASD  $_{
  m kVA}$ 3. Divide line 1 by line 2 and multiply by 100......
- 4. If the value on line 3 is less than 5% (ASD demand is less than 5% of the nameplate kVA of the transformer), no further evaluation of harmonics is required to qualify the system for this program. This is not a guarantee by the Utility, in any way, that harmonics will not cause any problems for the Customer.
- 5. If the value on line 3 is 0.05 or greater (ASD demand is equal or greater than 5% of the nameplate kVA of the transformer), you must pre-qualify this application by using third party verification of measures taken to ensure compliance with the IEEE 519 Standard.

ASDs can be sensitive to overvoltages that can occur when power factor correcting capacitor banks on the Utility power system are switched on. To qualify for an incentive payment under this program, each ASD must include a series reactor (inductor, choke) in its AC input connections. Your ASD supplier should assist in the sizing of the reactor while meeting the minimum requirement of a 3% impedance reactor, based on the horsepower rating of the

As a general rule, a 3% reactor is sufficient to avoid misoperation of ASDs during Utility capacitor switching and will also help reduce the magnitude of harmonic currents generated by the drive. In some instances your supplier may find it necessary to install 5% reactors and additional filtering devices to meet 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, because the presence of power factor correction equipment can influence proper reactor sizing, and because the presence of ASDs can influence the design of power factor correction equipment. In situations where the load from ASDs is a substantial part of the facility load, filters are recommended, rather than capacitors, for power factor correction.

The use of ASDs which incorporate pulse width modulation (PWM) may produce overvoltages which may cause premature failure of AC induction motors not rated for use with an inverter. When installing PWN drives you may consider utilizing inverter rated motors or suitable overvoltage mitigation devices that may include additional line reactors between the drive and the motor. Consider shaft grounding, insulated bearings, load side filters or conductive lubricants to prevent possible bearing frosting or fluting. This is particularly important for installations where the motor will operate in a narrow speed band for long periods of time.

### **General Terms and Conditions**

Rebates shall be pro-rated based on the percent of power supplied by the utility if the customer has distributed generation.

Application Information: Missing or incorrect information on the application may delay processing and delivery of the rebate. An invoice is required and should include specific product information, including the brand, model, serial number and date of purchase of the energy efficient measures. Other information including manufacturer's equipment performance sheets may be required upon request.

The Utility reserves the right to verify sales transactions and to have reasonable access to the Customer's facility to inspect pre-existing equipment (if applicable) and energy efficient measures installed under this program.

**Warranty Information:** The Utility makes no warranties, expressed or implied, with respect to equipment operation, material, workmanship or manufacturing. The Utility does not guarantee that a certain level of energy or cost savings will result from the use of products covered by this program.

Limitation of Liability: The Utility's liability in connection with this program is limited to paying the rebate specified when all terms and conditions have been satisfied. Under no circumstances shall the Utility be liable for any consequential or incidental damages or tax liability resulting from participation in this program.

**Participant Certification:** Participating Customer certifies that he/she purchased and installed the equipment listed on their application at the defined location served by the Utility. The Customer agrees that all information provided is true and that he/she has conformed to all program requirements. If the equipment and application does not comply with the Utility's rules and qualifications, the rebate amount may be denied or adjusted.

**Program Changes/Termination:** The Utility reserves the right to extend, modify (including incentive levels) or terminate this Program at any time without prior or further notice. The Customer is responsible for checking with the Utility to determine whether the program has been changed or is still in effect.

Customers must apply for rebates within six (6) months of the purchase date (as shown on the Customer's invoice) and are subject to the current **year program offer if received after January 31st.** Past eligibility, however, does not guarantee that equipment will meet criteria for current programs in effect.

Rebate forms must be returned by 1/31/2026.

## **Adjustable Speed Drive Incentive Program**

### **PRE-APPROVAL APPLICATION**

The purpose of this pre-approval form is to assure the Utility and the Customer that the Adjustable Speed Drive (ASD) installer and the engineer or other persons responsible for specifying the equipment and its installation are familiar with the terms and conditions that must be met to ensure eligibility for rebates made available through the ASD program.

Customers should request that the specifying engineer/individual and installing contractor read and sign this document <u>prior to installation</u> to ensure that the installed ASD will qualify for a rebate through this program.

Failure to complete this pre-approval form, may result in the denial of a rebate request made by the Customer upon completion of the ASD installation.

Send a completed copy of this pre-approval form to the Utility for pre-approval of this project prior to equipment installation to ensure full payment of the requested relate

Customer Information						
Company		Account Number	Account Number		Phone	
Facility Address (equipment location)		City	City		Zip Code	
Mailing Address (if different than facility address above)		City		State	Zip Code	
First Name (contact person)	Last Name	I	Email Address			
Vandar or ASD System Designer (new	san rasnansihla far fina	and specifications of ASD equipment to be installed)				
Vendor or ASD System Designer (person responsible for final specifications of ASD equipment to be installed)						
Agreement of Understanding						
By signing below, I acknowledge that:  • I have read and understood the information and requirements on the Terms and Conditions for ASD  • All equipment being specified does satisfy the requirements for the type of incentives under consideration  • The system specified is appropriate for the application and meets applicable codes, standards and regulatory requirements  • The electric utility will be notified of any design specification changes  I also agree that the proposed system (check one of the following):  meets the Harmonics Test for Eligibility (below)  is based on a complete and thorough analysis of the affected electrical system to establish compliance with the IEEE 519 Standard in regard to harmonics once the Adjustable Speed Drive system(s) is in place						
Signature		Date				
Project Information:						
Application (fan, pump, etc.)		Expected Comple	Expected Completion Date			
Approximate Horsepower to be controlled		Estimated ASD Pi	Estimated ASD Project Cost			
Harmonic Test for Eligibility:						
1. Enter total ASD load to be supplied by the transformer (include sum of existing ASD loads). Total driven motor HP multiplied by 0.85 is a fair estimate of power in kW kW						
2. Enter the kVA rating of the transformer supplying power to the ASD loads			kVA			
3. Divide line 1 by line 2						
4. If the value on line 3 is less than .05 (ASD demand qualify the system for this program. This is not a						
5. If the value on line 3 is .05 or greater (ASD demanusing third party verification showing measures		•		t pre-qualify th	is application	
Utility Use Only: Pre-Ap		Pre-Approved Incentive \$	proved Incentive \$			
Pre-Installation Verification	Date	Utility Pre-Approval		Date		
Technical Review	Date	Post-Installation Verification		Date		