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# **Commercial Adjustable Speed Drives**

| cility Address (equipment location)  cility Address (equipment location)  cility Address (fidifferent than facility address above)  cility State Zip Code  st Name (contact person)  Last Name  CCOUNT TYPE where equipment is located: Farm Small Business Commercial/Industrial  ENERAL BUSINESS DESCRIPTION: (e.g. Manufacturing, School, Grocery, Office, e.g. Manufacturing, School, Gro | Custo                           | mar Intorr  | nation  |                                       |  |   | Chack it                               | f wind or solar    | appera      | tion is                 | installed [        |
|--|---------------------------------|---|---|---------------------------------------|--|---|--|--------------------|-------------|-------------------------|--------------------|
| Last Name   Contract person   Last Name   Email Address   Em   | Company                         |   | ilation   |                                       |  | Accor                                     |  | Willa Of Solai     | <u> </u>    |                         | iristaneu.         |
| Last Name   Contract person   Last Name   Email Address   Em   | Eacility A                      | ddress (equipmer  | at location)  |                                       |  |   |  | Stat               |             |                         |                    |
| th Name (contact person)   Last Name   Email Address   | -                               |   |   |                                       |  | City                                      |  |                    |             | <u> </u>                |                    |
| COUNT TYPE where equipment is located:   | Mailing A                       | ddress (if differen   | t than facility address above)  |                                       |  | City                                      |  |                    | Stat        | e                       | Zip Code           |
| State   Suppose      | irst Nam                        | e (contact persor   | n)  | Last Name                             |  | '   | Eı                                     | mail Address       | '           |                         | •                  |
| State   Stat   | ACCOU                           | INT TYPE whe  | re equipment is located:  | Farm (                                | Small Busines                                  | s Con                                     | nmercial/Inc                           | lustrial           |             |                         |                    |
| Last Name   Phone   E-mail Address   City   State   Zip Code   | GENER/                          | AL BUSINESS I   | DESCRIPTION:  |                                       |  |   |  | (e.g. Manufa       | acturing, S | chool, Gr               | ocery, Office, etc |
| THE INSTALLED SYSTEM COST  THE CODE and rebate per horsepower from Rebate Table:  The Code and Rebate Per horsepower from Rebate Table:  The Code and rebate Table:  The Code  | Syste                           | m Designe   | r/Contractor Inform   | nation (perso                         | n responsible                                  | for final e                               | quipment                               | specifications)    |             |                         |                    |
| Additional/New Drives in Existing Facility  TE INSTALLED  Additional/New Drives in Existing Facility  Additional/New Drives in Existing Facility  TE INSTALLED  THE INSTALL | Company                         | '   | Mailin  | g Address                             |  | City                                      |  |                    | Stat        | e                       | Zip Code           |
| STALLATION TYPE: New Construction Additional/New Drives in Existing Facility    Code   Rebate Per  | First Name (contact person)     |   | Last Name   | Last Name                             |  | Phone                                     |  | E-mail Address     |             |                         | -                  |
| STALLATION TYPE: New Construction Additional/New Drives in Existing Facility    Code   Rebate Per  | quip                            | ment Infor  | mation  |                                       |  |   |  |                    |             |                         |                    |
| Additional/New Drives in Existing Facility  Load Type Variable (fans, pumps) AED Variable (fans, pumps) AED  |                                 |   | _   |                                       |  |   | Г                                      | D                  | obato Ta    | hla                     |                    |
| TEINSTALLED    Fixed (all other)   ASDS   S15     Note: Minimum annual operating hours is 1,000  | ISTALL                          | ATION TYPE:   |   | acility                               |  |   |  |                    |             | Rebate Per<br>Horsepowe |                    |
| Note: Minimum annual operating hours is 1,000  STALLED SYSTEM COST  Ter Code and rebate per horsepower from Rebate Table:  Type of Usage   |                                 |   |   |                                       |  |   | ,                                      | /ariable (fans, pu | mps)        | ASD2                    | \$ <b>4</b> 0      |
| Type of Usage Manufacturer Model Efficiency % Fifticiency % Annual Motor Horsepower Motor Horsepower*  ONOTINCLUDE HORSEPOWER OF REDUNDANT (Secondary Back up) MOTORS  TOTAL REBATE  No Rebates for Replacements.  Maximum rebate = \$10,000 per facility  Customer and System Designer Agreement  signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program.  Stomer Signature  Date  Cooperative ID  Employee Name  Notes:  Authorized Amour Motor  Annual Controlled Motor Controlled Motor Horsepower Proposed | ATE IN                          | STALLED   |   |                                       |  |   | F                                      | ixed ( all other)  |             | ASD5                    | \$15               |
| No Rebates for Replacements.  Maximum rebate = \$10,000 per facility  Customer and System Designer Agreement  signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program.  stomer Name/Title  System Designer Name/Title  stomer Signature  Date  System Designer Signature  Date  Authorized Amou  | Code                            |   | Manufacturer  | Model                                 | Efficiency                                     | Efficiency                                | Operation                              | Motor              | Controlled  |                         | Rebate             |
| No Rebates for Replacements.  Maximum rebate = \$10,000 per facility  Customer and System Designer Agreement  signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program.  stomer Name/Title  System Designer Name/Title  stomer Signature  Date  System Designer Signature  Date  Authorized Amou  |                                 |   |   |                                       | 1  |   |  | 1 -                | Horse       | power                   |                    |
| No Rebates for Replacements.  Maximum rebate = \$10,000 per facility  Customer and System Designer Agreement  signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program.  stomer Name/Title  System Designer Name/Title  stomer Signature  Date  System Designer Signature  Date  Authorized Amou  |                                 |   |   |                                       |  |   |  | ·                  | Horse       | power                   |                    |
| No Rebates for Replacements.  Maximum rebate = \$10,000 per facility  Customer and System Designer Agreement  signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program.  stomer Name/Title  System Designer Name/Title  stomer Signature  Date  System Designer Signature  Date  Authorized Amou  |                                 |   |   |                                       |  |   |  |                    | Horse       | power                   |                    |
| No Rebates for Replacements.  Maximum rebate = \$10,000 per facility  Customer and System Designer Agreement  signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program.  stomer Name/Title  System Designer Name/Title  stomer Signature  Date  System Designer Signature  Date  Authorized Amou  |                                 |   |   |                                       |  |   |  |                    | Horse       | power                   |                    |
| Attach contractor invoice and manufacturer's specification she  Customer and System Designer Agreement  signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program.  stomer Name/Title  System Designer Name/Title  System Designer Signature  Date  Date  Notes:  Authorized Amou  |                                 |   |   |                                       |  |   |  |                    | Horse       | power                   |                    |
| signing below, system Customer and designer/vendor agree to the Terms and Conditions (see back or separate page) for this program.  System Designer Name/Title  System Designer Signature  Date  System Designer Signature  Date  Notes:  Authorized Amou  | TON OC                          | INCLUDE HOR   | SEPOWER OF REDUNDANT  | (Secondary Back u                     | ıp) MOTORS                                     |   |  |                    |             |                         | *                  |
| System Designer Name/Title  System Designer Signature  Date  System Designer Signature  Date  Date  Notes:  Authorized Amou  | No R                            | ebates for Rep  | olacements.   | (Secondary Back u                     | np) MOTORS                                     | Attach                                    | ontractor in                           |                    | FOTAL I     | REBAT                   | E                  |
| stomer Signature Date System Designer Signature Date    Date   Da | No R                            | ebates for Rep  | olacements.   | . ,                                   |  |   |  |                    | FOTAL I     | REBAT                   | E                  |
| fice Use Only:  Cooperative ID Employee Name  Notes: Authorized Amou   | No R<br><i>Maxi</i>             | ebates for Rep<br>mum rebate :<br>ag below, syster                  | placements.<br>= <b>\$10,000 per facility</b>                                   | Customer an                           | <b>d System De</b><br>e Terms and Con          | esigner Ag                                | greement<br>back or sepa               | voice and manu     | ΓΟΤΑL I     | REBAT                   | E                  |
| Employee Name  | No R<br><i>Maxi</i><br>y signin | ebates for Rep<br>mum rebate :<br>ag below, syster                  | placements.<br>= <b>\$10,000 per facility</b>                                   | Customer an                           | <b>d System De</b><br>e Terms and Con          | esigner Ag                                | greement<br>back or sepa               | voice and manu     | ΓΟΤΑL I     | REBAT                   | E                  |
|  | No R  Maxi  y signin            | ebates for Rep<br>mum rebate :<br>ing below, system<br>r Name/Title | placements.<br>= <b>\$10,000 per facility</b>                                   | <b>Customer an</b> endor agree to the | d System De<br>e Terms and Con<br>Syst         | esigner Agaditions (see                   | greement<br>back or sepa<br>Name/Title | voice and manu     | ΓΟΤΑL I     | REBAT                   | E                  |
|  | No R  Maxi  y signin  ustomer   | ebates for Rep<br>mum rebate =<br>ng below, system<br>r Name/Title  | placements.  = \$10,000 per facility  m Customer and designer/v  Cooperative ID | Customer an endor agree to the Date   | d System De<br>e Terms and Con<br>Syst<br>Syst | esigner Agaditions (see<br>tem Designer i | greement<br>back or sepa<br>Name/Title | voice and manu     | ΓΟΤΑL I     | REBAT 's speci          | E<br>fication shee |

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

Program Offer: The Program covers products purchased and/or services rendered on or after January 1, 2020

#### 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

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

Rebate forms must be returned by 1/31/2021.

## **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 rebate.

| rebute.  |   |  |   |   |                                       |             |  |  |  |
|--|---|--|---|---|---------------------------------------|-------------|--|--|--|
| <b>Customer Information</b>  |   |  |   |   |                                       |             |  |  |  |
| 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   |   |                                       |             |  |  |  |
| Vendor or ASD System Designer (per   | <br>son responsibl  | e for final specific   | cations of ASD equip  | nent to be in                             | stalled)                              |             |  |  |  |
| Agreement of Understanding   |   |  |   |   |                                       |             |  |  |  |
| By signing below, I acknowledge that:  I have read and understood the informa All equipment being specified does sati: The system specified is appropriate for t The electric Utility will be notified of any  I also agree that the proposed system (check one of meets the Harmonics Test for Eligibility (but is based on a complete and thorough and the IEEE 519 Standard in regard to harmonics. | of the requirement of the application and design specificates of the following:  elow)  lysis of the affectes | nts for the type of inc<br>d meets applicable c<br>ion changes<br>d electrical system to | entives under considerat<br>odes, standards and regu<br>o establish compliance wi | latory requiren                           | nents                                 |             |  |  |  |
| Signature  |   |  | Date  |   |                                       |             |  |  |  |
| Project Information:   |   | F.   |   |   |                                       |             |  |  |  |
|  |   |  |   |   |                                       |             |  |  |  |
| Approximate Horsepower to be controlled  |   | ES   | timated ASD Project Cost  |   |                                       |             |  |  |  |
| Harmonic Test for Eligibility:   |   |  |   |   |                                       |             |  |  |  |
| Enter total ASD load to be supplied by the transpower in kW  |   |  |   | HP multiplied b                           | y 0.85 is a fair                      | estimate of |  |  |  |
| 2. Enter the kVA rating of the transformer supplyin  | g power to the AS   | 5D loads   | kVA   |   |                                       |             |  |  |  |
| 3. Divide line 1 by line 2   |   | %  |   |   |                                       |             |  |  |  |
| <ul> <li>4. If the value on line 3 is less than .05 (ASD demand qualify the system for this program. This is not a</li> <li>5. If the value on line 3 is .05 or greater (ASD demand using third party verification showing measures</li> </ul>   | guarantee by the  | Utility, in any way, th  | nat harmonics will not cau<br>neplate kVA of the transfor                         | use any probler<br><i>mer</i> ), you must | ns for the Cus                        | stomer.     |  |  |  |
| Utility Use Only:  |   | Pre-Approv   | ved Incentive \$  |   |                                       |             |  |  |  |
| Pre-Installation Verification  | Date  | Utility Pre-   | Approval  |   | Date                                  |             |  |  |  |
| Technical Review   | Date  | Post-Install   | ation Verification  |   | — — — — — — — — — — — — — — — — — — — |             |  |  |  |