Ohio | Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: **17-1780-EL-EEC**

Mercantile Customer: **Sun Chemical**

Electric Utility: **Duke Energy**

Program Title or Description: **VFD Process Pump 1-50 HP**

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. 10-834-EL-POR

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at ee-pdr@puc.state.oh.us.

Section 1: Mercantile Customer Information

Name: **Abe Wagen**, **Sun Chemical Corp.**

Principal address: **20830 N. Tatum Blvd. Ste. 330, Phoenix, AZ 85050**

Address of facility for which this energy efficiency program applies:

125 Industrial Drive, Franklin, Ohio, 45005

Name and telephone number for responses to questions:

Robin Avant, (513)287-5948

Electricity use by the customer (check the box(es) that apply):

- ✓ The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (Please attach documentation.)
- □ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

Section 2: Application Information

A) The customer is filing this application (choose which applies):

- □ Individually, without electric utility participation.
- ✓ **Jointly with the electric utility.**

B) The electric utility is: **Duke Energy**

C) The customer is offering to commit (check any that apply):

- □ Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- □ Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ✓ **Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)**

Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (check those that apply):

□ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)).

✓ Installation of new equipment to replace equipment that needed to be replaced The customer installed new equipment on the following date(s): **February 2017**

□ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s): _____.

□ Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by the energy efficiency program:

1) If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) – (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____kWh

2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: **21,651 kWh (See Attachment 1 - Appendix 2)**

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment.

3) If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: **XXXXX kWh (See Attachment 1 - Appendix 2)**

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment.

4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

Annual savings: **XXXXX kWh (See Attachment 1 - Appendix 2)**

Section 4: Demand Reduction/Demand Response Programs

A) The customer's program involves (check the one that applies):

- ✓ **Coincident peak-demand savings from the customer's energy efficiency program.**
- □ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
- □ Potential peak-demand reduction (check the one that applies):
  - □ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
  - □ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) On what date did the customer initiate its demand reduction program?

February 2017

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

2.64 KW (See Attachment 1 - Appendix 2)

Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

✓ **Option 1: A cash rebate reasonable arrangement.**

OR

□ Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

□ Commitment payment

B) The value of the option that the customer is seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

✓ A cash rebate of **$1500.00 (See Attachment 1 - Appendix 3).**

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

□ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for ____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

OR

□ A commitment payment valued at no more than $_____. (Attach documentation and calculations showing how this payment amount was determined.)

OR

□ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

□ Total Resource Cost (TRC) Test. The calculated TRC value is: _____ (Continue to Subsection 1, then skip Subsection 2)

✓ Utility Cost Test (UCT). The calculated UCT value is **5.01 (See Attachment 1 - Appendix 4)**

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were _____.

Our program costs were _____.

The incremental measure costs were _____.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were **$21,951.82 (See Attachment 1 - Appendix 5).**

The utility's program costs were **$2,884.07 (See Attachment 1 - Appendix 6).**

The utility's incentive costs/rebate costs were **$1,500.00 (See Attachment 1 - Appendix 3)**.

Section 7: Additional Information

Please attach the following supporting documentation to this application:

Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.

A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:

1) any confidentiality requirements associated with the agreement;
2) a description of any consequences of noncompliance with the terms of the commitment;
3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.

Refer to Offer Letter following this application

A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.

DUKE ENERGY
Mercantile Self Direct Program
139 East Fourth Street
Cincinnati, OH 45202

August 1, 2017

Abe Wagen
Sun Chemical
125 Industrial Drive
Franklin, OH, 45005

Subject: Your Application for a Duke Energy Mercantile Self-Direct Rebate

Dear Abe Wagen:

Thank you for your Duke Energy Mercantile Self Direct rebate application. As noted in the Energy Conservation Measure (ECM) chart on page two, a total rebate of $1500.00 has been proposed for your projects (listed in chart below) completed in the 2017 calendar year. **All Self Direct Rebates are contingent upon approval by the Public Utilities Commission of Ohio (PUCO).**

At your earliest convenience, please indicate if you accept this rebate by

- providing your signature on page two
- completing the PUCO-required affidavit on page three.

Please return the documents to my attention via fax at 513-629-5572 or e-mail to SelfDirect@Duke-Energy.com. Upon receipt, Duke Energy will submit the necessary documentation to PUCO. Following PUCO's approval, Duke Energy will remit payment.

At Duke Energy, we value your business and look forward to working with you on this and future energy efficiency projects. We hope you will consider our Smart $aver® incentives, when applicable. Please contact me if you have any questions.

Sincerely,

Robin Avant
Senior Program Manager
Mercantile Self Direct Prescriptive Rebates

Please indicate your response to this rebate offer within 30 days of receipt.

☑ Rebate is accepted. ☐ Rebate is declined.

By accepting this rebate, Sun Chemical affirms its intention to commit and integrate the energy efficiency projects listed on the following pages into Duke Energy's peak demand reduction, demand response and/or energy efficiency programs.

Additionally, Sun Chemical also agrees to serve as joint applicant in any future filings necessary to secure approval of this arrangement as required by PUCO and to comply with any information and reporting requirements imposed by rule or as part of that approval.

Finally, Sun Chemical affirms that all application information submitted to Duke Energy pursuant to this rebate offer is true and accurate. Information in question would include, but not be limited to, project scope, equipment specifications, equipment operational details, project costs, project completion dates, and the quantity of energy conservation measures installed.

If rebate is accepted, will you use the monies to fund future energy efficiency and/or demand reduction projects?

☑ YES ☐ NO

If rebate is declined, please indicate reason (optional):

Customer Signature	Printed Name	Date
	Abe Wagen	August 1, 2017

Proposed Rebate Amounts

Measure ID	Energy Conservation Measure (ECM)	Proposed Rebate Amount
ECM-1	VFD Process Pump 1-50 HP – Qty. 75 – Yr. Feb. 2017	$1500.00
ECM-2		
ECM-3		
ECM-4		
ECM-5		
Total		**$1500.00**

Ohio | Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: ____-____-EL-EEC 17-1780-EL-EEC

State of Ohio :

Abe Wagen, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

   Sun Chemical Corporation

   [insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.

3. I am aware of fines and penalties which may be imposed under Ohio Revised Code Sections 2921.11, 2921.31, 4903.02, 4903.03, and 4903.99 for submitting false information.

Abe Wagen -Energy Incentive Analyst

Signature of Affiant & Title

Sworn and subscribed before me this 1 day of August, 2017
Month/Year

Barbara R. Zimmerman

Signature of official administering oath

Barbara R. Zimmerman

Print Name and Title Notary Public

My commission expires on Jan. 9. 2019

BARBARA R ZIMMERMAN
Notary Public - Arizona
Maricopa County
My Commission Expires
January 9, 2019

Ohio Mercantile Self Direct Program

Application Guide & Cover Sheet

Questions? Call 1-866-380-9580 or visit www.duke-energy.com.

Email this form along with completed Mercantile Self Direct Prescriptive or Custom applications, proof of payment, energy savings calculations and spec sheets to SelfDirect@Duke-Energy.com. You may also fax to 1-513-629-5572.

Mercantile customers, defined as using at least 700,000 kWh annually or having an account in multiple locations are eligible for the Mercantile Self Direct program. Indicate which applies:

- ☒ a single Duke Energy Ohio account with 700,000 kWh annual usage
- ☐ an account with multiple locations

Please list Duke Energy account numbers below (attach listing of multiple accounts and/or billing history for other utilities as required):

Account Number	Annual Usage	Account Number	Annual Usage
64600871011	845000		

Self Direct rebates are available for completed Custom projects that have not previously received a Duke Energy Smart $aver® Custom Rebate. Self Direct rebates are applicable to Prescriptive measures that were installed more than 90 days prior to submission to Duke Energy and have not previously received a Duke Energy Prescriptive rebate.

Self Direct Program rules allow for, though do not require, certain projects that are Prescriptive in nature under the Smart $aver program to be evaluated using the Custom process in the Self Direct program. Use the list on page two as a guide to determine which Self Direct program best fits your project(s). Apply for Self Direct projects using the appropriate application forms in conjunction with this cover sheet.

Self Direct Program rules also allow for behaviorally based and/or no cost and low cost projects to receive rebates.

Please check each box to indicate completion/inclusion of the following program requirements:

☒ All sections of appropriate application(s) are completed	☒ Proof of payment.*	☒ Manufacturer's Spec sheets	☐ Energy model/calculations and detailed inputs for Custom applications

*If a single payment record is intended to demonstrate the costs of both Prescriptive & Custom projects, please include an additional document with an estimated breakout of costs for each Prescriptive and Custom energy conservation measure.

**Behavioral energy efficiency and demand reduction projects must be both measurable and verifiable. Provide justification with your application. Rebates for such projects may be small in magnitude.

Application Type	Prescriptive Measures with Optional Custom Processing	
Heating & Cooling and Window Films, Programmable Thermostats, & Guest Room Energy Management Systems	☐ Energy Star Window/Sleeve/Room AC ☐ Central Air Unit	☐ Air Source Heat Pump Water Heater
	☐ Setback/Programmable Thermostat ☐ Guestroom Energy Management Control	☐ Window Film
Chillers & Thermal Storage	☐ Air Cooled Chiller	☐ Water Cooled Chiller
Motors, Pumps and Variable Frequency Drives (VFDs)	☒ VFD – Applied to Process Pump ☐ VFD – Applied to HVAC Pump	☐ VFD – applied to HVAC Fan
Food Service	☐ ENERGY STAR Hot Food Holding Cabinet ☐ Night Covers for Display ☐ ECM Cooler, Freezer, and Display Case Motors ☐ ENERGY STAR Solid or Glass Door Reach-in Freezer or Refrigerator	☐ Anti-Sweat Heater Control ☐ Cooking Equipment ☐ ENERGY STAR ICE MACHINE
Process Equipment	☐ Engineered Nozzle – COMPRESSED AIR ☐ Air compressor equipped with VFD	☐ Pellet Dryer Duct Insulation
Chiller Tune-ups	☐ Air cooled chiller tune-up	☐ Water cooled chiller tune-up

Please indicate above any Prescriptive energy conservation measures to be evaluated through the Custom process. Only Prescriptive measures listed above are eligible for this option. To receive a Self Direct Custom rebate, a detailed analysis of pre-project and post-project energy usage and project costs must be included in the application.

Although some Self Direct Prescriptive measures are eligible for evaluation through Custom processes, such an approach may not be most effective for certain measures.

MERCANTILE SELF DIRECT Ohio Premium Motor/Pump/VFD Rebate Application

Questions? Call 1-866-380-9580 or visit www.duke-energy.com.
Email the complete, signed application with all required documents to SelfDirect@duke-energy.com or fax to 513-629-5572.

Is this application: ☐ **NEW** (original) or ☐ **REVISED** (changes made to original application)

Building Type – Required (check one)		
☐ Data Centers	☐ Full Service Restaurant	☐ Office
☐ Education/K-12	☐ Healthcare	☐ Public Assembly
☐ Education Other	☒ Industrial	☐ Public Order/Safety
☐ Elder Care/Nursing Home	☐ Lodging	☐ Religious Worship/Church
☐ Food Sales/Grocery	☐ Retail (Small Box)	☐ Service
☐ Fast Food Restaurant	☐ Retail (Big Box)	☐ Warehouse
☐ Other:		
How did you hear about the program? (check one)		
☐ Duke Energy Representative	☒ Web Site	☐ Radio
☐ Contractor / Vendor	☐ Other _____	

Please check each box to indicate completion of the following program requirements:

☒ All sections of application	☒ Invoice with make, model number, quantity and equipment manufacturer	☒ Tax ID number for payee ☒ W-9 for payee	☒ Customer/vendor agree to Terms and Conditions

Customer Information					
Customer/Business	**Sun Chemical**	Contact		**Abe Wagen**	
Phone	**480-346-5820**	**Account Number**		**64600871011**	
Street Address (Where rebate should be mailed)		**20830 N Tatum Blvd, #330**			
City	**Phoenix**	State	**AZ**	Zip Code	**85050**
Installation Street Address	**125 Jay Gee Drive**				
City	**Franklin**	State	**OH**	Zip Code	**45005**
E-mail Address	**Abe.Wagen@ems.Schneider-Electric.com**				

Failure to provide the account number associated with the location where the installation took place will result in rejection of the application.

Vendor Information					
Vendor	**Southlake Automation**	Contact		**Terry Miller**	
Phone	**2190736-6299**	Fax			
Street Address	**1551 E. 89th Avenue**				
City	**Merrillvile**	State	**IN**	Zip Code	**46410**
E-mail Address	**Abe.Wagen@ems.Schneider-Electric.com**				

If Duke Energy has questions about this application, who should we contact? ☐ **Customer** ☐ **Vendor**

Payment Information		
Who should receive rebate payment?	☒ Customer	☐ Vendor (Customer must sign below)
I hereby authorize payment of rebate directly to the vendor:	Customer Signature (written signature)	
	Date	
Provide Tax ID Number for Payee	Customer Tax ID #	**22-2761297**
	Vendor Tax ID #	

Terms and Conditions			
I have read and hereby agree to the Terms & Conditions and Program Requirements.			
Customer Signature (written signature)		Vendor Signature (written signature)	
Date	**06/14/2017**	Date	
Title	**Energy Rebate Analyst**	Title	

Rebates are subject to change and may be discontinued at the sole discretion of Duke Energy. Equipment must be installed and operable to be eligible for rebates. As Federal Energy Policy Law changes, equipment efficiency requirements are subject to change.

Variable Frequency Drives (VFDs) – For Process Fluid Pumping Only
(Retrofit Application only)

Process pumping does not include HVAC or swimming pool fluid pumping systems.

List Process Pumping Application

Make/Model or Catalog #	Horse Power (HP)	Quantity (Number of VFDs)	Total HP (HP x Quantity)	Rebate	Annual Operating Hrs (Minimum of 2000)	Project Cost	Date Installed and Operable (mm/yy)	Total Rebate (Total HP x Rebate)
Example Model Number	*6 HP*	*4*	*24*	$20.00/HP	*2500 Hrs*	*$2000*	*12/1/2013*	*$480.00*
Eaton Model SVX9000 VFD-CT	75 HP	1	75	$20.00/HP	6570Hrs	$31,544.00	02/12/17	$1500.00
	HP			$20.00/HP	Hrs			
	HP			$20.00/HP	Hrs			
	HP			$20.00/HP	Hrs			

- Installed equipment must be new. Used, rebuilt or rewound equipment is ***not*** eligible.
- Rebates are only available for new VFDs installed on existing fluid process pumps.
- Installed applied to new replacement motors that power existing fluid process pumps are eligible for Self Direct rebates.
- VFDs over 100 HP and VFDs installed on new pumps are not eligible for Self Direct rebates, but may qualify through the Self Direct Custom program. Please refer to the Self Direct Custom webpage for guidance.
- Variable Frequency Drive Fans & Pumps qualifying equipment must have 2000 annual run hours or more.
- A 3% impedance reactor on the AC input to the VSD is recommended to prevent damage to the VSD due to overvoltage from power factor correction and should be properly sized by your supplier. A 5% reactor may be recommended if there is additional harmonic distortion on the AC input lines due to other plant-specific causes.
- Replacement of existing VFDs does not qualify for rebates.
- VFDs installed on redundant pumps do not qualify.
- VFD speed must be automatically controlled by differential pressure, flow, temperature, or other variable signal.
- Existing throttling devices including inlet vanes, bypass dampers, and throttling valves must be removed or permanently disabled.
- Rebates are capped at 50% of the customer's project cost (equipment and external labor).

Program Requirements

Rebate Eligibility

- Rebates are only available to customers on a Duke Energy Ohio non-residential rate.
- Duke Energy Customers who purchase electric generation from an alternative supplier are eligible to participate.
- Rebate will not be paid until eligible equipment has been installed, is available to operate, and verification has been completed by Duke Energy staff as noted in the Term & Conditions stated below.
- Duke Energy reserves the right to revise rebate levels and/or qualifying efficiency levels at any time.
- Customer may assign the rebate to the vendor who installed/supplied the equipment. The customer's signature is required in the Payment Information section on page 1 of this form to assign the rebate to the vendor. Customer agrees that such an action constitutes an irrevocable assignment of the rebate. This assigned rebate must reduce the purchase price paid for the equipment by an equivalent amount.
- Leased equipment is eligible for rebates providing the equipment meets the program requirements and the customer provides the required documentation noted on the Rebate Application Process page of this application.
- Any equipment which, either separately or as part of a project, has or will receive a rebate from any other Duke Energy program is ineligible.
- In no case will Duke Energy pay a rebate above the actual cost of the new equipment.
- Rebate recipient assumes all responsibilities for any tax consequences resulting from Duke Energy rebate payment.
- To qualify for Duke Energy rebates, applicants who provide their social security number as their federal tax identification number for tax purposes must sign and return the "Customer consent to release personal information" form ("Consent Form") along with the application. Rebate applications are processed by a 3rd party vendor. The 3rd party vendor is responsible for mailing the 1099 form at the end of the calendar year for tax filing. Duke Energy and the 3rd party vendor have signed a confidentiality agreement to protect your personal information. If your social security number is your federal tax ID number and you elect not to sign the Consent Form, please do not send Duke Energy the application, as you will not be qualified to participate in the rebate program.

Terms and Conditions

I certify that this premise is served by Duke Energy (or an affiliate of Duke Energy), that the information provided herein is accurate and complete, and that I have purchased and installed the high efficiency equipment (indicated herein) for the business facility listed herein and not for resale. Attached is an itemized invoice for the indicated installed equipment. In understand that the proposed rebate payment from Duke Energy is subject to change based on verification and Duke Energy approval. I agree to Duke Energy verification of both the sales transaction and equipment installation which may include a site inspection from a Duke Energy representative or Duke Energy agent. I understand that I am not allowed to receive more than one rebate from Duke Energy on any piece of equipment. I also understand that my participation in the program may be taxable and that my company is solely responsible for paying all such taxes. I hereby agree to indemnify, hold harmless and release Duke Energy and its affiliates from any actions or claims in regards to the installation, operation and disposal of equipment (and related materials) covered herein including liability from an incidental or consequential damages. Duke Energy does not endorse any particular manufacturer, product or system design within these programs; does not expressly or implicitly warrant the performance of installed equipment (Contact your contractor for details regarding equipment warranties and is not liable for any damage caused by the installation of the equipment nor for any damage caused by the malfunction of the installed equipment.

Rebate Application Instructions

IMPORTANT NOTICE
Delays in processing rebate payments will occur if required documentation is not included with completed application(s).

1. Contact Duke Energy toll free at 866-380-9580 to confirm customer eligibility. Applications are available for download at www.duke-energy.com.

2. Review program and equipment requirements on the rebate application.

3. Purchase and install eligible energy-efficient equipment.

4. **The following items must be included to verify projects. If they are not included, it will delay payment of rebate.**

   A. Itemized invoice for all equipment installed to include:
      a. Equipment cost
      b. Quantity per equipment type installed
      c. Model # for each equipment type
      d. Manufacturer's data sheet for each equipment model #.

   B. Make sure the account number provided on the cover page (customer information section) is associated with the location where the equipment was installed. If the account # does not match the address where the equipment was installed, the application will be rejected as ineligible.

   C. Provide required tax ID# and W-9 for payee.

   D. Customer must sign and date the application after reviewing the Terms and Conditions. If customer wishes to **assign payment of the rebate directly to the vendor**, the customer should circle the appropriate payee in the Payment Information section of the application and sign their name to authorize payment.

5. Duke Energy may require site verification of projects that have been self-installed, prior to payment of rebate.

6. Email the complete, signed application with all required documents to SelfDirect@duke-energy.com or fax to 513-629-5572.

7. A percentage of equipment installations will be site verified for quality assurance purposes. Once selected, a Duke Energy representative will contact the customer to arrange for the inspection. All rebate payments related to the project will be withheld until site verification is complete. There is no charge to the customer for these inspections.

Appendix 1 – Electric History

64600871 01
SUN CHEMICAL CORP
125 INDUSTRIAL DR
FRANKLIN, OH 45005

Date	Days	Read	Actual KWH	Bill KWH	Actual Demand	Bill Demand	Net Charge	KWH/Day	KVAR	Power Factor	Load Factor	Cost Per Day
1/19/2016	34	0	269,165	269,165	767.4	771	7,926.27	7,916.60	380.8	89.6	43	233.13
12/16/2015	33	0	256,837	256,837	771.2		8,189.74	7,782.90	337.3	91.6	42	248.17
11/13/2015	29	0	296,229	296,229	795.5	812.8	8,460.37	10,214.80	427.5	88.1	53.5	291.74
10/15/2015	29	0	317,898	317,898	866.6		9,001.78	10,962.00	413.4	90.3	52.7	310.41
9/16/2015	30	0	366,509	366,509	841	867.8	8,459.67	12,217.00	471.7	87.2	60.5	281.99
8/17/2015	31	0	407,276	407,276	905.6		8,669.26	13,137.90	439.7	90	60.4	279.65
7/17/2015	30	0	345,495	345,495	826.9	834.1	8,176.38	11,516.50	418.6	89.2	58	272.55
6/17/2015	30	0	337,913	337,913	858.19		8,330.22	11,263.80	387.2	91.2	54.7	277.67
5/18/2015	31	0	281,323	281,323	746.2	780.13	7,953.75	9,074.90	305.9	92.5	50.7	256.57
4/17/2015	30	0	266,403	266,403	725.1	780.13	7,985.24	8,880.10	339.2	90.6	51	266.17
3/18/2015	29	0	250,955	250,955	640.6	780.13	8,383.35	8,653.60	284.2	91.4	56.3	289.08
2/17/2015	29	0	273,677	273,677	749.4	780.13	8,098.22	9,437.10	337.3	91.2	52.5	279.25
1/19/2015	34	0	319,990	319,990	827.5		10,137.64	9,411.50	387.2	90.6	47.4	298.17
12/16/2014	33	0	405,521	405,521	810.2		8,184.20	12,288.50	360.3	91.4	63.2	248.01
11/13/2014	29	0	342,366	342,366	845.4		9,562.14	11,805.70	384.6	91	58.2	329.73
10/15/2014	29	0	299,312	299,312	843.5		10,077.42	10,321.10	367.4	91.7	51	347.5
9/16/2014	32	0	370,318	370,318	853.8		8,989.58	11,572.40	383.4	91.2	56.5	280.92
8/15/2014	29	0	370,486	370,486	888.3		9,549.90	12,775.40	391.7	91.5	59.9	329.31
7/17/2014	30	0	400,895	400,895	917.8		9,620.77	13,363.20	417.3	91	60.7	320.69
6/17/2014	32	0	378,933	378,933	897.3		9,423.58	11,841.70	394.9	91.5	55	294.49
5/16/2014	30	0	349,790	349,790	925.4		10,388.92	11,659.70	398.7	91.8	52.5	346.3
4/16/2014	29	0	273,883	273,883	848.6		10,097.37	9,444.20	394.9	90.7	46.4	348.19
3/18/2014	29	0	255,772	255,772	686.7	761.6	8,902.06	8,819.70	258.6	93.6	53.5	306.97
2/17/2014	31	0	294,780	294,780	751.4	761.6	8,346.73	9,509.00	319.4	92	52.7	269.25
1/17/2014	32	0	283,026	283,026	759	761.6	8,514.04	8,844.60	311.7	92.5	48.6	266.06

Appendix 2 – Annual kWh and kW savings

Measure	Measure Quantity	Unit of Measure	Annual kWh Gross with losses (Per Unit)	TOTAL Annual kWh Gross with losses	Saved Summer coincident kW with losses (Per Unit)	Total KW Gross with losses
SelfDirect VFD Process Pump 1-50 HP	75	per HP	21,651	1,623,853	0.04	2.64

Appendix 3 – Cash Rebate

Measure	Amount
SelfDirect VFD Process Pump 1-50 HP	$1,500.00
	$ 1,500.00

Appendix 4 – Utility Cost Test

Measure	UCT
SelfDirect VFD Process Pump 1-50 HP	5.01
	5.01

Appendix 5 – Avoided Supply Costs

Measure	T&D	Production	Capacity	Quantity	Total Avoided Costs
SelfDirect VFD Process Pump 1-50 HP	$1,390.35	$18,154.31	$2,407.15	75	$21,951.82
					$ 21,951.82

Appendix 6 – Utility Program Costs

Measure	Qty	Total Costs
SelfDirect VFD Process Pump 1-50 HP	75	$2,884.07
		$ 2,884.07

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Sun Chemical Corporation

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only one of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC ☑ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any)
Exemption from FATCA reporting code (if any)
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)
35 Watwerview Boulevard

Requester's name and address (optional)

6 City, state, and ZIP code
Parsippany, NJ 07054

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number
[ ][ ][ ] – [ ][ ] – [ ][ ][ ][ ]

or

Employer identification number
2 2 – 2 7 6 1 2 9 7

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here Signature of U.S. person ▶ [signature] Date ▶ Jun 4, 2016

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

May 9, 2017

ATTN: Utility or Agency Offering Rebates/Incentives/Grants for Energy Efficiency

RE: Authorization of Summit Energy Services, Inc., a Schneider Electric company

This letter is to inform you that Summit Energy Services, Inc. has been designated as an authorized agent/representative as it relates to rebates, incentives or grants for energy efficiency projects.

Summit Energy Services, Inc. is authorized to receive any information regarding accounts including account numbers, usage information, billing information, savings reports, rebate-related documentation and any other information requested for the purpose of securing rebates, incentives or grants for energy efficiency projects.

In addition, this authorization allows Summit Energy Services, Inc. to act on our behalf for the following actions:

- Receive rebate and incentive checks, made payable to ***utility account holder***, at their address of: 20830 N. Tatum Boulevard, Suite 330, Phoenix, AZ 85050
- Send and receive rebate/incentive documents, correspondence, authorizations and approvals
- Execute and process applications for rebates and incentives
- Execute and receive NJ Division of Taxation clearance certificates.

If for any reason you are unable to fulfill the scope of this authorization, please notify us immediately in writing. In addition, please copy Summit Energy Services, Inc. at 20830 N. Tatum Boulevard, Suite 330; Phoenix, AZ 85050.

Please consider all employees of Summit Energy Services, Inc. as authorized representatives pertaining to this letter. Letter of authorization expires June 30, 2019.

If you have any questions regarding this authorization please feel free to contact me directly.

Sincerely,

Gregory R Holden

Name Gregory R. Holden
Company Sun Chemical Corp.
Position Director Supply Chain Reporting
Phone 973 404 6139

SVX9000 Adjustable Frequency Drives

Modular, Configurable, Compact

Powering Business Worldwide

Multiple communication protocols allow connectivity to any existing automation system

- Modbus TCP
- EtherNet IP
- Modbus®
- PROFIBUS DP
- LonWorks
- CAN
- DeviceNet™

Seven built-in applications

Use for material handling, extruders, mixers, pumps, fans, cranes and more.

- Basic
- Standard
- Local/remote control
- Multi-step speed control
- PID control
- Multi-purpose control
- Pump and fan control with auto-changeover

Power module

- 3/4 hp to 2000 hp
- 208/230V, 480V, 575/690V
- Semiconductor technology
- Connections via multi-pole connector
- Remote mount with a fiber optic cable
- 208/230/480 Vac frame sizes 4–6 equipped with a built-in brake chopper

Power unit options:

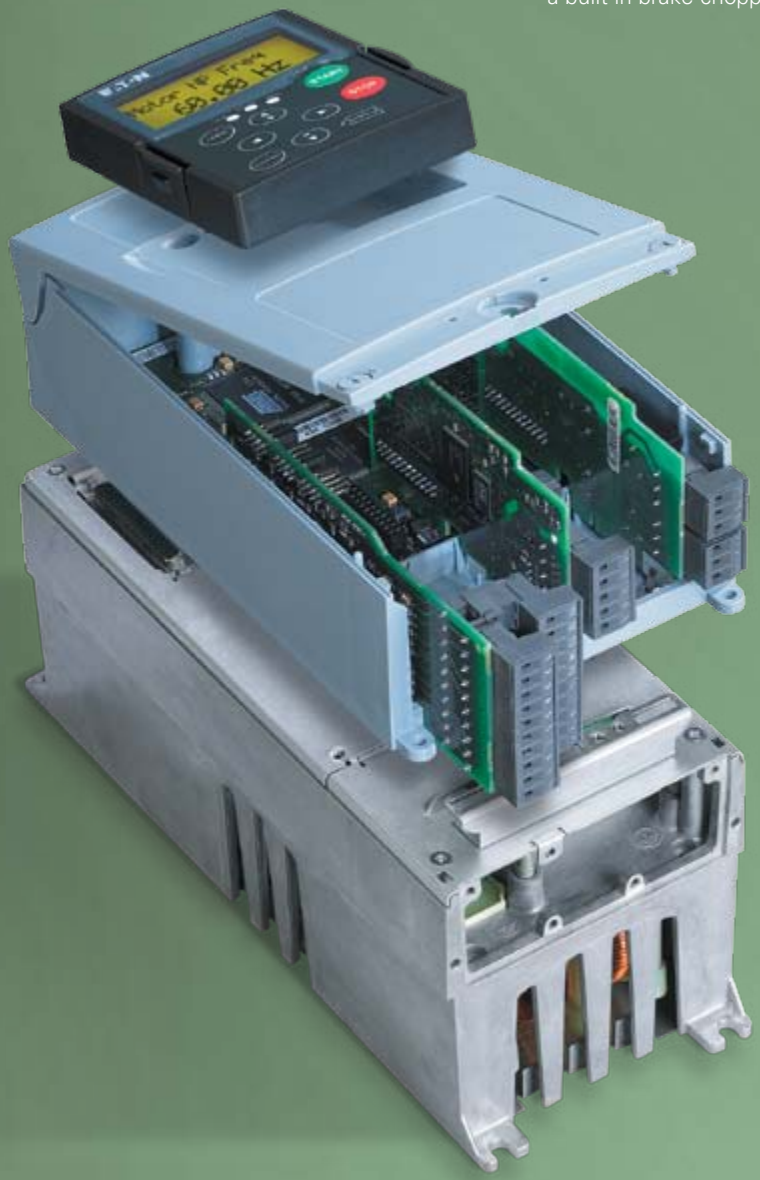
- Input and output filters
- Brake resistors
- NEMA Type 1 (IP21) NEMA Type 12 (IP54)
- Open chassis frame 10 and larger

Power supplies

- +10 Vdc reference
- +24 Vdc auxiliary
- Encoder (+15 Vdc/+24 Vdc)

SVX9000 enclosures

- Standard NEMA Type 1 (IP21)
- Sealed NEMA Type 12 (IP54)(Metal cover, internal fan, conduit plate)



Modular, configurable and compact.

Eaton's SVX9000 adjustable frequency drives are the compact, modular solution to variable speed applications. They enable a broad range of new application capabilities. A complete selection of option cards allows you to configure the drive to meet any requirement. With its wide voltage range, high overload ability, and user-friendly alphanumerical keypad, SVX9000 drives are the smart decision for every user.

Modular design: convenient and cost effective.

Just three screws link the control module to the power module. What's more, control units are interchangeable within frame sizes while software, control panels, I/O and communication cards are common throughout the line. Separating the power and control units provides installation advantages and reduced spare parts requirements. For convenience, the SVX9000 is field convertible from Type 1 to Type 12 (frames 4–6). Its reduced size equates to less panel space used and easy retrofits.

Quick start-up wizard.

Even when the drive is unpowered, the SVX9000 can be programmed and tested. The control logic module can be powered from an external +24 Vdc source so you're ready to train, test and go live whenever needed. Whether you choose local or remote operations via the keypad, simple copy/paste functions streamline the process.

Communication flexibility.

The SVX9000 may be configured with several different communication protocols, making it easy to communicate with all commonly used control systems. The control unit's powerful microprocessor can be used for local control tasks, thereby freeing resources of the control system for other control tasks. 9000XEngine, our versatile block-programming tool, eliminates the need for a PLC and significantly simplifies the control system.

Optional I/O: configuration simplified.

Up to five plug-and-play I/O cards, each with unique input and output configurations, can be installed. Multiple analog and digital input and output cards and additional application-specific hardware are available.

PC Tools—drag and drop configuration. Store and access whenever needed.

9000XLoad

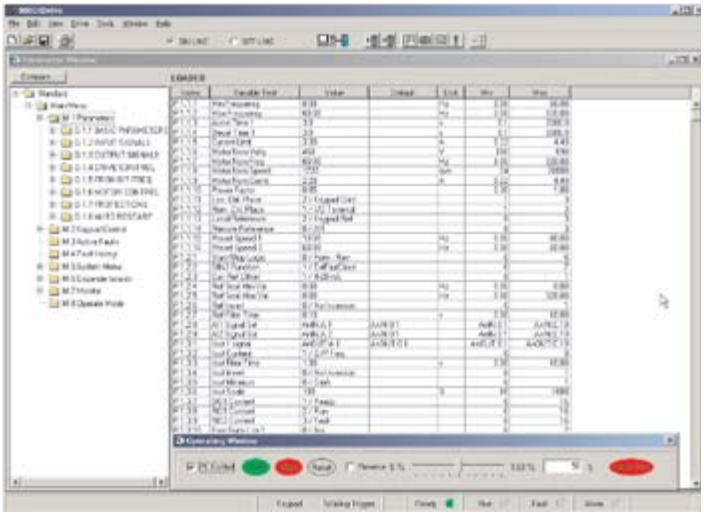
9000XLoad is an easy-to-use tool for uploading system, application and option card software intended for use by engineering, commissioning and service personnel. 9000XLoad is also suitable for loading custom applications to the SVX9000 drive.

9000XDrive

9000XDrive is a software tool that allows uploading and downloading drive parameters. Parameters can be changed, saved, and uploaded to any number of SVX9000 drives. The tool has the ability to print parameters or save them to a file for future use and reference. Parameters can be compared to default values to determine drive setup. Operator functions include the ability to set references, start and stop the drive, and to monitor signals and actual values. These values can be displayed via a graphic display.

9000XEngine

Create IEC 1131-3 compliant custom applications with 9000XEngine. This graphical design tool customizes the control logic and parameters in the SVX9000. Functional Block Diagram (FBD), Ladder Diagram (LD) and Structured Text (ST) are all part of the function set. 9000XEngine enables the creation of parameters, fault messages and other application-related features.



SVX9000 Series at a glance:

- Wide range of horsepower and voltage selection
- Start-up wizard
- Modular design concept
- External +24 Vdc can be used to power the controller
- Built-in 3% line reactor
- Open and enclosed drives (CT/I_H rated to 50˚C)
- 30-fault history with status at time of fault
- Easy operation

SPX9000 Series at a glance:

- High performance for demanding applications
- Increased micro-processing power (4 times more CPU capability)
- Encoder feedback
- High resolution analog inputs
- Speed and torque loop capability
- Customizable software
- Same ease of operation

Horsepower	Voltage Range	Enclosure Style
3/4 to 100 hp	208, 230V	Type 1, Type 12
1 to 200 hp	380, 480V	Type 1, Type 12
250 to 1900 hp	480V	Open Chassis
2 to 150 hp	575, 690V	Type 1, Type 12
200 to 2000 hp	575, 690V	Open Chassis

The SVX9000 keypad and display unit.

The SVX9000 keypad offers the user a full view into the drive. The keypad provides the ability to view and change parameters, as well as monitor actual running values. Built in upload and download capability makes programming several SVX9000 drives a snap, cutting installation time. The three-line alphanumeric programmable display with status indicators uses English words for parameters, status, and diagnostic messages without the use of codes and lookup tables. The display has large, clear characters easily visible in any light condition.

Eaton's Electrical Sector is a global leader in power distribution, power quality, control & automation and monitoring products. When combined with Eaton's full-scale engineering services, these products provide customer-driven PowerChain Management® solutions to serve the power system needs of the data center, industrial, institutional, government, utility, commercial, residential, IT, mission critical and OEM markets worldwide.

PowerChain Management solutions help enterprises achieve sustainable and competitive advantages through proactive management of the power system as a strategic, integrated asset throughout its life cycle, resulting in enhanced safety, greater reliability and energy efficiency. For more information, visit www.eaton.com/electrical.

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Electrical Sector
1111 Superior Ave.
Cleveland, OH 44114
United States
877-ETN-CARE (877-386-2273)
Eaton.com

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September 2009

Powering Business Worldwide

PowerChain Management®

PROJECT #	202750
TITLE	Three Roll Mill Replacement
LOC CODE	FKLN
LOCATION	Franklin, OH

P.O. #	P.O. DATE	SUPPLIER NAME	COMMIT.	INVOICE #	INVOICE DATE	INVOICE AMT	Material Description
4310595104	10/12/16	Southlake	32,050.00	5282	10/12/16	15,772.50	75HP Drive MCC Section / VFD Model # SVX9000 VFD-CT (105FLA 480V HMCP)
	10/12/16	Southlake	20,525.00	5465	2/20/17	21,030.00	All Other Hardware / Programming
				5475	2/22/17	15,772.50	
			52,575.00			52,575.00	
4310595102	10/12/16	Electric Motor Technologies	5,937.50	MO7441	10/21/16	6,123.56	75 HP Marathon Motor

Southlake
AUTOMATION
1551 E. 89th Avenue
Merrillville, IN 46410
219-736-6299 Phone

Invoice

Date	Invoice #
10/14/2016	5282

Bill To	Ship To
Sun Chemical PO Box 32040 Cincinnati, OH 45217 USA	Sun Chemical 125 Jaygee Drive Franklin, OH 45005

Terms	Ship	F.O.B.	Project	P.O. No.	Job Number
Due Upon Receipt	10/14/2016		P1825 Franklin Mill D	4310595104	

Quantity	Item Code	Description	Price Each	Amount
1	Control Panel	30% Downpayment on hardware, design and programming for Franklin Mill D per proposal # QH16-14 Rev 1	15,772.50	15,772.50

We now accept Visa, Master Card, and Discover. To pay by credit card, please call Paula at 219-736-6299. Processing fee will apply.

Total $15,772.50

Southlake
AUTOMATION

1551 E. 89th Avenue
Merrillville, IN 46410
219-736-6299 Phone

Invoice

Date	Invoice #
2/20/2017	5465

Bill To

Sun Chemical
PO Box 32040
Cincinnati, OH 45217
USA

Ship To

Sun Chemical
125 Jaygee Drive
Franklin, OH 45005

Terms	Ship	F.O.B.	Project	P.O. No.	Job Number
Net 30	2/20/2017		P1826 Franklin Mill D	4310595104	

Quantity	Item Code	Description	Price Each	Amount
1	Control Panel	40% Progress payment due on hardware, design and programming for Franklin Mill D per proposal # QH16-14 Rev 1 ** MCC and panels shipped 02/20/17	21,030.00	21,030.00

We now accept Visa, Master Card, and Discover. To pay by credit card, please call Paula at 219-736-6299. Processing fee will apply.

Total $21,030.00

75HP Drive MCC Section with DC Injection

This MCC is has an 800A main feed breaker, a 75HP drive for the mill and six motor starters. The three starters will be used to control the hydraulic pump unit and the press-out. See Attachment 1 for MCC details. Included in the section is the DC injection module listed below.

DC Injection Module

Qty	Manufacturer	Description	Part Number
1	Saldet	DC Injection Braking Module for 75HP Motor	SS-4A-75W
2		Fuse with Blown Fuse Contact	

MCC Price: $32,050.00

Electrical Design & Programming

A new set of electrical drawings will be created for Mill D. The next three mills will be added to this set as they are installed. The drawings will include all of the items listed in the hardware section of this proposal and an Ethernet network drawing. A pull schedule will be created for the electrical installation crew.

The PLC will be programmed using the same logic as Mill E. Including the Allen-Bradley Panelview Plus 1000 programming.

Design/Programming Price: $13,700.00

Sun Chemical Responsibilities

1. Installation
2. Ethernet Network Hardware

Start-Up Assistance

Field I/O check out and start-up assistance can be provided at standard rates. See rate sheet attached. It is estimated to take 4 days to I/O check the system and start-up and run the mill.

Terms:
30% with purchase order – due upon receipt
40% with panel shipment – net 30
30% with program completion – net 30

Net 60

Shipping:
Part shipping to Franklin, OH is included

Proposal is valid for 90 days

Sincerely

Terry Miller
President

Attachment 1

Powering Business Worldwide

Detail Bill of Material

Project Name: Franklin Mill D- Sun Chemical/SLA
General Order No:

Item No.	Qty	Product	Description
	1	Motor Control Centers	60 Hz, Class 1B wiring, 480V 3-Phase Service, 65,000 Bracing, Top Incoming, NEMA 12 Dust tight 16" Front Mt Only enclosure, 600A Copper Main Horizontal Bus, No Neutral, Main Breaker. Used X-Space: 23, Blank X-Space: 1, Future X-Space: 0, MCC Lead Time Code: U.

Designation rev3 083116

Qty	List of Materials
1	HMDL Main Bkr (800A trip), Lugs: 2-#500-750Kcmil
3	FVNR Starter Size 1 [HMCP]
1	SVX9000 VFD-CT, 105 FLA, 480V, HMCP
3	100VA Individual CPT, Fused
4	#16awg, MTW Control Wire
3	Pilot Light-10250T (Run)
4	3 Pos. Sel. Sw., 10250T (Hand-Off-Auto)
1	SVX9000 VFD Output Contactor - FR8
1	VFD Connected to EtherNet/IP
1	SVX9000 Dv/Dt Output Filter - FR8
9	Bi-Metallic Overload Relay (Standard)
4	Terminal Block - Latching Pull-Apart, Std.
3	Heater Packs Supplied
4	2 Pos. Sel. Sw., 10250T (Man-Auto)
6	C-H Model D7, 300V, 2 Pole Socket Relay
1	Thermal Magnetic Trip
1	Pilot Light-10250T (On, Run, Fast, Forward)
1	6" Door
2	Tin Plated horizontal bus
2	65KA Bus Bracing
2	Isolated, Red glass polyester vertical bus barrier
2	600A Vertical Bus (Tin-plated cu)
2	Structure Bottom plates included with NEMA 12
2	300A Horiz. Cu Gnd Bus, 1/4" x 1" Bar
2	800A Copper Frnt Mtd 16" N12 Dust Tight
1	add sub feed lugs on secondary of breaker, ONLY on VFD bucket
1	extra N.O. aux contacts on 2pos selector switch on VFD Bucket
1	add sub feed lugs on secondary of output contactor VFD bucket ONLY
1	VFD & starter buckets control wiring to be duplicate as wiring on GO#SCG0513422
1	ONLY 2, FVNR buckets have 3 pos selector switches, "HAND-OFF-AUTO" in sections 1FG & 1FJ, section 1FL DOES NOT HAVE a selector switch
2	extra N.O. aux contacts on output contactor of VFD
1	PFC Capacitors are not compatible AFD, these devices can not be used together.
1	If motor is >300ft. from drive a dv/dt filter is required. Lead time code is A
1	2 pos selector switch to be labeled "OFF-AUTO"; VFD bucket only
1	green run light "RUN" on every bucket
1	OVL light to be labled "FAULT", blue color VFD bucket only

Eaton Selling Policy 25-000 applies.

All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction there of for the time the shipment is delayed.

Attachment 1 (Continued)

MCC General Information

MCC General Information

Wiring Diagram Type	Eaton Standard
MCC Quantity	
Standards	UL845, NEMA, NEC
Special Codes	UL
Service Voltage (3 Phase)	480
Frequency	60
System	3PH3W
Witness Testing	No

Enclosure Specifications

Total Structures	2
Type	NEMA 12 Dust tight
Depth	16" Front Mt Only
Height	90"
Horizontal Wireways	9" High, Top & Bottom
Vertical Wireways	4"
Channel Sills	No
Bottom Plates	Standard
150 Watt Space Heaters	No
Space Heater Thermostat	No
Master Terminal Block Location	None
IBC/CBC Seismic Qualified	No
ABS Certified	No

Bus System Specifications

Main Bus Amps	800
Main Bus Material	Copper
Main Bus Bar Plating	Tin
Insulated Horiz. Bus	No
1000A/sq in. Cu Bus	No
Vertical Bus Amps	See Structure Schedule
Vertical Bus Material	Tin Plated Copper
Vertical Bus Barrier	Isolated, Red
Bus Bracing	65,000
Ground Bus	300
Ground Bus Location	Top
Ground Bus Lug Size	1-#8-350Kcmil
Ground Bus Lug Type	Screw
Plug-In 300A Vert. Grd. Bus	No
Neutral	None
Horizontal Bus Temperature Rise	65 deg C
Bottom Vert. Bus Barrier	No
Vertical Ground Bus	No

Incoming Line Termination

Device: HMDL Main Bkr (800A trip), Lugs: 2-#500-750Kcmil

Cable Entry	Top
Splice Kit / Transition	None
MCC Type Match Up	
MCC Type Match Up GO#	"" None ""

MCC Starter Specifications

Wiring Class	1B
Control Voltage	120
Control Voltage Src	Ind CPT
Nameplate Size	1" X 2.5"
Nameplate Color	Black / White Letters
Overload Heater Packs	Supplied
Pilot Dev. Model	10250T
Ind. Light Type	6v Xfmr
PL Color (On)	Red

Structure Schedule

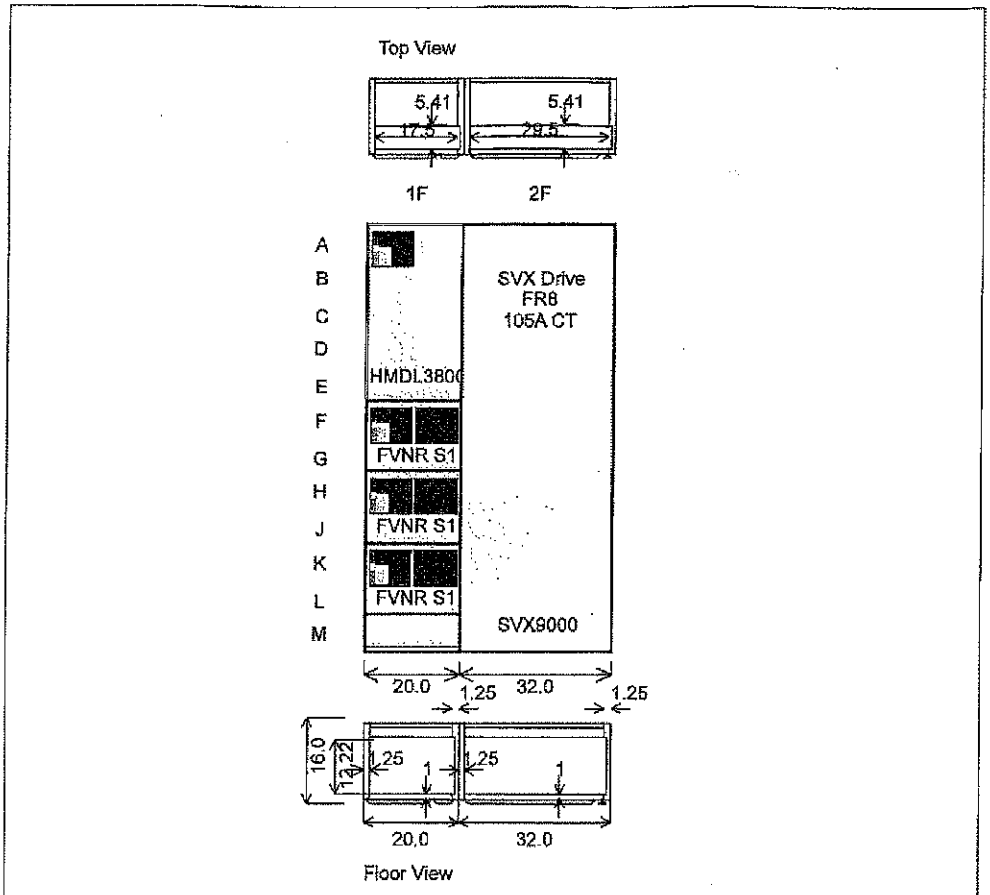
There are 2 structure(s).
All structures have a 600 A vertical bus.
Total width of all sections is 52"
Height of all sections is 90"

Unit Modifications

Terminal Block - Latching Pull-Apart, Std.
Heater Packs Supplied
#16awg, MTW Control Wire
Bi-Metallic Overload Relay (Standard)

The information on this document is created by Eaton Corporation. It is disclosed in confidence and it is only to be used for the purpose in which it is supplied.	PREPARED BY: GEORGE DOBRIJEVICH	DATE: 8/31/2016	Eaton	Fayetteville, NC	
	APPROVED BY:	DATE:	JOB NAME: Franklin Mill D- Sun Chemical/SLA		
			DESIGNATION: rev3 083116		
	VERSION: 1.0.0.0		TYPE: Freedom MCC 2100	DRAWING TYPE: Customer Appr.	
	REVISION:	DWG SIZE: A	G.O.	ITEM	SHEET: 1 of 4

Attachment 1 (Continued)



The information on this document is created by Eaton Corporation. It is disclosed in confidence and it is only to be used for the purpose in which it is supplied.	PREPARED BY: GEORGE DOBRIJEVICH	DATE: 8/31/2016	Eaton	Fayetteville, NC	
	APPROVED BY:	DATE:	JOB NAME: Franklin Mill D- Sun Chemical/SLA		
			DESIGNATION: revS 083116		
	VERSION: 1.0.0.0		TYPE: Freedom MCC 2100	DRAWING TYPE: Customer Appr.	
	REVISION:	DWG SIZE: A	G.O.	ITEM	SHEET: 3 of 4

Attachment 1 (Continued)

Unit	Nameplate	Description	Class	Starter Size HP/FLA Wire Diag.	Bkr/Sw Poles Trip/Clip	Unit Features
1E		HMDL Main Bkr (800A trip), Lugs: 2-#500-#500-750Kcmil		N	HMDL 3P 800	1 Thermal Magnetic Trip
1G		FVNR Starter Size 1 [HMCP]	F206	1 10 N	HMCP 3P 30	1 100VA Individual CPT, Fused 1 3 Pos. Sel. Sw., 10250T (Hand-Off-Auto) 1 C-H Model D7, 300V, 2 Pole Socket Relay 1 2 Pos. Sel. Sw., 10250T (Man-Auto) 1 Pilot Light-10250T (Run)
1J		FVNR Starter Size 1 [HMCP]	F206	1 10 N	HMCP 3P 30	1 100VA Individual CPT, Fused 1 3 Pos. Sel. Sw., 10250T (Hand-Off-Auto) 1 C-H Model D7, 300V, 2 Pole Socket Relay 1 2 Pos. Sel. Sw., 10250T (Man-Auto) 1 Pilot Light-10250T (Run)
1L		FVNR Starter Size 1 [HMCP]	F206	1 10 N	HMCP 3P 30	1 100VA Individual CPT, Fused 1 3 Pos. Sel. Sw., 10250T (Hand-Off-Auto) 1 C-H Model D7, 300V, 2 Pole Socket Relay 1 2 Pos. Sel. Sw., 10250T (Man-Auto) 1 Pilot Light-10250T (Run)
1M		6" Door		N		
2M		SVX9000 VFD-CT, 105 FLA, 480V, HMCP		75/106 N	HMCP 3P 150	1 Pilot Light-10250T (On, Run, Fast, Forward) 1 3 Pos. Sel. Sw., 10250T (Hand-Off-Auto) 1 C-H Model D7, 300V, 2 Pole Socket Relay 1 2 Pos. Sel. Sw., 10250T (Man-Auto) 1 SVX9000 VFD Output Contactor - FR8 1 VFD Connected to EtherNet/IP 1 SVX9000 Dv/Dt Output Filter - FR8

PREPARED BY: GEORGE DOBRIJEVICH	DATE: 8/31/2016	Eaton	Fayetteville, NC
APPROVED BY:	DATE:	JOB NAME: Franklin Mill D- Sun Chemical/SLA	
		DESIGNATION: rev3 083116	
VERSION: 1.0.0.0		TYPE: Freedom MCC 2100	DRAWING TYPE: Customer Appr.
REVISION:	DWG SIZE: A	G.O.	ITEM: SHEET: 4 of 4