Ohio | Public Utilities Commission

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

Case No.: 18-1049-EL-EEC

Mercantile Customer: **Sun Chemical Corp**

Electric Utility: **Duke Energy**

Program Title or Description: **VFD-Controlled Variable Speed 75HP Ink Mill Motor**

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: **Sun Chemical Corp.**

Principal address: **125 Industrial Drive**
Franklin, OH 45005

Address of facility for which this energy efficiency program applies:

125 Industrial Drive
Franklin, OH 45005

Name and telephone number for responses to questions:

Andrew Taylor, (317) 838-2096

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. (**Refer to Appendix A for 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)).

Installed VFD to allow variable speed control of fixed speed 75HP Ink Mill motor in November, 2017.

□ Installation of new equipment to replace equipment that needed to be replaced The customer installed new equipment on the following date(s): _____.

□ 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: 114,968 kWh
Refer to Appendix B for calculations and supporting document

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: _____kWh

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: _____kWh

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: _____kWh

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?

The Ink Mill motor VFD was installed in November, 2017.

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

18.1 kW
Refer to Appendix B for calculations and supporting documentation.

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 **$5,095. Refer to Appendix C for documentation.** (Rebate shall not exceed 50% project cost.

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 **10.46** (Skip to Subsection 2.) **Refer to Appendix D for calculations and supporting documents.**

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 **$86,597.**

The utility's program costs were **$3,185.**

The utility's incentive costs/rebate costs were **$5,095.**

Refer to Appendix D for calculations and supporting documents.

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.

64600871 01		
SUN CHEMICAL CORP		
125 INDUSTRIAL DR		
FRANKLIN, OH 45005		
Date	Days	Actual KWH
2/15/2018	29	262,853
1/17/2018	33	260,808
12/15/2017	31	293,516
11/14/2017	29	284,448
10/16/2017	31	319,427
9/15/2017	30	321,191
8/16/2017	29	331,705
7/18/2017	32	341,318
6/16/2017	30	344,514
5/17/2017	29	354,182
4/18/2017	32	314,246
3/17/2017	29	284,782
Total		**3,712,990**

Appendix B - Sun Chemical Energy Savings Achieved

	Baseline Used			Post Project Actual				Savings	
	Description	Annual kWh	Summer Coincident kW	Description	Annual kWh	Summer Coincident kW	Hours of Operation	Annual kWh	Summer Coincident kW
ECM - 1	Constant speed 75HP ink mill motor	310,220	48.9	VFD-controlled variable speed 75HP ink mill motor	195,253	30.7	8,760	114,968	18.1

Notes: Energy consumption baseline, demand baseline and post project energy consumption basis are outlined in the following pages.

After consideration of line losses, total energy savings are **123,245 kWh** and **17.7 summer coincident kW**. These values may also reflect minor DSMore modeling software rounding error.

Appendix C -Cash Rebate Calculation

Sun Chemical VFD Ink Mill

Measure	Quantity	Cash Rebate Rate	Cash Rebate
VFD-controlled variable speed 75HP ink mill motor	1	50% of incentive that would be offered by the Smart $aver Custom program	**$5,095**
			$5,095

Appendix D -UCT Value

Sun Chemical VFD Ink Mill

Measure	Total Avoided Cost	Program Cost	Incentive	Quantity	Measure UCT
VFD-controlled variable speed 75HP ink mill motor	$86,597	$3,185	$5,095	1	**10.46**
Totals	**$86,597**	**$3,185**	**$5,095**	**1**	

Total Avoided Supply Costs	$86,597	***Aggregate Application UCT***	***10.46***
Total Program Costs	$3,185		
Total Incentive	$5,095		

Smart $aver® Incentive Program
phone: 866.380.9580
fax: 980.373.9755
customprocessing@duke-energy-energyefficiency.com

4/20/2018

Lori Glover
SUN CHEMICAL CORP - 6460087101
125 INDUSTRIAL DR
FRANKLIN OH 45005-4427

Subject: Your Application for a Duke Energy Mercantile Self-Direct Rebate CMO18-0000149133

Dear Lori Glover,

Thank you for your Duke Energy Mercantile Self Direct rebate application. As noted in the Energy Conservation Measure (ECM) chart on page 2, a total rebate of $5,095.00 has been proposed for your project completed in the 2017 calendar years. **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 2
- completing the PUCO-required affidavit on Page 3

Please return the documents to my attention via fax at 513.629.5572 or email to customprocessing@duke-energy-energyefficiency.com. Upon receipt, Duke Energy will submit the necessary documentation to PUCO. Following PUCO's approval, Duke Energy will remit payment.

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,

Andrew Taylor
Program Manager
Custom Incentives

cc: Bob Bandenburg
Lori Glover

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 CORP - 6460087101 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 CORP - 6460087101 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 CORP - 6460087101 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

Customer Signature	Printed Name	Date

Proposed Rebate Amounts

Measure ID	Energy Conservation Measure	Proposed Rebate Amount
ECM-1	Installation of VFD on 75HP Rotary Ink Mill Motor	$5,095.00 per Project/System X 1
	Total	**$5,095.00**

Ohio | Public Utilities Commission

(Mercantile Customers Only)

Application to Commit
Energy Efficiency/Peak Demand Reduction Programs

Case No.: 18-1049-EL-EEC

State of Ohio :

Lori Glover, **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 offines 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.

Lori Glover, Energy Incentive Analyst
SIGNATURE OF AFFIANT & TITLE

Sworn and subscribed before me this 20th (DAY) day of April (MONTH), 2018 (YEAR)

Barbara R. Zimmerman
SIGNATURE OF OFFICIAL ADMINISTERING OATH

Barbara R. Zimmerman
Notary Public
PRINT NAME AND TITLE

My commission expires on Jan 9, 2019
DATE

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

Smart $aver® Incentive Program
phone: 866.380.9580
fax: 980.373.9755
customprocessing@duke-energy-energyefficiency.com

4/20/2018

Lori Glover
SUN CHEMICAL CORP - 6460087101
125 INDUSTRIAL DR
FRANKLIN OH 45005-4427

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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,

Andrew Taylor
Program Manager
Custom Incentives

cc: Bob Bandenburg
Lori Glover

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☒ Rebate is accepted. ☐ Rebate is declined.

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Finally, SUN CHEMICAL CORP - 6460087101 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

Customer Signature	Printed Name	Date
	Lori Glover	4-20-18

Proposed Rebate Amounts

Measure ID	Energy Conservation Measure	Proposed Rebate Amount
ECM-1	Installation of VFD on 75HP Rotary Ink Mill Motor	$5,095.00 per Project/System X 1
	Total	**$5,095.00**


DUKE
ENERGY.

Ohio | Public Utilities Commission

(Mercantile Customers Only)

Application to Commit
Energy Efficiency/Peak Demand Reduction Programs

Case No.: ____-____-EL-EEC

State of Ohio :

Lori Glover, **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 offines 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.

Lori Glover, Energy Incentive Analyst
SIGNATURE OF AFFIANT & TITLE

Sworn and subscribed before me this 20th day of April, 2018
DAY MONTH YEAR

Barbara R. Zimmerman
SIGNATURE OF OFFICIAL ADMINISTERING OATH

Barbara R. Zimmerman
Notary Public
PRINT NAME AND TITLE

My commission expires on Jan 9, 2019
DATE

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

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

Ohio Mercantile Self Direct Program

Application Guide and Cover Sheet

Questions? Call 866.380.9580 or visit 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 513.629.5572.

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

- [x] 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
6460087101			

Self Direct rebates are available for completed Custom projects that have not previously received a Duke Energy Smart $aver® Custom Incentive. 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 and Custom projects, please include an additional document with an estimated breakout of costs for each Prescriptive and Custom energy conservation measure.

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

**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 and Cooling and Window Films, Programmable Thermostats, and 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	☐ 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
Nonresidential Custom Rebate Application
PART 1

Proposed energy efficiency measures may be eligible for Self Direct Custom rebates if they clearly reduce electrical consumption and/or demand as compared to the appropriate baseline.

Before you complete this application, please note the following important criteria:

- Submitting this application does not guarantee a rebate will be approved.
- Rebates are based on electricity conservation only.
- Electric demand and/or energy reductions must be well documented with auditable calculations.
- Incomplete applications cannot be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, beginning on page 6.

Notes on the Application Process

If you have any questions concerning how to complete any portion of the application or what supplementary information is required, please contact your Duke Energy Ohio, Inc. account manager or the Duke Energy Self Direct team at 866.380.9580.

Every application must include calculations of the baseline electrical usage and the electrical usage of the proposed high-efficiency equipment/system. These calculations are performed and submitted by the Duke Energy Ohio customer, or your designated equipment vendor / engineer. Application Part 2 worksheets and page 6 of this application contain additional guidance on acceptable calculations. *Complex or unique projects may require the use, at the applicant's expense, of modeling software.* Please contact the Duke Energy Self Direct team with questions about these requirements.

If you do not receive an acknowledgement email within 1 day of submitting an application via online, email, or fax, please call 866.380.9580. The acknowledgement email will provide with an estimated response time based on an initial assessment of your application. The application review may include some communication to resolve any questions about the project or to request additional information. Applications that are received complete without missing information have a faster review time.

There are two ways to submit your completed application form and excel worksheets.

Email: Complete, sign, scan and send this application form and attachments to:
SelfDirect@duke-energy.com (note attachment size limit is applicable)

Fax: 513.629.5572

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

1. Contact Information (Required)

Duke Energy Customer Contact Information[1]					
Company Name (as it appears on your bill)	Sun Chemical				
Address	125 Industrial				
City	Frankli	State	OI	ZIP Code	4500
Project Contact	Abe				
Office Phone	480-346-582	Mobile Phone			
Email Address	Abe.Wagen@ems.schneider-electric.cor				

Equipment Vendor / Contractor / Architect / Engineer Contact Information					
Company Name	SOUTHLAKE AUTOMATION				
Address	1426 E 86th				
City	MERRILLVILL	State	IN	ZIP Code	4641
Project Contact	Abe				
Office Phone	480-346 582	Mobile Phone			
Email Address	Abe.Wagen@ems.schneider-electric.cor				

Who is the primary point of contact for technical questions?[2]	Abe

Payment Information					
If an incentive is awarded, who should receive payment?[3] ☑ Customer ☐ Vendor* (customer or customer's agent[4] must sign below) *If the payee is the vendor, they must issue a credit in the amount of the incentive to the customer on the invoice and include it with the payment request.					
Tax ID Number for Payee (provide W-9)	22-2761229				
Mailing Address for Payee (if different from above)					
Street	20830 N. Tatum Blvd..				
City	Phoeni	State	AZ	ZIP Code	8505

[1] Provided customer information should match the Duke Energy customer of record and W-9 form provided with this application. If the customer entity is a business affiliate of the Duke Energy customer of record, documentation must be provided that demonstrates the business affiliation.

[2] Note that if the vendor is the primary point of contact, the customer will still be copied on all application correspondence. If the customer does not wish to be copied, the customer must provide a signed letter of authorization on customer letterhead indicating an entity is acting as an agent for the customer. Duke Energy does not act as an agent.

[3] If payment is to be made to an entity other than the Duke Energy account holder or the vendor, a payment waiver is required and will be provided for customer signature.

[4] If an outside agent is acting on behalf of the Duke Energy customer of record, a letter of authorization on customer letterhead and signed by an authorized employee of the customer must be provided.

Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1

2. Project Information (Required)

A. Please indicate project type:
- ☐ New construction
- ☐ Expansion at an existing facility (existing Duke Energy account number)
- ☐ Replacing equipment due to equipment failure
- ☐ Replacing equipment that is estimated to have remaining useful life of two years or less
- ☑ Replacing equipment that is estimated to have remaining useful life of more than two years
- ☐ Behavioral, operational and/or procedural programs/projects

B. Please describe your project, or attach a detailed project description that describes the project.

Install a VFD on a 75 HP motor for an Ink Mill in the processing department. This will allow the mill to be operated at 80% of the previous speed, thereby saving energy.

C. When did you start and complete implementation?

Start date / (mm/yyyy) 06/201 End date / (mm/yyyy) 11/201

D. Are you also applying for Self Direct Prescriptive rebates and, if so, which one(s)[5]?

Nc

E. Please indicate which worksheet(s) you are submitting for this application (check all that apply):
- ☐ Lighting
- ☐ Variable Frequency Drive (VFD)
- ☐ Compressed Air
- ☐ Energy Management System (EMS)
- ☑ General (for projects not easily submitted using one of the above worksheets) Custom with VFD

F. List all assumptions about the baseline and proposed equipment energy use and operation schedule, or attach a document listing that information. Attach specification sheets for all proposed new equipment.

See calulation Tab "VFD Worksheet" in C

G. Attach a supplier or contractor invoice(s) and/or other equivalent information documenting the Implementation Cost for each project listed in your application.
Does the Implementation Cost include any internal labor[6]? NC
If yes, please specify which costs are internal labor.

[5] If your project involves some equipment that is eligible for prescriptive rebates and some equipment that is likely eligible for custom rebates, and if it is feasible to separate the equipment for the energy analysis, then the equipment will be evaluated separately. If it is not feasible to separate the equipment for analysis, then the equipment will be evaluated together in the custom application.
[6] Internal labor costs cannot be counted in the Incremental Project Cost for purposes of analysis.

3. Attestation, Terms and Conditions, and Signature (Required)

Attestation

By signing below, I agree to the following:

I, **(INSERT NAME)** Abe, do hereby consent to Duke Energy Ohio, Inc. disclosing my Duke Energy Ohio, Inc. Account Number and Federal Tax ID Number to its subcontractors solely for the purpose of administering Duke Energy Ohio's Mercantile Self Direct Program. I understand that such subcontractors are contractually bound to otherwise maintain my Duke Energy Ohio Inc. Account Number and Federal Tax ID Number in the strictest of confidence.

I have read and agree to the below Terms and Conditions of the Duke Energy Ohio's Mercantile Self Direct Program.

I certify that I meet the eligibility requirements of the Duke Energy Ohio's Mercantile Self Direct Program, as applicable, and that all information provided within my application is correct to the best of my knowledge.

I certify that the taxpayer identification number provided in my application is current and correct. I am not subject to backup withholding because: (a) I am exempt from backup withholding; or (b) I have not been notified by the 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. I am a U.S. citizen (includes a U.S. resident alien).

Instructions/Terms/Conditions

Note: Please keep for your records

1. Energy service companies or contractors may assist in preparing the application, but an authorized representative of the customer must sign this application to be eligible to participate in the Mercantile Self Direct Program. Completion of this application does not guarantee the approval of a Self Direct Custom Rebate.

2. Once all documentation requested in this application is received by *Duke Energy Ohio, Inc.,* and any follow-up information requested by *Duke Energy* is received, the rebate amount for each Energy Conservation Measure (ECM) will be communicated to the customer. The rebate amount will be based on ECM energy savings and ECM incremental installation cost.

3. All rebates require approval by the Public Utilities Commission of Ohio (PUCO). *Duke Energy Ohio, Inc.* will submit an application for rebate on the customer's behalf upon customer attestation to program terms, conditions and requirements as outlined in the rebate offer letter and upon customer completion of attestation documents required by the Public Utilities Commission of Ohio.

4. *Duke Energy Ohio, Inc.* will issue a Self Direct Custom Rebate check, based on the approved rebate amount for each ECM, upon receiving approval from the PUCO. *Duke Energy* Ohio, Inc. does not guarantee PUCO approval.

5. With the application, the customer must provide a list of all sites where the ECMs were installed. *Duke Energy Ohio, Inc.* requests that sites of similar size, hours of operation and energy consuming characteristics be grouped together in one application for the determination of the rebate amount. The application should identify the site where each unique ECM was installed.

6. Based on the information submitted with the application and the information gathered both before and after the initial installation of the ECM, *Duke Energy Ohio, Inc.* will calculate the rebate amount for each ECM.

7. *Duke Energy Ohio, Inc.* may conduct random site inspections of a sample of the locations where the ECMs are installed to verify installation and operability of the ECMs and to obtain information needed to calculate the Approved Rebate Amount.

8. Customers are encouraged to retain copies of all forms, invoices and supporting documentation for their records.

9. Approved rebates are valid for six months from the date communicated to the customer by *Duke Energy Ohio, Inc.,* subject to the expiration of measure eligibility based on project completion dates and application submission deadlines as defined by PUCO. Customers are encouraged to execute their rebate offer contracts and PUCO-required affidavits promptly to ensure eligibility is not forfeited.

10. *Duke Energy Ohio, Inc.* reserves the right to recover all unrecoverable costs associated with the project approval if the customer decides not to execute the rebate contract, after the project is approved by *Duke Energy Ohio, Inc.*

11. Projects financially supported by other funding sources will be evaluated on a case-by-case basis for potential partial funding from *Duke Energy Ohio, Inc*.

12. Participants must be *Duke Energy Ohio, Inc.* nonresidential, mercantile customers with the project sites in the *Duke Energy Ohio, Inc.* service territory.

13. Customers or trade allies may not use any *Duke Energy* logo without prior written permission.

14. Only trade allies registered with *Duke Energy* are eligible to participate.

15. All equipment must be new. Used or rebuilt equipment is not eligible for rebates. All old existing equipment must be removed on retrofit projects.

16. Disclaimers: *Duke Energy Ohio, Inc.*
    a. does not endorse any particular manufacturer, product or system design within the program;
    b. will not be responsible for any tax liability imposed on the customer as a result of the payment of rebates;
    c. does not expressly or implicitly warrant the performance of installed equipment (contact your contractor for details regarding equipment warranties);
    d. is not responsible for the proper disposal/recycling of any waste generated or obsolete or old equipment as a result of this project;
    e. 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; and
    f. reserves the right to change or discontinue this program at any time. The acceptance of program applications is determined solely by *Duke Energy Ohio, Inc.*

CUSTOMER SIGNATURE REQUIRED

By signing below, I certify that I have read and agree to the above Mercantile Self Direct Attestation and Terms and Conditions.

Customer Signature			
Print Name	Abe	Date	03/08/201

TRADE ALLY SIGNATURE (REQUIRED ONLY IF TRADE ALLY IS PAYEE)

By signing below, I certify that I have read and agree to the above Mercantile Self Direct Attestation and Terms and Conditions.

Trade Ally Signature			
Print Name		Date	

CUSTOMER AUTHORIZATION TO DESIGNATE TRADE ALLY AS PAYEE

If an incentive is awarded and the customer would like to authorize payment to the trade ally, the customer must sign below to allow release of their incentive to the trade ally.

Required: Final invoice from trade ally to customer must show the incentive credited to the customer. If the itemized invoice does not reflect a deduction of the incentive amount, the payee will be changed to the customer.

Customer Signature			
Print Name		Date	

Please enter your information and data into the cells that are shaded. Cells in white are locked and cannot be written over.

Duke Energy Customer Contact Information (match the information in application):

Name	Abe Wagen
Company	Sun Chemical Inc

Equipment Vendor / Project Engineer Contact Information

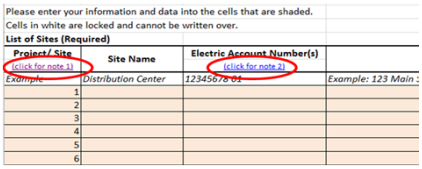
Name	Frank Bolek
Company	Southlake Automation

Location of Proposed VFD Project

Site Name	Sun Chemical Franklin
Account Number	64600871011
Site Address	125 Industrial Drive, Franklin, Ohio 45005

VFD Workbook Instructions

- On this tab, fill in the customer contact and vendor information above.
- On the "VFD Worksheet" tab, enter information on your project in the shaded fields . These fields will allow you to select your rebate strategy (e.g., kW, kWh) and track program costs per site. Cells in white are locked and cannot be written over.
  1. There are links in each section for additional information about the cell.



Please enter your information and data into the cells that are shaded.
Cells in white are locked and cannot be written over.
List of Sites (Required)

Project/ Site (click for note 1)	Site Name	Electric Account Number(s) (click for note 2)	
Example	Distribution Center	1234567801	Example: 123 Main S
1			
2			
3			
4			
5			
6			

  2. Enter site specific details above (area name and address). If the project is proposed for more than one site, provide any variations in operating hours between the sites on a separate sheet.
  3. The tab of the workbook defines the site specific hours of operation. For unoccupied times, leave applicable cells blank.
  4. Next, you will need to enter the monthly and annual hours each motor will run.
  5. Attach a copy of a formal proposal with the projected project costs. For new construction projects, a formal proposal is also required with the projected costs for the light fixture(s) that would meet the building code in your location.
  6. **Please remember:** incomplete applications will not be reviewed. All fields are required.

Footnotes

1. **Brake HP (BHP) at full load** - The "full load" operating condition is the condition at which the driven equipment operates for the base condition (i.e., without the VFD).

2. **Annual hours that motor runs**- If the percent's of operating loads do not vary between months, then enter the total annual hours that the motor will run at full load, partial load and hours not operating.

3. **Monthly hours that each motor runs** - If the percene's operating loads vary between months (due to weather conditions or seasonal load), fill in the expected hours that the motor will run each month at full load, partial load and hours not operating.

4. **Operating hours** - Describe when the equipment is typically used. If the project is proposed for more than one site, provide any variations in operating hours between the sites on a separate sheet.
5. **Weeks of use in year** - If the equipment is not in use 52 weeks during the year (for example, during holiday or summer break), provide an explanation of when usage is not expected and why.

DUKE ENERGY

If you have questions, please contact: customIncentives@Duke-Energy.com or 866.380.9580

Program Instructions

The VFD Worksheet is part of the application. Do not submit this file without submitting a completed Custom Application document file, which can be found at duke-energy.com

Before you complete this application, please note the following important criteria:

- Incentive approval is required PRIOR to equipment purchase, or any other activity which would indicate that the Duke Energy customer has already decided to proceed.
- Submitting this application does not guarantee an incentive will be approved.
- Incentives are based on electricity conservation only. Electric demand and/or energy reductions must be well documented with auditable calculations.
- Simple payback without incentive must be greater than one year
- Incomplete applications will not be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, found in the Custom Application document.

Before proceeding with the custom application, **please verify that your projects are not on the list of prescriptive measures**. The prescriptive incentive applications and lists can be found at:

Kentucky

http://www.duke-energy.com/kentucky-business/smart-saver/smart-saver-incentive-program-customer.asp

Ohio

http://www.duke-energy.com/ohio-business/smart-saver/smart-saver-incentive-program-customer.asp

North Carolina

http://www.duke-energy.com/north-carolina-business/smart-saver/smart-saver-incentive-program-customer.asp

South Carolina

http://www.duke-energy.com/south-carolina-business/smart-saver/smart-saver-incentive-program-customer.asp

Indiana

http://www.duke-energy.com/indiana-business/smart-saver/smart-saver-incentive-program-customer.asp

Prescriptive incentives are already pre-approved and the application is submitted after project implementation. Take note of the equipment eligibility on the prescriptive application before planning to utilize the prescriptive application.

Footnotes

6. **Average electric rate ($/kWh) -** If you do not know your average electric rate, use $0.10/kWh.

7. **Incremental cost to implement the project** - Costs excludes self-installation costs. Retrofit projects, incremental cost is the total cost of the proposed project. New construction or where the existing equipment must be replaced anyway, then incremental cost is the premium of the proposed high efficiency project over baseline.

8. **Copy of vendor proposal is attached -** New construction projects or where the existing equipment must be replaced anyway, vendor proposal of baseline must also be attached.

9. **Simple electric payback in years -** If the simple payback on the project is less than one year, then the project is not eligible for a custom incentive. Please check that the electric rate is accurate based on history.

10. **Baseline** - Retrofit projects: the existing equipment is the baseline unless that equipment must be replaced for some reason anyway. New construction projects or where the existing equipment must be replaced anyway: the baseline is the standard option in today's market, taking into account any applicable organizational, local, state or federal codes or standards currently in effect.

Use one worksheet for each type of motor or fan that is being evaluated for a VFD

Driven Equipment	**Name**	Ink Mill	**Type**	Process	**App No.**
Quantity		1			**Rev.**
Brake HP (BHP) at Full Load	(see note 1)	70.0			
Nameplate HP		75.0			

Current Equipment Operation without VFD - Input values for ONE driven equipment and its motor.

% of Full Load BHP of Driven Equipment		BHP of Driven Equipment @ Actual Load (BHP)	Motor output HP as % of Nameplate HP	Motor Efficiency @ Motor Output HP (%)		Motor Electrical Power Draw (kw)	Annual hours that motor runs (see note 2)	Monthly hours that each motor runs (see note 3)										Yearly Total (hr)
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
100	%	70.0	93%	90	%	58.02	6,500	500	540	540	540	540	540	540	540	540	540	540	450	6,350
100	%	70.0	93%	90	%	58.02														0
100	%	70.0	93%	90	%	58.02														0
100	%	70.0	93%	90	%	58.02														0
Not Running		0.0	0%	NA	%	0.00	2,260	244	132	204	180	204	180	204	204	180	204	180	294	2,410
						Totals	**8,760**	**744**	**672**	**744**	**720**	**744**	**720**	**744**	**744**	**720**	**744**	**720**	**744**	**8,760**

Proposed Equipment Operation with VFD - Input values for ONE driven equipment and its motor.

Efficiency of VFD	98	%

% of Full Load BHP of Driven Equipment		BHP of Driven Equipment @ Actual Load (BHP)	output HP as % of Motor Nameplate HP	Motor Efficiency @ Motor Output HP (%)		Motor Electrical Power Draw (kw)	Annual hours that motor runs (see note 2)	Monthly hours that each motor runs (see note 3)										Yearly Total (hr)
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
100	%	70.0	93%	90	%	58.02														0
90	%	63.0	84%	90	%	52.22														0
80	%	56.0	75%	90	%	46.42	6350	500	540	540	540	540	540	540	540	540	540	540	450	6350
70	%	49.0	65%	90	%	40.62														0
60	%	42.0	56%	90	%	34.81														0
50	%	35.0	47%	90	%	29.01														0
40	%	28.0	37%	90	%	23.21														0
30	%	21.0	28%	90	%	17.41														0
20	%	14.0	19%	90	%	11.60														0
10	%	7.0	9%	90	%	5.80														0
Not Running		0.0	0%	NA	%	0.00	2,410	244	132	204	180	204	180	204	204	180	204	180	294	2,410
						Totals	**2,410**	**244**	**132**	**204**	**180**	**204**	**180**	**204**	**204**	**180**	**204**	**180**	**294**	**2,410**

Detailed Project Description Attached? Yes (Required)

App No.	0
Rev.	0

Brief Project Description

Describe the Baseline Equipment/System (see note 10)	Describe the Proposed High Efficiency Project
One 75 HP Motor drives an Ink Mill 6350 hrs per year	One 75 HP VFD is installed to run the Ink Mill at 80% speed.

Please describe/justify the speed reduction in the proposed equipment.

100% to 80% (1750 RPM to 1400 RPM

Operating Hours (see note 4)

24 x 7	Weekday		Saturday		Sunday		Weeks of Use in Year (see note 5)	Total Annual Hours of Use
	Start Hour	End Hour	Start Hour	End Hour	Start Hour	End Hour		
Yes	*12:00 AM*	*11:00 PM*	*12:00 AM*	*11:00 PM*			*50*	*6,350*

If the equipment is not in use 52 weeks during the year (for example, during holiday or summer break), provide an explanation of when usage is

Holidays

Energy Savings

	Existing (no VFD)	Proposed (VFD)	Savings	Describe how energy numbers were calculated
Annual Electric Energy	332,042 kWh	217,235 kWh	114,806 kWh	speed squared
Electric Demand (kilowatts)	0 kW	0 kW	0 kW	
Calculations attached	Yes	Yes		

Simple Payback

Average electric rate ($/kWh) on the applicable accounts (see note 6)			$0.10
Estimated annual electric savings			$11,481
Other annual savings in addition to electric savings, such as operations, maintenance, other fuels			
Incremental cost to implement the project (equipment & installation) (see note 7)			$35,150.00
Copy of vendor proposal is attached (see note 8)			Yes
Simple Electric Payback (see note 9)	3.061678671	**Total Payback in years**	3.061678671

FAQ VFD

What do I do if I receive a Custom Incentive offer and the energy conservation measures I undertake subsequently become part of the Prescriptive Incentive program?

Whenever feasible, energy efficiency equipment will be added to the list of Prescriptive Incentives. If the Prescriptive Incentive program adds a measure for which you have already received a Custom Incentive offer, then the following will apply:

If the measure is added to the Prescriptive application before you complete your project, then you may receive the higher of the two amounts for your project.

If the measure is added to the Prescriptive application after you have applied for a Custom Incentive payment for your project, then you will receive the Custom Incentive. There will be no adjustments to the incentive paid if the Prescriptive and Custom Incentives differ.

Because the Prescriptive Incentives involve averages across all customers and Custom Incentives are based on one customer, it is common for there to be some variation in Custom Incentive and Prescriptive Incentive offer amounts.

VFDs on new equipment

For some new equipment, a VFD is considered to be a standard feature. In those cases, the VFD is not eligible for an incentive. Where a VFD is not standard for new equipment, an appropriate baseline can be established and the project simple payback is above one year, the application can be considered. On retrofit projects, VFDs can be considered if reduced electrical consumption is projected for the equipment on which the VFD is to be installed.

VSD air compressors (Ohio & Indiana only)

Eligibility depends on the equipment being replaced. New air compressors with variable speed drives are now eligible for a Prescriptive Incentive and should not be submitted through the Custom application. To qualify for a Prescriptive Incentive, the new unit must be a variable speed rotary vane compressor or variable speed screw compressor that replaces a rotary unit with inlet modulation control. Replacing other types of compressors as well as other compressed air system upgrades may qualify for Custom Incentives. Examples include replacing load/unload and variable displacement units; equipment replacement that results in a change in system size; and replacements integrated with automatic drains, air storage and controls.

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Message Detail Edit Clone Reply To This

From	Lori.Glover@ems.schneider-electric.com
To	gmclean@duke-energy-energyefficiency.com
CC	
BCC	
Profile Name	

Message

Subject: RE: Re: Duke Energy Mercantile Self Direct Custom Rebate Application CMO18-0000149133 SUN CHEMICAL CORP - 6460087101, Administrative Information Needed

Message

Hi Greg-

From review of the documents and confirmation from Sun Chemical, it appears that 11/2018 was entered inadvertently. The end date should have been 11/

Let me know if you need anything else.

Thanks,

Lori

From: Greg McLean [mailto:gmclean@duke-energy-energyefficiency.com]
Sent: Monday, April 16, 2018 6:24 AM
To: Lori Glover <Lori.Glover@ems.schneider-electric.com>
Cc: dan.simpson@duke-energy.com; bob.bandenburg@duke-energy.com
Subject: Re: Re: Duke Energy Mercantile Self Direct Custom Rebate Application CMO18-0000149133 SUN CHEMICAL CORP - 6460087101, Administrati

Lori,

Thanks for all of your work on this application, our review is mostly complete. We just wanted to **confirm that the project has already been completed (meaning that the VFD has been pu**

Best regards,

Greg McLean
919.225.2862 phone (w)
gmclean@duke-energy-energyefficiency.com

NOTE: Program policy states that the customer is the primary point of contact and should be copied on all communications. Please reply to all when responding to communications regarding t

--Original Message--

On 2018-04-04 21:04:01 Lori.Glover@ems.schneider-electric.com wrote :

Greg-

Here is the response we received from the engineer.

Let me know if you need anything else.

Lori

From: Bolek, Frank [mailto:Frank.Bolek@sunchemical.com]
Sent: Tuesday, April 03, 2018 11:33 AM
To: Lori Glover <Lori.Glover@ems.schneider-electric.com>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Lori,

I apologize for the late response.

- The full load efficiency is 95.4%.
- The motor is fully loaded.
- The motor will be run at 83% for 6,350 hours per year, it will not be run at 100%. It is run anywhere from 30-60Hz (50-100%), the average being 50Hz (83%.
- I have attached the quote with the motor's information and a screenshot of the supplier's website with the motor's information, the prices have been covered. It is a difficult task to get a

Regards,

Frank Bolek

Sun Chemical Corporation

Direct: 708-236-3714

Mobile: 440-364-8306

From: Lori Glover [mailto:Lori.Glover@ems.schneider-electric.com]
Sent: Tuesday, April 03, 2018 1:09 PM
To: Larson, Gregory <Gregory.Larson@sunchemical.com>; Bolek, Frank <Frank.Bolek@sunchemical.com>
Cc: Holden, Greg <Greg.Holden@sunchemical.com>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Hello All.

I received an e-mail from the utility today requesting this information again.

When do you think we might have this information?

Thanks so much,

Lori

From: Larson, Gregory [mailto:Gregory.Larson@sunchemical.com]
Sent: Friday, March 23, 2018 2:22 PM
To: Abe Wagen <abe.wagen@ems.schneider-electric.com>; Bolek, Frank <Frank.Bolek@sunchemical.com>
Cc: Holden, Greg <Greg.Holden@sunchemical.com>; Lori Glover <Lori.Glover@ems.schneider-electric.com>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Team: I neglected to include Frank on my previous response. He will be looking into answers to your questions below.

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Larson, Gregory
Sent: Wednesday, March 21, 2018 1:33 PM
To: 'Abe Wagen' <abe.wagen@ems.schneider-electric.com>
Cc: Holden, Greg <Greg.Holden@sunchemical.com>; Lori Glover <Lori.Glover@ems.schneider-electric.com>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

All right, Abe. Lori, I'm going to ask Frank Bolek to get this information for you.

Frank- Please respond to the group when you have collected the information requested below.

Thanks,

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Abe Wagen <abe.wagen@ems.schneider-electric.com>
Sent: Wednesday, March 21, 2018 1:05 PM
To: Larson, Gregory <Gregory.Larson@sunchemical.com>
Cc: Holden, Greg <Greg.Holden@sunchemical.com>; Lori Glover <Lori.Glover@ems.schneider-electric.com>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Good day Greg Larson,

As discussed and as I suspected, we have received some questions back from Duke from the review of this VFD. As I am retiring shortly please copy in Lori Glover to all future correspondenc

1. Could you confirm the full load efficiency of the 75 HP motor driving the ink mill?

2. Could you confirm if the motor was fully loaded when it was run prior to installing the VFD?

3. You indicated that the motor may be run at the reduced speed (80%) during times of slowdown or when less than full production is needed. Could you estimate how many ho

4. If possible, please provide a spec sheet or any available nameplate verification for the ink mill motor.

Abe Wagen
Energy Incentive Analyst
Energy & Sustainability Services
Global Solutions
Schneider Electric

D +1 (480) 346 5820
F +1 (480) 346 5811
E abe.wagen@ems.schneider-electric.com

20830 N Tatum Blvd
Suite 330
Phoenix, AZ
85050 USA

-

From: Larson, Gregory [mailto:Gregory.Larson@sunchemical.com]
Sent: Thursday, March 08, 2018 6:47 PM
To: Abe Wagen <abe.wagen@ems.schneider-electric.com>
Cc: Holden, Greg <Greg.Holden@sunchemical.com>; Lori Glover <Lori.Glover@ems.schneider-electric.com>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Understood, Abe. Thank you.

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Abe Wagen <abe.wagen@ems.schneider-electric.com>
Sent: Thursday, March 8, 2018 4:50 PM
To: Larson, Gregory <Gregory.Larson@sunchemical.com>
Cc: Holden, Greg <Greg.Holden@sunchemical.com>; Lori Glover <Lori.Glover@ems.schneider-electric.com>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Greg,

I submitted this for a rebate today. We might get $2296 rebate. Please stand ready to answer any questions from Duke Energy Engineering about the values used in the attached calculation-if

Abe Wagen
Energy Incentive Analyst
Energy & Sustainability Services
Global Solutions
Schneider Electric

D +1 (480) 346 5820
F +1 (480) 346 5811
E abe.wagen@ems.schneider-electric.com

20830 N Tatum Blvd
Suite 330
Phoenix, AZ
85050 USA

-

From: Larson, Gregory [mailto:Gregory.Larson@sunchemical.com]
Sent: Friday, February 16, 2018 9:25 AM
To: Abe Wagen <abe.wagen@ems.schneider-electric.com>
Cc: Holden, Greg <Greg.Holden@sunchemical.com>; Lori Glover <Lori.Glover@ems.schneider-electric.com>
Subject: RE: 2017 Franklin VFD2

Abe- I reviewed the spreadsheet with the engineer in charge of the project and they agree that the values you estimated are reasonable. The engineering group does not have copies of the in

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Abe Wagen [mailto:abe.wagen@ems.schneider-electric.com]
Sent: Tuesday, February 13, 2018 5:55 PM
To: Larson, Gregory <Gregory.Larson@sunchemical.com>
Cc: Holden, Greg <Greg.Holden@sunchemical.com>; Lori Glover <Lori.Glover@ems.schneider-electric.com>
Subject: RE: 2017 Franklin VFD2

Greg,

I am going to apply for this as part of the Look-back Program. The rebate is only ½ of what it would have been if we had completed the study last year.

Please send me the final Invoices. Also please send me an Itemized list of the VFD equipment, including Manufacturer, and full Model Number, if not on the invoice

FYI, I completed a very rough estimate of the custom savings worksheet. I assumed 6500 hrs per year use of the mill. I assumed it would run at 80% of the full speed for 6500 hrs. I may get a

Please have a look at this spreadsheet and feel free to correct it. I estimated the best I could.

Thank you

Abe

Abe Wagen
Energy Incentive Analyst
Energy & Sustainability Services
Global Solutions
Schneider Electric

D +1 (480) 346 5820
F +1 (480) 346 5811
E abe.wagen@ems.schneider-electric.com

20830 N Tatum Blvd
Suite 330
Phoenix, AZ
85050 USA

From: Larson, Gregory [mailto:Gregory.Larson@sunchemical.com]
Sent: Thursday, January 18, 2018 4:45 PM
To: Holden, Greg <Greg.Holden@sunchemical.com>
Cc: Abe Wagen <abe.wagen@ems.schneider-electric.com>
Subject: Re: 2017 Franklin VFD

Greg- Abe is waiting on information from us on energy consumption. It has to be measured on an old machine and the new machine, this will have a cost associated with it. I do not know why

The machine was delayed. Start up is taking place this week.

Greg Larson
Process Engineering Manager
Sun Chemical Corporation
Corporate Engineering Group
135 West Lake Street
Northlake, IL 60164
Direct: 708-236-3811
Mobile: 708-203-6824

On Jan 18, 2018, at 5:20 PM, Holden, Greg <Greg.Holden@sunchemical.com> wrote:

> Abe,
>
> Please clarify where this rebate is at with respect to application status with Duke Ohio, and what specific steps/information are required to complete this rebate whether it is final measu
>
> Greg,
>
> What is the status of this project – earlier emails indicated expected final install late Dec and startup in Jan.
>
> Thanks and regards,
>
> Greg
>
> **From:** Larson, Gregory
> **Sent:** Thursday, December 14, 2017 2:37 PM
> **To:** Abe Wagen <abe.wagen@ems.schneider-electric.com>; Heath, Sam <Sam.Heath@sunchemical.com>; Holden, Greg <Greg.Holden@sunchemical.com>
> **Subject:** RE: Return to School

No, the machine is gone. We have other matching equipment we could take measurement on. That could not be done this week. It will take us that long to purchase equipment and hir

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Abe Wagen [mailto:abe.wagen@ems.schneider-electric.com]
Sent: Thursday, December 14, 2017 1:23 PM
To: Heath, Sam <Sam.Heath@sunchemical.com>; Holden, Greg <Greg.Holden@sunchemical.com>; Larson, Gregory <Gregory.Larson@sunchemical.com>
Subject: RE: Return to School

Can someone take ongoing power readings on the existing mill (with its 2 motors) this week before it is removed? Doesn't sound feasible but would really appreciate if you tried.

Thanks

Abe

Good Luck Sam!!!

Abe Wagen Energy Incentive Analyst Energy & Sustainability Services Global Solutions Schneider Electric	D +1 (480) 346 5820 F +1 (480) 346 5811 E abe.wagen@ems.schneider-electric.com	20830 N Tatum Blvd Suite 330 Phoenix, AZ 85050 USA

<image001.jpg>

<image002.gif> <image003.gif> <image004.gif> <image005.gif>

From: Heath, Sam [mailto:Sam.Heath@sunchemical.com]
Sent: Thursday, December 14, 2017 12:06 PM
To: Holden, Greg <Greg.Holden@sunchemical.com>; Abe Wagen <abe.wagen@ems.schneider-electric.com>
Subject: Return to School

Hi Greg and Abe,

As I told Abe a few days ago, I will be returning to school in January, so today is my last day with Sun Chemical until the summer. If you have any questions, concerns, or updates conc

Mill C is scheduled to be installed starting December 20th and the startup will be from January 16-18.

It has been great working with you both.

Happy Holidays,

Sam Heath

Co-op Engineer

Sun Chemical Corporation

Corporate Engineering Group

135 West Lake Street

Northlake, IL 60164

Fax: 708-562-7859

Direct: 708-236-3775

Mobile: 317-523-4235

sam.heath@sunchemical.com

working for you.

Greg Larson

Sr. Process Engineer

Sun Chemical Corporation

Corporate Engineering Group

135 West Lake Street

Northlake, IL 60164

Fax: 708-562-7859

Direct: 708-236-3811

Mobile: 708-203-6824

gregory.larson@sunchemical.com

working for you.

Mesage (Text Only)

Hi Greg-

From review of the documents and confirmation from Sun Chemical, it appears that 11/2018 was entered inadvertently. The end date should have been 11/2017.

Let me know if you need anything else.

Thanks,
Lori

From: Greg McLean [mailto:gmclean@duke-energy-energyefficiency.com]
Sent: Monday, April 16, 2018 6:24 AM
To: Lori Glover <Lori.Glover@ems.schneider-electric.com>
Cc: dan.simpson@duke-energy.com; bob.bandenburg@duke-energy.com
Subject: Re: Re: Duke Energy Mercantile Self Direct Custom Rebate Application CMO18-0000149133 SUN CHEMICAL CORP - 6460087101, Administrative Information Needed

Lori,

Thanks for all of your work on this application, our review is mostly complete. We just wanted to confirm that the project has already been completed (meaning that the VFD has been purchase

Best regards,

Greg McLean
919.225.2862 phone (w)
gmclean@duke-energy-energyefficiency.com<mailto:gmclean@duke-energy-energyefficiency.com>

NOTE: Program policy states that the customer is the primary point of contact and should be copied on all communications. Please reply to all when responding to communications regarding t

--Original Message--

On 2018-04-04 21:04:01 Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-electric.com> wrote :

Greg-

Here is the response we received from the engineer.

Let me know if you need anything else.

Lori

From: Bolek, Frank [mailto:Frank.Bolek@sunchemical.com]
Sent: Tuesday, April 03, 2018 11:33 AM
To: Lori Glover <Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-electric.com>>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Lori,

I apologize for the late response.

• The full load efficiency is 95.4%.

• The motor is fully loaded.

• The motor will be run at 83% for 6,350 hours per year, it will not be run at 100%. It is run anywhere from 30-60Hz (50-100%), the average being 50Hz (83%.

• I have attached the quote with the motor's information and a screenshot of the supplier's website with the motor's information, the prices have been covered. It is a difficult task to get a photo

Regards,

Frank Bolek

Sun Chemical Corporation

Direct: 708-236-3714

Mobile: 440-364-8306

From: Lori Glover [mailto:Lori.Glover@ems.schneider-electric.com]
Sent: Tuesday, April 03, 2018 1:09 PM
To: Larson, Gregory <Gregory.Larson@sunchemical.com<mailto:Gregory.Larson@sunchemical.com>>; Bolek, Frank <Frank.Bolek@sunchemical.com<mailto:Frank.Bolek@sunchemical.com
Cc: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Hello All.

I received an e-mail from the utility today requesting this information again.

When do you think we might have this information?

Thanks so much,

Lori

From: Larson, Gregory [mailto:Gregory.Larson@sunchemical.com]
Sent: Friday, March 23, 2018 2:22 PM
To: Abe Wagen <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>>; Bolek, Frank <Frank.Bolek@sunchemical.com<mailto:Frank.Bolek@sunchemic
Cc: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Lori Glover <Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-ele
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Team: I neglected to include Frank on my previous response. He will be looking into answers to your questions below.

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Larson, Gregory
Sent: Wednesday, March 21, 2018 1:33 PM

To: 'Abe Wagen' <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>>
Cc: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Lori Glover <Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-ele
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

All right, Abe. Lori, I'm going to ask Frank Bolek to get this information for you.

Frank- Please respond to the group when you have collected the information requested below.

Thanks,

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Abe Wagen <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>>
Sent: Wednesday, March 21, 2018 1:05 PM
To: Larson, Gregory <Gregory.Larson@sunchemical.com<mailto:Gregory.Larson@sunchemical.com>>
Cc: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Lori Glover <Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-ele
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Good day Greg Larson,

As discussed and as I suspected, we have received some questions back from Duke from the review of this VFD. As I am retiring shortly please copy in Lori Glover to all future correspondenc

1. Could you confirm the full load efficiency of the 75 HP motor driving the ink mill?

2. Could you confirm if the motor was fully loaded when it was run prior to installing the VFD?

3. You indicated that the motor may be run at the reduced speed (80%) during times of slowdown or when less than full production is needed. Could you estimate how many hours a year the r

4. If possible, please provide a spec sheet or any available nameplate verification for the ink mill motor.

Abe Wagen
Energy Incentive Analyst
Energy & Sustainability Services
Global Solutions
Schneider Electric

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F +1 (480) 346 5811
E abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>

20830 N Tatum Blvd
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Phoenix, AZ
85050 USA

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From: Larson, Gregory [mailto:Gregory.Larson@sunchemical.com]
Sent: Thursday, March 08, 2018 6:47 PM
To: Abe Wagen <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>>
Cc: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Lori Glover <Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-ele
Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Understood, Abe. Thank you.

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Abe Wagen <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>>
Sent: Thursday, March 8, 2018 4:50 PM
To: Larson, Gregory <Gregory.Larson@sunchemical.com<mailto:Gregory.Larson@sunchemical.com>>
Cc: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Lori Glover <Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-ele

Subject: RE: 2017 Franklin VFD2-Mercantile Lookback

Greg,

I submitted this for a rebate today. We might get $2296 rebate. Please stand ready to answer any questions from Duke Energy Engineering about the values used in the attached calculation-if

Abe Wagen
Energy Incentive Analyst
Energy & Sustainability Services
Global Solutions
Schneider Electric

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F +1 (480) 346 5811
E abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>

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Suite 330
Phoenix, AZ
85050 USA

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From: Larson, Gregory [mailto:Gregory.Larson@sunchemical.com]
Sent: Friday, February 16, 2018 9:25 AM
To: Abe Wagen <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>>
Cc: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Lori Glover <Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-elec
Subject: RE: 2017 Franklin VFD2

Abe- I reviewed the spreadsheet with the engineer in charge of the project and they agree that the values you estimated are reasonable. The engineering group does not have copies of the in

Greg Larson

Direct: 708-236-3811

Mobile: 708-203-6824

From: Abe Wagen [mailto:abe.wagen@ems.schneider-electric.com]
Sent: Tuesday, February 13, 2018 5:55 PM
To: Larson, Gregory <Gregory.Larson@sunchemical.com<mailto:Gregory.Larson@sunchemical.com>>
Cc: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Lori Glover <Lori.Glover@ems.schneider-electric.com<mailto:Lori.Glover@ems.schneider-elec
Subject: RE: 2017 Franklin VFD2

Greg,

I am going to apply for this as part of the Look-back Program. The rebate is only ½ of what it would have been if we had completed the study last year.

Please send me the final Invoices. Also please send me an Itemized list of the VFD equipment, including Manufacturer, and full Model Number, if not on the invoice

FYI, I completed a very rough estimate of the custom savings worksheet. I assumed 6500 hrs per year use of the mill. I assumed it would run at 80% of the full speed for 6500 hrs. I may get a

Please have a look at this spreadsheet and feel free to correct it. I estimated the best I could.

Thank you

Abe

Abe Wagen
Energy Incentive Analyst
Energy & Sustainability Services
Global Solutions
Schneider Electric

D +1 (480) 346 5820
F +1 (480) 346 5811
E abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>

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From: Larson, Gregory [mailto:Gregory.Larson@sunchemical.com]
Sent: Thursday, January 18, 2018 4:45 PM
To: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>
Cc: Abe Wagen <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>>
Subject: Re: 2017 Franklin VFD

Greg- Abe is waiting on information from us on energy consumption. It has to be measured on an old machine and the new machine, this will have a cost associated with it. I do not know why

The machine was delayed. Start up is taking place this week.

Greg Larson
Process Engineering Manager
Sun Chemical Corporation
Corporate Engineering Group
135 West Lake Street<x-apple-data-detectors://8/1>
Northlake, IL 60164<x-apple-data-detectors://8/1>
Direct: 708-236-3811<tel:708-236-3811>
Mobile: 708-203-6824<tel:708-203-6824>

On Jan 18, 2018, at 5:20 PM, Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>> wrote:

Abe,

Please clarify where this rebate is at with respect to application status with Duke Ohio, and what specific steps/information are required to complete this rebate whether it is final measurement

Greg,

What is the status of this project – earlier emails indicated expected final install late Dec and startup in Jan.

Thanks and regards,

Greg

From: Larson, Gregory
Sent: Thursday, December 14, 2017 2:37 PM
To: Abe Wagen <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-electric.com>>; Heath, Sam <Sam.Heath@sunchemical.com<mailto:Sam.Heath@sunchemical
Subject: RE: Return to School

No, the machine is gone. We have other matching equipment we could take measurement on. That could not be done this week. It will take us that long to purchase equipment and hire electri

Greg Larson

Direct: 708-236-3811

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From: Abe Wagen [mailto:abe.wagen@ems.schneider-electric.com]
Sent: Thursday, December 14, 2017 1:23 PM
To: Heath, Sam <Sam.Heath@sunchemical.com<mailto:Sam.Heath@sunchemical.com>>; Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Larsor
Subject: RE: Return to School

Can someone take ongoing power readings on the existing mill (with its 2 motors) this week before it is removed? Doesn't sound feasible but would really appreciate if you tried.

Thanks

Abe

Good Luck Sam!!!

Abe Wagen
Energy Incentive Analyst
Energy & Sustainability Services
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electric.com%7C3326ab6775874e84946c08d55ecd86ae%7C6a6b4b8a473541cf949638f8601ab30e%7C1&sdata=R01A18On83wg1rKPgYYZMRNDGGkUxtoP3Cr6%2FsRq9uU%3D&reserv
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From: Heath, Sam [mailto:Sam.Heath@sunchemical.com]
Sent: Thursday, December 14, 2017 12:06 PM
To: Holden, Greg <Greg.Holden@sunchemical.com<mailto:Greg.Holden@sunchemical.com>>; Abe Wagen <abe.wagen@ems.schneider-electric.com<mailto:abe.wagen@ems.schneider-ele
Subject: Return to School

Hi Greg and Abe,

As I told Abe a few days ago, I will be returning to school in January, so today is my last day with Sun Chemical until the summer. If you have any questions, concerns, or updates concerning t

Mill C is scheduled to be installed starting December 20th and the startup will be from January 16-18.

It has been great working with you both.

Happy Holidays,

Sam Heath

Co-op Engineer

Sun Chemical Corporation

Corporate Engineering Group

135 West Lake Street

Northlake, IL 60164

Fax: 708-562-7859

Direct: 708-236-3775

Mobile: 317-523-4235

sam.heath@sunchemical.com<mailto:sam.heath@sunchemical.com>

working for you.

Greg Larson

Sr. Process Engineer

Sun Chemical Corporation

Corporate Engineering Group

135 West Lake Street

Northlake, IL 60164

Fax: 708-562-7859

Direct: 708-236-3811

Mobile: 708-203-6824

gregory.larson@sunchemical.com<mailto:gregory.larson@sunchemical.com>

working for you.

Program	
Created By	Duke Energy Messenger Service, 4/16/2018 2:14 PM
Owner	Duke Energy Messenger Service [Change]
Needs Attention	
Message ID	416201821257PM78236EEORG
Enrollment Id	a0Qf100000Gyy8u

Additional Fields

Archive	
Contact	
Accepted Rejected	
Accepted Rejected Date	
Attachments	
Rejection Reason	
Acceptance Notes	
Task Created	
Sent to Rackspace	
Sent To GTES	
Sent And Confirmed	

Edit Clone Reply To This

Attachments New Attachment

No records to display

Open Activities New Task New Event

Action	Subject
Edit | Cls	Inbound Email : RE: Re: Duke Energy Mercantile Self Direct Custom Rebate Application CMO18-0000149133 SUN CHEMICAL CORP - 6460087101, Administrative Information Needed

Activity History Log a Call Mail Merge Send

No records to display

Back To Top

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

PROJECT# 205072							
TITLE: VFD: Eaton SVX9000 VFD-CT, 105 FLA, 480V, HMCP							
LOC CODE: FKLN							
LOCATION: Franklin, OH							
PO #	**PO DATE**	**SUPPLIER NAME**	**COMMIT.**	**INVOICE #**	**INVOICE DATE**	**INVOICE AMT**	**MATERIAL DESCRIPTION**
4310639177	6/5/2017	SOUTHLAKE AUTOMATION, INC	$ 2,025.00	57969	7/10/2017	$ 10,545.00	Control Panel Hardware - consists of multiple parts: Circuit Breaker - Eaton 2 tier terminal block - Allen-Bradley 700P Relay - Allen Bradley Selector Switch - Allen Bradley Pusbutton - Allen Bradley Hour Meter - Eaton ControlLogix 24 VDC Input Module 1756-IB16 - Allen Bradley ControlLogix 24VDC Output Module 1756-OW161 - Allen Bradley ControlLogix Module Terminals 1756-TBNH - Allen Bradley ControlLogix Module Terminals 1756-TBCH - Allen Bradley
	6/5/2017	SOUTHLAKE AUTOMATION, INC	$ 26,150.00	5879	11/12/2017	$ 24,605.00	75HP Drive MCC Section with DC Injection DC Injection Braking Module for 75HP Motor, Saldet SS-4A-75W Fuse with Blown Fust Contact
	6/5/2017	SOUTHLAKE AUTOMATION, INC	$ 6,975.00				Electrical Design & Programming
			$ 35,150.00			$ 35,150	
4310639210-V2	6/9/2017	Electric Motor Technologies LLC	$ 5,937.50	E930554	6/9/2017	$ 5,937.50	75 HP Marathon Motor
4310650401	8/1/2017	D Johnson Electric LLC	$ 31,000.00	886	12/8/2017	$ 15,500	
				902	1/19/2018	$ 15,500	Electrical installation
4310639209	6/5/2017	Kinesys Automation Ince	$ 6,250.00	17-030-01	8/1/2017	$ 6,296.30	Plug Valve

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

Invoice

Date	Invoice #
11/12/2017	5879

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	11/12/2017		P1986 Franklin Mill C	4310639177	

Quantity	Item Code	Description	Price Each	Amount
1	Control Panel	70% Remaining balance on control panel hardware per proposal # QB17-09	1,417.50	1,417.50
1	Control Panel	70% Remaining balance on 75HP Drive MCC Section with DC Injection per proposal # QB17-09	18,305.00	18,305.00
1	Control Panel	70% Remaining balance on electrical design & programming per proposal # QB17-09	4,882.50	4,882.50

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 $24,605.00

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

Invoice

Date	Invoice #
7/10/2017	5769

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	7/10/2017		P1986 Franklin Mill C	4310639177	

Quantity	Item Code	Description	Price Each	Amount
1	Control Panel	30% Downpayment on control panel hardware per proposal # QB17-09	607.50	607.50
1	Control Panel	30% Downpayment on 75HP Drive MCC Section with DC Injection per proposal # QB17-09	7,845.00	7,845.00
1	Control Panel	30% Downpayment on electrical design & programming per proposal # QB17-09	2,092.50	2,092.50

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 $10,545.00

Electric Motor *TECHNOLOGIES, LLC*
5217 BEECH STREET
CINCINNATI, OH 45217

Voice: (513) 821-9999
Fax: (513) 821-9960

INVOICE

Invoice Number: **E930554-**
Invoice Date: Jun 9, 2017
Page: 1

Bill To:	Ship to:
SUN CHEMICAL CORPORATION EMAIL INVOICES Payables2.sbs@sunchemical.com	BUHLER INC 40 WHITNEY MAHWAH, NJ 07430

Customer ID	Customer PO	Payment Terms	
SUN-FRANK	4310639210-V2	Net 30 Days	
Sales Rep ID	**Shipping Method**	**Ship Date**	**Due Date**
EMT	Best Way	6/9/17	7/9/17

Quantity	Description	Backorder Qty	Unit Price	Amount
1.00	MARATHON 75 HP 1800 RPM 365T 230/460V 3/60 TEFC XRI (CAST IRON) PREM. EFF VFD RATED CAT#E212		5,722.50	5,722.50
1.00	LABOR, CHANGE TO F2 MOUNTING		215.00	215.00

Subtotal	5,937.50
Sales Tax	
Freight	
Total Invoice Amount	5,937.50
Payment/Credit Applied	
TOTAL	**5,937.50**

Check/Credit Memo No:

THANK YOU FOR YOUR BUSINESS!!!

D. Johnson Electric, LLC

5258 Union Road
Franklin, Ohio 45005

Invoice

Date	Invoice #
12/8/2017	886

Bill To
Sun Chemical 125 Jay Gee Dr. Franklin, OH 45005

P.O. No.	Terms	Project
4310650401	2% 10 Net 30	Mill C

Quantity	Description	Rate	Amount
	Mill C		
	Buhler mill Install customer supplied equipment. VFD, external brake, starter buckets for PHU & MHU. Install feeder for drive motor 150 amp Install wiring for 120 volt AC control Install wiring for 24 volt DC control Install wiring for 4-20ma analog signals Ethernet cabling Assist in start-up an I/O checks		
0.5	Material and labor	31,000.00	15,500.00
		Total	$15,500.00

Phone #	Fax #	E-mail
513-464-1628	937-550-9966	68sparkey@gmail.com

D. Johnson Electric, LLC

5258 Union Road
Franklin, Ohio 45005

Invoice

Date	Invoice #
1/19/2018	902

Bill To
Sun Chemical 125 Jay Gee Dr. Franklin, OH 45005

P.O. No.	Terms	Project
4310650401	2% 10 Net 30	Mill C

Quantity	Description	Rate	Amount
	Mill C		
	Buhler mill Install customer supplied equipment. VFD, external brake, starter buckets for PHU & MHU. Install feeder for drive motor 150 amp Install wiring for 120 volt AC control Install wiring for 24 volt DC control Install wiring for 4-20ma analog signals Ethernet cabling Assist in start-up an I/O checks		
0.5	Material and labor	31,000.00	15,500.00

Total $15,500.00

Phone #	Fax #	E-mail
513-464-1628	937-550-9966	68sparkey@gmail.com

KINESYS Automation, Inc.

5 Fir Court
Oakland, NJ 07436

Tel: (201) 337-5000
Fax: (201) 337-5200

INVOICE

INVOICE NO: 17-030-01

DATE: 8/1/2017

BILL TO: Sun Chemical Corp.
P.O. Box 32040
Cincinnati, OH 45217
Attn: Accounts Payable

SHIP TO: Sun Chemical - Franklin
125 Jaygee Drive
Franklin, OH 45005
Attn: Frank Bolek

P.O. NUMBER	DATE SHIPPED	SHIPPED VIA	TERMS
4310639209	8/1/2017	UPS	Net 30

QUANTITY	DESCRIPTION	UNIT COST	AMOUNT
1	Plug Valve	$6,250.00	$6,250.00
	Above reflects 100% payment of total system cost $6,250.00		
	Reference Kinesys Proposal KA-17-006 Rev 00, Dated 02/06/2017		
		SUBTOTAL	$6,250.00
		7% NJ SALES TAX	$0.00
		SHIPPING & HANDLING	$46.30
		TOTAL DUE	**$6,296.30**

If you have any questions concerning this invoice, call: Accounts Payable, (201) 337-5000 ext 5

THANK YOU FOR YOUR BUSINESS!

Attachment 1

Powering Business Worldwide

Detail Bill of Material

Project Name: Sun Mill C VFD Add-On
General Order No:
Negotiation No:
Alternate No: 0000

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, 800A Copper Main Horizontal Bus, No Neutral. Used X-Space: 12, Blank X-Space: 0, Future X-Space: 0, MCC Lead Time Code: U.

Designation

Qty	List of Materials
1	SVX9000 VFD-CT, 105 FLA, 480V, HMCP
1	SVX9000 VFD Output Contactor - FR8
1	SVX9000 Dv/Dt Output Filter - FR8
1	VFD Connected to EtherNet/IP
1	C-H Model D7, 300V, 2 Pole Socket Relay
1	#16awg, MTW Control Wire
1	Terminal Block - Latching Pull-Apart, Std.
1	Tin Plated horizontal bus
1	65KA Bus Bracing
1	Isolated, Red glass polyester vertical bus barrier
1	Cutler-Hammer Freedom Series MCC Splice Kit
1	600A Vertical Bus (Tin-plated cu)
1	Structure Bottom plates included with NEMA 12
1	300A Horiz. Cu Gnd Bus, 1/4" x 1" Bar
1	800A Copper Frnt Mtd 16" N12 Dust Tight
1	If motor is >300ft. from drive a dv/dt filter is required. Lead time code is A
1	PFC Capacitors are not compatible AFD, these devices can not be used together.
1	ADD-ON TO EXISTING MCC; GO#SCG0746725

Eaton Selling Policy None 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	1
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-#6-350Kcmil
Ground Bus Lug Type	Screw
Plug-in 300A Vert. Gnd. Bus	No
Neutral	None
Horizontal Bus Temperature Rise	65 deg C
Bottom Vert. Bus Barrier	No
Vertical Ground Bus	No

Incoming Line Termination

Device: *None*	
Cable Entry	Top
Splice Kit / Transition	Right Side of Existing
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
Pilot Dev. Model	10250T
Ind. Light Type	6v Xfmr

Structure Schedule

There are 1 structure(s).
All structures have a 600 A vertical bus.
Total width of all sections is 32"
Height of all sections is 90"

Unit Modifications

#16awg, MTW Control Wire
Terminal Block - Latching Pull-Apart, Std.

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 / DATE: GEORGE DOBRIJEVICH 2/3/2017		Eaton	Fayetteville, NC	
	APPROVED BY / DATE:		JOB NAME: Sun Mill C VFD Add-On	DESIGNATION:	
	VERSION: 1.0.0.1		TYPE: Freedom MCC 2100	DRAWING TYPE: Customer Appr.	
NEG-ALT Number	REVISION	DWG SIZE: A	G.O.	ITEM	SHEET: 1 of 4

Attachment 1 (Continued)

Notes/Special Instructions

If motor is >300ft. from drive a dv/dt filter is required. Lead time code is A
PFC Capacitors are not compatible AFD, these devices can not be used together.
ADD-ON TO EXISTING MCC; GO#SCG0746725

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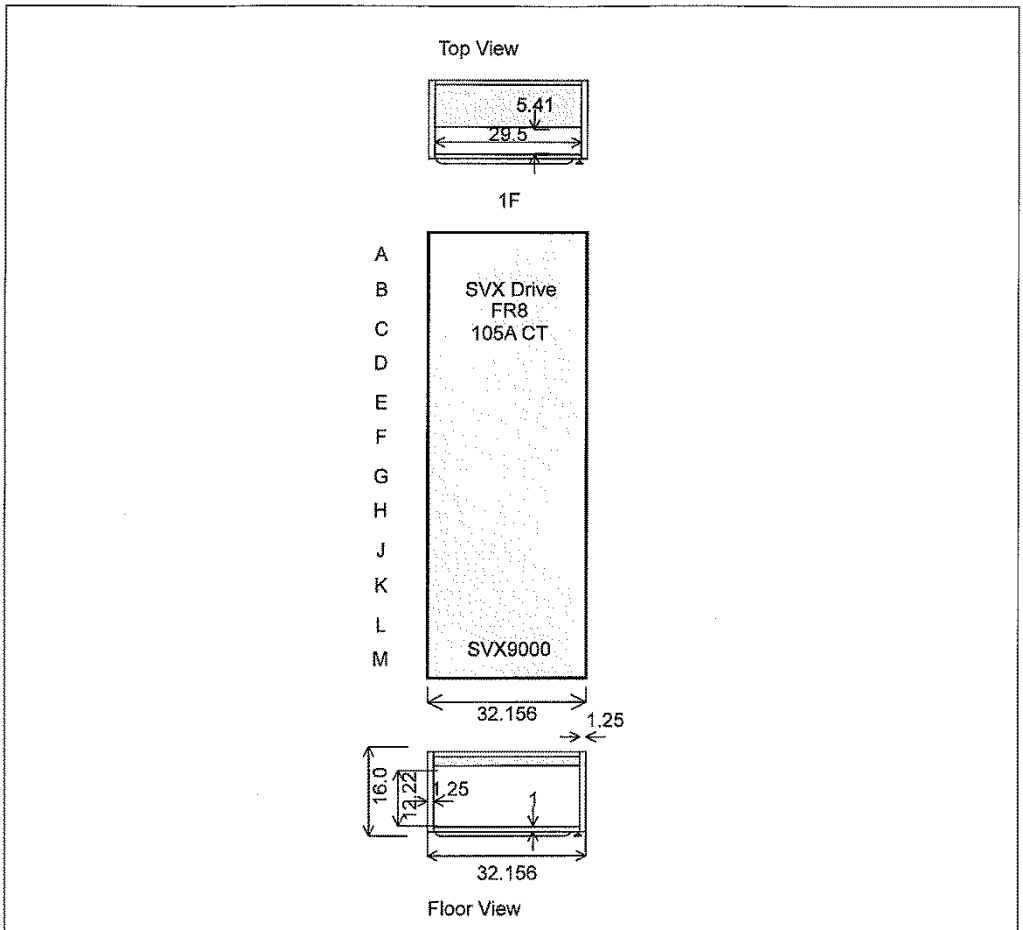
	APPROVED BY:	DATE:	JOB NAME: Sun Mill C VFD Add-On	DESIGNATION:	
	VERSION: 1.0.0.1		TYPE: Freedom MCC 2100	DRAWING TYPE: Customer Appr.	
NEG-ALT Number:	REVISION:	DWG SIZE: A	G.O.	ITEM:	SHEET: 2 of 4

Attachment 1 (Continued)



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	VERSION: 1.0.0.1		TYPE: Freedom MCC 2100	DRAWING TYPE: Customer Appr.	
NEG-ALT Number	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
1M		SVX9000 VFD-CT,			HMCP	1 SVX9000 VFD Output Contactor - FR8
		105 FLA, 480V, HMCP		75/105	3P	1 SVX9000 Dv/Dt Output Filter - FR8
				N	150	1 VFD Connected to EtherNet/IP
						1 C-H Model D7, 300V, 2 Pole Socket Relay

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	APPROVED BY:	DATE:	JOB NAME: Sun Mill C VFD Add-On DESIGNATION:	
	VERSION: 1.0.0.1		TYPE: Freedom MCC 2100	DRAWING TYPE: Customer Appr.
NEG-ALT Number:	REVISION:	DWG SIZE: A	G.O.	ITEM: SHEET: 4 of 4

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

6/25/2018 4:00:45 PM

in

Case No(s). 18-1049-EL-EEC

Summary: Application Application to Commit Energy
Efficiency/Peak Demand
Reduction Programs
(Mercantile Customers Only)- Sun Chemical Corp,VFD-Controlled Variable Speed 75HP Ink
Mill Motor electronically filed by Carys Cochern on behalf of Duke Energy