BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Joint Application	
of Ohio Power Company and	
Sofidel America for Approval	
of a Special Arrangement Agreement	

Case No. 17-43-EL-EEC

AMENDED JOINT APPLICATION FOR APPROVAL OF A SPECIAL ARRANGEMENT AGREEMENT BETWEEN OHIO POWER COMPANY AND SOFIDEL AMERICA

Pursuant to Ohio Revised Code ("R.C.") sections 4928.66 and 4905.31(E) and Rule 4901:1-39-05(G), Ohio Administrative Code ("O.A.C."), Ohio Power Company d/b/a AEP Ohio ("Company") and Sofidel America ("Customer") (collectively, "Applicants") submit this Joint Application for Commission approval of the special arrangement described in this Joint Application and accompanying attachments whereby Customer allows combined heat and power ("CHP") energy efficiency ("EE") resources to count toward the Company's compliance with the EE benchmarks set forth in Amended Substitute Senate Bill 221.

Amended Substitute Senate Bill 221 sets forth in R.C. 4928.66 EE benchmarks that electric distribution utilities shall be required to meet or exceed. The statute allows utilities to include EE resources committed by mercantile customers for integration into the utilities programs to be counted toward compliance with a utility's EE benchmarks. The statute also enables the Commission to approve special arrangements for mercantile customers that commit EE resources to be counted toward compliance with a utility's EE benchmarks. Further, the statute specifically allows CHP to be an eligible EE resource and requires the Commission to estimate or approve the estimation methodology herein of the CHP project EE savings, the approved Energy Efficiency/ Peak Demand Reduction Action Plan ("EE Plan") allows CHP projects to be counted with incentives determined by the Company and the statute authorizes the Commission to take actions necessary to administer the implementation of existing portfolio plans as this Joint Application is requesting. The Company is an electric distribution utility as defined in R. C. 4928.01(A). The Customer is a Mercantile customer as defined in R.C. 4928.01(A)(19).

In its application to the Company, the Customer has agreed to commit the EE resources identified in this Joint Application to the Company's compliance toward the EE benchmarks in Amended Substitute Senate Bill 221.

The Company has worked with the Customer extensively in implementing two CHP systems. This collaboration started late 2016 and the Company will continue to support the Customer's decision to move forward and implement the first CHP project in 2018 (the project is not yet in service) and the second in 2019. The Company has reviewed the details submitted in this Joint Application and based upon a thorough review of the available records believes that the project planned in this Joint Application satisfies the requirements in R.C. 4928.66, meets all existing Company EE Plan requirements as a CHP project and furthers the State of Ohio's policy goals of reducing energy costs in a highly cost effective manner. Further, approval of this application can help reduce costs to all customers due to the project's relative size, energy and demand savings and associated net benefits generated.

Both CHP projects are prospective projects and eligible under Company's approved EE Plan, as such the project and costs are already identified as part of the EE Plan costs only through the 2020 program year. The Company acknowledges that

incentive costs incurred post December 31, 2020 may be subject to potential portfolio spending caps in future approved plans. CHP is allowed by statute to count as an Energy Efficiency (EE) resource. As specified in Case Number 16-574-EL-POR (Stipulation and Recommendation – Section F - 6 on page 7), the Company is seeking Commission approval for the project since the incentive funding and payments are beyond the EE Plan period. The incentive amounts and strategy provided by the Joint Applicants are determined by the Company based on energy savings and approved by the Commission through the EEC Application process. An EEC Application exists for each CHP project respectively.

Exhibit 1 with attachments (Application to Commit Combined Heat and Power System) to this Joint Application includes a project overview for CHP Project 1, that outlines the project, customer size, project installation date, estimated EE savings resulting from the project, eligible incentive, and the cost effectiveness of the project. Exhibit 1 also provides the signature of the Customer indicating the validity and acceptance of the information, the Customer's support of this Joint Application, and the Customer's intent to participate in the program. Similarly, Exhibit 3 with attachments includes a project overview for CHP Project 2. In these Applications, the Customer attests to the fact that the program in this Joint Application complies with the presumption that the mercantile projects are part of a demand response, energy efficiency, or peak demand reduction program to the extent the project either provides for early retirement of functioning equipment which is not yet fully depreciated, or achieves reductions in energy use and peak demand that exceed the reductions that would have occurred had the customer used standard new equipment, to the extent standard is defined by current code or statute.

Consistent with the requirements of Rule 4901:1-39-05(G), O.A.C., Applicants agree that approval by the Commission of the Joint Application will result in an arrangement that: 1) addresses coordination requirements between the electric utility and the mercantile customer with regard to voluntary reductions in load by the mercantile customer, which are not part of an electric utility program, including specific communication procedures, if necessary; 2) grants permission to the electric utility and Commission staff to measure and verify the EE savings resulting from customer-sited projects and resources; and 3) identifies all consequences of noncompliance by the customer with the terms of the commitment. Exhibit 2 and E x h i b i t 4 (Energy Efficiency Resource Commitment Agreement) is a copy of the formal agreement that commits the Customer's projects for integration into the Company's programs to be counted toward compliance with the Company's EE benchmarks and reflects the "Rules and Requirements" agreed to by the Customer.

The Customer has provided the Company documentation necessary to calculate energy and demand savings resulting from the projects described in Exhibit 1, Exhibit 3 and the accompanying attachments. The Company uses methodologies, protocols and/or practices that conform to the general principles of the International Performance Measurement Verification Protocol (IPMVP) in order to justify the energy savings. In the case of these Combined Heat and Power (CHP) project submittals, the Company will rely on the initial estimate of electricity produced by the CHP systems and verify those as savings to be counted using the metered electricity production as the measurement of the energy efficiency and demand reduction savings committed to Company.

As shown in Exhibit 1 and 3, the Customer must comply with any Commission requirement to provide an annual report on the energy savings and electric utility peak- demand reduction. However, the Customer has agreed and the Company will file as part of its annual EE/PDR Portfolio Status report each year the metered electrical demand and energy production which is equivalent to the energy and demand savings from this project, relieving the Customer of a separate filing requirement if the Commission so approves.

The Company intends to count the savings for each system following commissioning of the equipment and 12 months of meter readings submitted by the Customer to the Company. In Case No. 16-574-EL-POR, the Stipulation allows counting of shared savings only one time and in the year in which the savings are generated. Therefore, the Company will account for the shared savings, including all current and future costs, in the same year that the savings are counted for each project. Shared savings and kWh savings will only be counted once (no double counting), for each CHP project described in this filing.

Approval of these projects with the customer incentives provided and inclusive of shared savings has the potential to reduce overall costs to achieve energy and demand savings for 2019 and 2020, thereby reducing costs for all customers.

For these reasons, the Applicants request that the Commission approve the Joint Application.

As demonstrated above, approval of this is permitted under the Company's existing EE Plan and Stipulation.. The costs recovered in this Application will reduce program costs in the Business programs portion of the EE Plan. Upon approval, the agreement will be implemented and the Company will reflect the cost recovery and any cost savings as part of the EE/PDR Rider.

While the Company retains the right to respond to any objections or comments that maintain otherwise, the incentives specified are acceptable to the Company and the Customer and should be considered for approval by the Commission.

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Respectfully submitted, 1 155

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EXHIBIT 1

Ohio Public Utilities Commission

Application to Commit Combined Heat and Power System {Mercantile Customers Only)

Case No.: 17-0043- EL-EEC

Mercantile Customer: Sofidel America

Electric Utility: American Electric Power (AEP) – Ohio Power Company

Program Title or Description: Sofidel America Tornado Combined Heat and Power

Ohio Revised Code (O.R.C.) 4928.66 (A) (1) (a), allows that an electric utility's energy efficiency program may include a combined heat and power (CHP) system. 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.

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: Sofidel America

Principal Address:

Address of facility for which this energy efficiency program applies: 25910 US 23 Circleville, Ohio 43113

Name and telephone number for responses to questions: Andrea Wong – Process Engineer Mobile: 918-934-7994 E-mail: Andrea.Wong@sofidelamerica.com

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.)

Section2: Application Information

- A) The customer is filing this application (choose which applies):
 - Individually, without electric utility participation.
 - \square Jointly with the electric utility.
- B) The electric utility is: Ohio Power Company (AEP Ohio)

Section 3: Request for Cash Payment 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.

- A) The customer is applying for:
 - Option 1: A cash payment reasonable arrangement.

OR

- Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.
- B) The value of the option that the customer is seeking is:

Option 1:

- A cash payment of \$0.007 per net kWh for 5 years capped at \$400,000 per year for each CHP project. The estimated annual incentive for CHP Project 1 is \$350,000.
 - 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

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 4: Cost Effectiveness

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

- 1. Total Resource Cost Test (TRC). The calculated TRC value is: ______ (Continue to Subsection 1, then skip Subsection 2)
- Utility Cost Test (UCT). The calculated UCT value is: 22.7 (Skip to Subsection 2.)

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

The TRC value of the CHP system 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.

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

We calculated the UCT value of our CHP system 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.

Section 5: Combined Heat and Power System Information

Additional information to clarify or supplement this Application may also be requested by Staff. Please fill out this form and attach the following supporting documentation to this application:

Criteria 1: CHP Efficiency Level

Ohio Revised Code (ORC) Sec. 4928.01(40)

 State the overall combined heat and power (CHP) systems' efficiency level and describe how it was determined. The CHP overall efficiency is 68.1%, based on LHV (Lower Heating Value). See Attachment 1

Criteria 2: Amount of Useful Thermal Energy

Ohio Revised Code (ORC) Sec. 4928.01(40)

1) State the systems' amount of thermal energy produced.

The system's useful thermal energy produced is 382.4 MMBtu/yr with a thermal efficiency of 33.3%.

 State the systems' use for that thermal energy (e.g. domestic hot water, process hot water, process steam, space heating, absorption chiller, etc.) The system is used to provide steam for the paper mill plant for process heat and providing electricity needs for the plant.

The thermal energy produced by the CHP system will be utilized for the production of steam to supply heat in the paper drying process. The residual heat from the paper drying process is then recovered by air/liquid heat exchangers for space heating.

Criteria 3: Service Date

Ohio Revised Code (ORC) Sec. 4928.66 (A)(1)(a)

- Provide the date that the system was or will be placed into service. CHP Project 1 equipment is estimated to be commissioned by October 2018. Therefore the 12 month implementation meter readings will completed October 2019.
- Provide the date that the system was retrofitted and describe the retrofit (if applicable). Not available.

Section 6: Additional Information

Please attach the following supporting documentation to this application:

- 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;
 - permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peakdemand reductions resulting from your program; and
 - 4) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.
- 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.

1. SYSTEM DESCRIPTION

Provide a description of the Combined Heat and Power (CHP) system.

- a. Describe the technology/configuration, e.g. Combustion Gas Turbine, Power Boiler with Steam Turbine, Reciprocating engine(s) or other. The CHP System 1will have a Solar Taurus 70 gas turbine (GT) that will exhaust into a plenum that will be used in the hoods for the paper machine drying process or into a mixer that then the exhaust gas will go to a heat recovery steam generator (HRSG). The GT will have an extended duct for possible addition of a selective catalytic reduction (SCR) system. The exhaust from the Yankee hoods will then enter the HRSG that will be capable of duct firing to produce steam for normal operating conditions. The auxiliary boiler will supplement the remaining necessary steam. Once both CHP systems are running, the CHP systems will be sharing a common steam header. In normal operation, both HRSGs (one per CHP system) and one auxiliary boiler will be running to produce the necessary steam for the two paper machines. The second auxiliary boiler will be used as a backup. The auxiliary boilers will alternate when they will be in operation.
- b. Describe the type of business/facility that will benefit from the useful thermal energy to be supplied by the cogeneration. Include a description of how the thermal energy will be used throughout a representative year and whether there

are any hourly, daily or seasonal variations in thermal demand. If applicable, describe the system replaced by the CHP facility.

Sofidel America, a Sofidel's US subsidiary, will be starting up two new tissue machines and converting plant in our Greenfield plant currently under construction in Circleville, OH. The CHP will be providing steam to the tissue machines, exhaust heat to the tissue machine hoods, electricity to the paper mill plant During winter, it will also provide heat to the paper mill building. There will be variations in thermal demand due to our process (different grade of paper needs different thermal demand) and seasonal variations (peaks during the winter).

2. EQUIPMENT DESCRIPTION

Provide a complete equipment description for all major components including: Combustion Turbine Generator, Steam Turbine Generator, HRSG, plant control system, air emissions control equipment, cooling system, major pumps, water treatment system, fuel storage facilities, etc.

a. Equipment manufacturer/model/date of manufacturer.

The following list is for CHP System 1

- Gas Turbine (GT) Solar 70 Taurus generator package by Solar Turbines The gas turbine is a Solar Taurus 70 expected to generate 7.5 MW at 59F. The generator (Serial No 41998) will be manufactured by Kato Engineering (Siemens Industrial Automation). The gas turbine is expected to be manufactured in 2017. The CHP system design, if necessary, can accommodate a future selective catalytic reduction (SCR) system and aqueous ammonia as reductant for the SCR. The SCR can be placed after the GT. The exhaust gas will be expelled to an exhaust plenum that will provide make-up air to the Yankee hood system of the paper machine and/or to a mixer where the gas will go directly to the HRSG.
- Heat Recovery Steam Generator (HRSG) Victory Energy The HRSG will be manufactured by Victory Energy and is expected to be completed in 2017. Exhaust air from the paper mill process will enter an exhaust mixer and will be used in the HRSG. In designed conditions, the HRSG will be able to supply 15,039 lb/hr of steam, and up to a maximum of 22,442 lb/hr of steam of 250 psig saturated steam.
- Auxiliary Boiler Victory Energy The auxiliary boiler is a package boiler that will be ideally utilized 50% of the time and will take turns- in providing the remaining necessary steam for the two paper machines with the other auxiliary boiler in the other CHP facility. Each boiler can supply up to 37,747 lb/hr (nominal) of 250 psig saturated steam at 65F ambient temperature.
- Deaerating Feedwater System Superior Boilers, Model MSTCO40D290-260

 The deaerator will be supplied by Superior Boilers and manufactured in 2017. It is a pressurized tray type deaerator for 40,000 lb/hr used for two

boilers (HRSG and aux boiler) at 260 psig operating pressure. It has a 1200 gallon storage tank (15.8 minutes).

- The feedwater pumps are two centrifugal pumps by Grundfoss Model CR32-11-2.
- Water Treatment system
 - Softener and Reverse Osmosis (RO) systems will be in use to remove impurities and soften the water before going into the DA feedwater system and to the boilers. The softener and RO systems will be provided by Marlo, Inc. The softener will be a twin alternating water softener (model MRG-900-3) and the RO system will be model MRO-58K-8H.
- Fresh Air fans
 - There will be two fans provided by Valmet that will be providing fresh air into the duct (before the plenum or mixer) to lower the temperature (to process temperature level)_of the exhaust gas sent by the turbine.
- 2 Hoods Although the hoods are not in the CHP building, they are part of recovering the exhaust gas from the turbines and their exhaust gas will be sent to a mixer which then will go to the HRSG. Valmet will be providing the hoods.
- Heat Exchangers
 - There will be four air/glycol heat exchangers and one steam heat exchanger provided by Valmet that will be used as heat recovery units to provide heat in the ventilation system during winter.
- Plant Control System: The DCS controllers are from Siemens.

3. OPERATION MODES

- a. Describe and list the major operating modes of the CHP system and projected time period (per annum) that each mode will be utilized.
 The CHP system is expected to be in operation 8520 hours of the year in normal conditions. Normal operation consists of utilizing both turbines and HRSGs with additional steam input from one auxiliary boiler at the same time. The second auxiliary boiler will be there as backup in case the HRSGs or the operating auxiliary boiler have unplanned shut downs or have planned maintenance. The remaining 240 hours of the year consists of the CHP starting up, maintenance shut down, HRSG by-pass, and/or turbine by-pass. The turbines will still be able to run and supply electrical power to the plant even if the HRSGs are shut down.
- b. Will the system include a "thermal dump"?
 - i. A "thermal dump" refers to a sub-system of the CHP that rejects heat allowing the system to generate electricity during periods when the full useful thermal output of the heat recovery system cannot be transferred due to insufficient demand.

There will be steam vents and by-pass stacks.

4. PROCESS FLOW DIAGRAM

- a. Provide a process flow diagram for each major operating mode. See Attachment 1
- b. Include locations for all meters. See Attachment 1

5. MATERIALS AND ENERGY BALANCE DIAGRAMS

 a. For each fuel, include the flow (lb/hr), temperature (F), pressure (psia), and enthalpy (BTIJ/lb) for all water, steam combustion air, and fuel streams entering and exiting the boundaries of the generating unit and of each major equipment component.
 See Attachment 1

6. ELECTRICAL

- a. ELECTRICAL GENERATOR
 - Manufacturer/Model Number/Output Volts/Capacity Kato Engineering (part of Solar Turbines GT package)/SN41998/12470V/7292kW
- b. Is the generation unit designed or approved to export power onto the electric grid?

No, it is not designed to export power onto the electrical grid. There will be some "unintentional" export capability.

This is only for rare cases; for example when the paper machine(s) suddenly shuts down and our generators are still running. If exporting does happen, it is expected to be a maximum net export capability of 6 MW for both generators, in a short period of time; afterwards the relay will trip due to having reverse power relay.

See Attachment 4 Interconnection Application for more information

- c. Does the generation unit has either an approved interconnection plan or submitted an application to the local distribution utility company requesting permission for an interconnection? Yes
- d. Provide a single line electrical distribution and interconnection diagram.
- e. See Attachment 4 Interconnection Application

7. METERING

Provide the following information for each meter of the CHP facility. Include locations for all meters on process flow diagram.

a. Fuel Meters for HRSG

- i. Meter Type: Coriolis Flow Meter
- ii. Manufacturer: Rosemount
- iii. Model: F050S113CCAAEZZZZ
- iv. Is it a revenue grade meter?
- v. What is the guaranteed accuracy (in %) of the meter? 0.5% of rate

vi.

b. Fuel Meters for Aux Boiler

- vii. Meter Type: Coriolis Flow Meter
- viii. Manufacturer: Rosemount
- ix. Model: F200SA36C2BAEZZZZ
- x. Is it a revenue grade meter?
- xi. What is the guaranteed accuracy (in %) of the meter? 0.5% of rate

c. Fuel Meter for Turbines

- xii. Meter Type: Mass Flow Meter
- xiii. Manufacturer:
- xiv. Model:
- xv. Is it a revenue grade meter?
- xvi. What is the guaranteed accuracy (in %) of the meter?

d. BTU Meters

- i. Meter Type
- ii. Manufacturer
- iii. Model
- iv. Is it a revenue grade meter?
- v. What is the guaranteed accuracy (in %) of the meter?

e. Steam Meters for both HRSG and Aux Boiler

- i. Meter Type: Differential Pressure Flow Transmitter with orifice plate
- ii. Manufacturer: Rosemount
 - iii. Model: 2051CD2A02A1AS5E5M5/ 1595P060A3SB065Q8
- iv. Is it a revenue grade meter?
- v. What is the guaranteed accuracy (in %) of the meter?

f. Electric Meters

- i. Meter Type: Multi Function Meter
- ii. Manufacturer: SATEC
- iii. Model: PM172E-N-U-5-60HZ-ACDC-ETH
- iv. Is it a utility grade meter? (i.e. in compliance with paragraph B of rule 4901:1-10-05 of the Ohio Administrative Code) Yes
- v. What is the guaranteed accuracy (in %) of the meter?

EXHIBIT 2

CUSTOMER COMBINED HEAT AND POWER ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION RESOURCE COMMITMENT AGREEMENT

This Customer Combined Heat and Power Resource ("CHP") Energy Efficiency and Peak Demand Reduction ("EE/PDR") Commitment Agreement ("Agreement") is entered into by and between Ohio Power Company ("Company") and <u>Sofidel America</u>. ("Customer").

In consideration of the mutual covenants, terms and conditions set forth herein, Company and Customer hereto agree as follows:

- **1. Commitment:** Customer agrees to commit their prospective planned CHP System electricity generation to Company's energy efficiency and peak demand reduction requirements. CHP projects may count toward meeting energy efficiency and peak demand reduction requirements as allowed under Ohio Amended Substitute Senate Bill 310.
- 2. CHP System Description: The CHP System 1 will have a Solar Taurus 70 gas turbine (GT) that will exhaust into a plenum that will be used in the hoods for the paper machine drying process. The GT will have an extended duct for possible addition of a selective catalytic reduction (SCR) system. The exhaust from the Yankee hoods will then enter the heat recovery steam generator (HRSG) that will be capable of duct firing to produce steam for normal operating conditions. The auxiliary boiler will supplement the remaining necessary steam.

Once both CHP systems are running, the CHP systems will be sharing a common steam header. In normal operation, two HRSGs (one per CHP system) and one auxiliary boiler will be running to produce the necessary steam for the two paper machines. The second auxiliary boiler will be used as a backup. The auxiliary boilers will alternate when they will be in operation.

- **3.** Economic Analysis: The expected customer savings over the life of the project is \$40,823,121 (present value). The cost savings is for both capacity and avoided energy charges but does not include hot water savings.
- 4. CHP System Life or CHP supplier Contract Term: 20-year CHP system life
- **5.** CHP System efficiency and expected % availability: 68.1% efficiency and 100% available with the exception of unexpected downtime and maintenance.
- 6. Percentage of total usage offset by the CHP system: The plants that the CHP system will supply are new construction. Approximately 37.5% of the expected electrical usage (provided by electrical grid through AEP transmission/distribution lines) will be replaced by this new COGEN installation.

- 7. Planned annual MWh and MW generation provided from the CHP system and counted as 100% energy and demand savings committed to AEP Ohio: 7649 KW; 50,000,000 kWh per year
- 8. Economic Benefits: Utility Cost Test benefit/cost ratio is 22.7. Total net benefits of this project are \$84,905,040 in avoided generation and transmission costs net of Company costs. This project is highly cost effective and compares very favorably to other energy efficiency projects by delivering energy and demand savings at a significantly lower cost than typical projects and the portfolio plan as a whole.
- 9. Contract Term: 5 years
- **10.** Anticipated commissioning date and full scale start-up of operation that will initiate contract start date: CHP System 1 commissioning is expected to be completed October 2018 with the 12 month meter readings ending October 2019.

11. Non-energy Benefits:

As the largest private investment in Circleville in many years, Sofidel America's Greenfield plant will increase the local economy and surrounding areas.

The construction of the plant itself will generate economic benefits to the surrounding area either directly with companies and/or workers involved in the construction of the plant (equipment and material suppliers, contractors, engineers) or indirectly with companies servicing the needs of these companies and workers (such as food service, hospitality, and transportation industries among others). For example, there is a plan to add a rail spur in order to facilitate shipment of finished products and receipt of materials by freight train in addition to the available trucking transportation.

Even after construction, the local economy will benefit from the establishment of this facility. Sofidel America is committed to enroll 310 employees in the Circleville facility by 2020 and by hiring in both management and manufacturing positions. Furthermore, there will be a need of continuous services from the area. As an example, like any manufacturing facility there will be a need for repair and maintenance. This maintenance would call for skilled workers as well as for supply and manufacturing of standard and custom parts.

Recognizing that the paper manufacturing process requires a lot of energy and has an impact on our resources, Sofidel Group strives to be as environmentally and socially sustainable as possible and is committed to give more value in products and services by reducing the negative impact on the environment as well as people's lives, hence our motto of "Less is More". Based on this guiding principle, Sofidel continues to innovate and refine its processes. In the case of the Circleville plant, for example, it is not just reducing emissions by building the two co-generation plants but also recycling as much water as possible in our paper mill process and reducing our impact in our rivers by constructing a waste water treatment plant.

Sofidel Group has various Italian and international partners among them are UN's Global Compact initiative, WWF Climate Savers, and Médecins Sans Frontières (Doctors without Borders). In the USA, all our current branches in Sofidel America are PEFC certified, endorsed by an international organization promoting sustainable forest management.

12. CHP system generator output measurement, reporting and auditing: Customer at their sole cost utilizing utility grade metering and in accordance with Company specifications shall measure the generator output and provide monthly readings via e-mail to designated Company personnel. After providing reasonable notice, Company has the right to inspect and validate the meter readings of the CHP system. Company will provide Customer, upon written request, a copy of any report generated as a result of the inspection and audit. Notwithstanding the foregoing, it shall be the sole responsibility of Customer to operate, maintain, repair, and inspect the CHP system to ensure its proper working order during the entire term of the agreement. Customer shall complete an Annual Affidavit of CHP Performance, attached hereto as Attachment 2. Customer hereby agrees to submit the Annual Affidavit of Performance to the Company within 15 days of the completion of the 12 month implementation period, attesting to its annual generation of energy and demand in MWhs and MW, respectively, as well as the overall system efficiency for the previous year and current condition of the CHP system.

13. Incentives:

a. Payments are based on annual net metered kWh produced by the CHP system for internal plant production use. No incentive payment is earned until the full 12 months of meter readings have been submitted to the Company. The annual incentive payment will be made upon receiving 12 months of meter readings, the annual affidavit with actual efficiency calculations, a W9 and invoice for payment.

Parasitic loads will be removed from the gross metered kWh generation. If parasitic loads cannot be accurately measured by the customer, then the Department of Energy recommended default value will be used for estimating the net kWh generation.

b. Payments = \$0.007 per net kWh for 5 years capped at \$400,000 per year per project.

- c. Annual payments commencing twelve months following the formal commissioning date to full operation and are made for 5 consecutive years.
- d. Estimated annual payments beginning in 2019 are <u>\$350,000</u> and total payments over 5 years are estimated at <u>\$1,750,000</u>.
- **14. EE/PDR rider and EE/PDR program participation:** Customer agrees to continue paying EE/PDR rider until the end of the incentive payment term in this agreement, and Customer can continue to participate in any EE/PDR programs available to them.
- **15. Interconnection requirements:** Customer application for interconnection has been submitted by Company and the agreement is being prepared. This agreement is subject to Customer and Company execution of the interconnection agreement.
- **16. Standby service requirements:** Customer agrees to adhere to any requirements and costs of such, if applicable.
- **17. Invoicing for Incentives:** Customer shall invoice Company annually for incentives within fifteen days following the end of the twelve month period and Company receipt of the Annual Affidavit of Performance. Company shall pay all such properly submitted incentive invoices within fifteen (15) business days after receipt.
- **18. Penalty:** Customer could be subject to forfeit of annual incentive payment at the sole discretion of the Company if the Annual Affidavit of CHP Performance is not submitted by the due date, monthly meter readings are not provided or reasonable requests for inspection and validation of meter readings are not allowed by the Customer. If Customer terminates early (before the 5 years), the only penalty will be the forfeit of the annual incentive for that year and any subsequent years during the 5-year term.
- **19. Contacts and Notices:** Contacts for each party. All Notices relating to this contract must be effectuated in writing and sent by ordinary US mail, postage prepaid, to:
 - a. Customer: Andrea Wong

Process Engineer, Sofidel America 25910 US 23, Circleville, OH 43113 918-934-7994 b. Company: Jon Williams

Manager, Energy Efficiency and Demand Response 301 Cleveland Avenue, Canton, Ohio 44701 330-438-7742

- **20. MODIFICATION.** No modification of this Agreement is effective unless reduced to writing, signed by both parties.
- **21. SUCCESSORS AND ASSIGNS.** This Agreement shall be binding upon and inure to the benefit of the parties hereto, and their respective successors and/or assigns, but Customer shall not transfer or assign any of the rights hereby granted to any non-affiliated third-party of Sofidel SpA without the prior written consent of AEP Ohio.
- 22. REGULATORY APPROVAL. The Customer and Company have worked extensively on this project over the last year and agree that we have shown that it provides significant benefits to all customers due to its size and high cost effectiveness compared to other projects. Both parties request expedited review and approval of the agreement. This contract is dependent upon approval of a mercantile arrangement along with cost recovery including shared savings through the EE/PDR rider based on the terms of this contract by the Public Utilities Commission of Ohio (Commission) The parties agree that the goal of the agreement is to help the Customer achieve greater energy efficiency and productivity in its operations and help the Company meet its energy efficiency and peak demand reduction goals, while improving the overall cost effectiveness of goal achievement in each year.

OHIO POWER COMPANY By: WILLAMS Name: JON f. Dist. Tech + INNOVATION Title: Director CUSTOMER: _Sofidel America By: Sure Con Name: SIMONE CAPUAND Title: VICE CHIEF TOCNICAL OPPICER Date: 03-12-2018

EXHIBIT 3

Ohio Public Utilities Commission

Application to Commit Combined Heat and Power System {Mercantile Customers Only)

Case No.: 17-0043- EL-EEC

Mercantile Customer: Sofidel America

Electric Utility: American Electric Power (AEP) – Ohio Power Company

Program Title or Description: Sofidel America Tornado Combined Heat and Power

Ohio Revised Code (O.R.C.) 4928.66 (A) (1) (a), allows that an electric utility's energy efficiency program may include a combined heat and power (CHP) system. 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.

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: Sofidel America

Principal Address:

Address of facility for which this energy efficiency program applies: 25910 US 23 Circleville, Ohio 43113

Name and telephone number for responses to questions: Andrea Wong – Process Engineer Mobile: 918-934-7994 E-mail: Andrea.Wong@sofidelamerica.com

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.)

Section2: Application Information

- A) The customer is filing this application (choose which applies):
 - Individually, without electric utility participation.
 - \square Jointly with the electric utility.
- B) The electric utility is: Ohio Power Company (AEP Ohio)

Section 3: Request for Cash Payment 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.

- A) The customer is applying for:
 - Option 1: A cash payment reasonable arrangement.

OR

- Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.
- B) The value of the option that the customer is seeking is:

Option 1:

A cash payment of \$0.007 per net kWh for 5 years capped at \$400,000 per year for each CHP project. The estimated annual incentive for CHP Project 2 is \$350,000.

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

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 4: Cost Effectiveness

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

- 1. Total Resource Cost Test (TRC). The calculated TRC value is: ______ (Continue to Subsection 1, then skip Subsection 2)
- Utility Cost Test (UCT). The calculated UCT value is: 22.7 (Skip to Subsection 2.)

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

The TRC value of the CHP system 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.

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

We calculated the UCT value of our CHP system 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.

Section 5: Combined Heat and Power System Information

Additional information to clarify or supplement this Application may also be requested by Staff. Please fill out this form and attach the following supporting documentation to this application:

Criteria 1: CHP Efficiency Level

Ohio Revised Code (ORC) Sec. 4928.01(40)

 State the overall combined heat and power (CHP) systems' efficiency level and describe how it was determined. The CHP overall efficiency is 68.1%, based on LHV (Lower Heating Value). See Attachment 1

Criteria 2: Amount of Useful Thermal Energy

Ohio Revised Code (ORC) Sec. 4928.01(40)

1) State the systems' amount of thermal energy produced.

The system's useful thermal energy produced is 382.4 MMBtu/yr with a thermal efficiency of 33.3%.

 State the systems' use for that thermal energy (e.g. domestic hot water, process hot water, process steam, space heating, absorption chiller, etc.) The system is used to provide steam for the paper mill plant for process heat and providing electricity needs for the plant.

The thermal energy produced by the CHP system will be utilized for the production of steam to supply heat in the paper drying process. The residual heat from the paper drying process is then recovered by air/liquid heat exchangers for space heating.

Criteria 3: Service Date

Ohio Revised Code (ORC) Sec. 4928.66 (A)(1)(a)

- Provide the date that the system was or will be placed into service. CHP Project 2 equipment is estimated to be commissioned by February 2019. Therefore the 12 month implementation meter readings will completed February 2020.
- Provide the date that the system was retrofitted and describe the retrofit (if applicable). Not available.

Section 6: Additional Information

Please attach the following supporting documentation to this application:

- 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;
 - permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peakdemand reductions resulting from your program; and
 - 4) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.
- 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.

1. SYSTEM DESCRIPTION

Provide a description of the Combined Heat and Power (CHP) system.

- a. Describe the technology/configuration, e.g. Combustion Gas Turbine, Power Boiler with Steam Turbine, Reciprocating engine(s) or other. The CHP System 2will have a Solar Taurus 70 gas turbine (GT) that will exhaust into a plenum that will be used in the hoods for the paper machine drying process or into a mixer that then the exhaust gas will go to a heat recovery steam generator (HRSG). The GT will have an extended duct for possible addition of a selective catalytic reduction (SCR) system. The exhaust from the Yankee hoods will then enter the HRSG that will be capable of duct firing to produce steam for normal operating conditions. The auxiliary boiler will supplement the remaining necessary steam. Once both CHP systems are running, the CHP systems will be sharing a common steam header. In normal operation, both HRSGs (one per CHP system) and one auxiliary boiler will be running to produce the necessary steam for the two paper machines. The second auxiliary boiler will be used as a backup. The auxiliary boilers will alternate when they will be in operation.
- b. Describe the type of business/facility that will benefit from the useful thermal energy to be supplied by the cogeneration. Include a description of how the thermal energy will be used throughout a representative year and whether there

are any hourly, daily or seasonal variations in thermal demand. If applicable, describe the system replaced by the CHP facility.

Sofidel America, a Sofidel's US subsidiary, will be starting up two new tissue machines and converting plant in our Greenfield plant currently under construction in Circleville, OH. The CHP will be providing steam to the tissue machines, exhaust heat to the tissue machine hoods, electricity to the paper mill plant During winter, it will also provide heat to the paper mill building. There will be variations in thermal demand due to our process (different grade of paper needs different thermal demand) and seasonal variations (peaks during the winter).

2. EQUIPMENT DESCRIPTION

Provide a complete equipment description for all major components including: Combustion Turbine Generator, Steam Turbine Generator, HRSG, plant control system, air emissions control equipment, cooling system, major pumps, water treatment system, fuel storage facilities, etc.

a. Equipment manufacturer/model/date of manufacturer.

The following list is for CHP System 2

- Gas Turbine (GT) Solar 70 Taurus generator package by Solar Turbines The gas turbine is a Solar Taurus 70 expected to generate 7.5 MW at 59F. The generator (Serial No 41998) will be manufactured by Kato Engineering (Siemens Industrial Automation). The gas turbine is expected to be manufactured in 2017. The CHP system design, if necessary, can accommodate a future selective catalytic reduction (SCR) system and aqueous ammonia as reductant for the SCR. The SCR can be placed after the GT. The exhaust gas will be expelled to an exhaust plenum that will provide make-up air to the Yankee hood system of the paper machine and/or to a mixer where the gas will go directly to the HRSG.
- Heat Recovery Steam Generator (HRSG) Victory Energy The HRSG will be manufactured by Victory Energy and is expected to be completed in 2017. Exhaust air from the paper mill process will enter an exhaust mixer and will be used in the HRSG. In designed conditions, the HRSG will be able to supply 15,039 lb/hr of steam, and up to a maximum of 22,442 lb/hr of steam of 250 psig saturated steam.
- Auxiliary Boiler Victory Energy The auxiliary boiler is a package boiler that will be ideally utilized 50% of the time and will take turns- in providing the remaining necessary steam for the two paper machines with the other auxiliary boiler in the other CHP facility. Each boiler can supply up to 37,747 lb/hr (nominal) of 250 psig saturated steam at 65F ambient temperature.
- Deaerating Feedwater System Superior Boilers, Model MSTCO40D290-260

 The deaerator will be supplied by Superior Boilers and manufactured in 2017. It is a pressurized tray type deaerator for 40,000 lb/hr used for two

boilers (HRSG and aux boiler) at 260 psig operating pressure. It has a 1200 gallon storage tank (15.8 minutes).

- The feedwater pumps are two centrifugal pumps by Grundfoss Model CR32-11-2.
- Water Treatment system
 - Softener and Reverse Osmosis (RO) systems will be in use to remove impurities and soften the water before going into the DA feedwater system and to the boilers. The softener and RO systems will be provided by Marlo, Inc. The softener will be a twin alternating water softener (model MRG-900-3) and the RO system will be model MRO-58K-8H.
- Fresh Air fans
 - There will be two fans provided by Valmet that will be providing fresh air into the duct (before the plenum or mixer) to lower the temperature (to process temperature level)_of the exhaust gas sent by the turbine.
- 2 Hoods Although the hoods are not in the CHP building, they are part of recovering the exhaust gas from the turbines and their exhaust gas will be sent to a mixer which then will go to the HRSG. Valmet will be providing the hoods.
- Heat Exchangers
 - There will be four air/glycol heat exchangers and one steam heat exchanger provided by Valmet that will be used as heat recovery units to provide heat in the ventilation system during winter.
- Plant Control System: The DCS controllers are from Siemens.

3. OPERATION MODES

- a. Describe and list the major operating modes of the CHP system and projected time period (per annum) that each mode will be utilized.
 The CHP system is expected to be in operation 8520 hours of the year in normal conditions. Normal operation consists of utilizing both turbines and HRSGs with additional steam input from one auxiliary boiler at the same time. The second auxiliary boiler will be there as backup in case the HRSGs or the operating auxiliary boiler have unplanned shut downs or have planned maintenance. The remaining 240 hours of the year consists of the CHP starting up, maintenance shut down, HRSG by-pass, and/or turbine by-pass. The turbines will still be able to run and supply electrical power to the plant even if the HRSGs are shut down.
- b. Will the system include a "thermal dump"?
 - i. A "thermal dump" refers to a sub-system of the CHP that rejects heat allowing the system to generate electricity during periods when the full useful thermal output of the heat recovery system cannot be transferred due to insufficient demand.

There will be steam vents and by-pass stacks.

4. PROCESS FLOW DIAGRAM

- a. Provide a process flow diagram for each major operating mode. See Attachment 1
- b. Include locations for all meters. See Attachment 1

5. MATERIALS AND ENERGY BALANCE DIAGRAMS

 a. For each fuel, include the flow (lb/hr), temperature (F), pressure (psia), and enthalpy (BTIJ/lb) for all water, steam combustion air, and fuel streams entering and exiting the boundaries of the generating unit and of each major equipment component.
 See Attachment 1

6. ELECTRICAL

- a. ELECTRICAL GENERATOR
 - Manufacturer/Model Number/Output Volts/Capacity Kato Engineering (part of Solar Turbines GT package)/SN41998/12470V/7292kW
- b. Is the generation unit designed or approved to export power onto the electric grid?

No, it is not designed to export power onto the electrical grid. There will be some "unintentional" export capability.

This is only for rare cases; for example when the paper machine(s) suddenly shuts down and our generators are still running. If exporting does happen, it is expected to be a maximum net export capability of 6 MW for both generators, in a short period of time; afterwards the relay will trip due to having reverse power relay.

See Attachment 4 Interconnection Application for more information

- c. Does the generation unit has either an approved interconnection plan or submitted an application to the local distribution utility company requesting permission for an interconnection? Yes
- d. Provide a single line electrical distribution and interconnection diagram. See Attachment 4 Interconnection Application

7. METERING

Provide the following information for each meter of the CHP facility. Include locations for all meters on process flow diagram.

a. Fuel Meters for HRSG

- i. Meter Type: Coriolis Flow Meter
- ii. Manufacturer: Rosemount
- iii. Model: F050S113CCAAEZZZZ
- iv. Is it a revenue grade meter?
- v. What is the guaranteed accuracy (in %) of the meter? 0.5% of rate

vi.

b. Fuel Meters for Aux Boiler

- vii. Meter Type: Coriolis Flow Meter
- viii. Manufacturer: Rosemount
- ix. Model: F200SA36C2BAEZZZZ
- x. Is it a revenue grade meter?
- xi. What is the guaranteed accuracy (in %) of the meter? 0.5% of rate

c. Fuel Meter for Turbines

- xii. Meter Type: Mass Flow Meter
- xiii. Manufacturer:
- xiv. Model:
- xv. Is it a revenue grade meter?
- xvi. What is the guaranteed accuracy (in %) of the meter?

d. BTU Meters

- i. Meter Type
- ii. Manufacturer
- iii. Model
- iv. Is it a revenue grade meter?
- v. What is the guaranteed accuracy (in %) of the meter?

e. Steam Meters for both HRSG and Aux Boiler

- i. Meter Type: Differential Pressure Flow Transmitter with orifice plate
- ii. Manufacturer: Rosemount
 - iii. Model: 2051CD2A02A1AS5E5M5/ 1595P060A3SB065Q8
- iv. Is it a revenue grade meter?
- v. What is the guaranteed accuracy (in %) of the meter?

f. Electric Meters

- i. Meter Type: Multi Function Meter
- ii. Manufacturer: SATEC
- iii. Model: PM172E-N-U-5-60HZ-ACDC-ETH
- iv. Is it a utility grade meter? (i.e. in compliance with paragraph B of rule 4901:1-10-05 of the Ohio Administrative Code) Yes
- v. What is the guaranteed accuracy (in %) of the meter?

EXHIBIT 4

CUSTOMER COMBINED HEAT AND POWER ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION RESOURCE COMMITMENT AGREEMENT

This Customer Combined Heat and Power Resource ("CHP") Energy Efficiency and Peak Demand Reduction ("EE/PDR") Commitment Agreement ("Agreement") is entered into by and between Ohio Power Company ("Company") and <u>Sofidel America</u>. ("Customer").

In consideration of the mutual covenants, terms and conditions set forth herein, Company and Customer hereto agree as follows:

- **1. Commitment:** Customer agrees to commit their prospective planned CHP System electricity generation to Company's energy efficiency and peak demand reduction requirements. CHP projects may count toward meeting energy efficiency and peak demand reduction requirements as allowed under Ohio Amended Substitute Senate Bill 310.
- 2. CHP System Description: The CHP System 2 will have a Solar Taurus 70 gas turbine (GT) that will exhaust into a plenum that will be used in the hoods for the paper machine drying process. The GT will have an extended duct for possible addition of a selective catalytic reduction (SCR) system. The exhaust from the Yankee hoods will then enter the heat recovery steam generator (HRSG) that will be capable of duct firing to produce steam for normal operating conditions. The auxiliary boiler will supplement the remaining necessary steam.

Once both CHP systems are running, the CHP systems will be sharing a common steam header. In normal operation, two HRSGs (one per CHP system) and one auxiliary boiler will be running to produce the necessary steam for the two paper machines. The second auxiliary boiler will be used as a backup. The auxiliary boilers will alternate when they will be in operation.

- **3.** Economic Analysis: The expected customer savings over the life of the project is \$40,823,121 (present value). The cost savings is for both capacity and avoided energy charges but does not include hot water savings.
- 4. CHP System Life or CHP supplier Contract Term: 20-year CHP system life
- **5.** CHP System efficiency and expected % availability: 68.1% efficiency and 100% available with the exception of unexpected downtime and maintenance.
- 6. Percentage of total usage offset by the CHP system: The plants that the CHP system will supply are new construction. Approximately 37.5% of the expected electrical usage (provided by electrical grid through AEP transmission/distribution lines) will be replaced by this new COGEN installation.

- Planned annual MWh and MW generation provided from the CHP system and counted as 100% energy and demand savings committed to AEP Ohio: 7649 KW; 50,000,000 kWh per year
- 8. Economic Benefits: Utility Cost Test benefit/cost ratio is 22.7. Total net benefits of this project are \$84,905,040 in avoided generation and transmission costs net of Company costs. This project is highly cost effective and compares very favorably to other energy efficiency projects by delivering energy and demand savings at a significantly lower cost than typical projects and the portfolio plan as a whole.
- 9. Contract Term: <u>5</u> years
- **10.** Anticipated commissioning date and full scale start-up of operation that will initiate contract start date: CHP System 2 commissioning is expected to be completed February 2019 with the 12 month meter readings ending February 2020.

11. Non-energy Benefits:

As the largest private investment in Circleville in many years, Sofidel America's Greenfield plant will increase the local economy and surrounding areas.

The construction of the plant itself will generate economic benefits to the surrounding area either directly with companies and/or workers involved in the construction of the plant (equipment and material suppliers, contractors, engineers) or indirectly with companies servicing the needs of these companies and workers (such as food service, hospitality, and transportation industries among others). For example, there is a plan to add a rail spur in order to facilitate shipment of finished products and receipt of materials by freight train in addition to the available trucking transportation.

Even after construction, the local economy will benefit from the establishment of this facility. Sofidel America is committed to enroll 310 employees in the Circleville facility by 2020 and by hiring in both management and manufacturing positions. Furthermore, there will be a need of continuous services from the area. As an example, like any manufacturing facility there will be a need for repair and maintenance. This maintenance would call for skilled workers as well as for supply and manufacturing of standard and custom parts.

Recognizing that the paper manufacturing process requires a lot of energy and has an impact on our resources, Sofidel Group strives to be as environmentally and socially sustainable as possible and is committed to give more value in products and services by reducing the negative impact on the environment as well as people's lives, hence our motto of "Less is More". Based on this guiding principle, Sofidel continues to innovate and refine its processes. In the case of the Circleville plant, for example, it is not just reducing emissions by building the two co-generation

plants but also recycling as much water as possible in our paper mill process and reducing our impact in our rivers by constructing a waste water treatment plant.

Sofidel Group has various Italian and international partners among them are UN's Global Compact initiative, WWF Climate Savers, and Médecins Sans Frontières (Doctors without Borders). In the USA, all our current branches in Sofidel America are PEFC certified, endorsed by an international organization promoting sustainable forest management.

12. CHP system generator output measurement, reporting and auditing: Customer at their sole cost utilizing utility grade metering and in accordance with Company specifications shall measure the generator output and provide monthly readings via e-mail to designated Company personnel. After providing reasonable notice, Company has the right to inspect and validate the meter readings of the CHP system. Company will provide Customer, upon written request, a copy of any report generated as a result of the inspection and audit. Notwithstanding the foregoing, it shall be the sole responsibility of Customer to operate, maintain, repair, and inspect the CHP system to ensure its proper working order during the entire term of the agreement. Customer shall complete an Annual Affidavit of CHP Performance, attached hereto as Attachment 2. Customer hereby agrees to submit the Annual Affidavit of Performance to the Company within 15 days of the completion of the 12 month implementation period, attesting to its annual generation of energy and demand in MWhs and MW, respectively, as well as the overall system efficiency for the previous year and current condition of the CHP system.

13. Incentives:

a. Payments are based on annual net metered kWh produced by the CHP system for internal plant production use. No incentive payment is earned until the full 12 months of meter readings have been submitted to the Company. The annual incentive payment will be made upon receiving 12 months of meter readings, the annual affidavit with actual efficiency calculations, a W9 and invoice for payment.

Parasitic loads will be removed from the gross metered kWh generation. If parasitic loads cannot be accurately measured by the customer, then the Department of Energy recommended default value will be used for estimating the net kWh generation.

b. Payments = \$0.007 per net kWh for 5 years capped at \$400,000 per year per project.

- c. Annual payments commencing twelve months following the formal commissioning date to full operation and are made for 5 consecutive years.
- d. Estimated annual payments beginning in 2019 are \$350,000 and total payments over 5 years are estimated at \$1,750,000.
- **14. EE/PDR rider and EE/PDR program participation:** Customer agrees to continue paying EE/PDR rider until the end of the incentive payment term in this agreement, and Customer can continue to participate in any EE/PDR programs available to them.
- **15. Interconnection requirements:** Customer application for interconnection has been submitted by Company and the agreement is being prepared. This agreement is subject to Customer and Company execution of the interconnection agreement.
- **16. Standby service requirements:** Customer agrees to adhere to any requirements and costs of such, if applicable.
- **17. Invoicing for Incentives:** Customer shall invoice Company annually for incentives within fifteen days following the end of the twelve month period and Company receipt of the Annual Affidavit of Performance. Company shall pay all such properly submitted incentive invoices within fifteen (15) business days after receipt.
- **18. Penalty:** Customer could be subject to forfeit of annual incentive payment at the sole discretion of the Company if the Annual Affidavit of CHP Performance is not submitted by the due date, monthly meter readings are not provided or reasonable requests for inspection and validation of meter readings are not allowed by the Customer. If Customer terminates early (before the 5 years), the only penalty will be the forfeit of the annual incentive for that year and any subsequent years during the 5-year term.
- **19. Contacts and Notices:** Contacts for each party. All Notices relating to this contract must be effectuated in writing and sent by ordinary US mail, postage prepaid, to:
 - a. Customer: Andrea Wong

Process Engineer, Sofidel America 25910 US 23, Circleville, OH 43113 918-934-7994

b. Company: Jon Williams

Manager, Energy Efficiency and Demand Response 301 Cleveland Avenue, Canton, Ohio 44701 330-438-7742

- **20. MODIFICATION.** No modification of this Agreement is effective unless reduced to writing, signed by both parties.
- 21. SUCCESSORS AND ASSIGNS. This Agreement shall be binding upon and inure to the benefit of the parties hereto, and their respective successors and/or assigns, but Customer shall not transfer or assign any of the rights hereby granted to any non-affiliated third-party of Sofidel SpA without the prior written consent of AEP Ohio.
- 22. REGULATORY APPROVAL. The Customer and Company have worked extensively on this project over the last year and agree that we have shown that it provides significant benefits to all customers due to its size and high cost effectiveness compared to other projects. Both parties request expedited review and approval of the agreement. This contract is dependent upon approval of a mercantile arrangement along with cost recovery including shared savings through the EE/PDR rider based on the terms of this contract by the Public Utilities Commission of Ohio (Commission) The parties agree that the goal of the agreement is to help the Customer achieve greater energy efficiency and productivity in its operations and help the Company meet its energy efficiency and peak demand reduction goals, while improving the overall cost effectiveness of goal achievement in each year.

OHIO POWER COMPANY
By InJohn
Name: JON F. WILLIAMS
Title: Director Dist. Tech + TNADVATION
Date: 3/14/18
CUSTOMER: _Sofidel America
By: The Gran
Name: SIMONE OFFINED
Title: VICE CHIEF TECHICAL OPPICER

Date: 03-12-2018

ATTACHMENT 1



TOTAL ENERGY CONSUMPTION

TM/CHP 1 P&ID TAG	TM/CHP 2 P&ID TAG	COGEN SYSTEM								Notes/Explanation
146-FE-2108	246-FE-2108	GT Gas consumption rate	25,341	kW	OK		OK	86.47	MMBTU/h	The gas consumption is calculated considering the average annual
		GT efficiency	30.18%		OK					tomporature (52 *6)
Assumed	Assumed	Working hours per year	8,520	h	OK					temperature (55-1)
		AIRCAP (HOODS)	WE	DE			WE	DE		
162-FI1 500 / 600	262-FI1 500 / 600	Gas consumption rate	14,874	14,874	kW	OK	50.75	50.75	MMBTU/h	It is assumed that air cap burners will work for 5% of the time turbine
Assumed	Assumed	Working hours per year	426	426	h	OK				is working , equivalent hours (hours of work at the maximum of the
		HRSG DUCT BURNER								
146 -FE-218	246-FE-218	Gas consumption rate	1,766	kW	OK	OK	6.03		MMBTU/h	It is assumed that HRSG duct burner will work for 6390 equivalent
Assumed	Assumed	Working hours per year	6,390	h	OK					hours (hours of work at the maximum of the power)
		AUXILIARY BOILER								
146-FE-208	246-FE-208	Gas consumption rate	12,878	kW	OK	OK	43.94		MMBTU/h	It is assumed that auxiliary boiler burner will work for 1598 equivalen
Assumed	Assumed	Working hours per year	1,598	h	OK					hour (hours of work at the maximum of the power)
			USEFUL WOR	K						
PL& D Tag		COGEN SYSTEM								Notes/Evolution
52 GTM1-MEM	52 GTM2-MEM	GT Electricity	7.649	kW/	OK			26.10	MMBTU/b	Hotes/ Explanation
52 01112 1111	52 01112 11111	GT efficiency	30 18%		OK			20.10	1111010/11	GT electricity production is calculated consideringt the average annua
Assumed	Assumed	Working bours per year	8 5 20	b	OK					temperature (53 °F)
		EVAPORATION RATE	WF	DF			WF	DF		
162-EIC 581 / 681	262-EIC 581 / 681	Exhaust air flow	13.50	13.40	kgDA/s	OK	107.145	106 351	lbDA/b	
162-MT 581 / 681	262-MT 581 / 681	humidity outlet	200	186	eH2O/keDA	OK	0.200	0.186	IbH20/IbDA	
GT design data	GT design data	humidity inlet	50	50	gH2O/kgDA	OK	0.050	0.050		Energy used to dry the paper, the amount of water evaporated is
		Enthalov by water	2795	2795	k1/kg	OK	1 202	1 202	BTU/Ib	measured as humidity in the exhaust minus the moisture already
		E evanoration rate	5 660	5 094	kW	OK	19.31	17 38	MMRTI1/b	present in the inlet air flow
Assumed	Assumed	Working hours per year	8 5 20	8 5 2 0	h	U.	13.31	17.50	1111010/11	
resumed	rasamea	ROOM HEATING HR	0,520	0,520						
		Water flow rate	80.0	ka/s		OK		634 931	lh/h	
		Glycol %	40	%		OK		40	%	
168-TT10-113	268-TT1-113	Water temp. IN	30	*C		OK		86	*F	
100 1110 115		water temp. in	50	<i>c</i>		0.0		400		Energy used to heat the paper mill building during the winter (around
168-TT-101	268-TT-101	Water temp. OUT	50	°C		OK		1//	- PE	
168-TT-101	268-TT-101	Water temp. OUT Specific Heat	50 3 55	°C kl/kg*C		OK		0.848	F BTU/Ib*E	5 months per year)
168-TT-101	268-TT-101	Water temp. OUT Specific Heat	50 3.55	°C kJ/kg°C		OK OK		0.848	BTU/Ib*F	5 months per year)
168-TT-101	268-TT-101	Water temp. OUT Specific Heat E heating system Working hours not your	50 3.55 5,680	°C kJ/kg°C kW		OK OK OK		0.848 19.38	BTU/Ib*F MMBTU/h	5 months per year)

Energy Efficienc	y calculated a	is average year ef	ficiency		
ANNUAL TOTAL ENERGY CONSUMPTION	260,444	MWh/year	888.7	MMBTU/year	С
ANNUAL ELECTRICITY PRODUCED	65,169	MWh/year	222.4	MMBTU/year	C
ANNUAL RECOVERED HEAT	112,068	MWh/year	382.4	MMBTU/year	c
Overall Total Plant Energy Efficiecy	68.1%		68.1%		c
Plants Thermal Efficiency-	43.0%		43.0%		C
Thermal Efficiency of the CHP	33 3%				

Assumed Average equipment efficiency 90%

ATTACHMENT 2

Attachment A

State of Ohio: ANNUAL AFFIDAVIT OF CHP PERFORMANCECounty of:

_____, Affiant, being duly sworn, affirmed according to law,

deposes and says that:

- I am the duly authorized representative for purposes of this agreement of the CHP generating facility.
 I have personally examined and am familiar with all information contained in the
- 2. I have personally examined and am familiar with all information contained in the foregoing Agreement, including any exhibits and attachments, and that based upon my inquiry of those persons immediately responsible for obtaining the information contained in the Agreement; I believe that the information is true, accurate and complete.
- 3. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

The Statement:

For the twelve month period identified by the Meter Read Dates below, this CHP generating facility continued to be in good working order with no material corrective actions pertaining to safety and/or operation warranting major attention and significant down time. Further, this CHP generating facility delivered ______ MWhs in the twelve month period.

Meter Read Dates (mo/day/yr)
Start: _____

Readings

End: _____

The calculated average annual total system efficiency for the twelve month period of the CHP generating facility is %

Signature of Affiant & Title

Sworn and subscribed before me this _____day of ______, ___Month/Year

Notary Signature

Print Name and Title

My commission expires on _____

ATTACHMENT 3

Test	NPV	Benefit/C ost Ratio
Total Resource	\$ 10,684,583	1.4
Participant	\$ 19,672,615	1.7
RIM	\$ (8,988,032)	0.8
Utility	\$ 38,067,527	22.7
Societal	\$ 27,835,041	2.0

NPV/kWh	\$ 0.7614	
Shared		
Savings		
per kWh	\$ 0.0990	\$ 4,948,778

ATTACHMENT 4



APPLICATION FOR INTERCONNECTION OF GENERATION EQUIPMENT 20 MEGAWATTS OR LESS (Standard Form Application)

A Short Form Application is available for inverter-based systems (25 kW or less).

An Application is a complete application when it provides all applicable and correct information required below. Additional information to evaluate a request for interconnection may be required pursuant to the application process after the Application is deemed complete.

Applications for Interconnection meeting Level 2 qualifying criteria are subject to an application fee of \$50 + \$1/kW. Applications for Interconnection meeting Level 3 qualifying criteria are subject to an application fee of \$100 + \$2/kW. Check Attached

	Customer		
Legal Name: Sofidel America			
Mailing Address: 25910 US 23	0		
City: Circleville	State: OH	Zip: <u>43113</u>	
Phone: (863) 512-3829	Phone: ()		_
E-mail address: simone.capuano@sofidel.it			

Alternate Contact

Name: Andrea R. Wong	
Mailing Address: 25910 US 23	
City: Circleville	_ State: _OH Zip: _43113
Phone: (918) 934-7994	_ Phone: ()

E-mail address: andrea.wong@sofidelamerica.com

Facility Location

Street Address: 25910 US 23		
City: Circleville	Zip: 43113	

Service Information

Electric Service Account N	Number: 106-846-664	4-0			
Existing Electric Service:	Capacity: 1200		Amperes	Voltage: <u>138,000</u>	Volts
	Service Character: () Single Pha	se (X) Thre	e Phase	
Site Maximum Demand:	20,000 kW	Annual Ener	gy Consum	nption122,640,000	kWh
Requested Point of Interco	onnection: SEL 351-7	relays (main b	reakers at So	ofidel's substation)	
Location of Utility Access	ible Lockable Discor	nect Switch:	At AEP Sul	ostation N/E of Sofidel Pro	perty, North of utility
			meter	(e.g. West wall next to utility meter)
Demused II. Comise Dete	Nov 15 2017				

Requested In-Service Date: Nov 15, 2017

Consulting Engineer or Contractor

Name:	Concord	Engineering	Group
			and the second se

Address: 520 S Burnt Mill Road

City: Voorhees

Zip: <u>08043</u>

Phone: (856) 427-0200 Phone: (609) 760-4052 E-mail: gmolinari@concord-engineering.com

State: NJ

Generator Qualifications

Energy Source: () Solar () Wind () Hydro: type (e.g. run-of-river)				
() Diesel (X) Natural Gas () Fuel Oil () Other: (specify)				
Type of Generator: () Inverter-Based (X) Synchronous () Induction				
Generator Nameplate Ratings: 7518 kW @ 59F, 12470 Volts Connected (X) Wye () Delta				
Number of Generators: <u>2</u> Service Character: () 1 Phase (X) 3 Phase Power Factor: <u>80%</u>				
Inverter AC Ratings: N/A kW Volts Number of Inverters				
Number of Solar PV Modules: N/A DC Rating: watts				
Maximum Net Export Capability: 6 MW Estimated Annual Energy Production: 50,000 mWh (Expected)				

Will trip with reverse power relay if exporting more than 6 MW after a period of time This Generating Equipment is intended to be used to:

() Emergency/Standby – Operated when AEP service is not available. Paralleling is for short durations.

- () Peak Shaving Operated during peak demand periods. Paralleling is for extended times.
- () Base Load Power Operated continuously at a pre-determined output. Paralleling is continuous.
- (X) Cogeneration Operated primarily to produce thermal energy. Paralleling is extended or continuous.
- () Renewable non-dispatched Operated in response to an available renewable resource. Paralleling is for extended times.
- () Other Describe:

List components of the generation equipment that are currently certified by a nationally recognized testing and certification laboratory (NRTL) and/or listed by the Underwriters Laboratory:

Equipment Type 1. Gas Turbine Generator Package: Solar Turbine Model - Taurus 70 Gen Set. UL Listing or certifying NRTL Certification <u>The components of the package are</u> <u>manufactured and tested inaccordance with</u> <u>internationally recognized standard and certified</u> <u>by nationally recognized testing & ceritification.</u> <u>laboratory (NRTL) and/or listed by UL (See</u> <u>attachment-6)</u>

Generation Equipment Technical Information

Attach electrical one-line diagram showing the configuration of all generating facility equipment, transformers, switchgear, switches, circuit breakers, fuses, current and potential transformers, and protection and control schemes. (This diagram must be signed and stamped by a licensed Professional Engineer if the facility is larger than 50kW).

Attach site documentation that indicates the precise physical location of the proposed generating facility and location of protective interface equipment, disconnect switch, and utility electric meter (e.g. USGS topographic map or other diagram or documentation).

Attach technical specifications literature for inverters, photovoltaic modules, wind turbines, other generation equipment, battery systems, transformers, switches, or other interface devices and documentation that describes and details the operation of all protection and control schemes.

Attach UL 1741documentation or installation test procedures for all the tests required by IEEE 1547 and the periodic maintenance schedule recommended by the equipment manufacturer. **NOTE 1**

Attach "Certificate of Liability Insurance" or proof of insurance sufficient to meet construction, operating and liability responsibilities.

I hereby certify that, to the best of my knowledge, all the information provided in the Interconnection Application is true and correct.

CUSTOR	MER'S SIGNATURE:	
TITLE:	CHIEF TECHNICAL OFFICER	
DATE: _	11/30/2016	

Return Completed Application to: AEP Ohio Attn: DG Coordinator 850 Tech Center Dr Gahanna, Ohio 43230-6605 614-883-6775 dgcoordinator-ohio@aep.com

Attachment:

1. Electrical: Overall One Line Diagram:	E100/0 - 11/22/16
2. Electrical: One Line Diagram:	E1.01 - 11/22/16
3. Electrical 12.47kV SWGR SG 1201 One Line Diagram:	E101/0 - 11/22/16
4. Electrical 12.47kV SWGR SG 1202 One Line Diagram:	E102/0 - 11/22/16

5. Site General Arrangement Drawing

6. Solar Turbine Technical Specification - June 20, 2016: Rev 1

7. Certificate of Liability Insurance

Note 1: The Installation tests will be carried out in acccordance with 1EEE1547 and the specific procedure will be forwarded on appoval of the application.

9/11/14



c 81 FROM 52-M1) c 81 FROM 52-M2) 1 52-T)	6 81 FROM 52-M1) 6 81 FROM 52-M2) 1 52-T)	EL-2506)	RELAY SOFIDEL 2506) 2506) EL-250
IS FOR USE ON THIS PROJECT ONLY I HEREBY CERTIFY THAT: DESIGN(S), SPECIFICATION(S), DESIGN(S), SPECIFICATION(S), SPECIFICATION, SPECIFICA, SPECIFIC	0 11-22-16 FOR AEP REVIEW - - - Rev. No. Date Description ISSUES & REVISION CONTAINED ON THESE DRAWINGS THE INFORMATION CONTAINED ON THESE DRAWINGS		Sconentancy River Rd. Suite 110 Columbus, Chief Andrew Patrickonson FRE. 614,470,975 FRE. 614,470,475 FRE. 614,475 FRE. 61

<u>QUALIFIER NOTE</u>

THIS ONE LINE DIAGRAM REPRESENTS THE PRELIMINARY CONCEPT OF INTERCONNECTION OF THE CHP GENERATORS WITH THE OVERALL PLANT DISTRIBUTION SYSTEM. THE PROTECTION, METERING, CONTROL AND MONITORING SYSTEM SHOWN IS BASED ON TYPICAL APPLICATION. THE SYSTEM MAY REQUIRE UPDATE/REVISION IN COORDINATION WITH THE PLANT OPERATING PHILOSOPHY AND THE UTILITY INTERCONNECTION REQUIREMENTS.

SEND:	PCS STATUS (INPUT)
	PCS CONTROL (OUTPUT)
MFM	MULTI FUNCTION METER
TS	– TEST SWITCH
RFA	– RELAY FAILURE ALARM
NGR	NEUTRAL GROUNDING RESISTOR
PCS	COGEN PLANT CONTROL SYSTEM
TCS	SOLAR TURBINE CONTROL SYSTEM
AFRS	ARC FLASH REDUCTION SWITCH

	<u>SEL-2505</u>	<u>-1 (52-GTM1)</u>
	OUT-1	TRIP 52-GTM1 (FROM 52M1, SEL-351-7 - 32,81)
	0UT-2	——————————————————————————————————————
	OUT-3	——————————————————————————————————————
	OUT-4	——————————————————————————————————————
	0UT-5	——————————————————————————————————————
	OUT-6	——————————————————————————————————————
	0UT-7	SPARE
REMOTE	0UT-8	——————————————————————————————————————
	ALARM	TO PCS
MODULE	INPUT-1	
	INPUT-2	SPARE
	INPUT-3	STATUS 52-GT1
	INPUT-4	STATUS 52-GTM1
	INPUT-5	SPARE
	INPUT-6	SPARE
	INPUT-7	
	INPUT-8	

DRAWING NOTES:

- 1. REFER TO DRAWING E-001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS LEGEND, AND GENERAL NOTES.
- 2. THE VOLTAGE REACHES A POSITIVE MAXIMUM AT THE GENERATOR TERMINALS IN THE ORDER OF A, B, C.
- 3. REFER TO PROJECT CABLE SCHEDULE FOR ALL CABLE AND CONDUIT
- INFORMATION.
- REFER TO DRAWING E-100 FOR OVERALL SITE SINGLE LINE.
 SEL-2505 FURNISHED BY SWITCHGEAR MANUFACTURER.
- 6. 125 VDC FROM SWITCHGEAR BATTERY SYSTEM SHALL BE USED FOR PROTECTIVE RELAYS AND I/O REQUIRING AUXILIARY POWER.
- UNLESS INDICATED OTHERWISE BREAKER STATUS CONTACTS (52a AND 52b MOC AND TOC), 4 EACH SHALL BE WIRED OUT TO TERMINAL BLOCKS FOR USE WITH THE PLANT CONTROL SYSTEM AND THE TURBINE CONTROL SYSTEM.
- 8. ALL LINE AND BUS POTENTIAL CIRCUITS SHALL BE WIRED OUT TO TERMINAL BLOCKS FOR THE CUSTOMERS USE.
- 9. TEST SWITCHES SHALL BE PROVIDED FOR ALL TRIP, PT, AND CT CIRCUITS (ABB FT1 OR EQUAL)
- THE PCS CLOSE AND OPEN COMMANDS SHALL BE WIRED THROUGH INTERPOSING RELAY AT SWITCHGEAR.

<u>QUALIFIER NOTE</u>

THIS ONE LINE DIAGRAM REPRESENTS THE PRELIMINARY CONCEPT OF INTERCONNECTION OF THE CHP GENERATORS WITH THE OVERALL PLANT DISTRIBUTION SYSTEM. THE PROTECTION, METERING, CONTROL AND MONITORING SYSTEM SHOWN IS BASED ON TYPICAL APPLICATION. THE SYSTEM MAY REQUIRE UPDATE/REVISION IN COORDINATION WITH THE PLANT OPERATING PHILOSOPHY AND THE UTILITY INTERCONNECTION REQUIREMENTS.

OUT-1 TRIP 52-GTM2 (FROM 52M2, SEL-351-7 - 32,81) OUT-2 TRIP 52-GTM2 (FROM 52M2 - OPEN) OUT-3 TRIP 52-GTM2 (FROM 52M1, SEL-357-7 - 32,81) OUT-4 TRIP 52-GTM2 (FROM 52T - OPEN)
OUT-5 TRIP 52-GTM2 (FROM 52F6 - OPEN) OUT-6 52T - STA. OUT-7 SPARE OUT-8 52M1 - STA.
MODULE INPUT-1 STATUS 52-GTM2 (PERM. TO AUTO C/O)
OUT-6 52T - STA. OUT-7 SPARE OUT-8 52M1 - STA.

DRAWING NOTES:

- 1. REFER TO DRAWING E-001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS LEGEND, AND GENERAL NOTES.
- 2. THE VOLTAGE REACHES A POSITIVE MAXIMUM AT THE GENERATOR TERMINALS IN THE ORDER OF
- A, B, C. (NEED VERIFICATION) 3. REFER TO PROJECT CABLE SCHEDULE FOR ALL CABLE AND CONDUIT
- INFORMATION.
- 4. REFER TO DRAWING E-100 FOR OVERALL SITE SINGLE LINE.
- 5. SEL-2505 FURNISHED BY SWITCHGEAR MANUFACTURER. 6. 125 VDC FROM SWITCHGEAR BATTERY SYSTEM SHALL BE USED FOR PROTECTIVE RELAYS AND I/O REQUIRING AUXILIARY POWER.
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- 9. TEST SWITCHES SHALL BE PROVIDED FOR ALL TRIP, PT, AND CT CIRCUITS (ABB FT1 OR EQUAL)
- 10. THE PCS CLOSE AND OPEN COMMANDS SHALL BE WIRED THROUGH INTERPOSING RELAY AT SWITCHGEAR.

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in

Case No(s). 17-0043-EL-EEC

Summary: Application - Amended Joint Application for Approval of a Special Arrangement Agreement Between Ohio Power Company and Sofidel America electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company