CUSTOMIZED ENERGY SOLUTIONS LTD.

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KUPPER ENGINEERING, INC.

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Products: CES SecureNet

Product Description: Secure Real-Time Data Concentrator designed for harsh environments providing Encrypted/Authenticated bi-directional ISO Data Transfer, Protocol Conversion, and Local Historical Logging.

Services: Communications/Systems Engineering Design and Integration, System Installation, Remote Encrypted System Support, ISO Data Transfer.

Service Description: CES SecureNet is a modular system of devices that can be combined in a multiple ways to support PJM, the Facility Owner, and Utility Data Acquisition and Control requirements in a single Device. Customized Energy Solutions provides short lead time delivery of these off-theshelf highly customizable systems, Encrypted Remote Setup and Support, EMS to ISO (PJM, MISO, NYISO, ERCOT, IESO, ISONE, CAISO, etc.) data transfer services, (24x7 Control Room -PJM Certified Operators), Energy Scheduling, and Demand Response. Information Views of the Facility Monitored by CES SecureNet can be made available to the Facility Owner through the Secure CES Web Portal.

Products: Elecsys Director

Product Description: Real Time Communications Gateway for data concentration, protocol conversion, and data encryption.

Services: Engineering, System Integration, Turnkey Services, Third Party OATI Security Officer, Telco/ISP coordination

Service Description: Complete turnkey services of packaged SCADA units, PJM coordination, OATI security licensing, onsite startup and testing. Integration with many different SCADA, DCS, RTU, protective relay, and metering devices.



SIEMENS INDUSTRY INC.

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SIEMENS INDUSTRY INC.

9225 Bee Cave Road Building B Ste. 100 Austin, TX 78733 <u>Siemens DEOP</u> rita.trevino@siemens.com am.mailbox.us@siemens.com (512) 483 1519 Products: Siemens PJM Remote Gateway

Product Description: The Siemens *PJM Remote Gateway* is a RuggedCom RX1500 series communications device with embedded software providing secure communications between PJM customers and PJM Network Operations. The RuggedCom RX1500 is the electric power industry's leading "Substation Hardened" network communications device providing functions like: Ethernet switching and routing, firewall, IPSec/VPN, multiple WAN connection options, serial device connectivity, and other application support. This multifunction device will provide a secure and approved connection to PJM as well as assist in NERC CIP or other cyber security initiatives. For more information, please visit

www.industry.usa.siemens.com/automation/us/en/industrialcommunications/rugged com

Services: Configuration Support

Service Description: Preconfigured devices available.

Products: Siemens DEOP (Distributed Energy Optimization)

Product Description: DEOP (Distributed Energy Optimization) is cloud-based energy internet platform for DER (Distributed Energy Resources) providing monitoring and control of system energy and grid services such as curtailment, demand response, ancillary services, and virtual power plants. DEOP delivers scalable functionality for specific objectives such as CO2 reduction, lowering energy costs, aggregating DERs, participating in energy markets, reporting KPIs, sending and receiving notifications and alarms, data acquisition for analytics, measurement and verification, and system dispatch scheduling. DEOP SaaS (software as a service) provides secure communication between PJM customers and PJM Network Operations via VPN end-point instance to help manage assets in one interface via the web or mobile APP. For more information about digital services and asset management, please visit.



ELECSYS CORPORATION

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Products: DIRECTOR DZ2 and DZ4,

REDILINK 10e and 10c

Product Description: Our powerful and configurable remote filed communication devices provide process monitoring, data communication, and cyber security solution for real-time data acquisition and control in industrial applications. Elecsys field devices integrate seamlessly with enterprise data systems and a powerful suite of Elecsys software efficiently concentrates and securely transfers data from remote assets.

Services: N/A

Service Description: N/A

R2M TECHNOLOGIES INC

63 Spring St. Suite 201 Williamstown, MA 01267 <u>www.r2mtech.us</u> Adam Todorski at@r2mtech.us (518) 669 6778

Products: R2MConnect

Product Description: Secure real time energy resource monitoring and control solutions supporting a wide variety of facility interface requirements utilizing inexpensive facility interface hardware.

Services: Facility integration design and implementation services, ISO market interfaces as a service, API based market telemetry and control interfaces, turnkey secure site data connectivity.

Service Description: R2MConnect provides a scalable, secure, real time control and telemetry interface for both centralized and distributed energy resources using inexpensive off the shelf industrial control hardware or through API based integrations with downstream platforms. The R2MConnect service supports RTO/ISO interfaces using DNP3 and ICCP and can be used in ISO New England, NYISO, PJM, ERCOT, CAISO, and distribution utility SCADA/DMS integrations. R2M can provide a turnkey facility-to-market EMS interface as a service as well as 24/7 market operations utilizing PJM and ISO New England certified operators.



ECG INC

https://www.ecg-inc.com/

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Products: CalcuLink SCADA RTU

Product Description: The CalcuLink device can read data from any number of source devices (e.g. control systems, meters, data historians, etc.), perform additional custom calculations (e.g. aggregates, statistical results, engineering performance calculations including thermodynamics, etc.) and write the results to any number of destination devices (e.g. mirrored PJM Jetstream Servers, data historians, etc.) ECG can provide hardware, software and services to install a turnkey solution that will transmit real-time data from plant's control system or electric meters to PJM.

Glance: Connects InfluxDB, OPC and OSIsoft® PI System® Users to their process data information in a Real-Time, HTML5 web-based environment that performs on nearly any mobile device or desktop. Displays can graphically mimic industrial processes. The displays incorporate graphical artwork which can dynamically change colors and images based on data point values.

Services: System integration, Plant Engineering, Custom Software Development.

Service Description: Engineering and integration services for interfacing plant telemetry data and writing the required results to PJM Jetstream Servers. Integration services for installing time-series databases, configuring Glance for visualization, developing web-based process displays, custom build-out of performance calculations and plant reports.

The listed businesses may assist in creating and maintaining data links to PJM over the Jetstream system. PJM is in no w ay affiliated with or specifically endorsing these resources or products. This information is being provided for informational purposes only. No relevant contract or agreement betw een these organizations and PJM exists. Any contract or agreement will be betw een the connecting asset's responsible party and the contract resource. PJM makes no guarantees about performance or results and in no w ay warrants any services provided by the resources. In no event is PJM Interconnection LLC its affiliates or any of its contributors liable to any person or entity for any decision made or action taken in reliance upon the information provided herein. The list is ordered alphabetically. Qualified engineering firms may contact PJM and PJMDNPSCADA@pjm.com to facilitate their inclusion in this resource list.

