

# Preon Statement of Qualifications



PREON, INC.

Preon was the incubator for SynSel Energy, Inc.

Special SOQ Issue

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## Preon: Established in the Arena of Remote Power

Established in 1996 by current CEO, Tim Tawoda, Preon has morphed from a turnkey data center power specialist to a remote power plant Energy Integrator. Since its earliest years, Preon had utilized standby gensets for its data center clients—eventually becoming the largest sales and service distributorship for Elliott gensets in the US as well as Mitsubishi’s flagship UPS representative. By the mid 2000’s Preon was fortunate enough to have direct access to the Elliott microturbine technology. Realizing the unique benefits over reciprocating gensets, the technology was embraced and promoted through a new business unit of Distributed Generation (DG)... promising a cleaner and more economical means to provide secure continuous power to clients. Preon’s roots in data center power lent access to the mountain states due to the telco proliferation in Denver in the early 2000’s. As the adaptation of the microturbine to remote power became evident, Preon developed a customized microturbine “pod” containing 2 TA100 Elliott/Calnetix microturbines. To satisfy customer concerns, the pod had to have remote satellite communications and the ability to

operate on raw coalbed methane at 5,000 feet elevation and –40 deg F temperatures. The solutions that Preon engineered are still utilized on all installations: clients can real-time monitor and control all microturbine power plants. Today our monitoring and controls system are utilized on the power plants on the roofs of the new Chi-



Preon designs the first remote modular power plant utilizing microturbines for coal bed methane—displayed at the 2006 Gillette CBM Fair

cago Police Stations. Since this pilot project, Preon has provided remote power plants operating on coalbed methane, natural gas, propane, pipeline utility gas and landfill bio gas. Most recently, August 2010, Preon was the first Energy Integrator to run microturbines on Catalyst Gas blends.

## Industry Executives Contribute to Preon’s Success

The following Industry experts are contributors to Preon’s success in remote power:

**Tim Tawoda**; BSME: Preon Inc. CEO, company founder and visionary; Preon Bioelectric LLC Board; Preon Nigeria LLC Board

**Brian Buckta**, Preon roots to 2010 but currently Executive Administrator for SynSel: integral team member in maintaining controls in communication and corporate governance. Brian is a SynSel Director.

**Dave Dewis**, MSME, Chair of the U.S. Clean Heat & Power Association, former President of Elliott

Microturbines. Also, as Chair for IGTI Small Gas Turbine Committee. David is SynSel CTO.

**Mike Judd**, BS Chemistry/Biology, founder and president of St Louis Inventor’s Society. Mike transitioned Preon from converting synthetic renewable gas from electricity to fuel. Mike is a SynSel Director.

**Toy Hartzheim**, BSME, MBA: Gas Catalyst research for Preion; formerly Elliott VP of Engineering

**Justin Carrol**, BSEE: Formerly Preon Engineering; designed remote monitoring for microturbines

### Preon Differentiators:

- PREON PROVIDES TURNKEY ENGINEERING, MAINTENANCE AND PROJECT MANAGEMENT
- FUNDING: ENERGY SAVINGS PERFORMANCE LEASE, PPA, CAPITAL LEASE OR OPERATING LEASE
- BIOGAS MANAGEMENT: DESIGN ASSISTANCE FOR LANDFILL GAS COLLECTION AND DIGESTOR GAS
- UTILIZATION OF CATALYST GAS FOR IMPROVED CAPTION AND GREATER EMISSIONS REDUCTION

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## Propane Gas at Army Depot Data Center

On the east bank of the Mississippi River lie 13,062 acres of the once-active Savanna Army Depot, a former army ammunition and weapons storage facility in Savanna Illinois. Following its closing in 2000, the sites 402 munitions storage bunkers are in the process of being converted into self-powered data storage facility Savanna Depot Technology Corp (SDTC). The concept of the power structure of the bunkers was designed by **Preon Inc** of Elmhurst Illinois which signed an agreement with SDTC of September 2004 to provide the energy consulting, procurement and maintenance for the project.

Diesel Progress Magazine May 2005

Preon was awarded a \$1.1M contract in 2004 for the sale and commissioning of 2 data centers with microturbines for secure and continuous power for a data utilizing UPS, standby diesel gensets and flywheels. Fuel for the microturbines is provided by propane stored in tanks outside the data centers—modified decommissioned bomb bunkers in Savanna Illinois.

Microturbines are the ultimate power platform for data centers due to their reliable nature and ability to run on “secure” fuels such as propane that can be stored on-site. The knowledge gained at SDTC fueled their pilot data center power concepts for the leading software company in the US as well as leading computer manufacturer.

## CEE Honors Their 2000 Award Recipients

The Consulting Electrical Engineers (CEE) division of the Electric Association held their bi annual awards on October 19th at Electri 2000.

Charles Steinmetz Award: This award is given annually the electrical engineer who has distinguished himself among his/her peers by innovative design of a project greater than 1 million dollars of electrical equipment installed.

2000 Award Recipient Innovative Building Concepts and **Preon Inc.** (Precise Power) for the work completed the United Office Products—

Systems House. This project included the consolidation of 32 data centers located across the county into one ultra reliable mega-center to support operations of 200 employees. The project included a 10,000 square foot data center with redundant 225 kVA 15 minute battery back-up uninterruptible power sources and redundant 300 kW generators. The project was designed and installed in 6 months, half the normal time of a project this size.

Electri City Newsletter Winter 2000

## Remote Power on Coal Bed Methane

Powder River Basin is a 2400 square mile area of northeast Wyoming and southeast Montana. It is one of the largest coal reserves in the world and is the 3rd largest source of natural gas for the US. 10,000 wells have been drilled and about 40,000 wells are planned for the future. Electricity is needed in remote areas to compress gas and power pumps to keep the wells dry.

Sensing the need for an economical and green alternative to diesel rental gensets for

the coal bed methane developers of the Wyoming Powder River Basin, **Preon Inc.** invoked on a very ambitious challenge: reliable generation of electric power for dynamic loads at an elevation of 5,000 feet above sea level and at temperatures down to 40 degrees Fahrenheit below zero.

In 2007 Preon successfully field tested dual TA100 microturbines and in the process developed its proprietary remote monitoring and control system for the TA100.

“OVER THE 4 YEARS OF OPERATION, THIS DATA CENTER NEVER DROPPED ITS CRITICAL LOAD— PREVIOUSLY WE WERE HAVING 8 OUTAGES A YEAR” - JEFF WHITEMORE; FACILITY IT DIRECTOR



Preon CEO, Tim Tawoda, standing in front of an Elliott/Capstone TA100 micro-turbine at Savanna Depot.



Dual TA100 at 5,000 feet elevation in Power River Basin near Gillette Wyoming. This module was designed and built by Preon's office in Sheridan Wyoming.

## Remote Natural Gas Power for Largest Energy Company

Utah contains 2 of the 100 largest natural gas fields in the US and there are approximately 5,700 operating gas wells.

Having proven itself a very capable designer and manufacturer of remote power modules by way of the dual TA100 units operating on coalbed methane in Wyoming, **Preon Inc** was awarded a contract by XTO Energy to provide 2 skids, each with triple TA100 microturbines.



Preon Electrical Engineer assembling power equipment prior to final commissioning at a site near Vernal Utah

The 2 skids were shipped to the remote gas fields of Utah in early 2010 and were successfully commissioned.

In December 2009, XTO Energy was purchased by Exxon Mobil.

Preon is currently in discussions with Exxon Mobile to provide similar custom microturbine power pods once the 1 year pilot project is completed in early 2011.



A crane hoists a 40 foot container containing 3 TA100 microturbines prior to shipment to natural gas fields near Vernal Utah. Preon anticipates the sale of more units after the pilot program.

## Preon Bioelectric: JV with Preon, CB Richard Ellis and IBEC

A recent global agreement with Preon Bioelectric adds another dimension to their sustainability platform. Preon Bioelectric helps CBRE clients integrate base load alternative energy systems into their facilities and actually lower the cost of operation. The turnkey power and bio engineering of **Preon Inc**, the legal and business acumen of IBEC and the

reach and relationships of CBRE | The Furman Co. result in the most comprehensive landfill gas-to-electric (LGTE) alternative.

Jim Bishop, CEO of the newly formed company quotes, "I founded International Environmental Business Council nearly five years ago with the goal of profitably producing electricity from methane but the

real job has been finding the players for the team needed to meet the many business, financial, legal, regulatory and technical challenges of turning this greenhouse pollutant into green energy, Preon Bioelectric is that dream team.

CBRE Press Release August 2010

**"TO PARTNER WITH THE MOST ESTABLISHED REAL ESTATE SERVICE COMPANY AND IBEC IS A TESTAMENT TO PREON INC'S TRACK RECORD"**  
- TIM TAWODA; PREON INC CEO, PREON BIOELECTRIC BOARD

## Chicago Police Rely on Microturbines and Utility Gas

"Besides providing electricity to the building, the power plant also serves as a combined heat and power (CHP) facility in the power systems overall efficiency. When CHP is used, a large portion of the microturbine's waste heat is captured and used, increasing system efficiency to better than 75%.

Chicago becomes one of the first cities in the US to incorporate microturbine-based CHP as a template design in municipal offices.

Chicago-based energy integrator **Preon Inc** has commissioned the power systems at the 7th and 9th District Stations. Preon specializes in pro-

viding power packages to installations such as emergency-response agencies, data centers, municipalities and energy-services industries. "

Power Engineering Magazine, July 2009



TA100 microturbine installed on the roof of the District 9 Chicago Police Station. Preon has commissioned 3 police stations with microturbine power plants



**PRE** conceived energy innovation - *before* the light goes **ON**

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*“Microturbine service provider must illustrate capability to expand the electrical production of the microturbine by a factor of at least 3 by use of a **gas catalyst**. The gas catalyst shall also have the effect of 50% reduction in CO/CO2 and 90% reduction in NOx.”*


Public Bid Documents Issued August 2010 for Monroe County Wisconsin Landfill

Gas-to-Electric project: Advanced Energy Technologies are advancing now through pilot programs



Biogas manifold at Monroe County landfill—Preon received an LOI in July 2010. Phase 2 will be the first bio-catalyst gas project.

**SPOT LIGHT ON JOHN SUMPTER**



One of **Preon Inc's** strongest suits is its ability to find a means to finance energy projects. Preon Partner, John Sumpter was previously the Manager for the Carrier Financial Solutions program of UTC. John has translated his experience with a World 100 Company to the monetizing of tax credits, accelerated depreciations, grants and new market tax credits made available to qualifying energy projects.

**We're on the web!**

[www.preon.com](http://www.preon.com)

**Preon and Advanced Energy Technologies**

During it's June 2010 speaking event for the Solid Waste Association of North America (SWANA), Preon presented microturbine-based advanced energy technologies: plasma gas gasification, pyrolyzation gasification, gas catalyst, algae bioreactors and wet electrostatic precipitators.

*“We are proud to be a historic partner of the Bedford Stuyvesant Restoration Corporation and to be part of these important projects. We understand and appreciate the important role that the organization plays in providing essential services and financial education to the Bed-Stuy community.”*

**Preon Inc** proved to us the superior lifecycle cost of microturbines. Our project will be a showcase for microturbines and environmental stewardship for NYC.”

- James Alford; Restoration Plaza Executive

Vikram Pandit; Citi CEO; November 23, 2009 Press Release.

*“These advanced energy technologies were once thought far-fetched... but **Preon Inc** is taking them to actual utilization through technical and methodical application to strategic pilot projects”*

*“I never heard of microturbine technology before. But after competing with reciprocating engine-generators in a rigorous feasibility study funded by Restoration Plaza and NYSERDA,*

- John Baker; Alan Environmental President and former Waste Management Company Chief Scientist



Preon receives a LOI for 3 TA100 microturbines in CHP applicaiton for Restoration Plaza—project will be on line late 2010.



TA100 rich-burn microturbine provided by Preon undergoes independent third party validation of catalyst gas blend by Greenhart Engineering