IIA, INC. POWERGEN

Energy is the most significant driving force of our economy. A loss of energy brings substantial financial shortfalls by creating waste, downtime, and sometimes even life-threatening situations. Depend on PowerGen to evaluate your energy needs and provide solutions for energy production that stays on, stays clean, and stays affordable.

When reliable energy is critical, look to IIA PowerGen for:

- Needs assessments
- CHP system development
- Equipment leasing and financing
- System operation and maintenance

The Benefits of IIA PowerGen CHP Systems

Why depend on traditional methods of generating energy, when nearly a third is typically wasted in the form of heat? IIA PowerGen's Combined Heat and Power (CHP) systems produce electricity while putting thermal energy to use for cooling, heating, humidity control, energy storage, and other process functions.
Our CHP systems are significantly more efficient than conventional power systems resulting in:

Reduced Energy Costs. Combined heat and power capabilities enable a higher system efficiency, which results in lower energy costs. The savings of primary energy achieved with CHP systems are typically 20% to 30% compared with systems that generate power and heat separately. IIA PowerGen's CHP systems can rapidly switch between natural gas and diesel fuels allowing you to control costs when fuel prices rise and fall.

Environmental Benefits. Our CHP systems run cleaner, quieter, and with reduced emissions compared to traditional methods of power generation.

Risk Reduction. A CHP system can be fully automated and operated from remote locations through a wireless broadband connection, reducing the risk to personnel who might otherwise be working on site.

Improved Grid Reliability. By incorporating a variety of technologies, our CHP systems have the flexibility to serve a single-building or an entire campus. They can operate simultaneously with your current power source giving you more control over power load. They can also operate independently, freeing your business from a highly vulnerable power grid and transmission lines.

Potential Applications

IIA PowerGen keeps your company up and running when the competition is floundering in the dark. IIA PowerGen CHP systems can supply power to a wide variety of critical business operations:

Continuous Electric Power

- Government facilities
- Local community power
- Military installations
- Telephone networks
- Internet networks
- Hospitals
- Banks and other financial institutions
- Airports
- Transportation management centers
- Television stations
- On-site industrial power
- Remote construction sites

Bulk Electric Power and Process Steam Systems

- Hospitals
- Pharmaceuticals production
- Food processing
- Petrochemical plants
- Refineries
- Potable water production
- Desalination
- Water treatment
- District heating

Bulk Electric Power and Cooling/Refrigeration Systems

- Data centers
- Ships
- Cold storage – meats & seafood
- Food processing

Emergency Power Generation

Background. In today's environment nothing can be taken for granted. Weather situations like tornados, hurricanes, wind and lighting strikes can cause power outages for a few seconds, several days, or even months. Earthquakes, explosions and fire can sever power transmission lines to your facility. Terrorist attacks against electric power systems can also cripple your operation.

Whatever the cause, lack of electricity at your facility can be devastating whether you are a hospital caring for the sick and injured, a treatment plant providing water for your community, a computer oriented business with a world marketplace, or a manufacturing plant that simply can't afford downtime.

What IIA PowerGen can do for your facility. We know what you can do, and should do, to make sure that your facility will keep running even if the electricity to your facility doesn't . From portable generators to standby cogeneration units, and from the facility manager to the maintenance technician, IIA PowerGen can provide your standby emergency power generation equipment.

It is no longer acceptable to have your equipment installed and just "assume" that it will work in an emergency. More and more frequently building engineers, maintenance technicians and facility managers are becoming aware of the critical role proper electrical energy planning plays in the survival of their facility in the event of a natural or manmade power outage.

IIA PowerGen can provide you the peace of mind knowing that your facility will be ready for anything! IIA PowerGen can help you plan the effectiveness of your generator and engine control systems, such as parallel operation; synchronizing procedures to load sharing, and how to adjust KVAR's to control the power factor.

We understand the basics of generators and prime movers and the basic electrical fundamentals of the different generator types. The **IIA PowerGen Assistance Capabilities Include**:

- Specific requirements and recommendations for the installation, operation and maintenance of onsite generator systems
- Providing critical information from professional sources such as the EGSA, IEEE, NFPA, NECA and NETA
- Determining what backup system and emergency plan is best suited for your facility
- Reading and understanding vendor drawings and technical information
- How and when to successfully test onsite generator equipment
- How to work with parallel energy sources
- Synchronizing procedures and load sharing

IIA PowerGen Technical Skill Sets:

Generators and Prime Movers
- Generator Purposes, Operation & Control · Types of Prime Movers
- Generator Basic Electrical Fundamentals
- Generator Types and Construction
- Grounding and Bonding of Generator Systems · UPS System Fundamentals

Protection and Transfer of Electrical Power
- Circuit Breakers
- Switchgear
- Transfer Switches
- Parallel Operation

Generator and Engine Controls
- Governors
- Voltage Regulators
- Engine Protection
- Onsite Generator Controls including PLC's and SCADA Systems

Auxiliary Systems
- Fuel Systems
- Cooling Systems
- Exhaust Systems
- Vibration Attenuation
- Sound Attenuation
- Engine Starting Systems · Load Banks
- Emissions Control

Generator Applications
- Cogeneration
- Emergency Power Systems
- Legally Required Standby Systems · Optional Standby Systems
- Applicable Codes and Standards