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Generac Industrial Power Meets Customer Demand

We are excited to introduce the formation of Generac Industrial Power. While Generac has manufactured quality industrial generator for decades, the formal naming of this sector of Generac's business acknowledges our proven marketplace expertise and a new focus on major design and engineering improvements to the entire industrial product line-up. This investment in our industrial business segment is a result of research conducted over the past year which yielded key indicators revealing the need to build more awareness in

the marketplace of our product benefits over the competition. Additionally, our industrial business has undergone a comprehensive rebranding that focuses on our customers' own definitions of their needs and how Generac Industrial Power can help meet them.

A host of product improvements have been implemented, including new engines, new enclosures, several ergonomic enhancements and aesthetic changes.

At the heart of our gensets are new

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Industrial-certified, Generac-approved diesel engines from Fiat Powertrain Technologies (FPT) and Volvo powering the 60-400 kilowatt (kW) power range. These rugged EPA and CARB Certified engines have been proven reliable for the rigorous applications of electric power generation. We have worked with Volvo for many years and are excited to form a new strategic partnership with FPT. Both of these manufacturers have a global understanding of the competitive industrial engine landscape and provide the engine quality needed to go head-to-head against mutual Generac competitors in the power generation market.

We've introduced new enclosures that provide better sound attenuation, thanks to improved Mylar insulation, consolidated sheet metal parts and added stiffness. Enclosures have a rugged exterior coating with RhinoCoat™ and feature a gasket-free, interconnected roof joint panel that requires no additional caulking.

Enclosure improvements are just the beginning. A feature unique to Generac was created by lowering the control panel from the top of the connection box to a dedicated adjustable stand on our 100-400 kW diesel units, eliminating the need to use a ladder to interface with the unit. Additionally, the control panel can be oriented in different angles to provide better access depending on a low, normal or high location setting. We've introduced static connection boxes that do not reposition when paired with an oversized alternator. Since the connection box remains in the same location, it allows "as-built" installation drawings to be consistent with submittal drawings. There are now three times as many labels for improved instruction and easier installation. The packaging of our frame and enclosure groups has been updated to provide greater access on 200-400 kW diesel units, which allows them to be serviced more easily.

Additional improvements include a systematic offering of oversized alternators. With most of our units offering Upsize 1 and Upsize 2 options, we've addressed sKVA (motor-starting inrush) needs with better ability to meet Class A and B temperature rise requirements. These packaging adjustments are complemented by a simplified installation drawing format

that is clearer and more consistent. International Building Code (IBC) Seismic Certifications are optional with each genset. Our improved industrial controls allow for oversized circuits for special loads and a wider range of multiple breaker combinations to serve distribution panels.

To enhance the branding of Generac Industrial Power products and make them easily identifiable in the marketplace, a dark gray has been designated as the new standard enclosure paint color and a new 'Generac Industrial Power' logo has been developed. The engine, alternator and internal sheet metal components will be dark gray and black. These visual elements represent a new direction for Generac Industrial Power that distinguishes the business from the residential and light commercial segments.

The changes we're introducing now are just the beginning of many improvements you'll see over the next year. For specific details on product changes and to secure the latest

specification sheets visit www.generac.com or contact your local Generac Industrial Power sales representative.



The new Generac Industrial Power enclosures feature a rugged exterior coating in dark gray and are marked with our new logo.

Case Study

Ecommerce, Inc., a web hosting and e-commerce company, recently installed a 2 x 500 kW diesel MPS system to back up its industrial-grade server infrastructure in the event of a power outage. The MPS system left open the possibility for expansion in the future. To read more, click here:

<http://www.generac.com/CaseStudies/0184900SBY.pdf>

More Powerful Sizing, Design Program in Industry

Generac has launched its new Power Design Pro software, a sizing and design program created by engineers, for engineers. This new software is a complete generator sizing and system design tool supporting both electrical and mechanical design. Based on 50 years of power generation experience, the software incorporates state-of-the-art algorithms that accurately model the load's true characteristics. This modeling includes full harmonic and transient analysis to ensure complete generator-to-load compatibility. Power Design Pro will provide the market with the most advanced and accurate generator design tool available.

In addition to providing state-of-the-art generator sizing and analysis, Power Design Pro is a one-stop solution center for the consulting engineer and offers specification sheets; installation drawings; emission information; a specification text library with full inclusive design notes; and the ability to link directly to supporting dealers for budgetary quoting and additional support.

Let's discuss specifics about the program's features:

Harmonic Analysis

Power Design Pro uses harmonic analysis to limit the harmonic voltage distortion to acceptable levels. The software handles this by selecting a harmonic current signature for each load type and the user then has the ability to modify it to accurately model any load the user may be working with. Once the loads have been entered, the software calculates

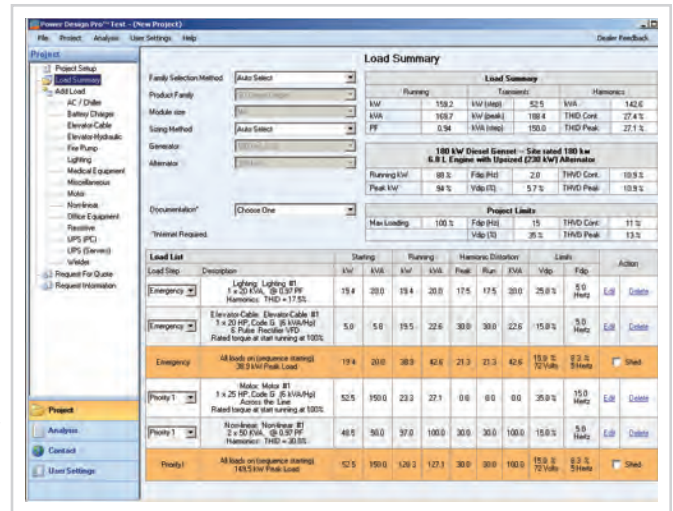
the resulting harmonic voltage distortion as that load is applied to various generators.

Transient Analysis

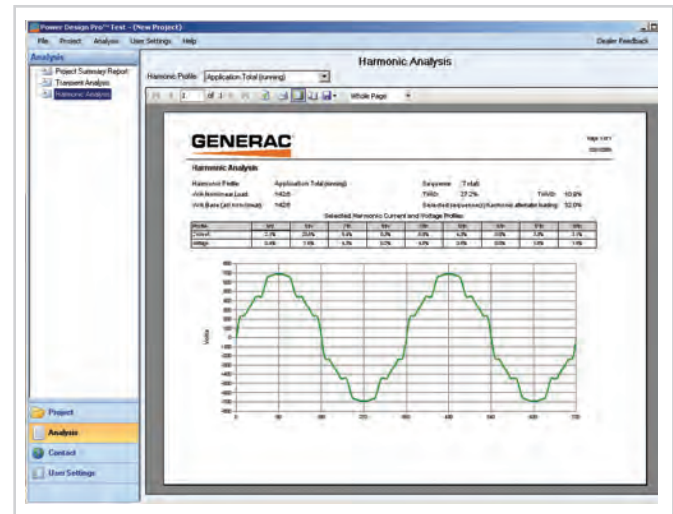
In order to calculate transients, the software uses voltage and frequency tolerances, as opposed to a simple voltage dip model. Power Design Pro customizes allowable tolerances for each load versus a single parameter for the entire project. It also provides the user with a detailed transient analysis which identifies the load sequences and the loads in that sequence that are causing the greatest system transients – voltage and frequency.

Advanced Load Modeling

As you're likely aware, when it comes to accurately capturing a load's true nature, most sizing programs don't ask the right questions such as: "Is the UPS technology passive, line interactive, ferro-resonant, or double conversion?" or, "Is the variable frequency drive input



This graphic demonstrates a load summary in Power Design Pro.



Power Design Pro can easily conduct harmonic analysis on any load specified.

6 pulse unfiltered, filtered, or IGBT?" In contrast, Power Design Pro uses an expert system approach to provide a safe default setting for times when specific

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information is limited, but incorporates the right questions to model a load's true characteristics. The software even accommodates for out-of-the-ordinary applications and allows users to build their own load types inclusive of starting, running, and harmonic characteristics.

Load Shedding

Power Design Pro also provides the ability to shed loads entered into the program and allows the user to evaluate the effects of running those loads against any generator configuration selected by the user. As you know, when designing redundant power solutions, load shedding

schemes are often implemented to maintain system integrity. With Power Design Pro, the goal is not to simply provide a sizing recommendation, but also provide a tool to allow the user to perform "what-if" analysis.

Natural Load Sequencing, Cyclic Loading and Load Factors

Finally, Power Design Pro supports natural load sequencing, cyclic loading, and user-definable load factors in addition to the traditional concurrent starting load step method. This ability

is designed to overcome a common limitation and misapplication of traditional generator sizing programs that occurs when too many loads are entered into a single step resulting in a fictitious situation that assumes all the loads are running and starting simultaneously. With Generac's new software, users no longer have to manipulate loads into an arbitrary grouping to compensate for this shortcoming.

For more information, please visit www.generac.com/powerdesignpro/ or contact your local Generac Industrial Power sales representative.

E2E: New EPA Requirements – What to Expect

Q. What new EPA requirements will result from the next code change?

A. The next significant code change affects diesel engine emission levels and will occur in 2011. This code change will bring up the plus 500 kilowatt electrical (kWe) generators to Tier 3 requirements. The EPA does not currently require post treatment technologies for stationary diesel standby generators (these include particulate traps and selective catalytic reduction). Post-treatment technology will be required for all applications that are being operated in non-standby applications.

Generac will continue to supply EPA-certified stationary diesel standby generators. This category is and should remain exempt from the need to apply after-treatments, as would normally apply to non-road diesel engines. Generac's line of stationary emergency generators is exempt from the full requirements of the mobile non-road diesel regulations. These regulations mandate that after-treatment is required due to the intended use of this type of generator, which includes infrequent run-time.

EPA requirements issued in 2008 for spark-ignited engine emissions (natural gas or LP, emergency or non-emergency) required that either the manufacturer obtain emission certification or the engine must be subjected to an expensive on-site testing and certification process. To control emissions,

generating sets producing more than 80 kilowatts (kW) of electrical output require an active air-fuel ratio control combined with an exhaust catalyst, much like an automobile. This regulation change also associates end-users, as they must comply with the manufacturer's requirements for installation, maintenance and any engine adjustments. There are currently no new code changes that will be implemented by the EPA for stationary emergency spark-ignited engine emissions.

Generac continues to be focused on the emission certification process for emergency applications and all products that have been delivered since the 2008 code change have been EPA-compliant. Generac was ahead of the curve regarding this change due to product modifications made in order to meet the state of California's amended emission regulations. Generac was the first manufacturer to work with the South Coast Air Quality Management District (SCAQMD) to extend the Certified Emissions Program (CEP) to natural gas and propane units. Now, all Generac spark-ignited emergency stationary gensets with power outputs from 25 kW to 300 kW are compliant and it is evaluating the need for non-emergency certification.

For more information about the EPA requirements and code changes relating to Generac generators, please contact your Generac Industrial Power sales representative.