

Generac said it would begin manufacturing 500 kW natural gas gen-sets at its facility in Oshkosh, Wis. They will be powered by a new 25.8 L liquid-cooled Generac engine and will be the largest natural gas gen-sets in the company's industrial generator line. The 500 kW units are slated to begin shipping early next year, the company said.



## GAS GIANT

New 500 kW node will be Generac's largest natural gas gen-set, driven by new Generac engine

BY ART AIELLO

In another move to expand its natural gas generator offering, Generac Power Systems, Waukesha, Wis., has announced it will begin manufacturing 500 kW natural gas gen-sets. The 500 kW units will be largest natural gas gen-sets in the company's industrial generator line, Generac said, and will be powered by a new 25.8 L liquid-cooled Generac engine. Previously, Generac's largest natural gas gen-set was standby rated at 400 kW.

The company said the new node is targeted for large standby power applications, such as healthcare and data centers. They will be available as single sets or for use in parallel configurations as part of Generac's Modular Power Systems (MPS) solution, which is designed for larger applications requiring installation flexibility or redundancy, the company said.

"The natural gas market contin-

ues to grow," said Richard Lincoln, director, Product Management, C&I Generators for Generac. "There is definitely an increasing demand for larger, natural gas-powered products, and there is a lot of excitement building within the market."

The 500 kW gen-set is driven by a 25.8 L, 12-cylinder vee configuration Generac engine that is turbocharged and aftercooled. The engine is rated 809 hp at 1800 rpm. Bore and stroke is 132 x 160 mm. It will initially be U.S. Environmental Protection Agency (EPA) certified for stationary emergency applications. That will be followed by stationary nonemergency and mobile certifications after the initial launch.

Lincoln said that the biggest challenge designing the new 25.8 L natural gas engine was piston geometry.

"Certainly the most time and effort is

put into piston design," he said. "The heritage of the engine block is that it comes from a diesel application, and when you convert to a spark-ignited application, there is a completely different piston geometry. The need is to optimize compression ratio and fuel burn. Compression ratio — getting that right — drives how much power can be obtained and how much margin is available before detonation."

The engine directly drives a Generac four-pole, permanent magnet, revolving field alternator. The gen-set is available with three-phase power output of 120/208, 120/240, 277/480 or 347/600 Vac.

The 500 kW gen-set can be delivered as an open set or with an enclosure. Options include a standard enclosure, level 1 or level 2 acoustic enclosure, all of which are available in either steel or aluminum. The stan-

ard enclosure has a sound level of less than 90 dB(A) at 23 ft., while the level 1 and 2 enclosures have sound levels less than or equal to 80 and 70 dB(A), respectively.

The unit has Generac's Power-Manager integrated controls, which offers functions such as two-way communication with the automatic transfer switch, isochronous engine speed control and automatic voltage regulation with over voltage protection and variable voltage and frequency settings. The controller package comes equipped with RS232 and RS485 communication ports and is capable of remote monitoring with the addition of an optional modem or Ethernet and Generac's GenLink software.

Lincoln said that the new 500 kW units will be manufactured at Generac's plant in Oshkosh, Wis., which came as part of its acquisition of the generator products division of Baldor Electric Co. (see November 2013 *Diesel Progress*). In general,

Lincoln said that Generac manufactures industrial and commercial gen-sets larger than 150 kW at the Oshkosh facility, while units below 150 kW are made at the company's plant in Eagle, Wis., and residential products — including the company's home standby generators — as well as some smaller commercial gen-sets, are manufactured in Whitewater, Wis.

In addition to large diesel-fueled units as a result of the Baldor acquisition, Lincoln said that Generac would continue to explore larger natural gas nodes.

"We haven't seen the top end of what can be done with natural gas yet, for sure," he said. "Engines have become, in recent years, more capable, especially at the higher speed — 1800 rpm. You see larger and larger displacement engines producing power there."

Generac began accepting orders for the 500 kW gen-set at the end of October. The company said it expects to begin shipping units in the first

quarter of 2016 to markets around the world. Lincoln said that 50 and 60 Hz units for applications outside North America would be available at the same time as domestic 60 Hz units.

"There's a great demand in Central and South America for spark-ignited products, more and more," Lincoln said, adding that natural gas is attractive in global markets where diesel fuel quality is poor or where supply is limited. The development of natural-gas infrastructures in some countries where such an infrastructure did not exist is driving additional demand, he said.

"We have extensive distribution in Central America, and we're developing it in South America and continue to do so, as we are pushing globally with all of our products," Lincoln said.

In addition to a standby power rating of 500 kW, the machine has a prime power rating of 450 kW. **dp**

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