altronic

Sheffield Pharmaceuticals

LOCATION:
New London, CT

APPLICATION:
Combined heat and power

ENGINE/COMPRESSOR:
(2) Waukesha L1616 GUI

DISTRIBUTOR/REP:
Advanced Gas Engine Solutions
Joe Duffy

ALTRONIC PRODUCTS:
CPU-95 Ignition
EPC-100E AFR
GSV Gas Shutoff Valve

OVERVIEW:

Sheffield Pharmaceuticals is one of the nation's fastest growing contract manufacturers of pharmaceutical and cosmetic crèmes, ointments and toothpastes. Operating a manufacturing facility of this size takes substantial power and two Waukesha L1616 GUI engines, derated to 300kW each, carry the burden of supplying combined heat and power.

Advanced Gas Engine Solutions (AGES), using Altronic products and DCL 3-way catalytic convertors, was tasked with bringing these power plants into compliance by meeting the State of Connecticut Department of Environmental Protection emission limits (Section 42).

AGES installed an Altronic CPU95 ignition system and Altronic EPC-100E Air/Fuel Controller on each engine. These Altronic products, among others, provide what Altronic has termed "Greenability" — the concept of employing products which help to reduce emissions while increasing operating efficiency and reliability. They were integrated into the exhaust system with O2 sensors and pre- and post-ignition temperature monitoring at the catalytic convertors. An Altronic GSV Series Gas Shutoff Valve was also installed. The programmed system safety features include shutdown at elevated exhaust temperatures and gas shutoff and atmospheric purge of natural gas at levels below the LEL.

Each engine underwent three separate test runs under a 300kW load for approximately 11 hours total. Test Method 1 was used to measure emission levels.

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On February 13, 2009 Sheffield Pharmaceuticals was informed by the State of Connecticut Department of Environmental Protection that it had met the applicable Section 42 emission levels, becoming the first company in Connecticut to do so.

A partial of the "Summary of Results" from one of the engines tested: "…three tests were performed during steady generator outputs of 0.300-0.305 megawatts. The average NOx emission rate of 0.15 pounds per megawatt hour (lbs/MWH) is 25 percent of the CTDEP emission limit. Average CO emissions were 0.97 lbs/MWH and are 9.7 percent of the CTDEP emission limit. CO2 emissions averaged 1781.4 lbs/MWH and are 93.8 percent of the CTDEP emission limit."

Sheffield's Steven Rapoza stated, "The emission controls worked as advertised and met the emission standard goals that were established during the system design stage. The technical support from both Altronic and AGES has been timely and accurate in helping me meet the project timetable and establishing a cost effective maintenance schedule." He adds, "Future applications for this type of technology may be needed in the next 5 years."

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