

Johnson Matthey's advanced emission control systems make clean energy from natural gas even cleaner

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Advanced Emission Control Technology Reduces NO_x, CO, VOCs and Formaldehyde from Natural Gas Engines to Ultra-Low Levels

Audubon, PA, October 25, 2017—Johnson Matthey is working with IMG Midstream, a Pennsylvania owner and operator of a series of small scale power plants fueled by Marcellus Shale gas, to reduce NO_x, CO, VOCs and formaldehyde emissions from their power-generating engines, to levels that meet or exceed federal, and state permit limits.



Johnson Matthey emission control systems installed on IMG's Beaver Dam Energy plant in Bradford County, PA.

The emissions reductions are achieved with advanced pollution control systems from Johnson Matthey, a global leader in clean air technologies.

IMG currently owns and operates four 20 MW power plants in Pennsylvania. The plants are strategically deployed near shale gas wells and electrical distribution lines, which shortens energy supply chains and increases the efficiency of each plant, while minimizing greenhouse gas and fugitive emissions.

"Although natural gas is already clean-burning, IMG is committed to environmental stewardship and advanced pollution control technology to reduce engine emissions to meet or even improve upon federal and state limits. Each of IMG's natural gas engines is equipped with a Johnson Matthey SCR system that is tailored to achieve high emissions reductions, said Chris Wissel-Tyson, Senior Manager, Development & Environmental Services for IMG Midstream.

The emission control systems include vanadia-titania SCR catalyst to reduce NO_x to nitrogen, ammonia slip catalyst (ASC) to convert excess ammonia to nitrogen, minimizing ammonia slip, and a precious metal oxidation catalyst to reduce CO, VOC and formaldehyde to ultra-low levels. A robust urea injection strategy accommodates fluctuations in NO_x emissions from each engine.

Wissel-Tyson continued, "After nearly two years of operation, the emission control systems continue to keep emissions below IMG's stringent permit limits for NOx, CO, VOCs and formaldehyde."

Rita Aiello, Catalyst Development Scientist at Johnson Matthey said, "Treating emissions from stationary sources can be challenging because every site has different requirements, so there is no one-size-fits-all solution. But scientists and engineers at Johnson Matthey work directly with customers to create the best emission control solutions for their unique applications. And we continue to provide technical support to ensure that the customer remains in compliance with all clean air regulations over the lifetime of our product."

About Johnson Matthey

Johnson Matthey is a global leader in science that enables a cleaner and healthier world. We have over 200-years of sustained commitment to innovation and technologies that improve the performance and safety of our products. Our science has a global impact in areas such as low emission transport, power generation, pharmaceuticals, chemical processing and making the most efficient use of the planet's natural resources.

Johnson Matthey is known for its total systems approach to delivering emissions solutions for stationary applications and for our reputation for customer support at the field service level. We design and supply catalysts and engineer catalytic systems to control emissions of nitrogen oxides (NOx), carbon monoxide (CO), hydrocarbons (HC), volatile organic compounds (VOC), hazardous air pollutants (HAPs) and particulate matter (PM). We are dedicated to the research, development and application of catalyst technology to improve quality of life by reducing harmful air pollutants.

Inspiring science, enhancing life.

For more information, visit www.matthey.com or www.jmsec.com

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