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Joint IBIDEN and NxtGen Testing Shows Up to 3 Percent Fuel Economy Improvement Utilizing Silicon Carbide Diesel Particulate Filter Being Regenerated by Syngas Generator

OGAKI, Japan and VANCOUVER, British Columbia (NOV. 12, 2009) – IBIDEN CO., LTD recently completed an engine bench test with NxtGen Emission Controls Inc., which showed that IBIDEN's Silicon Carbide (SiC) diesel particulate filter (DPF) and NxtGen's syngas generator (SGG) improved fuel economy by up to 3 percent when paired together in an exhaust aftertreatment system.

IBIDEN and NxtGen developed the test objectives and the associated test procedure to show the potential benefits and value of utilizing a SiC filter being regenerated by syngas versus post-injection dosing of diesel fuel (hydrocarbon). Testing compared both the fuel consumption during actual DPF regeneration and total engine lifetime fuel consumption based on simulation.

Testing results showed that IBIDEN's SiC DPF and NxtGen's SGG are well matched to take advantage of each other's design strengths to enable faster and more fuel efficient DPF regeneration. During these tests, NxtGen's SGG combined with IBIDEN SiC filters showed ***30 percent diesel fuel savings*** for DPF regeneration compared to the fuel required to regenerate using conventional diesel engine in-cylinder post-injection regeneration. NxtGen's SGG also showed the capability to regenerate the SiC DPF in nearly half the time needed using in-cylinder post-injection.

NxtGen's SGG combined with IBIDEN SiC filters also showed a potential improvement of 1 percent in total engine lifetime fuel consumption. IBIDEN's SiC DPF enables better total engine lifetime fuel consumption than other materials because of the unique capability and design of the SiC DPF by IBIDEN to capture and safely regenerate higher particulate matter amounts, which effectively extends the time between required regeneration events.

Total fuel consumption was improved an additional 2 percent by using IBIDEN's advanced SiC DPF, which has the same soot mass limit, but lower back pressure compared to IBIDEN's conventional SiC DPF products, offering lower engine back pressure and resulting in improved fuel economy during normal engine operation (in between DPF regenerations).

"It has been great to work with IBIDEN. They understand the value of our syngas technology and have carefully applied it to define system performance benefits for their filter technology and for end-use customers. The test program allowed us to establish a strong technical collaboration with IBIDEN that extended both our knowledge base and accomplished meaningful results in fuel economy improvement. IBIDEN and NxtGen were able to demonstrate a significant 30 percent reduction fuel consumption during DPF regeneration. This has added to the value proposition for syngas, which already includes very low exhaust temperature capability and system cost optimization. The test results also confirm our simulation model predictions, which further boost NxtGen's ability to integrate syngas and optimize exhaust aftertreatment system performance on a simulation basis. The program clearly demonstrates that when addressing significant industry issues, an open collaboration can deliver results and mutual benefits," said Jeremy Holt, president and CEO of NxtGen.

About IBIDEN CO., LTD.

IBIDEN CO., LTD. is a Japanese company with 97 years history. The IBIDEN Group consists of 44 subsidiaries and two affiliates. IBIDEN Group is managing businesses centering around electronics and ceramics. In the ceramics business, IBIDEN produces Silicon Carbide (SiC) Diesel Particulate Filters (DPF) that purifies the exhaust gas of diesel passenger cars, and also produces graphite specialty products used for semiconductor and solar cell manufacturing devices. IBIDEN was the first supplier of SiC-DPF (introduced in 2000) to be used in mass production passenger vehicles. In the electronics business, the company designs and manufactures plastic packages and printed-wiring boards that are used for personal computers and mobile devices as well as contributing to the development of telecommunication equipment which the world is expecting. IBIDEN designs and manufactures the products that reduce the global-environmental load with long-established fine-ceramic technologies.

About NxtGen Emission Controls Inc.

NxtGen Emission Controls Inc. (www.nxtgen.com) is privately held by institutional investors. The company's headquarters and Technology Center is located in Burnaby, British Columbia and the Manufacturing and Application Engineering Center is located in Wixom, Mich. The company is an emerging supplier and technology innovator in hydrocarbon fuel processing and is leveraging this technology to support clean diesel, alternative fuel use and advanced gasoline engine applications.