

For Immediate Release

PSM, Thomassen Energy and Hanwha Power Systems Achieve Record Hydrogen Use in Gas Turbine Power Plant

- *PSM's FlameSheet™ retrofit combustion system delivers industry-record 60% hydrogen fuel blend with single-digit emissions in 80MW heavy-duty frame gas turbine*
- *FlameSheet™ combustor allows a variable blend of hydrogen and natural gas, paving the way to fully decarbonized, dispatchable, and responsive power*

JUPITER, FL, USA – July 11, 2023 – PSM, Thomassen Energy and Hanwha Power Systems, jointly and in collaboration with Hanwha portfolio peer companies in Korea, shattered an industry record, successfully operating a Frame 7E gas turbine with a 60% hydrogen blend. The turbine ran at baseload condition, dry, achieving single-digit ppm emissions of oxides of nitrogen (NOx) and carbon monoxide (CO), an industry first. This result was achieved with PSM's commercially proven FlameSheet™ Combustor Platform, an upgrade available for the worldwide installed fleets of B-, E- and F-Class gas turbines. The FlameSheet™ combustor delivers unsurpassed fuel optionality, operational flexibility, and emissions performance with optimized life cycle maintenance costs.



“Power producers around the world have commitments to reduce carbon emissions and must deliver a balance between affordability, reliability, and sustainability,” said Alex Hoffs, President of PSM, and global leader of Hanwha’s gas turbine businesses. “Our FlameSheet™ upgrade allows our customers to deliver on those commitments using existing gas turbine assets.”

A decommissioned Frame 7E gas turbine-generator package was relocated and refurbished for a purpose-built power plant in Daesan, South Korea. The power plant was built within a petrochemical site jointly owned by Hanwha and TotalEnergies. The turbine utilized a mixture of natural gas, hydrogen, and hydrogen-containing gas from the facility, operating at base load with 60% hydrogen by volume. Fuel delivery was provided by a proprietary designed blending system enabling turbine testing at even higher volumes in the near future.

“Today’s installed fleet of gas turbine power plants can complement and balance the growing reliance on solar and wind power, which are by nature intermittent,” said Jeff Benoit, Vice President of PSM’s Clean Energy Solutions. “Turbines are efficient, responsive, and reliable. With PSM’s upgrades, existing gas turbines are now on the path to becoming carbon-free and, essentially, future-proof.”

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About Hanwha

Founded in 1952, Hanwha has grown quickly by anticipating and responding to changing business environments with a balanced business portfolio that includes energy & materials, aerospace, finance and retail & services. Our expertise and synergy in key areas have catapulted us into the seventh-largest business in South Korea and a Fortune Global 500 company. Hanwha continues to grow rapidly as we strive to pursue global leadership in all of our businesses. We are building a robust foundation for sustainable development and a brighter future for everyone. For more information, visit: www.hanwha.com

About PSM & Thomassen Energy

PSM (headquartered in Florida, USA), Thomassen Energy B.V., (located in the Netherlands), and Hanwha Power Systems, (located in Pangyo, Republic of Korea) jointly serve markets around the world as subsidiaries of Hanwha Power Systems Holdings Corp. Together we deliver high technology aftermarket service providers for multi-OEM platform gas turbine power plants, and an array of engineered compressors to customers around the world. Our mission is to provide our own technology-enabled solutions that improve operational performance, fuel flexibility and maintenance life cycle costs for the asset owners. Together, we are developing clean energy solutions for future generations! Learn more at www.psm.com and www.Thomassen.Energy and <https://www.hanwhapowersystems.com/>.

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<https://www.prnewswire.com/news-releases/psm-thomassen-energy-and-hanwha-power-systems-achieve-record-hydrogen-use-in-gas-turbine-power-plant-301873302.html>