RINA Successfully Tested Linepipe Hydrogen Suitability for Jindal

ROME, ITALY, July 23, 2025 /EINPresswire.com/ -- RINA has successfully conducted laboratory testing on steel linepipe materials for Jindal SAW Ltd to assess their suitability for hydrogen service. The project aligns with the global transition towards sustainable energy, in which hydrogen is expected to play a significant role as an energy vector for transportation and storage, including as a replacement for natural gas in pipeline networks.

The testing process involved subjecting material samples extracted from the linepipe steel to fracture toughness assessments in the presence of hydrogen. The samples were pre-cracked, loaded and exposed to hydrogen under controlled conditions, allowing for the evaluation of steel resistance to fracture propagation. The study was conducted in accordance with the ASME B31.12 standard, one of the most widely recognised guidelines for assessing pipeline materials intended for hydrogen service.

The results demonstrated that Jindal SAW's linepipe material met the requirements of the standard, verifying its ability to withstand exposure to pure hydrogen as well as potential hydrogen-natural gas blends. These findings contribute to the industry's broader efforts to ensure that infrastructure is compatible with hydrogen transport, supporting the shift towards cleaner energy solutions.

The project was carried out at RINA's advanced testing facilities in Italy, located in Rome and Cosenza. These laboratories cover the pressure range relevant to the distribution, transportation and storage for the energy and automotive sectors and are among the few worldwide capable of testing materials and components at a pressure of up to 1,000 bar in a controlled environment, using gaseous hydrogen - either pure or blended with methane.

Following the successful completion of the testing, RINA issued an attestation letter confirming that the material meets the necessary criteria for hydrogen service. This supports Jindal SAW Ltd's ability to market its linepipe products as hydrogen-ready.

Luigi Francesco Di Vito, Head of Materials Engineering, at RINA, commented: "As the global energy sector transitions towards hydrogen, ensuring that infrastructure is prepared for this change is critical. Our advanced testing capabilities allow us to assess material performance

under real-world conditions, giving manufacturers confidence that their products meet the highest technical standards. We are pleased to support Jindal SAW Ltd in their efforts to develop hydrogen-ready pipeline solutions."

Mr Davanagere, General Manager Quality Assurance Quality Control at Jindal SAW Ltd, added: "The ability to experimentally verify that our linepipe materials are suitable for hydrogen service is an important step in supporting the energy sector's shift towards cleaner alternatives. Working with RINA has provided us with a rigorous, independent evaluation, ensuring that we can offer reliable and technically validated solutions to our customers. As hydrogen infrastructure continues to develop, these assessments will play a key role in shaping the future of pipeline technology."

RINA's role in this project demonstrates its expertise in hydrogen infrastructure testing and its commitment to supporting the industry's transition to sustainable energy. The collaboration with Jindal SAW Ltd highlights the increasing demand for rigorous material assessments as manufacturers align with evolving hydrogen standards.

RINA, leading certification and engineering company, provides a wide range of services across the Energy, Marine, Infrastructure & Mobility, Certification, Industry and Real Estate sectors. In December 2023, alongside the majority shareholder Registro Italiano Navale, Fondo Italiano d'Investimento SGR entered the shareholding structure guiding a pool of co-investors. With revenues in 2024 of 915 million euros, 6,200 employees and 200 offices in 70 countries worldwide, RINA is a member of key international organizations and an important contributor to the development of new legislative standards. www.rina.org

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