Press release

Munich, November 16, 2021

Siemens Energy is the first manufacturer to receive certification for "H2-Ready" power plant concept

- First company worldwide to receive new independent certification from TÜV SÜD
- Increased investment security for power plant operators' hydrogen journey
- Siemens Energy contributed to developing the comprehensive certification guideline

The globally operating provider of testing, inspection and certification services TÜV SÜD has developed a guideline for defining the "H2-Readiness" of power plants and is offering an independent certification to original equipment manufacturers and engineering, procurement, and construction (EPC) companies. The certification increases investment security for utilities. Siemens Energy is the first company worldwide to receive this certification for its "H2-Ready" power plant concept. The guideline for obtaining certification was developed in collaboration with subject matter experts from Siemens Energy.

Hydrogen can play a central role in the decarbonization of energy systems. In particular, natural gas-fired combined cycle power plants (CCPP) currently being built or planned are also expected to run partially or fully on hydrogen fuel in the future. This means that utilities that plan to purchase this type of power plant will expect a statement of the plant's ability to use hydrogen as a fuel. Some new combined or single cycle gas-fired power plants are already being advertised as "H2-Ready" today. Until now, however, there hasn't been a clear definition of what this term means.

"Our guideline enables OEMs, plant operators, and insurers to use a standard transparent framework", says Reiner Block, CEO of the Industry Service Division at TÜV SÜD. "The certification covers a complete power plant with the relevant subsystems." The "H2-Ready" certification, however, doesn't certify existing power plants; rather, it provides a roadmap that describes how plants can be converted over time to co-fire hydrogen or even burn pure hydrogen.

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That's why the certification of a combined cycle power plant includes three stages: First, a concept certificate for the conceptual design (including boundary conditions) during the bidding phase; second, a project certificate for the implementation phase, in other words, the final plant design and its specifications; and third, a transition certificate for the conversion of an existing CCPP to burn hydrogen – including a review of the retrofit measures and their impact on safety and performance.

"Hydrogen is an important building-block for decarbonizing the energy supply. An independent certificate creates certainty for investments. We're proud to be the first manufacturer to receive this important certification," says Karim Amin, Executive Vice President Generation at Siemens Energy. "If we design CCPPs today for future operation with hydrogen, they don't just serve as a bridging technology to a CO_2-free future, they'll also make an important contribution to a reliable and affordable power supply in the long term."

To meet ambitious climate goals, it won't just be combined cycle power plants that are modified as hydrogen power plants. The certification offered by TÜV SÜD can be applied to a wide range of solutions. Siemens Energy already offers hybrid solutions with hydrogen generation, storage, and re-electrification. The company is currently involved in the construction of several power plants that are designed to be partially or fully hydrogen-fired.

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