



Independent certification of “H₂-Readiness”

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Siemens Energy is the first manufacturer to receive certification from TÜV SÜD for “H₂-Ready” power plant concept

Munich. TÜV SÜD has developed a guideline for defining the “H₂-Readiness” of power plants and is offering an independent third-party certification to original equipment manufacturers (OEM) 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 new TÜV SÜD guideline was developed in collaboration with 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 on 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 standardised and 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 apply to 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.

“That's why the certification of a combined cycle power plant includes three stages and three certificates”, explains Dr Thomas Gallinger, Head of Hydrogen Projects at TÜV SÜD Industrie Service GmbH. 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.

As first company worldwide, Siemens Energy has now received the new TÜV SÜD concept certificate for its "H₂-Ready" power plants.

"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 CO₂-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. The globally operating provider of testing, inspection and certification services has amassed wide-ranging expertise and experience in the field of hydrogen technologies supporting the entire H₂ value chain from production, storage and distribution up to application in various areas, such as industrial production, transport or power generation.

For more information on TÜV SÜD services for a safe and sustainable hydrogen industry visit <https://www.tuvsud.com/hydrogen>.

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