

870 – Conceptual electrical designs & total control system concept for Green Hydrogen

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Abstract: Hydrogen is one of several options available to replace fossil fuels and meet climate goals. For project feasibility cost of green hydrogen remains a key driver, it is necessary to take an optimized approach right from the conceptual stage to optimize CAPEX and OPEX costs.

Generally, process industries run on a continuous basis, with high availabilities of power at receiving station. However same is tricky while managing green hydrogen facilities as there is a bit of uncertainty about available power through renewable energy sources.

In this paper, we introduce conceptual power system designs which could be adopted to achieve today's needs such as scalability and faster time to market. Detailed emphasis is provided on the process and electrical digital twins at the architectural level highlighting power and process system control concepts with special attention towards managing the hybrid generation mix.