

## **844 – Electric power system topology for high capacity all-electric FPSO**

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Abstract: In the recent years, there is a trend of increasing the oil production capacity of FPSOs. Due to the characteristics of some oil fields, there is a significant increase of associated gas and contaminants to be processed. The search for increased unit efficiency, lower OPEX and lower emissions (Green House Gases - GHG) has led companies to focus on conceiving All-Electric units, in which all dynamic equipment are driven by electric motors. These FPSOs are presenting a large increase in the electric power demand, resulting in increased generation capacity, and culminating in high power density units with more than 150 MW of power demand. This paper studies the technical challenges related to designing the electric power systems for these production units and presents alternative topologies in order to accomplish technical feasibility for the electric power system.