

EUR21_36 – DECARBONIZING COMPRESSOR TRAINS, HIGH POWER DRIVE SYSTEM CONSIDERATIONS

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Abstract - Driven by targets for CO₂ reduction, Oil & Gas operators are increasingly investigating electrical solutions for their high-power compressor systems that have historically been powered by turbines and are also considering retrofitting electrical drives to existing compression trains. Traditionally such very high power electrical variable frequency drive systems use current source, load commutated technology (LCI). However, recent developments in voltage source inverters (VSI) has made this technology available at increasingly higher powers. Current source LCI drives are well referenced but are viewed as complex by operators, whilst VSI is considered, overall, a simpler system but lacking in experience at very high ratings. This paper will compare both VSI and LCI drives above 25MW including availability, efficiency, footprint, weight, cooling, technology readiness, CAPEX and OPEX for a complete working system.