

GEAR BOX FAILURES DUE TO BULL GEAR SLIPPAGE

by

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ABSTRACT

Bull gears slippage in speed multiplier of compressor trains occurred on two FPSOs offshore Brazil. These events produced high impact on the amount of flared gas and also in oil production. After being called, the supplier of the compression modules and the gearbox manufacturer prioritized the search of solutions to the problem, both in terms of placing the compression trains back to operating condition and in terms of determining the root causes of the problem, to block them and prevent their recurrence, since including the spare sets, the two FPSOs and a third with similar equipment have a total of twelve pairs of gears. Based on a Root Cause Analysis, the manufacturer is implementing design modifications to increase safety margins in order to avoid further slippage. For the user, apart from writing this paper in order to assure that this problem will not repeat, independent of which manufacturer provides the gearbox, the observation of the events has led to vibration monitoring procedures that allows detecting the problem, but only after the interference has lowered.