

RELIABILITY AND ECONOMIC ANALYSIS OF A SYSTEM COMPRISING BOOSTER AND MAIN PUMPS WORKING IN AN OIL REFINERY PLANT

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ABSTRACT

An oil delivering system with a booster pump and main pump is analyzed. Before making the system operative, an inspection is carried out to see whether the booster pump is fit for operation or not. After finding /making it fit for operation, it is switched on. The purpose of booster pump is to carry the oil from oil tank with a certain speed, which enables the main pump to function and to send the oil from the plant to desired station. Priority for repair is given to booster because main pump cannot function if booster pump is failed. System is analyzed by making use of Semi – Morkov processes and Regenerative Point Technique.

KEYWORDS: Booster and Main Oil Pumps, Inspection, Semi –Morkov processes, Regenerative Point Technique, Reliability and Economic Analysis