Selection Criteria for Subsea Multiphase Boosting Equipment
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Abstract
Main issue with multiphase boosting equipment is that at subsea there is a high level of uncertainty as regards well and reservoir conditions, this puts the equipment in a condition which covers a wide and variable range of processes including transient Flow, variable oil flow, fluid pressures, temperature and gas compression effects. Multiphase boosting equipment selection focus on a particular pump type for a given field application. This does not provide a universal criteria for the selection of this equipment technology from a wider point of the equipment group. Furthermore, the selection focus more on operational characteristics and basic capability with little emphasis on the critical component effects on the reliability of the equipment and consequently on the overall boosting system. The aim of this paper is to outline and discuss the generalized critical performance criteria that influence the selection of multiphase pump for subsea application, proposing thorough evaluation of the critical component reliability. This paper gathered information from the literature, equipment manufacturers and knowledge from system experts to provide important information about the performance of the technology emphasizing on the equipment reliability using highly reliable components for the critical component of the equipment to be selected. Findings based on literature shows that for optimum multiphase equipment selection, several factors play an important role and that reliability performance of the critical components of the equipment is one of the critical factor that has to be included in the selection process.

Keywords: Equipment; Multiphase Pump; Criteria; Performance; Reliability; Subsea.

References