

Assets Integrity Management in Oil and Gas Production Facilities through Corrosion Mitigation and Inspection Strategy: A Case Study of Sarir Oilfield

Authors : Iftikhar Ahmad, Youssef Elkezza

Abstract : Sarir oilfield is in North Africa. It has facilities for oil and gas production. The assets of the Sarir oilfield can be divided into five following categories, namely: (i) well bore and wellheads; (ii) vessels such as separators, desalters, and gas processing facilities; (iii) pipelines including all flow lines, trunk lines, and shipping lines; (iv) storage tanks; (v) other assets such as turbines and compressors, etc. The nature of the petroleum industry recognizes the potential human, environmental and financial consequences that can result from failing to maintain the integrity of wellheads, vessels, tanks, pipelines, and other assets. The importance of effective asset integrity management increases as the industry infrastructure continues to age. The primary objective of assets integrity management (AIM) is to maintain assets in a fit-for-service condition while extending their remaining life in the most reliable, safe, and cost-effective manner. Corrosion management is one of the important aspects of successful asset integrity management. It covers corrosion mitigation, monitoring, inspection, and risk evaluation. External corrosion on pipelines, well bores, buried assets, and bottoms of tanks is controlled with a combination of coatings by cathodic protection, while the external corrosion on surface equipment, wellheads, and storage tanks is controlled by coatings. The periodic cleaning of the pipeline by pigging helps in the prevention of internal corrosion. Further, internal corrosion of pipelines is prevented by chemical treatment and controlled operations. This paper describes the integrity management system used in the Sarir oil field for its oil and gas production facilities based on standard practices of corrosion mitigation and inspection.

Keywords : assets integrity management, corrosion prevention in oilfield assets, corrosion management in oilfield, corrosion prevention, inspection activities

Conference Title : ICCECPM 2023 : International Conference on Corrosion Engineering: Control, Prevention and Measurements

Conference Location : Venice, Italy

Conference Dates : April 03-04, 2023