

Well Inventory Data Entry: Utilization of Developed Technologies to Progress the Integrated Asset Plan

Authors : Danah Al-Selahi, Sulaiman Al-Ghunaim, Bashayer Sadiq, Fatma Al-Otaibi, Ali Ameen

Abstract : In light of recent changes affecting the Oil & Gas Industry, optimization measures have become imperative for all companies globally, including Kuwait Oil Company (KOC). To keep abreast of the dynamic market, a detailed Integrated Asset Plan (IAP) was developed to drive optimization across the organization, which was facilitated through the in-house developed software "Well Inventory Data Entry" (WIDE). This comprehensive and integrated approach enabled centralization of all planned asset components for better well planning, enhancement of performance, and to facilitate continuous improvement through performance tracking and midterm forecasting. Traditionally, this was hard to achieve as, in the past, various legacy methods were used. This paper briefly describes the methods successfully adopted to meet the company's objective. IAPs were initially designed using computerized spreadsheets. However, as data captured became more complex and the number of stakeholders requiring and updating this information grew, the need to automate the conventional spreadsheets became apparent. WIDE, existing in other aspects of the company (namely, the Workover Optimization project), was utilized to meet the dynamic requirements of the IAP cycle. With the growth of extensive features to enhance the planning process, the tool evolved into a centralized data-hub for all asset-groups and technical support functions to analyze and infer from, leading WIDE to become the reference two-year operational plan for the entire company. To achieve WIDE's goal of operational efficiency, asset-groups continuously add their parameters in a series of predefined workflows that enable the creation of a structured process which allows risk factors to be flagged and helps mitigation of the same. This tool dictates assigned responsibilities for all stakeholders in a method that enables continuous updates for daily performance measures and operational use. The reliable availability of WIDE, combined with its user-friendliness and easy accessibility, created a platform of cross-functionality amongst all asset-groups and technical support groups to update contents of their respective planning parameters. The home-grown entity was implemented across the entire company and tailored to feed in internal processes of several stakeholders across the company. Furthermore, the implementation of change management and root cause analysis techniques captured the dysfunctionality of previous plans, which in turn resulted in the improvement of already existing mechanisms of planning within the IAP. The detailed elucidation of the 2 year plan flagged any upcoming risks and shortfalls foreseen in the plan. All results were translated into a series of developments that propelled the tool's capabilities beyond planning and into operations (such as Asset Production Forecasts, setting KPIs, and estimating operational needs). This process exemplifies the ability and reach of applying advanced development techniques to seamlessly integrated the planning parameters of various assets and technical support groups. These techniques enables the enhancement of integrating planning data workflows that ultimately lay the founding plans towards an epoch of accuracy and reliability. As such, benchmarks of establishing a set of standard goals are created to ensure the constant improvement of the efficiency of the entire planning and operational structure.

Keywords : automation, integration, value, communication

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