

Brief Notes on Decommissioning in the Oil & Gas Sector

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As the production cycle in oil and natural gas fields approaches the end of its lifespan, decommissioning of offshore and onshore facilities has become a growing concern for the industry and presents significant challenges – and opportunities.

Decommissioning encompasses all the activities required to close out exploration and production operations, infrastructure and equipment in oil and natural gas fields or platforms. According to Resolution 817/2020 issued by Brazil's Petroleum, Natural Gas and Biofuels Agency (ANP – Agência Nacional do Petróleo, Gás Natural e Biocombustíveis), such activities include the permanent abandonment and plugging of wells, the removal of infrastructure and equipment, and the appropriate disposal of materials, waste, and residues, along with environmental remediation of affected areas.

For onshore assets, decommissioning represents the final stage of the hydrocarbon exploration and production cycle, culminating in the permanent abandonment and plugging of wells, dismantling and demobilization of production infrastructure, and finally, a set of interventions aimed at restoring the operational area as closely as possible to its original condition (i.e. pre-operation), thus reversing the degradation and changes to the environment resulting from E&P operations.

In the offshore industry, the start of the decommissioning process is determined not only by the useful life of the reservoir, but primarily in function of the lifespan of platforms and specialized vessels used in marine oil and natural gas production. Offshore decommissioning presents the additional challenges of dismantling the massive production infrastructure required in marine production, and ensuring the appropriate disposal of the dismantled structures.

Implementing a Facility Decommissioning Program (FDP) involves complex processes that require skilled labor and the implementation of often sophisticated technical procedures, which present various kinds of risks.

From an environmental standpoint, the removal of offshore infrastructure such as platforms and pipelines can result in leaks of oil, drilling fluids, and other substances used in production, causing potentially significant damage to marine ecosystems. Additionally, the deactivation of the facility itself can lead to the release of contaminating substances. Proper management of waste generated during decommissioning is thus a crucial challenge for the successful execution of a FDP. Safety protocols, specialized training, risk assessments, and compliance with regulations are essential to ensure worker safety, environmental protection, and other standards.

The costs involved in implementing Facility Decommissioning Programs are significant. According to data compiled by the ANP and available on its E&P

Facility Decommissioning Dashboard, oilfield decommissioning costs in Brazil are expected to reach BRL 9.8 billion in 2023.

Given the importance of decommissioning and the large sums of money typically involved in FDP execution, operators are required to provide financial guarantees for their decommissioning obligations. Decommissioning guarantees are governed by ANP Resolution 854/2021, which provides that operators must present the guarantees (typically in the form of letters of credit, surety bonds, pledges of oil and natural gas, corporate guarantees, or decommissioning sinking funds, which are held in a locked-in account) at the start of production and update them annually based on reserve values and the current total decommissioning cost as of March 31st of each year.

The size of the decommissioning market is obvious, and decommissioning operations are likely to achieve even greater prominence. In 2022, for example, Petrobras reported that it had entered into a contract for the removal of flexible pipes and umbilicals from three Floating Production Storage and Offloading (FPSO) units with a service provider selected through a competitive bidding process. The contract price was close to BRL 900 million, covering engineering, preparation, removal, and disposal (EPRD) services for the decommissioning of the three units' submarine systems, involving the removal of approximately 275 kilometers of subsea pipelines. This provides a glimpse of the service industry that has the potential to develop in coming years, as implementation of decommissioning programs intensifies.

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