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New refinery contract awarded in Oman

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Abstract

Privately owned Ras Madrakah Petroleum Industry Co. (RMPIC) and Chinese state-owned Yanchang Petroleum International Ltd. (aka Shaanxi Yanchang Petroleum Group Corp. Ltd.) let a contract to Genoil Inc. to deliver technology licensing for a newly announced 200,000-b/d grassroots refinery to be built on 800 hectares in the Duqm Special Economic Zone (SEZAD) at the Port of Duqm, on Oman's eastern coast along the Arabian Sea.

As part of the June 30 contract awarded by RMPIC and Yanchang Petroleum subsidiary Beijing Petrochemical Engineering Co. (BPEC), Genoil will license its proprietary Genoil Hydroconversion Upgrader (GHU) technology, as well as deliver the process design package, training, advisory services, proprietary catalyst, and equipment supply for the project, the service provider said.

Genoil additionally confirmed BPEC previously was selected to perform the feasibility study, front-end engineering design (FEED), as well as deliver project management and engineering, procurement, and construction (EPC) services for the entire project.

Alongside the refinery itself, BPEC's scope of EPC also covers nine crude storage tanks of 500,000 bbl each for a tank farm in Ras Markaz and other offsite installations, including a project export terminal and other necessary infrastructure such as an 80-km long, 28-in. diameter underground pipeline that will deliver feedstock from the Ras Markaz tank farm to the refinery, according to Genoil.

With all funding, licenses, permits, feedstock supply, and product offtake agreements now approved and in place, the proposed $2.4-billion refinery project is on schedule to begin immediately, Genoil said.

Publicly available information on RMPIC remains scant beyond what the privately owned company publishes on its website, where RMPIC confirms it has secured critical pacts for the project, including three crude oil supply agreements for the refinery's 200,000-b/d feedstock requirements, as well as three offtake agreements for purchase of finished products from the site.

Details regarding identities of crude suppliers and product buyers have yet to be disclosed.

While RMPIC presumably will own the project, BPEC and Yanchang Petroleum will jointly operate the refinery upon its commissioning.

Parties involved in the proposed development have not confirmed a definitive timeframe for startup.

The RMPIC refinery will be the second in the region, to be preceded by the long-planned 230,000-b/d integrated refining complex under construction in the Duqm SEZAD by OQ8 (formerly Duqm Refinery & Petrochemical Industries)–a joint venture of state-owned OQ SAOC (OQ) and Kuwait Petroleum Corp. subsidiary Kuwait Petroleum International Ltd. (Q8). As of May, OQ8 has reached 78.42% overall project completion for targeted commissioning in 2023.

GHU technology

Initially designed to upgrade high-sulfur, heavy Canadian oil sands crude production into sweeter, lighter fractions to enable long-distance pipeline transportation to refineries without requiring the addition of high-cost, viscosity-reducing diluents or light oil, the GHU process can be used in a refinery to convert atmospheric-vacuum tower bottoms and residue oils into lighter fractions for further processing into cleaner, high-value finished products, especially diesel fuel, according to Genoil's website.

Troll Nord partners secured consent from Norwegian authorities to start up facilities and modifications associated with the North Sea Troll Phase 3 project. The Equinor Energy AS-operated development was originally scheduled to come on stream this spring but was postponed due to COVID-19 restrictions.

The plan for development and operation (PDO) for Troll Phase 3 was approved in December 2018 (OGJ Online, Dec. 7, 2018). The project is further development of Troll field and will produce gas from Troll Vest.

Development comprises two subsea templates with eight gas wells tied into the Troll A platform. The wellstream is routed to Troll A through a new 36-inch pipeline for further compression and export via existing infrastructure. Recoverable reserves from Troll Phase 3, mainly gas, are estimated at 2.2 billion boe. With an 8-billion kroner investment in Troll Phase 3, licensees expect production from the development to last at least 30 years.

Troll was proven in 1979, and the original PDO was approved in 1986. The plan was updated in 1990 in order to move the gas processing to the Kollsnes terminal. The field came on stream in 1995.

Phased development

Troll, which supplies as much as 7% of Europe's daily demand for gas, was developed in phases, with gas extraction from Troll Øst in Phase 1 and oil from Troll Vest in Phase 2. Troll Phase 1 was developed with Troll A, which is a fixed foundation wellhead and compression installation with a concrete substructure. Troll A receives power from shore. Gas compression capacity was expanded on Troll A in 2004-2005 and again in 2015.

Troll Phase 2 was developed with Troll B, which is a floating living quarters and production facility in concrete, and Troll C, which is a semisubmersible living quarters and production facility in steel.

The oil in Troll Vest is produced from multiple subsea templates tied into Troll B and Troll C via pipelines. Production from the Troll C installation started in 1999. Troll C is also used for production from Fram, Fram H-Nord, and Byrding. Several amended development plans were approved in connection with installing multiple subsea templates on Troll Vest.