TAPTI OFFSHORE DECOMMISSIONING, WEST COAST OF INDIA

The Project
The Panna, Mukta and Tapti Joint Venture (PMT JV) comprising of Oil & Natural Gas Corporation Limited (ONGC), Reliance Industries Limited (RIL) and BG Exploration and Production India Limited (BGEPI) operates the Mid and South Tapti Contract Areas (admeasuring 1,471 km²) located offshore to the south of Gulf of Khambhat, West Coast of India in Arabian Sea under the Production Sharing Contract with the Ministry of Petroleum and Natural Gas (MoPNG), Government of India (Tapti PSC). The development and expansion operations of Mid and South Tapti Contract Areas (Tapti Fields) were carried out under the above mentioned Environmental Clearances issued by your Ministry.

The Tapti Fields went into a phase of decline after 2008 and cessation of production was finally declared in March 2016.

Certain Facilities at the Mid and South Tapti Fields known as the Tapti Part A Facilities (comprising of platforms TCPP, TPP and TFP and the 18" and 20" export pipelines) were handed over to ONGC pursuant to the directions arising out of a meeting dated 5th January 2015, at the Ministry of Petroleum and Natural Gas (MoPNG) under the chairmanship of Joint Secretary (E). ONGC will be using the Tapti Part A Facilities for processing gas from its nearby Daman and C-Series fields.

Post cessation of production, the remaining facilities in the Tapti Fields (comprising of 38 wells and 5 wellhead platforms (STA, STB, STC, STD and MTA and associated intra-field pipelines)) known as the Tapti Part B Facilities are to be abandoned by the PMT JV as required under the Oilfields Act, 1948, the Petroleum and Natural Gas Rules, 1959 and the Tapti PSC.

Project Location
The Tapti Block (admeasuring 1,471 km²) is located offshore. The mid Tapti Field is located 35 km from Saurashtra Coast, 75 km from Hazira and 160 km north-west of the city of Mumbai. The Tapti Field lies in approximately 21 m of water depth, on the northeast flank of the Surat Depression.

Project Description
The Tapti Decommissioning Project (for the Tapti Part B facilities) comprises of safe plugging and abandonment of 38 wells, and safe and environment-friendly decommissioning and disposal of 5 wellhead platforms (STA, STB, STC, STD & MTA) and associated intra-field pipelines in Tapti Field.

Decommissioning Work Flow
- Platform status transitions from Operating to Warm Stack once platform has permanently ceased production and has live wells and/or live process.
Platform status transitions in to Cold Stack status when all wells have been permanently plugged and abandoned, conductors cut below seabed and process and pipeline systems are permanently decommissioned ready for removal.

Removal status commences once contractor heavy lift vessel removal work commences.

Dismantle / Disposal status commences once platforms are transported to onshore disposal site.

**Platform Status**

The platforms within Tapti Field have a nominal water depth of 21m. All facilities to be removed have been flushed and cleaned, and will be disconnected prior to removal. In general, the platforms will be available for removal in the following condition:

- Platform topside vessels and pipeline are cleaned and flushed. All hydrocarbons are removed.
- Intra-field pipelines are cleaned, flushed and pigged.
- It was confirmed that Naturally Occurring Radioactive Material (NORM) and heavy metal and wax are below allowable threshold levels.
- Wells are currently being plugged and abandoned.
- All process systems are isolated and disconnected at each platform end adjacent to bridge link (STB).
- Platform will be in Cold Stack status with all wells permanently plugged & abandoned. Conductors will be cut below 5m from seabed & secured to the jacket structure and removed with the topside and jacket lifts.
- Platforms will be cold stacked with solar powered navigation aids and foghorn in place.

**Concept Selection**

The concept selection was made through comparative assessment (CA) process. Final options are evolved after rigorous screening process which considered various criteria such as safety, environment, societal, technical and cost.

The criteria adopted for selection of appropriate options is as below:

- Safety risk for all personnel involved in, or affected by, the various decommissioning options both onshore and offshore, including the residual risks to fishermen and marine personnel.
- Environmental impact of all activities at the offshore location, potential offshore disposal sites and onshore disposal site.
- Technical feasibility of implementing the decommissioning operation.
- Societal impact on other users of the sea and business communities with the potential to be impacted by the decommissioning activities.

**Topside**

It was decided that Topsides are not required to be considered in the CA process as all topside facilities will be removed from the field and disposed off in a 3rd party onshore decommissioning yard.

**Jacket**

From the Tier 1 Comparative Assessment, External stakeholders (DGH, OISD & MoEF) and PMT JV agreed that Jacket removal and Onshore Disposal considered for Jacket structures.

**Pipelines**

From the Tier 2 Comparative Assessment 2/screening workshop 2, External stakeholders (DGH, OISD & MoEF) and PMT JV agreed that Option 1 - Leave pipeline in-situ, plug & protect pipeline end (concrete mattress) considered for intra-field pipeline

**Waste Management**
The key underlying principle of waste management is the application of the Waste Hierarchy. PMT JV has developed inventory of material that will be recovered from the decommissioning activities from the Tapti Part B facilities and will be disposed of suitably at a 3rd party onshore yard. PMT JV will ensure that the selected 3rd party has adequate capacity to carry out dismantling and disposal of all offshore structures using safe and environment-friendly practices. For storage of dismantled structures/material in the onshore yard, the selected 3rd party will obtain approval from Maharashtra State Pollution Control Board.

**Environmental Sensitivity**

There are no ecologically sensitive areas within 15 km radius at the offshore location.

**Environmental Consultant**

ERM India Pvt. Ltd. is the Consultant Organization with Category ‘A’ accreditation in Sector 2 as per QCI-NABET scheme.