



ABOUT PIL PIPELINE

Overview

PIL Pipeline has been established to transport gas from Kakinada (Andhra Pradesh) to Bharuch (Gujarat), including various spurs and interconnects along its route. PIL Pipeline has been authorized by the Government of India as a common carrier Pipeline and acceptance for the same has been granted by PNGRB.

Gas Source

The Key gas source for PIL Pipeline is the KG-D6 block owned by Reliance Industries Limited (RIL) and British Petroleum (BP). The KG-D6 block is located 30-50km offshore of the east coast of India and is operated by RIL. RIL has set up an Onshore Terminal (OT) at Gadimoga in Andhra Pradesh for processing the gas produced from its fields and delivery to PIL Pipeline.

The gas from the neighboring blocks operated by Oil and Natural Gas Corporation Ltd (ONGC) and LNG Terminal form the two other sources of gas for PIL Pipeline. With connectivity to all major Pipelines, PIL Pipeline is in a unique position to offer transportation service in either direction (east to west or west to east) depending on customer requirements, with a high level of penetration in the hinterland of India. The expected commissioning of LNG terminals on the east coast are also potential sources of gas in the future, either through direct connectivity or through interconnection with other Pipelines.

System Configuration

PIL Pipeline is a 48-inch diameter (API 5L Grade X-70) Pipeline across the entire trunk length of around 1375 km. It has a wall thicknesses of 17.2, 20.7 and 25.4 mm, depending on the code requirement.

The Pipeline is externally 3LPE (three-layer polyethylene) coated, internally epoxy lined, helically spiral submerged arc welded (for 17.2 mm) and longitudinal submerged arc welded (for 20.7 mm and 25.4 mm). Impressed current cathodic protection system has been provided to supplement the coating system for protection against external corrosion. Maximum Allowable Operating Pressure (MAOP) of the Pipeline is 98.0 bar(g).

The Pipeline has been designed and engineered in accordance with the requirement of applicable codes and standard (ASME B 31.8) and conforming to the Oil Industry Safety Directorate's (OISD) standards 138 and 141 and is compliant to the T4S regulations of PNGRB.

Mainline block valves (MLVs) have been provided enroute the Pipeline at regular intervals, conforming to code requirements. Provision for tap-off is made at each MLV. Selected MLVs have been provided with remote operation service.

Eleven compressor stations (CS) have been installed along the length of Pipeline for transporting capacity of 85 MMSCMD of natural gas at design conditions. These standalone CS have gas turbine driven compressors (GTCs), gas after-coolers, scrubber, fuel gas conditioning system, scraper traps, gas blow-down system, fire alarm and firefighting system, instrumentation and control system, gas engine generators

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(GEGs), emergency diesel engine generator (DG), buildings and other utilities.

Interconnects and spur lines have been installed for delivering gas to the customers either directly or through third party networks. The cumulative length of interconnects/spur lines is approximately 105 km. All tie-ins/terminals have been provided with ultrasonic type of metering system along with pressure regulation/control and gas quality measurement system. PIL Pipeline has the bidirectional flow capabilities.

PIL Pipeline System is remotely operated and controlled with the help of a state-of-the-art Supervisory Control and Data Acquisition (SCADA) system. An Optical Fiber Cable (OFC) based telecommunication system is provided for effective long-distance communication. Pipeline Application Software (PAS) comprises of leak detection and location, operation optimization, line pack calculations and survival analysis, pig tracking and look-ahead modules. Security Automation System is provided for monitoring and access control. The Pipeline Operations Centers of PIL Pipeline are located at Kakinada and at Navi Mumbai.

PIL Pipeline Established Records

1. World's longest 48-inch diameter hydrocarbon Pipeline crossing of Gauthami Godavari River for a length of 2,400 m through micro tunnelling, which was also the first for the Pipeline industry in India.
2. World's longest 48-inch diameter hydrocarbon Pipeline crossings of Vashistha Gauthami Godavari River for a length of 1,700 m and Narmada River for a length of 1,500 m using Horizontal Directional Drilling (HDD) technique.
3. First time use of cable crane system for installation of Pipeline on steep slopes of Bhivpuri Ghat, having inclines of up to 70 degrees.
4. Record procurement of about 800,000 MT of high quality API 5L Gr X-70-line pipe ever made for a single Pipeline project in India.

Operations and Maintenance

PIL Pipeline is operated and maintained by a dedicated team who demonstrate requisite knowledge, skills and attributes. There are dedicated teams at each Compressor Station.

PIL Pipeline aims to provide the highest quality of transportation services. There has been no stoppage of transportation since commencement of operations in April 2009. PIL Pipeline has also developed systems and procedures to provide value added management services, such as Deferred Delivery Services (DDS). PIL Pipeline's business and operations are fully compliant to all statutory and regulatory codes, regulations and terms and conditions as applicable.

PIL Pipeline embraces a high level of efficiency in its operations, maintenance and safety. Awards and accolades received by PIL Pipeline include:

1. 5-Star Occupational Health and Safety (OHS) Management System Certification from British Safety Council in April, 2011 and July, 2013.

2. Sword of Honour for OHS Management System in April, 2011 and July, 2013.
3. Oil Industry Safety Award 2010-11 and 2012-13 for Best Overall Safety Performance amongst Cross Country Pipelines (Natural Gas/LPG) in India from Ministry of Petroleum and Natural Gas, India.
4. 5-Star Environmental Management System (EMS) Certification from British Safety Council in July, 2013.
5. Globe of Honour for EMS in July, 2013.
6. Safe Company of the Year-2015 award from Occupational Safety & Health Association of India.
7. ISO-9001:2015, ISO-14001:2015 and OHSAS-18001:2007 certification.
8. Certification of appreciation from National Safety Council of India for best safety performance for three consecutive years (2015, 2016, 2017).