

Dabhol – Bangalore Natural Gas Pipeline

Construction has commenced on the approximately 1,370 km Dabhol – Bangalore Natural Gas Pipeline, which will form a key segment of the Indian national gas grid. With commissioning scheduled to be completed by mid-2012, the Dabhol – Bangalore Pipeline represents a significant development for the south Asian pipeline industry.

With a planned transmission capacity of 16 MMcm/d, the pipeline will extend south from Dabhol through the states of Maharashtra, Karnataka and Goa before terminating in Bangalore.

GAIL has awarded a number of pipeline construction contracts with a combined value of \$US153 million for the natural gas project.

Works associated with construction of the pipeline have been divided into ten spreads. The main trunk line, which will extend from Dabhol to Bidadi, will be constructed in eight spreads. The remaining spreads are the two spur lines, one of which will extend from Gokak to Goa and the other from Bhachenalli (approximately 30 km north of Bidadi) to Bangalore.

Punj Lloyd has been awarded the construction contracts for seven of the ten spreads, comprising 820 km of the pipeline. In preparation for the commencement of construction the company completed a pre-construction survey of the pipeline route, finalised the execution methodologies to be utilised on the project, completed geotechnical and hydrological surveys of water body crossings as well as crossing surveys, obtained approval of welding procedures and mobilised equipment and personnel to the site.

Manoeuvring through India's mountains

The Dabhol – Bangalore Pipeline route traverses through tough terrain of Western Ghats, a mountain range along the western side of India.

Punj Lloyd says that the mountainous terrain creates a number of challenges to construction. Pipeline crews must lay pipe through areas of rock, forest and steep incline.

The pipeline route area is also prone to heavy rains for long periods, significantly limiting the times in which construction can take place.

The scale of this project requires mobilisation of huge resources including numerous construction equipment like sidebooms, pipelayers, cranes, excavators, dozers, rock breakers, automatic welding equipment and over 5,000 workers.

Special construction techniques

Punj Lloyd will be using a number of special construction techniques to overcome the numerous challenges including:

1. Horizontal directional drilling;
2. Specialised techniques for trenching in urban areas;
3. Cable cranes for crossing steep terrain; and,
4. Automatic welding machines and ultrasound automatic testing machines in substantial parts of the project.

Site camps have been established along the entire route of the pipeline in each spread of the pipeline which is connected to state base camps, the central co-ordination group office in Bangalore and Head Office in Gurgaon through V-Satellite.

Construction on Punj Lloyd's ten spreads is expected to be completed by November 2011 and commissioning will be completed by February 2012.

KazStroyService was awarded Spread-D and Spread-J of the pipeline, which will require the construction of approximately 132 km of pipeline.

The company commenced construction on its spreads in November 2010.

Dabhol – Bangalore Pipeline spreads

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Spread-A	100.65 km long, 36 inch diameter	Punj Lloyd
Spread-B	97.60 km long, 36 inch diameter	Punj Lloyd
Spread-C	50.9 km long, 36 inch diameter (This spread also covers some part of the 75.8 km long, 24 inch diameter Gokak – Goa spur line)	Punj Lloyd
Spread-D	99.53 km long, 24 inch diameter	KazStroyService
Spread-E	125.82 km long, 30 inch diameter	Punj Lloyd
Spread-F	127.58 km long, 30 inch diameter	Punj Lloyd
Spread-G	126.5 km long, 30 inch diameter	Punj Lloyd
Spread-H	117.25 km long, 30 inch diameter	Punj Lloyd
Spread-I	42 km long, 18 inch diameter	Advance Stimul Consortium
Spread-J	31.6 km long, 18 inch diameter	KazStroyService

