



PROJECT AT A GLANCE

WATER FILLED IN RANJIT SAGAR DAM, JAMNAGAR

SPML Infra has its stamp on numerous completed and ongoing irrigation and water supply projects in India. The company has completed the Phase II of the Saurashtra-Narmada Avtran Irrigation Project (SAUNI Yojana) in Gujarat.

The ambitious and one of the largest water supply project in India, Saurashtra-Narmada Avatan Irrigation Yojana (Sauni Yojana) has been launched to divert one million acre feet (1 MAF) excess over flowing flood water of Narmada allocated to Saurashtra Region. The excess over flowing flood water of Narmada Dam will be distributed to 115 reservoirs of eleven districts of Saurashtra, Kutch and North Gujarat regions through total 1126 km long four link pipelines to irrigate 10,22,589 acre land benefiting millions of farmers. The projects also envisage providing drinking water facilities to around 39 million people across 132 towns and 11,456 villages.

This project has helped in resolving the water scarcity issues for the millions of people residing in towns and villages of Saurashtra, Kutch and North Gujarat regions. The availability of water for irrigation across these region has yielded with good crops thus boosting the economy of the state.



Hon'ble Prime Minister Shri Narendra Modi ji along with Shri Vijay Rupani ji, Hon'ble Chief Minister of Gujarat inaugurating the Phase II of SAUNI Yojana in Jamnagar on 4th March 2019

PROJECT BACKGROUND

Gujarat has been facing the historical water crisis particularly acute in the Saurashtra region, Kutch, North Gujarat and parts of central and South Gujarat. With 5% population of the country, Gujarat has accessibility to just 2% of the country's water resources. While the state is unable to draw ground water because of the rocky profile of a widespread terrain, the variation in rainfall adds to the woes of the people. The state government has taken steps in order to resolve the water scarcity with a number of initiatives including development of a state water supply grid, Swarnim Gujarat Saurashtra–Kutch Water Grid Project and the SAUNI Yojana to augment water supply to these areas in the state.

PROJECT CHALLENGES

- EPC projects are schedule driven with intersected phases to complete the project as early as possible. Sometime these overlapped phases pose challenges that lead to cost overrun and schedule delays. Some of the key challenges faced while executing this project includes:
- The pipe manufacturers in India were not having the installed facility to manufacture 3000 mm diameter 3 layer polyethylene coated pipes. SPML Infra got them to upgrade their facilities to manufacture and supply the required pipes in adequate quantity as per the time schedules.
- Transportation of heavy pipes (each 12 mtrs pipe weighing 15.6 metric tonnes) was very challenging. SPML Infra had to develop complete logistics with specially made 18 wheel low bed trailers for transporting pipes to project locations spread across towns and villages.
- After laying of such huge pipes, the enormous task of jointing, welding and coating with 3 layer polyethylene was carried out with complete precision and safety by the experienced teams using complete protection from toxic gases emanating from welding inside the pipes.
- SPML Infra specially trained the work force and deployed them with complete facilities for safe laying, jointing and testing of pipes in diverse soil and climatic conditions.
- Transportation and placement of heavy pumping machineries were a difficult task that was completed with proper planning and management at site. The rotator of all pumps was imported from Germany for the quality and longevity.

Client: UND Irrigation Project Division Jamnagar, Gujarat

Cost of Project: INR 5001.4 Million

Main Pumping Stations:

- 5 Set of Pumps with 12760 CUM/hr capacity of each with 49 meters head
- Vertical Turbine 5 Pumps (4 working + 1 standby)
- Motor with 2300 KW horsepower at 590 RPM speed
- 1 set of 66 KV relay Control Panel
- 1 set of 6.6 KV HT Switchgear Panel
- 1 set of 415V LT MCC Panel

Feeder Pumping Stations:

- 2 Set of Pumps with 36 Cum/Hr capacity of each with 32.5 meters head
- Vertical Turbine 2 Pumps (1 working + 1 standby)
- Motor with 7.5 KW horsepower at 1455 RPM speed
- 1 set of 415V LT MCC Panel

Main Pipeline:

- Length: 36.60 kms MS Pipeline of 3000 mm internal diameter with 17.5 mm thickness
- Coating: Outside 3 LPE minimum 3.7 mm coating confirming to DIN 30670, Inside 406 micron thick solvent free food grade epoxy coating and heat shrink sleeve at welding joints
- Pipe welding: 29,88,004 cm
- No of ZVV/ACV/BFV/SCV/SLV: 39 Nos.
- No of Air Valve: 183 Nos.

Feeder Pipeline:

- DI K-9 Pipeline-6.809 kms of 125 mm internal diameter
- HDPE Pipeline-0.651 kms of 450 mm OD-6.0 kg/cm² –
- RCC Pipeline-4.306 kms of 750 mm ID-Class P2- 4 kg/sq.cm
- No of SCV/SLV: 5 Nos.
- No of Air Valve : 23 Nos.

Electrical System:

- 66 kV / 6.6 kV Switch Yard
- 15 MVA Power Transformer: 2 Nos.

Civil Work:

- For MPS at UND-1 Reservoir
- Pumping Station: 30 M x 12.5 M x 15 M (LWH)
- Sump: 47.5 M x 36 M x 6 M Depth- 85 Lacs Ltrs Capacity
- MCC Building: 40.5 M x 10 M x 4.5 M (LWH)
- Switch Yard: 60 M x 30 M
- Fire Fighting Room: 10 M x 6 M x 9.6 M (LWH)
- Staff Qtr: 6.15 M x 7.35 M x 3 M (LWH)
- Security Cabin: 3 M x 3 M x 3 M (LWH)
- Boundary Wall with Gate – 500 RMT
- Internal Road & Approach Road – 400 RMT
- Storm Water Drain – 440 RMT

FPS at Kankavati Reservoir:

- Pump House: 5 M x 4.5 M x 3.6 M (LWH) with Intake Structure
- MCC Building: 5 M x 7 M x 3.6 M (LWH)
- Security Cabin: 3 M x 3 M x 3 M (LWH)
- Boundary Wall with Gate – 100 RMT
- Internal Road & Approach Road – 400 RMT
- Storm Water Drain – 60 RMT

For Pipe Line:

- Pipe Encasing (RCC) – 13363 Cum
- Thrust Block (RCC) – 4165 Cum
- Energy Dissipation Structure – 8 Nos.
- Valve & Manhole Chamber – 76 Nos.
- Flow meter & Chamber – 9 Nos.
- Total concreting: 25006 Cum
- Total excavation: 770794 Cum
- SCADA System and allied works

Operation & Maintenance: 10 Years



SPML INFRA LIMITED

A leading infrastructure development company in India with about four decades of experience, it has executed more than 600 projects and created significant value for the country that has touched the lives of millions of people; be it provision of drinking water, improved sewerage facilities, better municipal waste management, and lighting up homes. SPML Infra provides drinking water facilities to more than 50 million Indian populations through various projects. It features amongst the World's Top 50 Private Water Companies as per Global Water Intelligence, London.



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