

PROJECT AT A GLANCE



SPML INFRA LTD.

SPML Infra is a leading infrastructure development company of India. An ISO-9001:2008 certified, it has executed almost 600 turnkey projects and created significant value with the provision of drinking water, improved sewerage facilities, better municipal waste management, building roads and highways and lighting up homes over the last three decades. SPML is currently executing infrastructure projects worth Rs. 8000 Crore in India.

OM METALS INFRAPROJECTS LTD.

Om Metals Infracore, established in 1971 is a pioneer in execution of turnkey hydro mechanical projects involving major hydro power and irrigation projects in India and abroad. An ISO 9001:2008 company, it has completed more than 50 projects with design, engineering, manufacture, supply, erection, testing and commissioning. It is currently executing a number of large infrastructure projects in India and abroad.

PROJECT AT A GLANCE

Kalisindh Major Concrete Gravity Dam located on River Kalisindh in Jhalawar district of Rajasthan was planned to develop a storage dam to meet 34 Million Cubic Meter (MCM) water requirements for 1200 MW Kalisindh Super Thermal Power Plant located in Jhalawar District of Rajasthan for Rajasthan Rajya Vidyut Utpadan Nigam Limited. The work of Construction of Dam was awarded by Water Resources Department, Rajasthan to SPML Infra Limited and its JV partner Om Metals Infracore Limited on EPC Turnkey Project basis on 30.04.2010 with project cost of Rs. 457.21 Crores.

Description	Details in Brief
Name of the Project	Construction of Kalisindh Dam on EPC Turnkey Project basis.
Client	Water Resources Department, Government of Rajasthan
Contract Value	454.81 Crore
Design-Build	002.40 Crore
O&M	457.21 Crores
Total	
Scope of Work	Construction of civil, hydro-mechanical & electrical works of Kalisindh Gravity Dam under Single point responsibility turnkey job basis including 2 years of O&M
Planning	Review of hydrology, topographical survey, fixing of dam-axis, preparation of DPR and approval of DPR from Central Water Commission, New Delhi.
Design	Design and preparation of construction drawings of spillway, abutments, wing walls, stilling basin, Radial Gates and all other auxiliary works and their approval from Central Water Commission.
Civil Works	Constructed 995 meter long, 26 meter high concrete gravity dam to store 54 MCM water at F.R.L.316.00M
Hydro mechanical works	Fabrication, erection and commissioning 33 numbers radial gates of size 15Mx10.5M with 250 tonnes hydraulic hoist lifting arrangements for design discharge of 32411Cumecs
Control Room & Electrical works	Construction of control Room with atomized operation of gates from control room

THE SCOPE OF WORK

- Review of hydrology, topographical survey, fixing of dam-axis, preparation of DPR and approval of DPR from Central Water Commission, New Delhi.
- Design and preparation of construction drawings of spillway, abutments, wing walls, stilling basin, radial gates and all other auxiliary works and their approval from Central Water Commission.
- Construction of dam and hydro-mechanical works as per approved drawings from CWC.

After the necessary approval of DPR & construction drawings from CWC, concrete gravity dam was constructed, 995 meter long, 26 meter high to store 54 MCM water at F.R.L.316.00M with flood discharging arrangement of 32411 Cumecs provided by 33 Numbers Radial Gates of size 15 Mtrs X 10.5 Mtrs with 250 Tonne Hydraulic Hoist Lifting arrangements.

The work from concept to completion of such a major dam with hydro-mechanical works was completed by SPML Infra & Om Metals Infraprojects within 4 years, in spite of the fact that the work was delayed / stopped several times due to forest clearance and by the local residents for want of compensation. The timely support by the client, Rajasthan Water Resources Department made it possible

to complete the dam construction in record time and filling of water in reservoir begin on 22 July 2014.

This is first time in the history of the Rajasthan that such a large Dam has been completed in such a short period, otherwise in past all the Major & Medium dams took 15-20 years for completion.

SPML adopted the latest technology for rapid dam construction i.e. 132 ft. long Telebird concrete placer with 50 Cum/hr. placing capacity, automatic weigh batching plants, cranes, hippo, haul pack dumpers, high capacity excavators, loaders, drilling & grouting equipment's, dewatering pumps with fully equipped workshop for fabrication & erection of radial gates at Dam site with international standards. The hydraulic hoists of 250 tonne lifting capacity were imported from Germany.

HYDROLOGY

Description	Figures
Gross catchment area	7547 Sq-k
Catchment area in M.P.State	6685 Sq-km
Catchment area in Rajasthan	862 Sq-km
Estimated annual yield at 75% dependability	147 MCM
Proposed Gross storage capacity	54.37MCM
Dead storage capacity	0.17MCM
Live storage capacity of the dam	54.20MCM

GATES

Description	Figures
No. of gates	33
Size of Radial gates	15Mx10.5 M
Crest level	306 M

SUBMERGENCE

Description	Figures
Total area in Submergence at FRL 316.00M	1834 Ha
Number of villages in submergence	26 nos

QUANTITY EXECUTED

Item	Total
Excavation - Earth Work	375741 Cum
Excavation in Hard Rock	1106544 Cum
Cement Concrete	202567 Cum
Reinforcement	4611 MT
Drilling	16254 Meters
Grouting	171 MT

DAM & SPILLWAY

Description	Figures
Full reservoir level (FRL)	316.0 M
Maximum water level (MWL)	316.0 M
Free board (FB)	6.00 M
Top Bund Level (TBL)	322.0 M
Foundation level	294.5 M
Probable maximum flood discharge (PMF)	32411 Cumecs
Total length of dam	995M
Length of over flow	607M
Length of non over flow	389M
Minimum draw down level	306M
Type of spillway	Oghee

