

Job Reference

Karun 3 Dam and Hydro Power Plant, Iran



Project Description:

The Karun 3 Dam and Hydro Power Plant generates around 4.172 MKWH of power, controls seasonal floodwater and provides agricultural water in the region. A double-arched concrete dam standing 185m high from the surface of the river and 205m from its foundations, its crest is 462m long and measures 29.5m in width at its bottom and 5.5m at its top. The construction included approximately 22km of underground tunnels and involved 2.7 million m³ of concrete. The volume of the resulting reservoir is around 3 billion m³.

The Challenge:

The consultant involved in the project was concerned that the admixtures to be supplied would not achieve the high-performance, high-quality concrete necessary to construct the spillway in accordance with the designed specification. BASF Construction Chemicals was one of four approved chemical supplier companies tendering, competing in a very tough, close pricing scenario.



The Solution:

BASF was able to put forward the best price by proposing the supply of Pozzolith LD 10, in powder form, for the project and offering assistance to the contractor in assembling a liquidising unit at the job site. This eliminated the extra cost required to transport liquids to the project, about 800km away from the supply source. BASF was able to provide all the aspects of high performance concrete (HPC), using the polycarboxylic ether (PCE)-based superplasticiser Glenium® 51 to produce exceptional results for the spillway structures.

As a safeguard for consumption of the product, an additional 20% was insured within the agreement. The client's satisfaction with price and quality in comparison with the other tendering companies was such that, even after the concrete works were finished, they requested that the extra 20% mentioned in the agreement was still purchased and distributed amongst their other projects at the time!

Product	Quantity / Consumption
Pozzolith® LD 10	More than 3 million Litres
Glenium® 51	400,000 Litres
Rheobuild® 1100	20,000 Litres
Meyco® SA 540	10,000 Kg
Emaco® S 45	20,000 Kg



Other BASF Reservoir, Dams & Waterway References:

Europe

Glendoe Dam, Scotland, UK

Mont Saint Michel Dam, France

South America

Rio Estí Hydroelectric Project, Panama

Regional water system, La Rioja, Argentina

Turbine foundations repair, Guadalupe IV Hydroelectric Project, Colombia

Waterways, Tuxapan Thermoelectric Power Plant, Mexico

Africa

Sondu Muiu Hydro Electric Power Project, Kenya

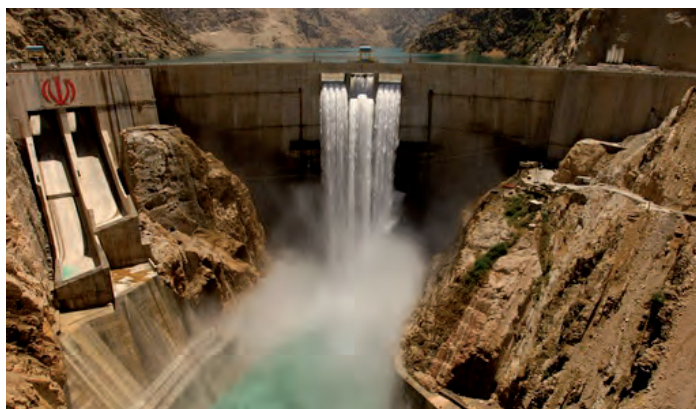
Asia Pacific

Balambano Hydro Power Plant, Indonesia

Kinta Dam, Malaysia

Nathpa Jhakri Hydro Power Project, India

Three Gorges Dam, China



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