

P4 The Carlsbad Desalination Plant; Water Supply Security for a Thirsty San Diego County

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The award-winning Carlsbad Desalination Project in California is a privately financed project that, is the largest desalination plant in the western hemisphere. The project includes a desalination plant, a product water pumping station, product water storage and a ten-mile finished water conveyance pipeline. This paper will address various aspects of overcoming the challenges of the Carlsbad Desalination Project, including design and regulatory requirements.

The project developer and other relevant parties worked for more than 10 years to overcome significant practical, regulatory and economic challenges to execute a desalination plant that will provide a cost-effective and environmentally friendly water supply. Once the project was initiated, experts from leading engineering companies around the world led by IDE Technologies worked together to develop a desalination solution that meets all the challenging criteria. The number of entities involved in the design and planning process necessitated very precise coordination and collaboration.

The project is seen as a harbinger of a new era in the United States in which large-scale desalination plants are viewed as viable solutions to growing water challenges and a way to drought-proof the public water supply.

Design work began in the final days of 2012, immediately following a lengthy and rigorous regulatory process and the approval of a water purchase agreement to purchase the plant's output by the San Diego County Water Authority. Construction of the Carlsbad Desalination Project started in early 2013.

The Carlsbad Desalination Project has a production capacity of up to 54 million gallons (204,418 m³) per day of fresh, high-quality drinking water. The water will be sold to the San Diego Water Authority under a water purchase agreement at a fixed-price water purchase contract for 30 years, providing San Diego County with a locally controlled, drought-proof supply of high-quality water that meets or exceeds all state and federal drinking water standards.