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Southern California Edison

Ocean Vista Power Generation Station Turbine Deck Rehabilitation Project - Rosemead, California
1998 Award of Excellence



The turbine deck of Ocean Vista Power Generation Station in Oxnard, California consists of a post-tensioned concrete deck, supported by structural steel framing, that was built in 1957 in conjunction with the turbine generator pedestal. Concerns over the safety of the deck had come from noticeable cracking and spalling of the concrete and visible corrosion of the post-tensioning cables.

The existing elastomeric membrane was removed using rotary carbide strippers. The concrete was then shotblasted to provide the proper profile per the manufacturer's requirements. After the completion of the crack, spall, and joint repairs and the carbon fiber reinforced polymer (CFRP) installation, the elastomeric deck coating took place.

The deck retrofit project proved to be a challenge. The repairs ranged from basic concrete repairs using conventional methods such as epoxy injection of cracks and repairs to spalled or delaminated areas with polymer-modified concrete, to the use of a high-tech CFRP system to restore the deck's integrity. The logistics of installing the CFRP on the deck's soffit with very little access, and while the plant was in 24 hour a day operation with temperatures exceeding 115° F, (45°C) was one of the most difficult issues for the contractor to overcome. The use of CFRP to reinforce an industrial deck which has lost part or all of its original prestress system is unique.

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