



## HydraWrap® (Fiber Reinforced Polymer)

### Market

*Power Generation*

### Challenge

The challenge was to rehabilitate the deteriorated cooling water piping due to through wall leaks.

### Engineered Solution

The solution utilized the HydraWrap Structural Composite Repair System.

### Scope

Sections of the cooling water pipe were replaced in 1987 with carbon steel lined with Plastisol (plasticized PVC). Over the years, the liner has become disbonded from the substrate and has subsequently resulted in numerous through wall leaks. These leaks and significant areas of corrosion have resulted in poor system reliability and impacted the plant performance. Both the pump inlet and discharge pipe were affected by the deterioration.

### Solution

In order to correct the situation the plant needed to permanently restore pressure boundary and structural integrity within a normal 22 day maintenance outage, while minimizing the impact on the plant's capital budget. Direct replacement of the piping was not a practical option due to time and budget constraints. The HydraWrap carbon fiber system was chosen for its structural capacity, coupled with economical pricing and short installation window.

The project required the removal of the sometimes tenacious existing coatings. Selected pipe spools were removed and other openings were provided to allow access into the piping. The substrate was prepared by grit blasting. The piping system was repaired by applying an epoxy primer, layers of carbon fiber and a top coat. The entire process was complete in the allotted timeframe, and was a cost-effective repair option.



**HYDRAWRAP**  
STRUCTURAL COMPOSITE REPAIR SYSTEM

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