

HydraWrap (Fiber Reinforced Polymer)

Project: Low Head Piping Rehabilitation

Application: Power Generation Pipeline

Product: HydraWrap

Substrate: Carbon Steel

Piping System Description

The Low Head Piping consists of 550 feet of 30 inch and 42 inch piping. The system supplies cooling water to vital components in the power plant. The system utilizes brackish water from the Chesapeake Bay as the cooling source.

The Problem

The Low Head piping system was replaced in 1987 with carbon steel lined with Plastisol (plasticized PVC). Over the last ten 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 the poor system reliability and impacted the plant performance. Both the pump inlet and discharge pipe were affected.

The Challenge

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 economic impact on the plants capital budget. Direct replacement of the piping was not a practical option due to time and budget constraints.

The Solution

The Client selected the HydraWrap carbon fiber and epoxy repair system for its structural capacity, coupled with economic pricing and favorable schedule. The project required the removal of 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 entire piping system was repaired by applying an epoxy primer, a layer of carbon fiber and a top coat. The system was returned to service within 220 days.



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