

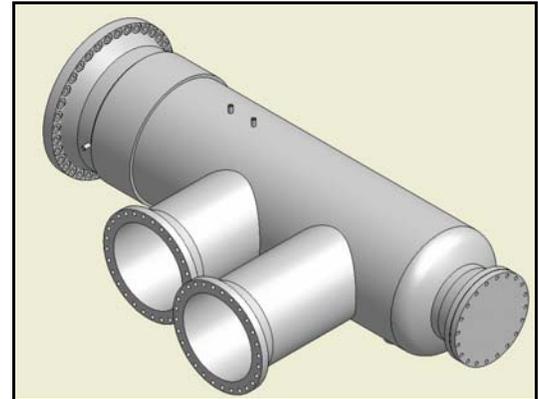


CorBan FRP Composite Pipe Solves Short Life Problems for a Power Plant

Customer: The power plant for an East Coast military facility.

The Application: Process piping handling sea water. Two each 42" diameter isometric flanged FRP composite spools, each with dual 30" diameter drop legs, and 1", 2" and 24" diameter ports.

The Problem: The steel and ductile iron pipe originally installed has provided very short service life. Because of corrosion attack by the sea water constant spool replacement has been required. Cement lined ductile iron replacement piping also prematurely failed.



The Challenges: The piping is being replaced by individual flanged spools, as failure of the existing steel and ductile iron pipe occurs. This means that exact dimensions of the existing pipe has to hold for the replacement spools. Especially for header spools with welded tee branches, drop legs, and changes in direction - the use of FRP composite piping required special design considerations to prevent "high stress" loads. And, with the difference in the modulus of elasticity for FRP composite pipe, supports required re-design, or addition.



The Solution: FiberSystems provided the customer a "turn key" package - including finite element analysis (FEA) engineering, the long "trouble free" service life of CorBan FRP composite factory assembled isometric spools, and the new pipe supports. For the FEA engineering, Algor's Pipe Pak was used by FiberSystems.



FiberSystems

521 Kiser Street
Dayton, OH 45404-1641
Tel: 937-222-9000
Fax: 937-222-9020

Case History

Fiberglass Reinforced Piping System for a Power Plant

01-17-2013

Page #2 of 2

The Execution: For this latest replacement, two similar flanged FRP composite header spools with drop tee branches (but with different run dimensions) were provided. Because of the light weight of FRP composite piping - both job site handling and installation were easily accomplished. And, because of the careful duplication by the FiberSystems production plant of the dimensions and flange orientation of the original pipe spools - everything dropped right in to place with perfect alignment.

