



CARBONSEAL™ INDUSTRIAL COMPOSITE SYSTEMS STEEL PIPE PROJECT



30" POWER PLANT STEEL RISER REPAIR

ARIZONA

Power Plants utilize a circulating water system to cool steam that has been heated, passed through a turbine, and turned back into water to generate more electricity. Over time, the pipes transmitting the cooling water can corrode. This refinery showed signs of below-grade corrosion and leaking.



PROBLEM

- » The concrete-lined steel riser pipes had corroded and cracked, and water had penetrated the concrete to corrode the steel
- » 2 of the risers had failed as the loss of steel could not support the operating pressure
- » The plant wanted to reinforce the risers from had a minimal outage window for the repair



INSTALLATION

- » The pipes were excavated and concrete diaphragms removed
- » The exposed steel surface was prepared to near white metal and primed
- » The CarbonSeal high modulus paste was applied, and saturated CarbonSeal fabric installed. An abrasion-resistant and UV-resistant top coat was applied
- » A steel sleeve was applied at the base of the repair, which was enclosed by a new concrete diaphragm
- » The final repair was painted for aesthetics



CONCLUSION

- » 22 steel riser pipes were reinforced within a limited window
- » The client was able to save significantly over replacement of the steel pipes, and minimal downtime

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