CASE STUDY

TITAN360™ Reduces Boiler Water Iron Levels by 84%

Background

A Southwestern simple cycle biomass power plant had difficulty managing their boiler treatment program. The 850 psi boiler operated intermittently, producing 125,000 pph of steam. In addition, treating this system posed a unique challenge because the condensate/feedwater system was nearly a half-mile away from the boiler and turbine. The traditional treatment program could not consistently deliver the appropriate phosphate to sodium ratio without the addition of caustic to control pH. The power plant tested several different treatment program trials, including amine addition to maintain condensate pH within normal control limits. However, they were unable to find a program that enabled the boiler system to consistently function within control parameters.

Solution

ChemTreat recommended TITAN360, which can provide a high level of corrosion protection to the complete steam cycle and effectively buffer pH without additional intervention. Also, TITAN360 is an all-in-one approach to boiler treatment, which can significantly provide an improvement to high maintenance programs.

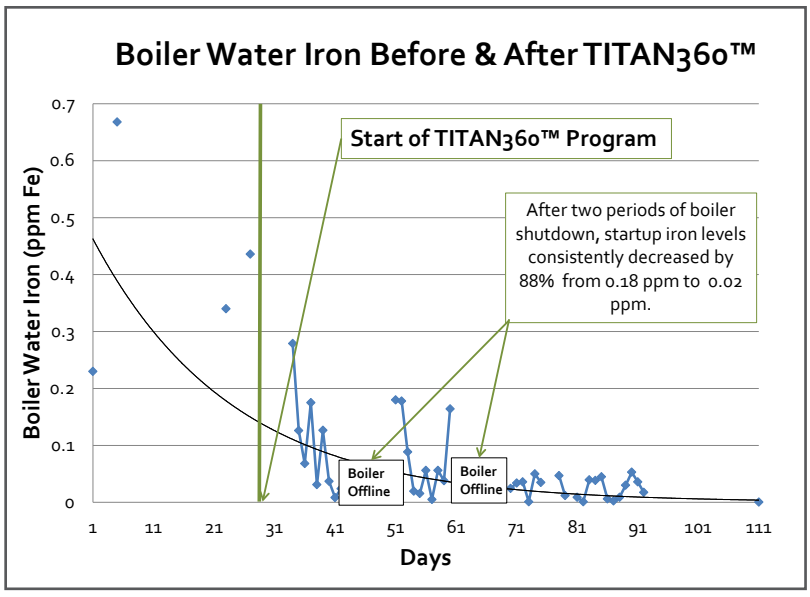

Figure 1: Compared to the previous treatment program, TITAN360 successfully reduced boiler water iron levels by 84%.

Results

Within only ten days of beginning the TITAN360 program, iron in the boiler decreased by 84% (from 0.436 ppm to 0.068 ppm) and pH remained within normal levels without additional chemicals. In addition, after two periods of boiler shutdown, startup iron levels consistently decreased by 88%, from 0.18 ppm to 0.02 ppm, which is displayed in Figure 1.

With ChemTreat's TITAN360, iron levels dramatically decreased to less than 1 part per billion (ppb). Not only did the ease of treatment improve, TITAN360 also provided superior corrosion protection to the boiler.

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