

Success Story

INDUSTRIAL BOILER BEST PRACTICES

A SYSTEM-WIDE APPROACH DELIVERS DELIGHT

An industrial manufacturer in the UAE now finds time to focus on continuous improvement, instead of maintenance, by adopting Gradiant's recommendation for whole-system best practices combined with a bespoke treatment program that has delivered flawless performance without unplanned downtime for three years and counting.

The Challenge

A large industrial facility in the UAE operating two low-pressure firetube boilers could not maintain the makeup system's target hardness levels of 3 ppm CaCO_3 . They were experiencing outages in the softener system, resulting in frequent hardness fluctuations in boiler makeup water. An in-depth analysis of the water system showed condensate return running from 40 to 50%, leading to 50 to 60% high hardness makeup water feed to the boiler, significantly increasing the risk of scaling. Scale that generates unplanned downtime, safety concerns, high costs for cleaning, and lower boiler fuel efficiency.

The Solution

Gradiant started with a whole-system evaluation, initially focusing on the performance of the softener system that resulted in operational best practice recommendations to improve efficiency and reliability. We developed a bespoke chemical solution that combined the utility of an oxygen scavenger, scale inhibitor, and condensate treatment.

Once implemented, the boiler system could operate efficiently and effectively within normal operating variability and accommodate fluctuations of high hardness from the softener system. We supported the treatment program with ongoing twice-weekly monitoring, including detailed service reports and operational recommendations for the local operator team to ensure continuous system reliability, uptime, and lower overall operating costs.



**CURE Chemicals
in Industrial
Manufacturing**



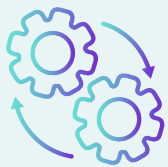
United Arab Emirates

Location:	United Arab Emirates
Application:	Boiler Systems
Solution:	Boiler System Treatment
Industry:	Heavy Industrial
Feedwater Source:	Softener System
CURE Chemicals:	Oxygen Scavenger, Scale Inhibitor, Condensate Treatment



>3 Years

Of operation
without unplanned
maintenance



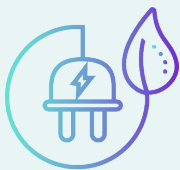
Zero

Unplanned
downtime hours



Zero

Incremental Inspection
Downtime



5%

Improvement in
Fuel Efficiency

The Benefits

We continued monitoring and maintaining this customer's site with zero unplanned downtime for over 3 years after the startup of the program. The treatment program has exceeded the customer's expectations, requiring nominal inspection during planned shutdown events due to the pristine condition of the boiler, which exhibits no reportable scale or corrosion. Consequently, the plant has yet to initiate any cleaning or repairs, which has enabled the customer to focus on continuous improvement versus troubleshooting.



Learn More at <https://www.gradiant.com/solutions/cure-chemicals/>

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