




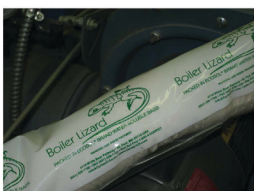
CASE HISTORY SPOTLIGHT

Case History #146: Protection of College Boilers During Seasonal Layup



CASE HISTORY

Protection of College Boilers During Seasonal Layup



PROBLEM
In the past, corrosion of boilers and deaerators was a severe problem during seasonal shutdown at a midwestern college. A new boiler and deaerator had been recently installed, and the chief engineer wanted to protect the new equipment from this type of corrosion. The chief engineer noted that almost all of the boiler corrosion had occurred during the idle period when the equipment was drained for annual inspections and maintenance.

APPLICATION
Boiler Lizards were applied to a 20,000 pounds/hour (9072 kg/hour) water tube boiler and a 1000 HP firetube boiler. The Boiler Lizards were placed in the boilers and deaerator at a rate of one bag per 1000 gallons (3785 L). The outer bags were removed, and the Boiler Lizards were slid down the center and placed strategically in the boiler. Placement was on each end of the boiler both in the steam and mud drum. In the firetube boiler, the Boiler Lizards were placed on top of the tubes and the belly of the boiler. The placement of the Boiler Lizards allowed the Vapor phase Corrosion Inhibitors to coat all internals of the boiler and protect the systems from corrosion. Corrosion coupons were installed and pictures taken. The boilers and deaerator were then closed and sealed.

CONCLUSION
The boilers were opened prior to being put back online. Inspection indicated that the boilers were in the same condition as when they were laid up months earlier. A black protective magnetite film still coated the internals of the boiler and no rusting or other corrosion was evident. This was especially impressive since some condensation of steam through a leaking valve had allowed water to pool inside. No corrosion was evident in the area of the pooled water, even at the interface. The boilers were filled as normal with deaerated water, drained, refilled and then put back online. The iron level of the boiler water was 20 times lower than during past boiler startups. The customer was extremely satisfied with the protection and the success of the Boiler Lizard®.

DATE
May 2000

CORTEC® REPRESENTATIVE
U.S. Water Services


CUSTOMER
Midwestern College

PRODUCT
Boiler Lizard®

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Corrosion of boilers and deaerators at a midwestern U.S. college had been a severe problem during seasonal shutdown. With the installation of a new boiler and deaerator, the chief engineer wanted to protect the new equipment from the same problem. Boiler Lizards were placed on each end of the boiler in the steam and mud drum of the water tube boiler and on the top of the tubes and belly of the firetube boiler. Corrosion coupons were installed, and the boilers were sealed.

The boilers were inspected several months later prior to bringing them online. The internals appeared to be in the same condition as before with no evidence of corrosion in spite of a leaky valve that had allowed water to pool from steam condensation. After refilling, draining, and refilling the boilers to bring them back online, the iron level of the water was found to be 20 times lower than past boiler startups, and the customer was extremely satisfied with the results.

To read the full case history, please visit: https://www.cortecchistories.com/?s2member_file_download=access-s2member-level1/ch146.pdf

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