

CASE STUDY

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Renovation of Flame Detection System for a T-fired boiler

The Customer

The Formosa Ha Tinh Steel Corporation Power Plant is a coal-fired power station in Ha Tinh, Vietnam. The tangentially fired boiler, supplied by Dongfang Boiler Group Co., Ltd. (China), has 8 oil burners and 16 coal burners, each are equipped with UNIFLAME flame detectors.



The Challenge

Safe Fire was requested to assess the high damage rate and performance issues on their existing flame scanners.

- 1) Flame detectors were regularly damaged by water ingress from rain. The salty air at the coastline and frequent rain has compromised the scanner's quick connectors and its ability to seal the electronics from the environment
- 2) Elevated temperatures at the boiler caused the flame detectors performance to become unstable. The design temperature specification for the existing flame detector is 0°C to +65°C. As temperatures at the installation exceeds the upper limit, the detectors become unstable and triggers incorrect alarm and flame status



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Solution

To counteract the damaging effects from the environment and to optimize the performance of the flame detection system, Safe Fire installed the W-Flame

- 1) The existing UNIFLAME flame detector was replaced with Safe-Fire's W-Flame, whose working temperature range is -40°C to $+85^{\circ}\text{C}$
- 2) The W-Flame comes standard with cable connectors that are rated **IP66** and corrosion resistant. In addition, the scanners can be installed with the connectors facing down to allow water to simply run off



BEFORE



AFTER

Results

The renovation provided end users a robust flame detector that will perform reliably on their boiler

- ✓ The flame detector's temperature resistance was increased by 30%
 - ✓ Virtually eliminated false alarms and uncertainty on flame status
 - ✓ Drastically reduced cost of maintenance and replacement flame detectors
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