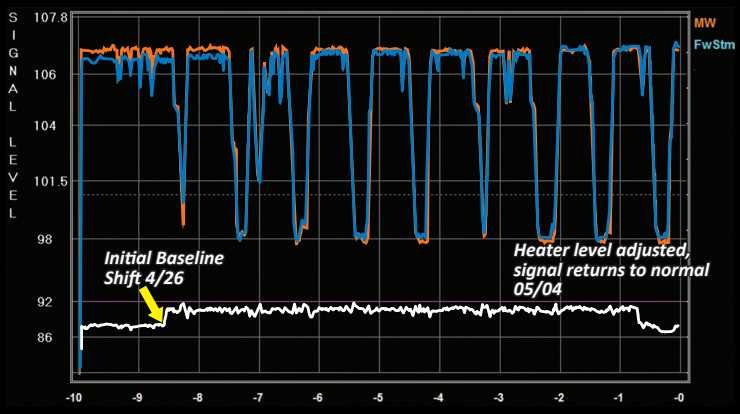
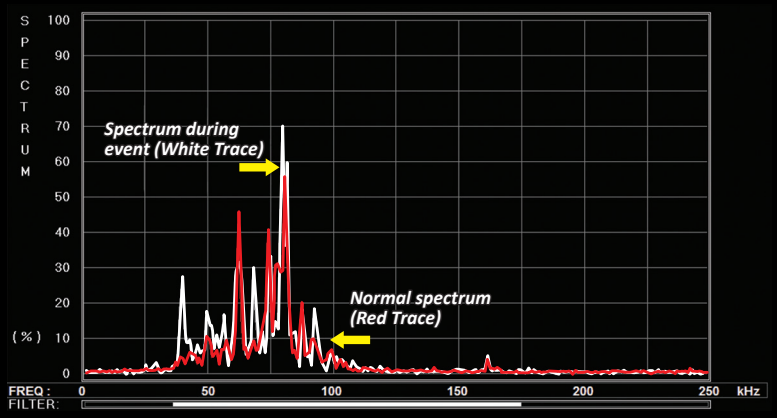
MISTRAS | TRIPLE 5

One Source for Asset Protection Solutions

PRODUCTS & SYSTEMS DIVISION | CASE STUDY



10-DAY TREND FOR CHANNEL 8



SPECTRAL ENERGY DISTRIBUTION OF ACOUSTIC SIGNAL

Leak History #42 AMS Alerts Operators to Potentially Damaging Issue

The issue occurred in a high pressure feedwater heater equipped with a single metalborne waveguide (sounding rod) welded to the heater shell, near the tube sheet.

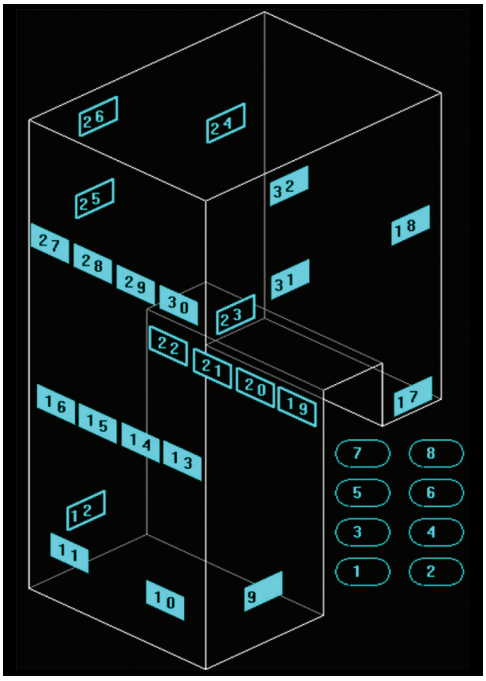
The signal for Channel 8 shifted upward on 04/26 and continued to trend at the elevated level until 05/04. The spectral energy distribution was not typical of a heater leak and appeared normal at the time. The plant was notified of the suspicious acoustic change on 04/27 as a part of the routine surveillance service. The plant and Triple 5 monitored the heater for acoustic increases over the following week. The plant investigated the heater on 05/04, in response to the unusual acoustic levels that were being reported.

As a result of the investigation, the plant found that the heater levels were low and that the heater was blowing through. In response to the findings, the operators raised the levels to stop the blow-through. The acoustics shifted back to normal limits when the levels were raised. The plant had recently implemented a heater level indicator into the DCS, but it was found to be malfunctioning at the time. Other than the acoustics, the plant had no indications of an issue in the heater.

"The station never had a heater level indicator in the control system, so there is no alarm to directly alert the operators on the low level. We are slowly in the process of adding it. You'll note the level in pink on this plot [referred to DCS Plot, not included], which we just added this last outage. However, on this heater, it doesn't appear to be indicating accurately."

-Plant Engineer

Problem: Heater blow-through
Location: High pressure feedwater heater
Equipment: Metalborne waveguide



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