

## Feed Flow Line Troubleshooting

A power plant was experiencing a feed water flow problem. The issue was on a line with static pressure exceeding 1000 psi which fed water to one of their steam generators. The plant's engineers suspected that it may be an issue with a filter, a flow nozzle, or even with the line itself, but couldn't know for certain until they could isolate and



capture one of the transient events. Logging differential pressure—so that they could record readings on both sides of the suspected problem areas—would be the best way to troubleshoot the issue. But that method was initially dismissed by the team, as the cost for a unit to measure differential pressure under so much static pressure would be very expensive.

### The Right Equipment for the Job

Crystal Engineering had the solution. Equipped with two pressure modules rated in excess of the static pressure, an nVision reference recorder could provide the plant's engineers an accurate differential measurement. The nVision would capture the native difference between two modules of the same range (in this case 3000 psi) and apply

that difference to each measurement. This would give them a differential pressure measurement up to an accuracy of  $\pm 1.4$  inH<sub>2</sub>O; even with the high static pressure present in their system. And, as the nVision would record and time stamp the data, the engineering team would have the ability to carefully analyze the differential measurements and

compare them to the Plant Operations' control system data. This in turn would provide them the opportunity to note transients that may have the potential to affect the differential pressure in a specific area of the feed water system. With enough data points, events that repeatedly caused issues could be isolated until the problem was identified and corrected.

### Positive Results

The team was able to identify the issue using

the data provided by the nVision reference recorder. The problem was identified in a timely fashion and at minimal cost, as they were able to address the specific system problem and bring the generator back online quickly. The plant engineers were very happy with nVision and its contribution to the process. They also noted its versatility: with a number of modules of different pressure ratings on hand, the nVision reference recorder was able to address a variety of the team's other needs.

