3D TRASAR™ Technology and swift action by the System Assurance Center prevent off-hours condenser leak

NALCO Water
An Ecolab Company

CASE STUDY – FOOD & BEVERAGE

CH-2052

SITUATION

One of the world's largest producers of raw materials for fast-food restaurants recently experienced a water utility problem, that left undetected, could have caused serious damage. The onsite sulfuric acid pump had been operating in manual, rather than automatic mode, resulting in excessive acid dosing in the water running through the condensers. The plant's operations staff was not aware of this because it happened in the middle of the night. Fortunately, the plant uses Nalco Water's 3D TRASAR™ Technology and Nalco Water's 24/7/365 System Assurance Center (SAC) for system monitoring and control. These solutions, along with a rapid response to the situation, helped the customer avert severe damage to its cooling system.

The problem was discovered when a pH low alarm with a value of 3.90 was received by the SAC from the plant's 3D TRASAR controller.

See Figure 1 for the data points that triggered the alarm.

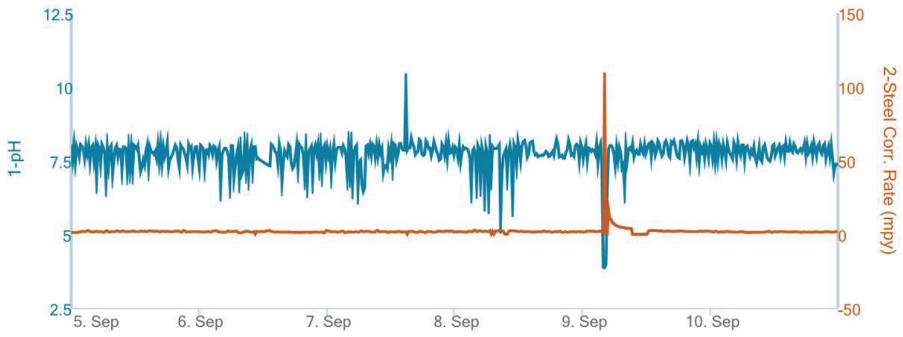

Figure 1 - 3D TRASAR Technology data from the event

ENVIRONMENTAL IMPACT	eROI℠	ECONOMIC RESULTS
Prevented premature replacement of plant assets due to quick detection/response to acid leak.	ASSETS	Asset replacement costs valued at $46,000 USD.

eROI is our exponential value: the combined outcomes of improved performance, operational efficiency and sustainable impact delivered through our services and programs.

An SAC engineer quickly investigated and discovered that the pH had fallen to a highly corrosive level (below four) with corrosion rates spiking at the same time. If left undetected, a further drop in pH would have exposed the condenser to the corrosive environment even longer, resulting in additional corrosion.

Figure 2 illustrates how a quick response helped to bring pH and corrosion levels back to normal within minutes instead of hours or days.

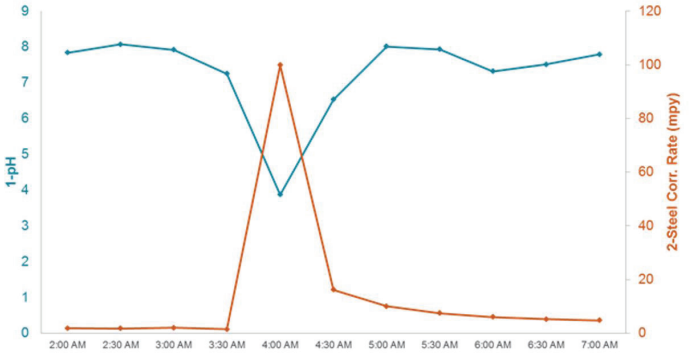

Figure 2 - Timeline of response to low pH alarm

SOLUTION

After assessing the 3D TRASAR System data, the SAC engineer immediately called the Nalco Water sales engineer responsible for the plant. A detailed analysis was also emailed to him and was, in turn, forwarded to the customer. The sales engineer followed up with a phone call to the SAC, then contacted the plant's operations staff to check the onsite conditions. He found that due to some earlier interventions, all pumps had accidentally been left operating under manual conditions, including the sulfuric acid pump. He immediately put all pumps into automatic mode.

Figure 3 shows the detailed system data from the 3D TRASAR System and the response timeline.

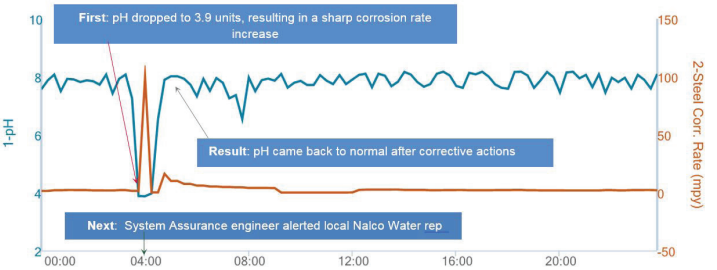

Figure 3 – Detailed data and corresponding timeline for the response

ECONOMIC RESULTS

As a result of the 3D TRASAR Technology alert and the timely middle-of-the-night response by the SAC and the Nalco Water team, the plant was able to achieve the desired pH within 30 minutes of the initial alert. This rapid response saved the plant approximately US$46,000 in condenser repairs and the associated maintenance costs and downtime.

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