



XCEL

CASE STUDY

Improving Inspection Procedures for Hydrolyzers

Industrial equipment failures can lead to costly shutdowns, lost productivity, and significant financial risks. When a major client faced recurring cladded nozzle failures in their 5R Hydrolyzer Column, they required a partner who could deliver innovative solutions to prevent future setbacks. XCEL stepped in to provide a comprehensive API inspection and Phased Array inspection to resolve issues with their column.

Challenge:

The client faced several challenges with their 5R Hydrolyzer Column, including:

- Recurring Failures
- The cladded nozzles had a history of defects, forcing multiple unexpected plant shutdowns for maintenance and repairs. Failed NDE Attempts
- Several local NDE companies attempted to locate the defects but failed to provide viable solutions.
- Risk of Failure and Financial Loss
- The inability to resolve the underlying issues posed a risk of catastrophic failure and significant financial loss.

The client needed a solution to identify the root cause of these failures, while ensuring long-term reliability and safety.

Solution:

XCEL collaborated closely with the client to devise a solution tailored to their needs. XCEL personnel:

01

Conducted pre-job discussions to fully understand the project's requirements and evaluate feasibility.

Requested test samples, which allowed our inspectors and technicians to carefully analyze the defects and assess potential inspection methodologies.

02

Detailed analysis confirmed that XCEL's methods, including Phased Array Ultrasonic Testing (PAUT), could effectively detect the defects causing failure.

03

In response, XCEL scheduled an on-site shutdown inspection, deploying a dedicated team of one inspector and two technicians. The inspection spanned two 12-hour shifts. XCEL also mapped multiple defects meticulously for repair, ensuring the client had a clear plan of action to address issues.

XCEL's extensive preparation and technical training alleviated the client's concerns.

Outcome:

The results of XCEL's work were transformative. The client experienced:

- Substantial Cost Savings
- They saved millions of dollars in potential unscheduled shutdowns each year.
- Reduced Risk
- They addressed defects proactively, significantly reducing risks of catastrophic failures.
- Improved Operations
- The client implemented annual onstream inspections of all Hydrolyzers, to ensure emerging defects are detected prior to scheduled maintenance.

XCEL personnel resolved the recurring equipment failures but also set the foundation for long-term efficiency at the client's facility.

CTA:

At XCEL, we consistently protect assets, enhance operational safety, and deliver long-term results. Contact Us Today to learn more about our expertise and how we can help your facility.