

EROSION PROGRAM SUPPORT



The NRC and INPO have shown increased interest in the utilities' proper mitigation of wall loss to piping systems caused by mechanical degradation. In response to this concern, utilities are developing erosion degradation monitoring/mitigation programs.

United can assist your utility with:

- Erosion Program Training
- Coatings and Material Aging Training
- Procedure development
- Erosion Susceptibility Evaluations (ESE)
- Erosion Risk Ranking
- Inspection Selection and Prioritization
- CHECWORKS SFA modeling
- Fitness for Service Evaluations
- Reinspection Planning
- Repair Option Selection
- Long-term Asset Management Plans
- Repair Option Selection
- Long-term Asset Management Plans

Erosion Does Not Equal FAC

Although both FAC and mechanical erosion mechanisms damage piping and equipment, there are several distinct differences in their behavior. These differences include predictability, kinetics, wear rate profile, and material composition effects.

The differences should be reflected in the mitigation, inspection, and repair strategies used in each mechanism's engineering program. For example, accurate and reliable predictive models are not available for erosive mechanisms. Therefore, more qualitative processes are required when risk ranking erosion locations.



**Delivering Customer Success
Through Innovative Solutions**



UNITED
ENGINEERS & CONSTRUCTORS
An Aecon Company

UNITED ENGINEERS & CONSTRUCTORS PROVIDES INDUSTRY LEADING EXPERTISE IN CUSTOMIZED WAYS TO MEET YOUR EROSION PROGRAM NEEDS.

Implementation Options

Approaches to managing Erosion Programs range from ad hoc to a formal erosion specific program. Regardless of the approach selected, there are elements that must be present.

United is able to customize our services and support to ensure compliance with industry guidance and best practices while fitting into the utilities' programmatic approach.

Erosion/Corrosion Identification Expertise

Key to successful degradation mitigation is identifying the mechanism(s) active where degradation is found. United Engineers & Constructors authored EPRI's Field Guide: Aging Assessment Field Guide. This document is designed to assist power plant engineers in correctly identifying the corrosion mechanism in degraded components so that appropriate countermeasures may be implemented.

United Engineers & Constructors also provides industry leading materials laboratory services. The United Engineering Center provides failure analysis that can identify specific degradation mechanisms and provide recommendations for material replacement or upgrades and plant modifications.

Program Development Experience

United is the industry leader in the field of Engineering Corrosion Program development. Our industry leading engineers have developed and/or enhanced Erosion and Mechanical Degradation programs for multiple utilities. We are proud to have been selected to develop the Erosion Program for all of new nuclear units currently under construction in the USA.



About United

United Engineers & Constructors is an industry leading infrastructure engineering, procurement, construction and consulting company dedicated to improving lives by delivering the most impactful solutions. Since 1905, we have served the power industry by providing comprehensive lifecycle services for the nuclear, conventional generation, renewable, and distributed energy markets.

Together with our clients and partners, we are unified in our efforts to deliver innovative and transformative infrastructure that is designed and built to meet the demands of today and the future.

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