FLAW EVALUATIONS – ASME CODE CASE N-513, PROVIDED BY STRUCTURAL INTEGRITY ASSOCIATES

CLASSROOM INSTRUCTORS

Eric Houston, P.E.

Education:

- B.S. Mechanical Engineering, University of Texas

Accreditations/Industry Leadership:

- ASME Member of Working Group on Pipe Flaw Evaluation

Background:

- Mr. Houston has over 10 years' experience with structural analyses of reactor pressure vessel boundary and system piping and is an active member of the Section XI Working Group on Pipe Flaw Evaluation. He has performed and managed numerous operability assessments of through-wall or near through-wall flaws as well as fracture mechanics evaluations of pressure vessels, piping, and components.

CONTACT INFORMATION

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INTENDED AUDIENCE

Nuclear mechanical design engineers, program engineers, mechanical system engineers and project engineers who seek practical knowledge related to Code-compliant flaw evaluation alternatives and lifecycle management of components

TYPE

Classroom Training

DURATION

Two days (15 PDH)

LEARNING OBJECTIVES

Evaluating, analyzing, and dispositioning flaws can be difficult and requires an in-depth knowledge of NRC Regulatory Guide 1.147, ASME Section XI and ASME Code Case N-513 (Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping).

1. This course offers a practical application of flaw evaluation methodologies that meet NRC requirements. Students will gain an understanding of the basic flowchart for ASME Section XI flaw evaluations and will be able to describe linear-elastic, elastic-plastic, and limit load evaluation techniques.
2. The course also provides examples that illustrate management of degraded and leaking piping and how to properly implement ASME Code Case N-513 and other evaluation alternatives.
3. Whether preparing acceptance criteria in support of planned inspections or evaluating an existing flaw in a safety-related system, you have a wide range of options.
4. Learning from our experience, this course discusses the advantages and disadvantages of each option, at a sufficient depth to be able to perform the required actions.
5. Students are challenged throughout the course to apply the course material to real life examples presented by the instructor.

Topics Covered:

- Key definitions
- Flaw characterization
- Evaluation vs. repair
- Class 2 and Class 3 evaluation options
- Class 2 and Class 3 repair options

KEY INDUSTRY DOCUMENTS

1. NRC Documents: RIS 2005-20, Rev 2; NRC Inspection Manual, Chapter 0326; NRC Regulatory Guide 1.147; NRC Regulatory Guide 1.193; Generic Letter 90-05
2. 10 CFR 50.55a
3. ASME Boiler and Pressure Vessel Code: Section III; Section XI
4. ASME Section XI Code Cases: N-513; N-705; N-597; N-806; N-561; N-562; N-661; N-786; N-789