



## **NRC/NIFG Meeting**

# **Selection of Encoded vs Non-encoded Dissimilar Metal Weld Examination**

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# Overview

- Current requirements for DM weld examination specify only Appendix VIII qualification
- No requirement for encoded data
- Some applications can benefit through use of encoded data
- Benefit must be carefully evaluated due to time, dose, outage impact and cost
- This guidance document provides a graded approach for selecting examination technology

# Definitions

- Encoded examinations produce an electronic record of the ultrasonic responses indexed to the probe position, permitting off-line analysis of images built from the combined data
- Non-encoded examinations produce only a written report of the examiner's real-time observations

## Graded approach – draft

- If no encoded examination technology is available
  - Consider working with vendors to develop it
- Mitigated welds that have had a qualified, encoded examination since 2004, and non-susceptible welds
  - 10% of the population should receive encoded examination every interval (Code interval, N-770-1 interval, or BWRVIP-75-A interval, as applicable)
- Welds for which significantly greater coverage may be obtained using encoded techniques
  - Use encoded examination by default

## Graded approach – draft

- Susceptible, unmitigated welds with additional risk factors and that have not had a qualified, encoded examination since 2004 should receive encoded examination at the next scheduled examination
  - Known non-geometric indications at or near the inside surface
  - Repairs during fabrication
  - Requirement for site-specific mock-up

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