



RIC 2007

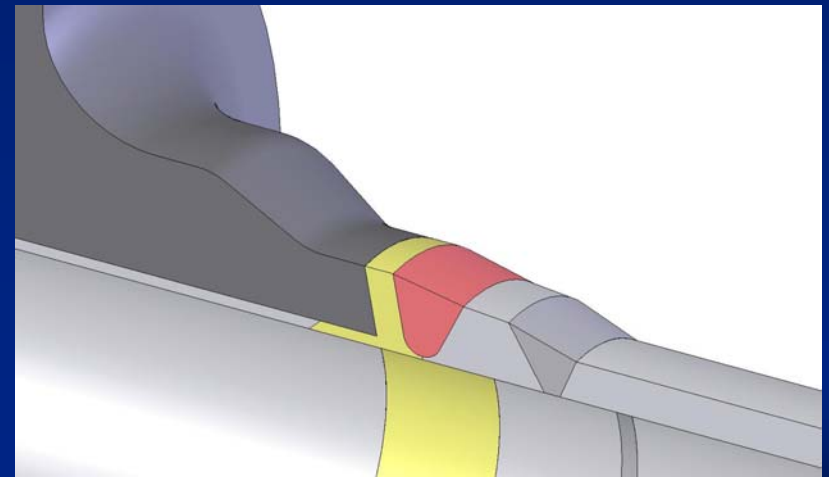
Dissimilar Metal Butt Welds

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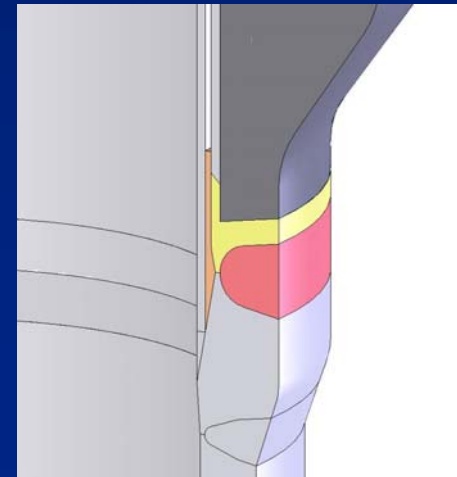
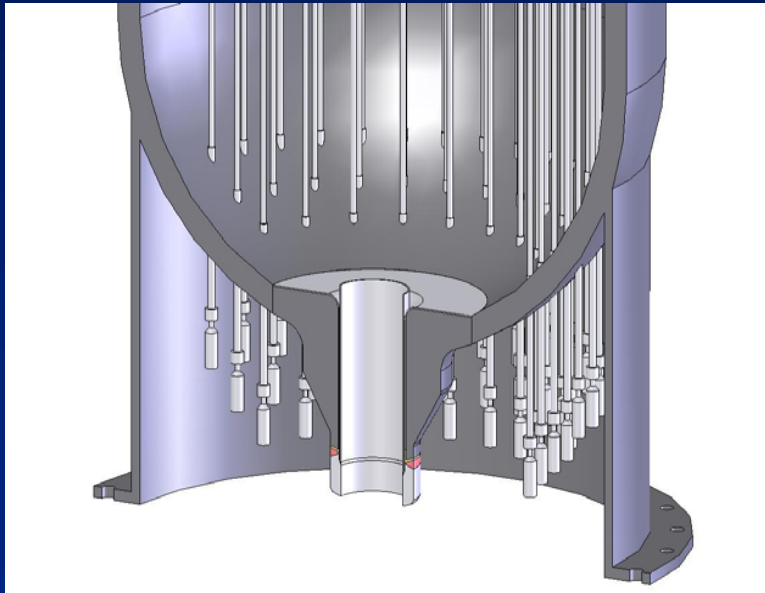
Background

- Dissimilar metal welds made with Alloy 82/182 have experienced cracking since mid-1980s
- Cracking in Alloy 82/182 butt welds has been experienced at many plants since 2000
- In October 2006, extensive circumferential flaws were identified in pressurizer nozzle welds at Wolf Creek

Pressurizer Top Head Nozzles



Pressurizer Bottom Head Nozzles



Background (cont'd)

- Inspections at Wolf Creek performed prior to weld overlay mitigation per industry program known as MRP-139
- Flaws found in pressurizer safety, relief, and surge nozzle welds
- NRC performed fracture mechanics analyses to understand possible behavior of flaws if left in service

NRC Findings

- There may be little or no time between leakage and rupture due to flaw size and nozzle configurations,
- Inspections/mitigations need to be accelerated from current industry schedule for some plants, and
- Enhanced RCS leakage monitoring with action levels to shut down and visually inspect welds necessary until inspections/mitigations completed

Regulatory Considerations

- Agreements reached with licensees to:
 - Implement enhanced leakage monitoring until nozzles inspected or mitigated
 - Complete inspection/mitigation during 2007
 - Impacts 9 plants with 2008 outages
 - Plants may inspect in 2008 pending results of industry advanced finite element analysis

Regulatory Considerations (cont'd)

- Licensee agreements contained in commitment letters
- Commitments will be confirmed through NRC Confirmatory Action Letters