



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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NRC PUBLIC MEETING MARCH 13 TO DISCUSS POTENTIAL PRESSURIZED WATER REACTOR WELD ISSUES

The Nuclear Regulatory Commission staff will meet with officials of eight U.S. commercial reactors Thursday, March 13, in Rockville, Md., to discuss emerging information regarding certain welds in pressurized water reactors (PWR).

“We’re looking at welds on the pressurizer, a vessel that creates and maintains a small amount of steam to keep a PWR’s coolant system at the proper pressure,” said James Wiggins, Acting Director of the NRC’s Office of Nuclear Reactor Regulation. “Our research activities recently gave us new information that raises some questions about whether eight plants can continue to run until their next scheduled shutdown before inspecting and possibly repairing these welds. New data from inspections of similar welds indicates those plants may need to take action sooner.”

The meeting will be held from 9 – 11 a.m. Thursday in the Commission Conference Room of the NRC’s One White Flint building, 11555 Rockville Pike in Rockville. NRC staff and plant executives will discuss information gathered during examination of a pressurizer formerly used at the St. Lucie plant in Florida. Potential weld flaws in that pressurizer raised questions about computer analyses used to justify extending a weld inspection deadline for eight facilities:

- Braidwood Unit 2, near Joliet, Ill.;
- Comanche Peak Unit 2, near Glen Rose, Texas;
- Palo Verde Unit 2, near Phoenix, Ariz.;
- Seabrook, near Portsmouth, N.H.;
- Summer, near Columbia, S.C.;
- South Texas Project Unit 1, near Bay City, Texas;
- Vogtle Unit 1, near Augusta, Ga., and;
- Waterford Unit 3, near New Orleans.

The NRC expects to have enough information to decide the timing of these weld inspections by the end of this week. All of these plants have previously committed to inspect or mitigate these welds during their spring refueling maintenance over the next six weeks. The remaining 61 PWR plants have either completed appropriate actions regarding their welds, or do not have welds susceptible to these flaws.

Nuclear power plant components and piping are made of both carbon steel and stainless steel. These different metals are typically not welded to each other, so the plants used materials known as Alloy 82 and 182 for such welds, including on their pressurizer nozzles (see images below). These alloys have been susceptible in the past to cracking due to their chemical makeup, residual stresses from the welding process and PWR operating conditions.

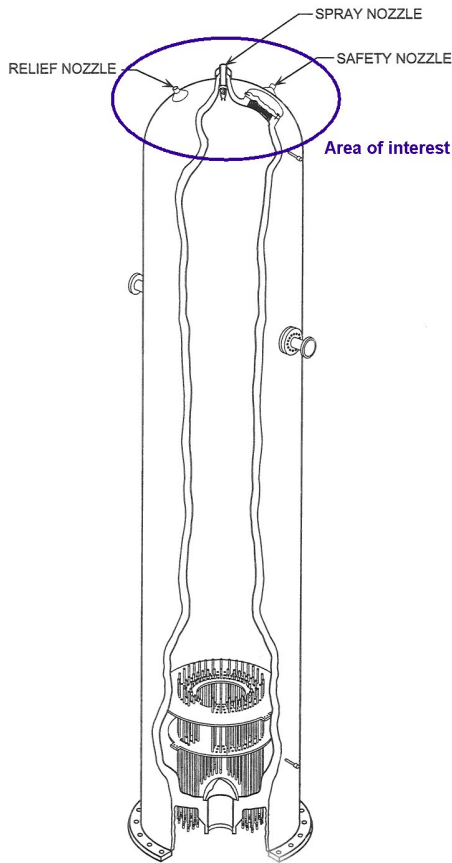


Fig. 1 - Pressurizer and nozzles

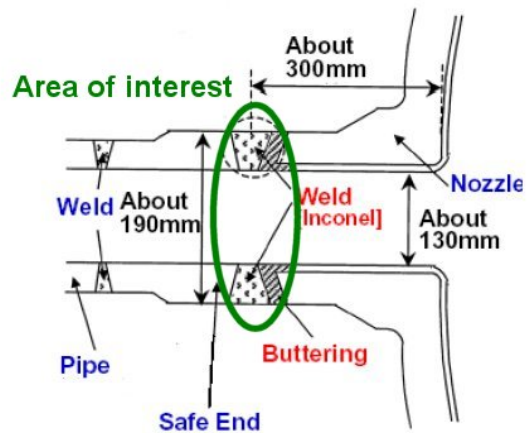


Fig. 2 - Nozzle weld

The first incidence of these flaws was found in a U.S. reactor in 1993. Since 2000, nuclear power plants have documented additional flaws. As additional information has become available and inspection methods have improved, the NRC and the nuclear industry have progressively increased attention to detecting, evaluating and correcting the flaws. The NRC is reviewing enhanced inspection requirements from the American Society of Mechanical Engineers, and will add the requirements into the agency's regulations as appropriate. More information regarding the issue is available on the NRC web site at:

<http://www.nrc.gov/reactors/operating/ops-experience/pressure-boundary-integrity/weld-issues/>.

(Note to Editors: Members of the press interested in attending the meeting should contact the Office of Public Affairs by the close of business March 12 to arrange for audio or video recording.)

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