

### ***Core Spray Inspection Guidelines Could Reduce Number of Required Inspections***

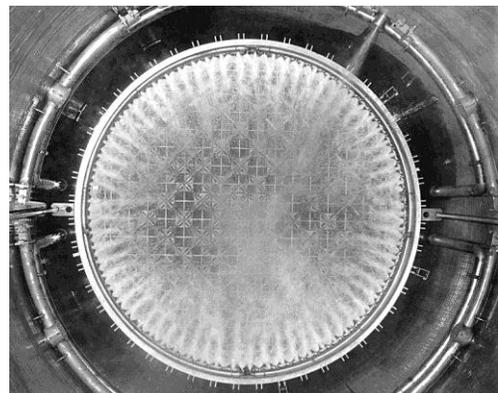
***The revised guidelines reflect inspection data collected over the past 10-15 years and may reduce required inspections by 25-45% depending on the vintage of the plant.***

EPRI's Boiling Water Reactor Vessel and Internals Project (BWRVIP) is continuing a long-term effort to revise and optimize inspection intervals for BWR internal components. The existing inspection guidelines were written more than 10 years ago based on the best available information at the time. Since then, implementation of the guidelines at nuclear plants around the world has provided new inspection data that allow the guidelines to be optimized based on field experience.

BWRVIP selected the core spray internal piping and sparger as the first components for potential inspection optimization. EPRI completed a report documenting the technical bases for proposed changes to its inspection guidance in 2011 (EPRI report 1022842), and these changes were then used to revise the original core spray inspection guidance in 2012 (EPRI report 1025059).

The core spray optimization process was complicated by the variety of inspection locations under consideration. A typical BWR has hundreds of core spray welds, and these welds can be found in about 20 configurations in the various BWR designs. Moreover, some core spray systems are constructed of Type 304 stainless steel and some of Type 304L stainless steel, which is theoretically less susceptible to cracking. The end result is a large number of parameters that need to be considered in revising the inspection recommendations for each weld.

For most Type 304 welds, BWRVIP determined that the inspection intervals could be increased compared to the original guidance. For example, both field experience and structural evaluations showed that many Type 304 piping welds could be inspected half as often. On the other hand, field experience for some Type 304L welds indicated that more frequent inspections were warranted. Overall, the revised guidance reduces the number of required inspections by 25-45% depending on the vintage of the plant.



EPRI will be submitting the guidance document to the Nuclear Regulatory Commission for a Safety Evaluation. The Safety Evaluation will signify regulatory acceptance of the technical adequacy of the guidelines, and will allow nuclear plants to conduct the necessary inspections to demonstrate structural integrity at lower cost.

BWRVIP has also begun initial inspection optimization work on two other internal components: the core shroud and jet pumps. The technical basis document and a revised inspection guideline for jet pumps are currently under review by BWRVIP technical committees, with publication anticipated in early 2013. Optimization of the core shroud inspection guideline is still in the planning stages, with a revised guideline also expected in 2013.

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