

RIC 2003

Steam Generator and Materials Issues Session W6

Steam Generator Issues

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Topics

- Industry Steam Generator Initiative
- Steam Generator Technical Specification Improvements

Steam Generator Initiative

- In December of 1997 industry executives committed to ensure that their Steam Generator (SG) Programs met the intent of NEI 97-06, *SG Program Guidelines*, by January 1, 1999
 - NEI 97-06 outlines a framework of prevention, inspection, evaluation, repair and leakage monitoring measures for SGs
 - Detailed guidance for implementation of NEI 97-06 requirements are provided in a series of EPRI documents that are regularly revised to address new technologies and operating experience

Steam Generator Initiative

- All the PWR utilities met their commitment to implement NEI 97-06
- All the PWR utilities are also members of the Steam Generator Management Project, an industry group established in the 1970s that:
 - Includes a number of active committees that study new information and events and provide resolution to technical issues
 - Manages the EPRI Guidelines
 - Provides real time evaluation and guidance on generic aspects of current SG operational events
 - Meets three times a year to exchange information

Steam Generator Initiative

- The industry has tasked INPO to perform reviews of licensee implementation of NEI 97-06 requirements
 - The review process uses industry peers and INPO technical experts
 - Over the last few years, INPO has reviewed all PWRs for their conformance with NEI 97-06
 - Findings from the reviews are summarized by INPO and used by the SGMP to identify areas for improvement
 - The reviews are continuing

Steam Generator Initiative

- As a result of the SGMP work and the NEI 97-06 initiative, the operational performance of SGs has improved steadily over the last decades:
 - As measured by tube leak forced outages:
 - 1980s ~10 per year
 - 1990 – 1994 ~ 5 per year
 - 1995 – 2002 ~ 1 per year
 - As measured by lost capacity due to SG problems:
 - 1980s ~ 4 % per year
 - 1990 – 1994 ~ 2.5% per year
 - 1995 – 2002 ~ 1.3% per year

SG Technical Specification Improvements

- The industry has been working with the NRC for over 5 years to develop a regulatory framework for the NEI 97-06 initiative
 - We have developed a series of technical specifications that reference the SG Program requirements and will remain able to reflect the technical improvements that will continue to be developed in the future
 - The proposed technical specifications are a significant improvement over the existing requirements
- The industry has submitted these new technical specifications on a licensee's docket and as a change to the NRC's improved technical specification NUREGs

SG Technical Specification Improvements

- NRC is currently reviewing these submittals
- Industry is actively involved in resolving NRC comments
- The technical specification improvements should be approved this year and implemented by all PWRs soon thereafter
- The industry continues to develop new technologies and methods to improve PWR SG performance