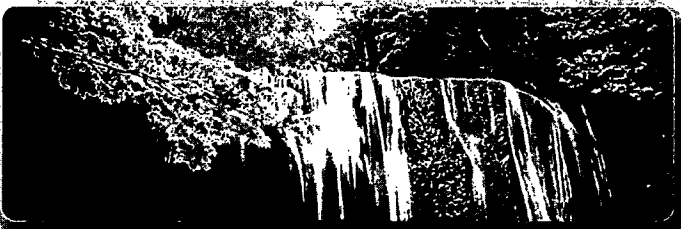
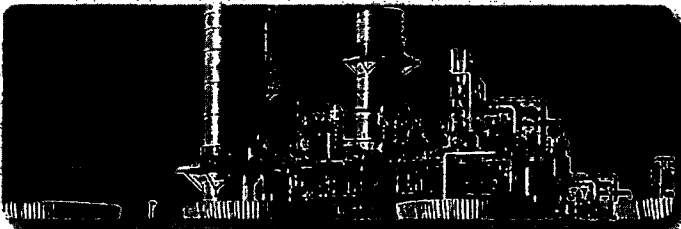
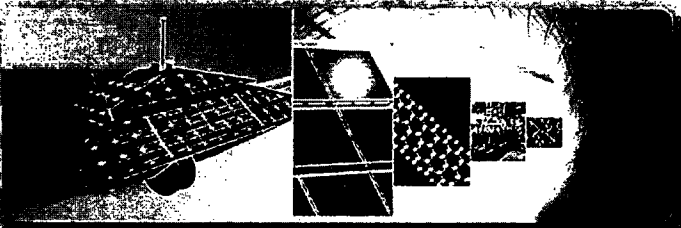


# **Steam Generator Management Program**



**Mike Robinson**  
SGMP Executive Sponsor



**Industry/NRC Executive Meeting on  
Materials Program**

June 21, 2011



# Presentation Outline

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- Steam Generator Task Force Overview
- NRC Open Technical Issues
- H\* Alternate Repair Criteria
- Plant Life Extension Issues
- Summary

# SGTF Overview

- Purpose
  - Maintain open communication between the industry and the NRC staff
- SGTF and NRC typically meet twice per year
  - Facilitated by NEI
  - SGTF Membership
    - SGMP Integration Committee Members
    - Utility Participants
    - NSSS Vendors
    - EPRI SGMP Staff
  - Standing agenda items
    - Status of open technical issues
    - Upcoming changes to industry guidelines
    - NRC comments on operating experience

# SGTF Overview

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- 2011 Meeting Dates
  - February 2011
  - August 2011
- NRC interactions with the SGTF have been valuable
  - NRC informed of industry projects
  - Industry becomes aware of NRC issues
  - SGTF expertise allows for technical exchange
  - Sharing of data and research results

# NRC Open Technical Issues

NRC Technical Issue	Industry Response
<b>Need for eddy current testing technique essential variable tolerance for generically qualified techniques</b>	<b>SGMP project is complete and provides the methodology for evaluating site-specific system performance. This information will be included in the next revision of the Examination Guidelines</b>
<b>Divider plate cracking</b>	<b>SGMP project began in 2011 to investigate crack propagation during extended period of operation</b>
<b>The effect of eddy current noise on probability of detection and sizing of indications</b>	<b>SGMP has published protocol and procedures and software specification for noise monitoring. Vendors have been developing software for automated noise monitoring Pilot projects are being funded through SGMP to demonstrate the capabilities of the software</b>
<b>Onset of fatigue cracking in throughwall steam generator defects</b>	<b>SGMP project to perform tests to determine the onset of fatigue cracking. NRC/ANL/SGMP working together on this project</b>

# NRC Open Technical Issues

NRC Technical Issue	Industry Response
Tube fouling	SGMP is funding projects to better understand how existing plant measurements can be used to evaluate the level of fouling, to develop a model to predict the level of fouling over time, and to develop a dynamic analysis tool for prediction of the level of fouling that may result in operational issues.
Performance standards for tube integrity assessments	SGTF presented industry position that current performance standards are adequate. Staff will review the documentation and this will be discussed at a future meeting

# H\* Status

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- Executive level phone calls between the NRC and Industry have been taking place on a periodic bases to review permanent alternate repair criteria (PARC) status.
- The industry has completed an Independent Review of the PARC documentation.
- The industry believes that the technical analysis meets the rigor for a PARC.
- The first Utilities to submit a PARC are Duke Energy (Catawba 2) and Dominion Resources (Surry 1 and 2) for Spring 2012 outages.
- These submittals will be in June 30, 2011 for Catawba and July 29, 2011 for Surry 1 and 2.
- Catawba 2 has a March 2012 outage and Surry has an April 2012 outage.
- The Industry believes that a success path to a PARC is achievable for the Spring 2012 outages.

# Plant Life Extension Issues with Alloy 600 Materials in Steam Generator Channel Head Assembly

- NRC identified the following issues during license renewal review process in 2010
  - PWSCC cracks in the divider plate could propagate to the SG triple point or tubesheet and potentially affect the pressure boundary of the SG channel head or tube-to-tubesheet weld.
  - PWSCC could initiate in the 82/182 tubesheet cladding and propagate to the tube/tubesheet weld
- Recent license renewal process have included these areas of concern in their Aging Management Plans and have committed to inspections after the plant enters the period of extended operation and the steam generator have reached 20 years of operation.
- SGMP has developed a roadmap to address these issues



# Summary

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- The SGTf interaction with the NRC is working well
- The industry believes they have a success path to a permanent H\*
- Results of the SGMP projects in the Roadmap will provide information to the industry to update Aging Management Plans for Alloy 600 material in the SG channel head assembly



# **Together...Shaping the Future of Electricity**