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Post Accident Monitoring Instrumentation

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EPR™ by AREVA

AREVA

Agenda

- Guidance
- Issue Summary
- Current Status
- Next Step

Guidance

- Regulatory guidance provided by
  - Standard Review Plan Section 7.5, "Information systems important to Safety"
  - Branch Technical Position 7-10, "Guidance on Application of Regulatory Guide 1.97"
  - Standard Review Plan Section 16.0, "Technical Specifications"
    - NUREG-1431, Standard Technical Specifications for Westinghouse Plants
- New plants to address Regulatory Guide 1.97, Rev. 4
  - Term "Categories" no longer used in Rev. 4
  - All Type B and C instruments equivalent to "Category 1 non-Type A instruments" from RG 1.97, Rev 3

Issue Summary

- Final implementation of the guidance in RG 1.97, Rev 4 requires the development of emergency operating procedures and abnormal operating procedures
  - Plant specific EOPs, AOPs, and other operations procedures are not required to be developed to support a Design Certification or COL
- In order to satisfy 10 CFR 50.36, Criteria 3 and 4, each unit's Technical Specifications must contain all Types A, B, and C instruments

Current Status

- AREVA performed a detailed analysis to identify the Post-Accident Monitoring instrumentation for the U.S. EPR
  - A step by step evaluation of the actions in Volume 1, "Generic Emergency Operating Guidelines," of the EOP Technical Bases Document for B&W plants was performed to identify minimum required set of supporting instrumentation for actions evaluated to be applicable to the U.S. EPR design (identified Type B, C, and D variables)
  - An analysis of the operator manual actions listed in U.S. EPR FSAR Tier 2 Chapter 15, for which no automatic control is provided, to determine the necessary and sufficient instrumentation required to support those actions (Type A variables)
  - A review of the Radiation Monitoring system description to identify necessary instrumentation (identified Type C and E variables)

Current Status (Continued)

- Additional instrumentation which was selected based on operations experience and engineering judgment (account for differences in U.S. EPR design)
- A "gap" evaluation was performed to confirm the critical safety functions and fission product barriers defined in IEEE 497-2002 were adequately monitored by the resultant list
- Results of the analysis identified 8 Type A variables, 15 Type B variables, 5 Type C variables, 17 Type D variables, and 13 Type E variables
- Provides sufficient detail for a standard design
- COL Information Item and Tier 1, Section 3.7, contains ITAAC to confirm list when plant specific EOP and AOP procedures are issued

Next Steps

- AREVA to submit supplemental response to RAI 110 in February to include revised list in Section 7.5 and Tech Specs and other impacted sections

- COL applicants will incorporate revised list by reference and supplement with any site-specific PAM instruments