Public Meeting Talking Points

NRC Standard Review Plan Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Program for Pumps, Valves, and Dynamic Restraints"

AP1000 Design Control Document Revision

Thomas G. Scarbrough

Division of Engineering
Office of New Reactors

March 2008

Background

Westinghouse proposes changes to certified version (Revision 15) of AP1000 Design Control Document (DCD) in Revision 16 to AP1000 DCD.

Westinghouse Technical Report APP-GW-GLR-134 (TR 134), Revision 0, “AP1000 DCD Impacts to Support COLA Standardization,” includes changes to proposed Revision 16 to AP1000 DCD.

With respect to IST and MOV programs, NRC staff review of Design Certification DCD focuses on accessibility for performance of IST activities, and on general description of IST and MOV programs.

COL applicants referencing AP1000 design will need to provide information to fully describe IST, MOV and other operational programs as defined in Commission Paper SECY-05-197, “Review of Operational Programs in a Combined License Application and General Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria.”

Regulatory Guide 1.206, “Combined License Applications for Nuclear Power Plants (LWR Edition),” provides guidance to COL applicants for submitting information in support of their applications, including fully describing operational programs for NRC staff review.

NRC staff using Standard Review Plan (SRP) Section 3.9.6, “Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints,” in review of AP1000 DCD revision to determine whether proposed changes meet the regulatory requirements to provide reasonable assurance that safety-related valves and dynamic restraints will be capable of performing their safety functions.

NRC staff preparing request for additional information to enable staff to evaluate proposed changes to AP1000 DCD regarding functional design, qualification, and IST programs for safety-related valves and dynamic restraints to be used in AP1000 plant.

Power-Operated Valve Operability Tests

Second paragraph under the subsection titled “Power-Operated Valve Operability Tests,” of Subsection 3.9.6.2.2, “Valve Testing,” in Revision 16 to AP1000 DCD Tier 2 states that static testing with diagnostic measurements will be performed on these valves.

Additional information areas include:

Discuss basis for use of static testing for operability assessments in light of weaknesses in this approach revealed by operating experience and research programs.

Second paragraph in Power-Operated Valve Operability Tests subsection of Revision 16 to AP1000 DCD Tier 2 indicates that frequency for valve operability testing will be based on risk ranking and functional margin.

Additional information areas include:

Approach for determining risk ranking and functional margin to establish test frequency, or application of approved industry methodology (such as Joint Owners Group Program for MOV Periodic Verification).

Third paragraph in Power-Operated Valve Operability Tests subsection of Revision 16 to AP1000 DCD Tier 2 states that valves for which functional margin have not been determined may require dynamic testing to determine appropriate margins.

Additional information areas include:

Basis and justification for statement that functional margin may be determined without dynamic performance data.

QME-1 Standard

Subsection 5.4.16, “References,” in Section 5.4, “Component and Subsystem Design,” in Chapter 5, “Reactor Coolant System and Subsystem Design,” of AP1000 DCD Tier 2 has been changed in proposed Revision 16 to reference ASME QME-1-2002, “Qualification of Active Mechanical Equipment Used in Nuclear Power Plants.”

Additional information areas include:

Application of updated ASME QME-1-2007 Standard.

TR 134

TR 134 modifies second paragraph in Subsection 3.9.6.2.1, “Valve Functions Tested,” of Revision 16 to AP1000 DCD Tier 2 to state that testing of throttling (pressure regulation) is not required in ASME OM Code.

Additional information areas include:

Edition and addenda of ASME OM Code to be applied by COL applicant will establish scope of Code.

TR 134 modifies last paragraph in Subsection 3.9.6.2.1 of Revision 16 to AP1000 DCD Tier 2 to incorporate definitions of valve categories from ASME OM Code.

Additional information areas include:

Typographical error in definition for Category D valves.