

22nd Annual Regulatory Information Conference

GSI-191 Looking Back and Going Forward

*“Maintaining Containment Recirculation Sump
Functionality Following Implementation of
Generic Letter 2004-02”*

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GL 2004-02: What We Did

- Containment Walkdowns
 - Debris Source Identification & Quantification
 - Material Condition Assessments
- New Strainer Installations / Other Modifications
- Removed Unnecessary Debris Sources from Containment
- Determination of Components in Recirculation Flow Path

GL 2004-02: What We Did

- Analysis
 - Containment Recirculation Water Level
 - Containment Flow Paths (Upstream Effects)
 - Debris Generation
 - Debris Transport
 - Chemical Effects
 - Strainer System Head Loss
 - Net Positive Suction Head (NPSH)
 - Downstream Wear and Blockage

GL 2004-02: What We Did

- Testing
 - Jet Impingement Testing of Containment Materials
 - Containment Materials Design Basis Accident (DBA) Testing
 - Debris Material Erosion Testing
 - Debris Material Transport Testing
 - Debris Only Strainer Head Loss Testing
 - Chemical Effects Strainer Head Loss Testing
 - Downstream Flow Path Blockage Testing

Analysis and Testing Results

- The analysis and testing resulted in a significant quantity of numerical inputs and analytical assumptions that form the basis for concluding that the regulatory requirements specified by GL 2004-02 are met.
 - These attributes, along with the results obtained, form the Design Basis for the Containment Recirculation Sump (CRS) function

How is the Design Basis
Maintained and Protected
Following Closure of
GL 2004-02?

Approach Taken by D. C. Cook Nuclear Plant (CNP)

- Established an Engineering Program for maintaining and monitoring the CRS function
- Performed reviews of, and revised a significant number of plant processes, procedures, engineering specifications, and design standards to incorporate necessary elements of the CRS Program

Approach Taken by CNP

- Established an “Ongoing” NRC commitment to maintain programmatic requirements that will protect the CRS function
- Revised an Engineering Design Specification for materials to be installed in containment
- Established specific procedural controls for performing work in containment in Modes 1 – 4 to protect the CRS function

Approach Taken by CNP

- Updated the Final Safety Analysis Report (FSAR) to ensure sufficient information is provided for this “New” accident analysis
- Significantly revised the procedures for performing changes to the plant to ensure CRS requirements are met
- Provided information in procurement procedures to ensure material compatibility with containment requirements

Approach Taken by CNP

- Provided training to Engineering personnel to enable understanding of the new requirements associated with the CRS function
- Developed a “Margins” document to assist Operations and Engineering personnel when an unexpected condition is identified in containment

Why Is This Important?

- Design and Licensing Basis Must Be Readily Available to Plant Personnel
 - Prevent unnecessary challenges to the CRS function
 - Provide the necessary links to supporting documents for future changes to the plant
- Aging Workforce
 - Those who have knowledge of the issue resolution path today may not be here tomorrow to answer the questions

THANK YOU