

September 28, 2006

MEMORANDUM TO: Ho K. Nieh, Acting Division Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

FROM: Cynthia D. Pederson, Director */RA/*
Division of Reactor Safety

SUBJECT: REQUEST FOR TECHNICAL ASSISTANCE - APPENDIX R
DISPUTED VIOLATIONS REGARDING QUAD CITIES
NUCLEAR POWER STATION (TIA 2006-005)

Region III requests NRR assistance in the review of the Quad Cities Nuclear Power Station's (QCNPS) response to two NRC Non-Cited Violations (NCV) regarding compliance with 10 CFR Part 50 Appendix R requirements. NRR review of the licensee's response will support the Region III evaluation and formal response to the licensee's contestment of the findings. Furthermore, Region III believes that these two non-cited violations raise several questions that are of generic nature and have implications on future resolution of issues.

Specifically, the Region III office requests NRR review and evaluation of the licensee's response relating to:

- reliance upon the safe shutdown makeup pump (SSMP), for the purpose of meeting 10 CFR Part 50 Appendix R, III.G.2 requirements, without prior NRC review and approval; and
- reliance upon the residual heat removal service water (RHRSW) system multi-unit cross-tie capability, for the purpose of meeting 10 CFR Part 50 Appendix R, III.G.2 requirements, without prior NRC review and approval.

NRR review is requested due to the complexities involving 10 CFR Part 50 Appendix R requirements and potential wide-ranging implications resulting from the conclusions of the review of the licensee's response.

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Background

QCNPS has contested two NCVs identified during the 2006 triennial fire protection inspection. Please refer to the associated NRC inspection report and licensee's response for detailed background and analysis regarding these two NCVs. The two NCVs were documented in inspection report 05000254(265)/2006002 (ML062140118). The licensee's basis for contesting the Non-Cited Violations are documented in a letter dated August 31, 2006 (ML062560198).

With respect to the SSMP finding, the SSMP system was originally installed as a dedicated shutdown system, and therefore, the system was required to meet the regulations in Appendix R, Section III.G.3. The licensee subsequently maintained compliance with 10 CFR Part 50 Appendix R, Section III.G.2 based on the SSMP and reactor core isolation cooling (RCIC) being redundant. The licensee maintains that the systems meet the requirements to be considered redundant since the systems perform the same design functions. We note, however, that the system redundancy is limited to the inventory makeup function for a fire event. Since the SSMP system would only be used for inventory makeup, plant safe shutdown would also require the use of other systems to perform the overall same system function as RCIC.

With respect to the RHRSW finding, the licensee maintains that for multiple unit plants, systems shared between units may be credited as redundant for each unit. Accordingly, the licensee relies upon the opposite unit RHRSW system, through a locally-operated system cross-tie valve, for the purposes of meeting 10 CFR Part 50 Appendix R, Section III.G.2 requirement to ensure that at least one redundant train of a system is available to support safe shutdown.

Requested Action

Review the licensee's response to the issued NRC inspection report findings and provide answers to the following specific questions:

With respect to NCV 05000254(265)/2006002-01:

1. Can licensees perform a 10 CFR 50.59 evaluation (or other equivalent adverse effects evaluation) for fire protection program changes which result in changing a previously approved "alternate/dedicated" Safe Shutdown system to a "redundant" system? If not, please identify what regulatory tool precludes the licensee from making such a change and how we have communicated this expectation to licensees
2. If such evaluation processes can be utilized, what is the system design criteria which licensee's must meet to rely upon these systems as "redundant" for the purposes of meeting 10 CFR 50, Appendix R, III.G.2 requirements?
3. For Boiling Water Reactors, what systems can licensees appropriately classify as "preferred" for the purposes of meeting 10 CFR 50, Appendix R, III.G.2 requirements? For those systems, has the NRC defined the design or functional requirements for systems to be classified as "preferred"?
4. With respect to the Quad Cities NCV and licensee response, can the licensee classify the safe shutdown makeup pump system (SSMP), as redundant to the reactor core isolation cooling system (RCIC) for the purposes of meeting 10 CFR Part 50 Appendix R, III.G.2?

5. With respect to the Quad Cities NCV and licensee response, does the licensee's position asserting compliance with 10 CFR 50 Appendix R, III.G.2 have merit and thereby warrant withdrawal of the NCV?

With respect to NCV 05000254(265)/2006002-02:

6. Can licensees perform a 10 CFR 50.59 evaluation (or other equivalent adverse effects evaluation) for fire protection program changes which result in reliance on a multi-unit cross tie capability for the purpose of meeting 10 CFR Part 50 Appendix R, III.G.2? If not, please identify what regulatory tool precludes the licensee from making such a change and how we have communicated this expectation to licensees
7. With respect to the Quad Cities NCV and licensee response, for the residual heat removal service water (RHRSW) system configuration, can the licensee rely upon the multi-unit cross-tie capability (previously relied upon for meeting 10 CFR Part 50 Appendix R, III.G.3), for the purpose of meeting 10 CFR Part 50 Appendix R, III.G.2?
8. With respect to the Quad Cities NCV and licensee response, does the licensee's position asserting compliance with 10 CFR 50 Appendix R, III.G.2, through reliance upon the multi-unit cross-tie capability, have merit and thereby warrant withdrawal of the NCV?

Coordination

This request was discussed between Julio Lara of Region III and Sunil Weerakkody of NRR during a telephone conference on September 27, 2006. It was agreed that NRR would accept this issue as a Task Interface Agreement and respond to this request by November 3, 2006.

Docket No. 50-254; 50-265

cc: J. Honcharik, NRR
C. Pederson, DRS
J. F. Lara, DRS
K. O'Brien, EICS

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