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October 14, 2008

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Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Draft Safety Evaluation for Nuclear Energy Institute (NEI) Topical Report (TR) WCAP-16308-NP, Revision 0, "Pressurized Water Reactor Owners Group (PWROG) 10 CFR 50.69 Pilot Program – Categorization Process – Wolf Creek Generating Station" (TAC No. MD4229)

Project Number: 689

Dear Ms. Rosenberg:

Your letter to NEI, dated September 16, 2008, transmitted the draft NRC safety evaluation (SE) for the subject PWROG topical report and requested comments on any factual errors or clarity concerns. We have reviewed the draft SE and believe there are several clarifications that need to be provided prior to issuance of the final SE. Our comments below describe the specific issues:

Credit for Operator Actions:

On page 5 of the Draft SE at lines 28 through 34, the NRC staff's technical evaluation of operator actions can be misinterpreted by licensees with respect to the types of operator procedures and guidance that can be credited for operator actions. Emergency procedures, some of which are very prescriptive if-then instructions requiring verbatim compliance by the operators, are frequently referenced by symptom-based procedures. When these human actions are quantified in a PRA using acceptable human error analyses methods, they are usually shown to be highly reliable. We believe that the NRC staff position is to limit the types of procedures and guidance to only those that result in well defined and predictable actions rather than any operator actions. Therefore, it is proposed that the paragraph on page 5 at lines 28 through 35 be changed to provide this clarification as follows:

The TR argues that its proposal only permits credit if a procedure directs the operators' response. While some plant procedures provide very prescriptive if-then instruction to the operators, other plant procedures and guidance may direct the operators, in general, to develop and attempt mitigative actions. In the latter case, any conceivable mitigative actions would satisfy the criterion. The NRC staff only accepts the proposed credit for operator actions when it can be shown that the actions that have a high likelihood of success, e.g., well defined and predictable actions. Qualitatively crediting actions with a low likelihood of success could place HSS SSCs into LSS.

In addition, we would propose a similar clarification to the "Limitations and Conditions" on page 10 at lines 33 through 37 as follows:

3. As described in Section 3.2 of the SE, the NRC staff only accepts credit for operator actions that have a high likelihood of success, e.g., well defined and predictable actions. Qualitatively crediting actions with a low likelihood of success could place HSS SSCs into LSS.

Finally, it is proposed that the entries regarding operator actions in Table 1 of the SE at pages 8 and 9 should be changed to state:

For the row beginning with {I-3.1.3(a)(5)} [I-3.2.2(b)(3)]:

Consideration changed and moved to new Section I-3.2.2(b)(3), "Even when taking credit for plant features and highly reliable operator actions, failure of the piping segment will not prevent or adversely affect the plant's capability to reach or maintain safe shutdown conditions."

For the row beginning with {I-3.1.3(b)(3)} [I-3.2.2(b)(6)]:

Even when taking credit for plant features and highly reliable operator actions, failure of the piping segment will not result in releases of radioactive material that would result in the implementation of off-site emergency response and protective actions.

Monitoring of RISC-3 SSCs

Page 8 of the draft SE, at lines 35 through 45, states the following:

The NRC staff finds that the information provided in TR WCAP-16308-NP and in the RAI response does not provide a sufficient basis for assuming that the regulatory requirements of 10 CFR 50.69(d)(2)(i) or (d)(2)(ii) would be satisfied. The monitoring of RISC-3 SSCs appears to be primarily focused on the monitoring of SSC failures and does not allow the

NRC staff to conclude that degradation of RISC-3 SSCs would be monitored and corrected in a manner that will provide reasonable confidence that these SSCs would remain capable of performing their safety-related functions under design-basis conditions. For example, specific information on periodic inspections and tests that could be used to detect and correct degradation of RISC-3 SSCs was not provided. Therefore, the NRC staff cannot reach a finding that the monitoring of RISC-3 SSCs as described in Section 7.3 of TR WCAP-16308-NP will result in the required degree of "reasonable confidence" to satisfy 10 CFR 50.69(d)(2).

We believe the above paragraph should be clarified to provide factual consistency with NRC Regulatory Guide 1.201, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to their Safety Significance." This regulatory guide provides formal NRC positions on the categorization methodology provided by NEI 00-04. Regulatory position 7 states the following (emphasis added):

Common-Cause Failure and Degradation Mechanism Considerations in Revision 0 of NEI 00-04

The NRC staff notes that mechanisms that could lead to large increases in core damage frequency (CDF) and large early release frequency (LERF), which could potentially invalidate the assumptions underlying the categorization process, including the risk sensitivity study, are the emergence of extensive common-cause failures (CCFs) impacting multiple systems and significant unmitigated degradation. However, for these types of impacts to occur, the mechanisms that lead to failure, in the absence or relaxation of treatment, would have to be sufficiently rapidly developing or not self-revealing, such that there would be few opportunities for early detection and corrective action. Section 12.4 of NEI 00-04 describes an acceptable performance-based approach to address these concerns.

Alternatively, those aspects of treatment that are necessary to prevent significant SSC degradation or failure from known mechanisms, to the extent that the results of the risk sensitivity study would be invalidated, could be identified by the licensee or applicant, and such aspects of treatment would be retained. This alternative approach would require an understanding of the degradation and common-cause failure mechanisms and the elements of treatment that are sufficient to prevent them.

The paragraph quoted above from the draft safety evaluation for the WCAP is based on the assumption that Section 12.4 of NEI 00-04 is, in itself, insufficient to address degradation mechanisms, and that the alternative method described in the regulatory guide is in fact mandatory. This contradicts the position of the regulatory guide, which clearly states the acceptability of the performance-based NEI method and the alternative nature of the programmatic method. We request that the final safety evaluation be clarified to be consistent with regulatory position 7 of Regulatory Guide 1.201. One method to accomplish this would be to delete the second and third

paragraphs of Section 3.5 of the safety evaluation, and to affirm the acceptability of the NEI 00-04 method.

Corresponding section 5.2 of the draft SE, at lines 33 through 43 should also be clarified, or removed, for the reasons stated above.

Application of RISC-3 Treatment Requirements

The NRC SE, page 9, at lines 10 through 20, states the following:

The NRC staff finds that the general information provided in TR WCAP-16308-NP and in the RAI response does not provide a sufficient basis for determining that the regulatory requirements of 10 CFR 50.69(d)(2) would be satisfied. The lack of a more specific description of the treatment of RISC-3 SSCs at WCGS prevents the NRC staff from reaching a determination that reasonable confidence exists that RISC-3 SSCs will remain capable of performing their safety-related design basis functions, and that the treatment will be consistent with the categorization process. One example of an acceptable description of treatment to be applied to safety-related low safety significant SSCs is provided in the NRC SE dated August 3, 2001, that accepted the request by the South Texas Project (STP), Units 1 and 2, for exemption from special treatment requirements specified in certain NRC regulations.

Paragraph (b)(2) of 10 CFR 50.69 provides a discussion of the information that must be submitted by a licensee to implement the rule. As correctly noted in the draft SE, the licensee is not required to submit their plan for treatment of SSCs to the NRC for review and approval under this provision of the rule. There are no other requirements for submittal content beyond those specified in paragraph (b)(2). In accordance with this approach, NRC has not developed regulatory guidance addressing treatment of RISC-3 SSCs. Industry, through EPRI, has developed such guidance for industry's use in implementing the rule.

Paragraph (d)(2) of 10 CFR 50.69 addresses the need for RISC-3 SSCs to be subject to inspection, testing and corrective action to provide reasonable confidence of performance under design basis conditions. Licensees implementing the rule must conform to these requirements; however, the rule does not require description of these programs as part of the license amendment request. Therefore, while the WCAP does not contain specific descriptions of these treatment methods, there is no expectation that it should. The SE references information provided in the FSAR for South Texas Project (STP) in their implementation of an exemption to the special treatment rules. However, 10 CFR 50.69 is structured differently than the STP exemption, in that there were no high level regulatory requirements (e.g., 10 CFR 50.69 (d)(2)) for treatment of low risk SSCs available for STP. Therefore, this reference is not pertinent. The NRC staff does not need to make a finding of

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conformance to these rule provisions as part of a license amendment request, nor as part of their approval of the topical report.

Given that the SE concludes that no description of treatment is necessary, we believe the extensive discussion of RISC-3 treatment in section 3.6 of the SE is not necessary and will create potential confusion due to its contradiction with the rule. Section 5.3 of the SE, which contains a similar discussion of RISC-3 SSC treatment, should be similarly changed or omitted.

With the above changes, we believe the final SE will provide a successful path forward for implementation of this important risk-informed rulemaking, which has languished for three years since rule finalization. We look forward to issuance of the final safety evaluation. If you have any questions in this regard, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Biff", followed by a stylized, elongated horizontal stroke that loops back under the name.

Biff Bradley

c: Mr. Mark Cunningham, U.S. Nuclear Regulatory Commission
Mr. Gary Holahan, U.S. Nuclear Regulatory Commission
Mr. Steven Dinsmore, U.S. Nuclear Regulatory Commission
NRC Document Control Desk