EDO Principal Correspondence Control

FROM: DUE: 05/17/06

EDO CONTROL: G20060423
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FINAL REPLY:

Graham B. Wallis, ACRS

TO:

Reyes, EDO

FOR SIGNATURE OF : ** GRN ** CRC NO:

Reyes, EDO

DESC:

Standard Review Plan, Section 14.2.1., "Generic Guidelines for Extended Power Uprate Testing Programs"

ROUTING:

Reyes
Virgilio
Kane
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Dean
Cyr/Burns
Paperiello, RES
Sosa, OEDO
ACRS File

DATE: 04/21/06

ASSIGNED TO: CONTACT:

NRR Dyer

SPECIAL INSTRUCTIONS OR REMARKS:

USE SUBJECT LINE IN RESPONSE.

Template: EDO-001

E-RIDS: EDO-01

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

April 19, 2006

Mr. Luis A. Reyes
Executive Director for Operations
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: RESPONSE TO YOUR MARCH 29, 2006 LETTER REGARDING STANDARD REVIEW PLAN, SECTION 14.2.1, "GENERIC GUIDELINES FOR EXTENDED POWER UPRATE TESTING PROGRAMS"

Dear Mr. Reyes:

In our letter dated February 22, 2006, we provided the following recommendation on Standard Review Plan (SRP) Section 14.2.1, "Generic Guidelines for Extended Power Uprate Testing Programs:"

> Paragraph III.C of SRP Section 14.2.1 should be rewritten to provide more structured and explicit guidance defining those conditions under which large transient tests would be exempted or required.

In your March 29, 2006 response, you stated that plant-specific issues can influence a decision for large transient testing. As a result, the staff concluded that it is not practical or even feasible, to improve the SRP decision logic.

Large transient tests have special objectives. They test not only the performance of individual components and structures but also the integrated response of the system, including control functions. Because large transient tests impose substantial hydrodynamic and thermal loads on the plant, they have impacts on the plant risks. Although these risk impacts are not substantial, it is appropriate to exempt the licensee from performing the tests if they provide little benefit. Conversely, transient tests can identify the unexpected. It would be preferred to uncover issues within the context and precautions of a controlled test, rather than during an unplanned transient.

Section 14.2.1 of the SRP identifies the following seven factors to consider in determining whether a licensee should be exempted from performing a test:

- Power uprate operating experience
- Introduction of new thermal-hydraulic phenomena or identified system interactions
- Facility conformance to limitations associated with computer modeling and analytical methods
- Plant operator familiarization with facility operation and trial use of operating and emergency operating procedures
- Minimal reductions in the margin of safety
- Guidance contained in vendor topical reports
- Risk implications

Although it is appropriate to consider these factors, there is little guidance provided to the reviewer as to standards of acceptance.

We understand that plant-specific considerations could impact the decision process. However, a structured decision process does not have to be rigid. The process does not make the decision; it is an aid to the decision. It is practical and feasible to develop such a logical structure without constraining the ability of the staff to include plant specific considerations. An example of such a structure follows:

- Identify each large transient test and associated objectives from the initial startup program.
- Determine which systems, operations, system interactions, and procedures are changed by the uprate.
- Assess whether the plant modifications or changes affect the conclusions of the initial start-up tests. If not, these tests would not have to be performed.
- Identify any new tests that would be required to verify the proper operation of any modified or new equipment.
- Determine whether other tests will be performed that will ensure that each modified component will perform as intended. If not, a transient test would be expected.
- Assess whether there are multiple modified components, such that the system is effectively new. If so, a transient test would be expected.
- Assess whether analytic modeling capability encompasses the changed range of parameters. If not, a transient test would be expected.
- Assess whether physical phenomena or system interactions could be substantially affected by the change (e.g., potential lifting of relief valves or water level rising to steamline). If so, a transient test would be expected.
- Determine whether the range of system conditions falls within the history of previous power uprates. If not, a transient test would be expected.

We would appreciate the opportunity to meet with the staff to discuss approaches to improving SRP Section 14.2.1.

Sincerely,

Graham B. Wallis

Graham B. Wallis
Chairman

References:

1. Letter from L. Reyes, EDO, to G. Wallis, ACRS, Subject: Standard Review Plan, Section 14.2.1, "Generic Guidelines for Extended Power Uprate Testing Programs," dated March 29, 2006 (ADAMS Accession No. ML060680235).

2. Letter from G. Wallis, ACRS, to L. Reyes, EDO, Subject: Standard Review Plan, Section 14.2.1, "Generic Guidelines for Extended Power Uprate Testing Programs," dated February 22, 2006 (ADAMS Accession No. ML060530320).