

May 7, 2002

The Honorable Richard A. Meserve
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Chairman Meserve:

SUBJECT: SUMMARY REPORT - 491st MEETING OF THE ADVISORY
COMMITTEE ON REACTOR SAFEGUARDS, APRIL 11-12,
2002, AND OTHER RELATED ACTIVITIES OF THE COMMITTEE

During its 491st meeting, April 11-12, 2002, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports. In addition, the Committee authorized Dr. John T. Larkins, Executive Director, ACRS, to transmit the memorandum noted below:

REPORTS:

The following reports were issued to Chairman Meserve, NRC, from George E. Apostolakis, Chairman, ACRS:

- GE Nuclear Energy Licensing Topical Report, NEDC-33004P, "Constant Pressure Power Uprate," dated April 17, 2002
- Report on the Safety Aspects of the License Renewal Application for the Turkey Point Nuclear Plant, Units 3 and 4, dated April 19, 2002

MEMORANDA:

The following memoranda were issued to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS:

- Draft Regulatory Guide DG-1118 (Proposed Revision 1 to Regulatory Guide 1.53), "Application of the Single-Failure Criterion to Safety Systems," dated April 16, 2002
- Criteria for the Treatment of Individual Requirements in a Regulatory Analysis, dated April 17, 2002
- Draft Final Amendment to 10 CFR 50.55a, "Codes and Standards," dated April 19, 2002

HIGHLIGHTS OF KEY ISSUES

1. Final Review of the Turkey Point License Renewal Application

The Committee heard presentations by and held discussions with representatives from the NRC staff and the Florida Power and Light Company (FPL) regarding the license renewal application for Turkey Point, Units 3 and 4, and the associated NRC staff's final safety evaluation report (SER). The staff and FPL representatives discussed the resolution of open items identified by the staff in draft SER, the management of the adverse effects of heat and moisture on medium and low-voltage nonenvironmentally qualified cables, the management of control rod drive housing cracking, and written comments from a member of the public regarding safety concerns with the continued operation of Turkey Point. Also, the staff provided its rationale for determining that components connecting the units to the offsite power source, including the startup transformers, are part of the licensing basis and must be included in the scope of license renewal.

Committee Action

The Committee issued a report dated April 19, 2002, recommending approval of the license renewal application for Turkey Point Nuclear Plant, Units 3 and 4.

2. Advanced Reactor Research Plan

The Committee heard presentations by and held discussions with representatives of the Office of Nuclear Regulatory Research (RES) regarding the draft advanced reactor research plan. The focus of the plan is on determining the critical information that will be needed to establish safety standards for new reactor designs. RES considers the plan to be a work in progress. Currently, the plan does not delineate the research that will be conducted by RES, but identifies the information gap that exists in terms of the tools and data that are necessary to review new reactor designs.

Committee Action

The Committee will continue to follow-up and interact with the NRC staff on this matter during future meetings.

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3. CRDM Penetration Cracking and Reactor Pressure Vessel Head Degradation

The Committee heard presentations by and held discussions with representatives of the Nuclear Energy Institute, Electric Power Research Institute/Materials Reliability Program, Davis Besse, and the NRC staff, regarding NRC Bulletins 2001-01 and 2002-01. Bulletin 2001-01, "Circumferential Cracking of Reactor Pressure Vessel Head Penetration (VHP) Nozzles," issued on August 3, 2001, requested information related to the structural integrity of the vessel head penetration nozzles. Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity," issued on March 18, 2002, required information related to reactor pressure vessel head inspection and maintenance programs and the bases for continued operation until the inspections can be performed.

The presentations included the characterization of the degradation found at Davis-Besse in response to Bulletin 2001-01, the safety significance assessment at Davis-Besse, the preliminary results of the augmented inspection at Davis-Besse, the responses to Bulletin 2001-01, and the requirements of Bulletin 2002-01.

Committee Action

The Committee requested another briefing to discuss data to support the findings presented and to hear long-term plans for managing possible future degradation at nuclear power plants.

4. Westinghouse Owners Group (WOG) and Electric Power Research Institute (EPRI) Initiatives Related to Risk-Informed Inservice Inspection of Piping

The Committee heard presentations by and held discussions with representatives of the NRC staff concerning the draft safety evaluation of an addendum to EPRI Topical Report (EPRI-ISI-TR) that has already been approved by the staff. The intent of the addendum is to modify risk-informed inservice inspection programs to include break exclusion region (BER) piping sections or "no break zones" such as containment penetrations. A similar addendum is currently under review by the staff for the WOG RI-ISI program. The staff plans to issue a draft safety evaluation on the WOG addendum in late 2002. Therefore, the Committee members did not review the addendum to the WOG Topical Report at this time.

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Committee Action

This was an information briefing and the Committee did not take any action. The Committee members agreed with the staff that the RES addendum was an appropriate extension of the previously approved EPRI Topical Report. The Committee plans to continue its review of future addendums to both the EPRI and the WOG Topical Reports on this subject.

5. General Electric (GE) Nuclear Energy Topical Report: “Constant Pressure Power Uprate”

The Committee heard presentations by and held discussions with representatives of GE Nuclear Energy and the NRC staff regarding GE’s application for approval of its Licensing Topical Report (LTR), “Constant Pressure Power Uprate” (CPPU). The LTR is a process document that includes a methodology designed to simplify both a licensee’s submittal and the NRC staff’s review process pertaining to core power uprates for BWR plants. Pursuant to use of CPPU, several key operating parameters are held constant (e.g., reactor coolant system pressure and core flow, fuel mechanical design, etc.). Topics that can be disposed of generically are done so in a more process-efficient manner. Plant-specific review topics have also been evaluated to allow a more focused analysis approach.

Committee Action

The Committee issued a report dated April 17, 2002, recommending that GE’s CPPU LTR be approved for application to BWR power increases of up to 20 percent of original licensed thermal power.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee discussed the response from the Executive Director for Operations (EDO) dated March 29, 2002, to the ACRS comments and recommendations included in the ACRS report dated February 14, 2002, concerning the review and evaluation of the NRC safety research program.

The Committee decided that it was satisfied with the EDO’s response.

- The Committee considered the response from the EDO dated March 22, 2002, to comments and recommendations included in the ACRS report dated February 14, 2002, concerning staff efforts regarding a reevaluation of the technical basis for assurance of reactor vessel integrity under pressurized thermal shock (PTS) conditions.

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The Committee was satisfied with the EDO's response.

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from March 7 through April 9, 2002, the following Subcommittee meetings were held:

- Plant License Renewal - March 13, 2002

The Subcommittee reviewed the NRC staff's final Safety Evaluation Report related to the license renewal of Turkey Point Nuclear Power Plant, Units 3 and 4.

- Planning and Procedures - April 9, 2002

The Subcommittee discussed proposed ACRS activities, practices, and procedures for conducting Committee business and organizational and personnel matters relating to ACRS and its staff.

- Materials and Metallurgy, and Plant Operations - April 9, 2002

The Subcommittees held discussions regarding issues related to the investigation of control rod drive mechanism (CRDM) penetration cracking and reactor pressure vessel head degradation.

LIST OF MATTERS FOR THE ATTENTION OF THE EDO

- The Committee plans to review the draft final version of Regulatory Guide DG-1118 (proposed Revision to Regulatory Guide 1.53), "Applicability of the Single-Failure Criterion to Safety Systems," after reconciliation of public comments.
- The Committee plans to review the incorporation of proposed criteria for treatment of individual requirements in regulatory analysis prior to being issued for public comment.
- The Committee plans to hear a briefing on the generic resolution of voids in the concrete containment walls during the June 6-8, 2002 ACRS meeting, as committed by the staff.
- The Committee plans to review further developments to the Advanced Reactor Research Plan during future meetings.

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- The Committee plans to continue its review of future addendums to the EPRI and WOG topical reports associated with risk-informed inservice inspection of piping during future meetings.
- The Committee plans to hear a briefing from the staff regarding the data to support the findings of the reactor vessel head degradation investigations and long-term plans for managing possible future degradation of reactor pressure vessel head at nuclear power plants during a future meeting.

PROPOSED SCHEDULE FOR THE 492nd ACRS MEETING

The Committee agreed to consider the following topics during the 492nd ACRS meeting, May 2-4, 2002:

- Brunswick Steam Electric Plant, Units 1 & 2 Core Power Uprate
- Expert Panel Recommendations on Source Term for High Burnup and Mixed Oxide (MOX) Fuel
- Confirmatory Research Program on High Burnup Fuel
- Safeguards and Security Activities (Closed)
- PHEBUS-FP, PHEBUS-2K and PHEBUS-LOCA International Projects

Sincerely,

/RA/

George E. Apostolakis
Chairman