



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 4, 1994

MEMORANDUM FOR: The Chairman
Commissioner Rogers
Commissioner Remick
Commissioner de Planque

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: NUCLEAR SAFETY RESEARCH REVIEW COMMITTEE (NSRRC) REPORT
DATED FEBRUARY 16, 1994

The enclosed report is the second in a series of NSRRC reports on the Committee's January 13-14, 1994 meeting. The first report, previously provided to the Commission, addressed research on advanced instrumentation and controls and human factors. This second report presents reports of two NSRRC subcommittees as adopted by the Committee as its own reports after deliberating on them at the full Committee's meeting. One of these is the report of the Advanced Reactor Subcommittee on its October 15, 1993 meeting; the other, that of the Waste Subcommittee on its meeting of December 16-17, 1993.

The Committee plans to report on the remaining topics addressed at the January 13-14 meeting at a later date. The topics remaining to be reported on are the questions posed to the Committee by the Commission by the Staff Requirements Memorandum resulting from the Commission's July 8, 1993 meeting with the Committee.

With respect to the advanced reactors area, the report, tentatively agreeing with the NRC staff, states that "no additional topics for research applicable to advanced reactors in the areas of thermal hydraulics engineering, materials and components, and severe accidents were identified by the Subcommittee." However, the report goes to observe that "in several cases cited within this report, particularly within the engineering materials and component area e.g., check valves, forged SA508 Class 3 steel, fatigue, aging and reactor internals, an NRC position and its technical basis needs to be prepared and subsequently examined by the Committee to confirm its tentative agreement with RES that no RES activity in these areas is necessary."

The report notes that the staff has satisfactorily addressed the comments in the Committee's January 14, 1993 report, except that the NSRRC was not informed of the resolution of its comments on research in the modular construction area.

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The report offers specific comments relating to analysis of passive reactor accident response and other topics.

In the waste area, the report focuses on high-level waste research. The Waste Subcommittee's meeting was held in San Antonio; most of the presentations to it were made by staff members of the Center for Nuclear Waste Regulatory Analysis (CNWRA), contractor to NRC. The NSRRC states its belief that the HLW research is achieving its goals of establishing "independent expertise, data bases and methodologies ... thoroughly evaluated and documented to achieve acceptance by peers and the public in general." It notes that "staffing at the center is stable and of high quality," fulfilling the CNWRA's role of being able to supply timely and unbiased support to the NRC.

Among specific comments, the report:

- (a) recommends that RES provide guidance on when and how peer reviews are to be made;
- (b) expresses concern that radionuclide transport studies may be weighed too heavily toward uranium;
- (c) cautions against excessive expectations from natural analog studies; and
- (d) advises that experience gained in RES's nuclear-power-plant severe accident research "may be useful in developing rational approaches for treatment of disruptive scenarios" in connection with HLW.

It should be noted that the HLW research budget total and subtotals cited in the report (p. 2) are incorrect. (The correct FY 1994 total is \$6,367,000, rather than the report's figure of \$10,947,000.) Our response to the Committee will include detailed corrections.

Original signed by
James M. Taylor

James M. Taylor
Executive Director
for Operations

Enclosure:

Ltr., D. Morrison, NSRRC, to
E. Beckjord, NRC dated Feb. 16, 1994

cc: SECY
OGC
OPA
OCA

Offc: RES *GS* D:RES *B*
Name: GSege:sy EBeckjord
Date: 2/28/94 2/28/94

EDO
JTaylor
3/14/94

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