

May 29, 1997

FOR: The Commissioners

FROM: L. Joseph Callan /s/
Executive Director for Operations

SUBJECT: STATUS REPORT ON IMPLEMENTATION OF DAM SAFETY PROGRAM

PURPOSE:

To provide the Commission with an update of the U.S. Nuclear Regulatory Commission's efforts on implementing the Agency's Dam Safety Program (DSP).

BACKGROUND:

In a memorandum dated October 4, 1979, President Carter asked that each Federal agency involved with dams adopt and implement the "Federal Guidelines on Dam Safety" (FGDS), as applicable. The memorandum also requested Department and Agency heads to submit a report to the Federal Emergency Management Agency (FEMA) by January 31, 1980. Consistent with the memorandum, NRC undertook efforts to implement the FGDS. However, because NRC did not have a formal Dam Safety Program Plan (DSPP), FEMA was critical of the NRC dam safety efforts. To address this concern, the staff prepared SECY-91-193, "Dam Safety Program Plan." SECY-91-193 outlined the various steps the NRC staff had taken since October 1979 and provided an NRC DSPP for Commission approval. Resources needed for the DSP were estimated to be approximately 1.0 full-time equivalent (FTE) per year, and \$200,000 in contractor support. By memorandum dated July 30, 1991, the Commission approved the DSPP, and a copy was sent to FEMA on August 16, 1991. A copy of the approved DSPP is in [Attachment 1](#).

SECY-91-193 also noted that NRC jurisdiction over dams at NRC-regulated facilities was limited to dams that were: 1) integral to the operation of the facility and radiologically safety related, or 2) associated with mill tailings impoundments. This excluded from NRC consideration those dams that may be on-site dams associated with, or attendant to a licensed facility, but not related to radiological safety. This categorization was based on an

Office of the General Counsel (OGC) analysis that NRC regulatory authority would be confined to either dams with radiological hazards, or mill tailings dams where there was statutory authority. That analysis also stated that if no other Federal or State agency were regulating the non-radiological hazards of a dam associated with an NRC-regulated facility, an argument could be made for NRC authority over the non-radiological safety aspects, to avoid the creation of a regulatory gap. (There is express statutory authority to address non-radiological hazards with respect to uranium mill tailings impoundments.) Originally in NUREG-0965, "NRC Inventory of Dams," the staff identified 65 dams associated with NRC licensees. However, further analyses indicated that not all of these dams were radiologically safety-related (or that others were already regulated by another Federal agency viewed as having more responsibility than NRC for implementing the FGDS), and that only 34 could be regulated under NRC authority. Recent closures of several uranium mill tailings impoundments have further reduced that number to 19 dams now under NRC jurisdiction.

Since July 1991, the staff has undertaken a number of activities to work toward full implementation of the DSPP. On August 28, 1991, the NRC Dam Safety Officer met with FEMA personnel, including the Chairman of the Interagency Committee on Dam Safety (ICODS). The purpose of the meeting was to obtain from FEMA feedback on the DSPP. FEMA made no adverse comments on it. Having obtained input from FEMA, the staff then moved to implement the DSPP.

Consistent with the plan, the staff and the Federal Energy Regulatory Commission (FERC) developed a Memorandum of Understanding (MOU). The MOU provided for assistance from the FERC Office of Hydropower Licensing in inspecting those dams under NRC jurisdiction. Under this MOU, FERC has conducted inspections at 18 of the 19 NRC dams. Results from these inspections have not identified any significant problems with the dams. The staff, with assistance from FERC, currently plans to complete the inspection of the one remaining dam by the end of Fiscal Year (FY) 1997. However, because of budget reductions, the staff has been unable to achieve some of the other actions identified in the DSPP such as the development of a standard review plan (SRP). In accordance with recommendations presented in the FGDS, the staff also performed a detailed review and determined that none of the NRC dams posed a high or significant downstream hazard, since failure would not result in loss of life or significant property damage. Thus, consistent with the FGDS, the staff concluded that there was no need for the Emergency Action Plans (EAPs) anticipated in the DSPP.

A recent FEMA report, "National Dam Safety Program - 1994 and 1995," was critical of the NRC program. The report provides several recommendations for NRC to implement, including increased use of FERC, development of EAPs (notwithstanding the earlier NRC staff conclusion), and expanded involvement (increased level of effort) in the DSP. A copy of the report is provided as [Attachment 2](#). Based on the FEMA report and the recent passage of the National Dam Safety Program Act (NDSPPA), passed as Section 215 of the Water Resources Development Act (WRDA) of 1996 (Public Law 104-303), the staff decided that a reevaluation of the DSP was warranted.

To further clarify FEMA's concerns, staff met with FEMA on January 10, 1997. At this meeting, staff discussed the recent FEMA National Dam Safety Program recommendations and NRC plans for implementation of these recommendations. NRC staff identified plans to finish the first round of inspections (for dams included in the NRC inventory) by the end of FY97 and to discuss follow-up inspection frequency after the currently-scheduled inspections are completed. FEMA agreed that EAPs would not be necessary if NRC confirmed that none of the NRC dams was classified as a high- or significant-hazard dam. FEMA and NRC also discussed methods for determining responsibility for dams at certain sites not subject to NRC jurisdiction and not included in

the NRC inventory. In addition, other recommendations were discussed, including expanded use of the FERC. NRC staff plans to follow-up on these recommendations.

DISCUSSION:

The NDSPA formalizes the direction President Carter provided in 1979 to encourage implementation of the FGDS. A copy of Section 215 of the WRDA is in [Attachment 3](#). In general, the NDSPA does not impose any express new mandates for dam regulation on Federal agencies and does not supersede existing authorities of Federal agencies. Some questions remain open concerning FEMA's authority to impose new obligations. Even if it has the authority to impose new obligations, these new obligations would not supersede existing authorities. However, it is premature to address such questions until FEMA issues implementing regulations. Therefore, the staff has concluded that no new actions are required at this time in implementing the NRC DSP.

With respect to the FEMA criticism of the NRC program, as discussed above, the staff considers that it has adequately implemented the FGDS. Based on the staff analysis of downstream hazards at the 19 dams now under NRC jurisdiction, the staff concluded that there were no dams that could be considered a high hazard. High-hazard dams are those dams that, if breached, could result in substantial property damage or loss of life. Because only high-hazard dams are required to have EAPs, the staff, therefore, does not plan to develop EAPs. In addition, when FERC, under NRC direction, completes the inspection of the one remaining dam, it will have inspected all the dams over which NRC has regulatory authority. This effort will allow the staff to initially determine if all the NRC dams meet the FGDS under the current DSP. The staff plans to continue to use FERC to routinely inspect some dams each year, to help ensure continued compliance with FGDS. It is anticipated that this effort will cost approximately 50,000 dollars per year for between three to five inspections. In addition, the staff plans to continue to support ICODS at an annual cost of 10,000 dollars.

If the Commission decides to pursue any new work, such as the development of an SRP or preparation of EAPs, additional resources would be needed. The staff is currently revising its SRP for the review of reclamation designs at mill tailings impoundments. A chapter covering dam safety could be added to this SRP. The estimated resources for completing this additional work would be approximately 0.4 FTE (or about 100,000 dollars if a contractor were used).

If the Commission were to decide that EAPs should be completed for all NRC dams, this effort would take an additional 2.0 FTE spread over approximately two fiscal years. It should be noted that NRC regulations currently do not require NRC licensees to prepare EAPs for dams. If the Commission decided to have licensees prepare EAPs and licensees chose not to, the staff would have enforcement capability regarding licensee EAP preparation only on uranium mill licensees, under Section 84a of the Atomic Energy Act of 1954, as amended. Successful implementation of an EAP program would require the promulgation of a rule requiring the development of EAPs by licensees. This rulemaking effort would need additional resources beyond those previously identified. However, the staff does not plan to undertake either of these two activities, unless directed by the Commission. Rather, the staff finds the current DSP sufficient for ensuring compliance with the FGDS and the WRDA.

RESOURCES:

In FY 1996, NMSS expended approximately 0.8 FTE on the DSP. In FY 1997 and FY 1998, NMSS had budgeted 0.2 FTE and 10,000 dollars. The staff has reprogrammed resources in FY 1997 and FY 1998 to support the DSP at approximately 1.0 FTE and 60,000 dollars. Activities that will be undertaken using the 1.0 FTE budgeted include: 1) continued interaction with FEMA on dam safety issues, and preparation of input to the bi-annual dam safety report; 2) coordination, participation in, and follow up of dam safety inspections conducted by FERC; 3) general contract management of the FERC contract; 4) continued participation in and support to ICODS; and 5) overall management and implementation of the agency's DSP. The 60,000 dollars of contractor support will be for the continued use of FERC to inspect 3 to 5 dams each year, and the 10,000-dollar membership fee for ICODS.

This reprogramming, along with the availability of resources for FY 1999 through FY 2001, is being addressed as part of the FY 1999 Internal Program/Budget Review Process. If the Commission directs the staff to pursue new work associated with the DSP, as presented in the "Discussion" section above (i.e., development of an SRP or preparation of EAPs for all NRC dams), additional resources would be required.

RECOMMENDATIONS:

Subject to Commission approval, the staff plans to continue with the current DSP, but with increased resources to support necessary staff efforts and expanded use of FERC for follow-up inspections to ensure compliance with FGDS.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The Office of the Chief Financial Officer has no objection to the resource estimates contained in this paper. The Office of the Chief Information Officer has also reviewed this paper and concurs.

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- Attachments:
1. Approved DSPP
 2. FEMA Report
 3. WRDA Section 215