



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

ACRSR-2273

November 19, 2007

The Honorable Dale E. Klein
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: STAFF'S IMPLEMENTATION OF LESSONS LEARNED FROM REVIEWS OF
EARLY SITE PERMIT APPLICATIONS

Dear Chairman Klein:

At the conclusion of our review of the North Anna, Grand Gulf, and Clinton early site permit applications, we met with the NRC staff and representatives of some applicants to discuss lessons that had been learned during the review process and that might be applicable to the review of future early site permit applications and combined license (COL) applications. We reported to the Executive Director for Operations on this meeting in a letter dated September 22, 2006.

In a November 8, 2006 Staff Requirements Memorandum, resulting from the meeting with the ACRS, the Commission requested that as licensing under 10 CFR Part 52 continues, the Committee advise the Commission on effectiveness and efficiency of staff's implementation of lessons learned in areas it has reviewed, for example, the development of guidance documents for early site permit applications. During the 547th meeting of the Advisory Committee on Reactor Safeguards, November 1-3, 2007, we met with the NRC staff to review progress on implementation of the lessons learned in the regulatory process as well as the effectiveness and efficiency of such implementation. This matter was also discussed with the NRC staff at a meeting of our Subcommittee on Early Site Permits held on October 24, 2007. We are pleased to report to you the progress the staff has made on implementation of the lessons learned.

CONCLUSION AND RECOMMENDATION

1. The NRC staff has moved effectively to address within the regulatory process many of the lessons learned from the reviews of early site permit applications.
2. The staff still needs to provide guidance to applicants on adequate measures to ensure the quality, integrity, and retrievability of data obtained from the Internet.

DISCUSSION

The staff has made more progress than we would have expected in the implementation of the lessons learned from the review of early site permit applications. The lessons and synoptic accounts of staff actions are provided below.

Develop common understanding between the staff and applicants concerning expectations.

The staff has completed pertinent updates to NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants;" issued Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants;" and has developed Office Instruction NRO-REG-100, "Acceptance Review Process for Design Certifications and Combined License Applications." Furthermore, the staff has been interacting with the nuclear industry and potential applicants through the Design-Centered Working Groups.

The staff has done much to facilitate the development of common understandings. This is a most important undertaking and will continue to need attention. An incomplete understanding of staff expectations by the applicant resulted in many requests for additional information and open items in the staff's Safety Evaluation Report (SER) for the ongoing Vogtle early site permit application.

Clarify the applicability of 10 CFR Part 21, "Reporting of Defects and Noncompliance," requirements for early site permit applications.

10 CFR Part 52 makes it clear that 10 CFR Part 21 is applicable to early site permit applicants.

Clarify the applicability of 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants," requirements for early site permit applications.

Again, 10 CFR Part 52 makes it clear that the Appendix B quality assurance requirements are applicable to early site permit applicants.

Develop improved guidance on electronic submission of applications.

The staff has improved and clarified the process for electronic submission of applications. This has included documentation and even video clips of the process. However, additional progress can still be made in this area.

Incorporate into staff guidance definitions of terms such as "License Conditions" and "COL action items."

The staff has incorporated these definitions into the Standard Review Plan and has trained reviewers regarding the definitions.

Develop guidance for the review of the performance-based methodology for assessing seismic hazards.

The staff has issued Regulatory Guide 1.208, "A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion."

Review the development and study of long-term weather cycles for periods of up to 100 years.

The staff has made appropriate modifications to the Standard Review Plan to recognize that there are cycles in the weather. Such cycles are especially well known for the east coast of the United States. The staff has made contact with knowledgeable technical societies, will be attending pertinent scientific conferences, and is proposing research studies of trends in the frequencies and intensities of hurricanes.

Update guidance for the review of site hydrology.

The staff has updated the Standard Review Plan. It is updating its regulatory guide on analysis of flooding. The staff is also investigating possible threats to coastal nuclear power plants posed by tsunamis including tsunamis that might come from submarine landslides in the Cape Verde islands.

Develop guidance for the treatment of the high frequency component of seismic ground motion.

The staff has provided guidance in both the Standard Review Plan and in Regulatory Guide 1.208.

Develop guidance on the use of Internet data.

The staff has not taken action on our recommendation that they develop guidance to ensure that data obtained from the Internet are valid now and retrievable in the future. At many points in the early site permit applications data derived from the Internet are used. We expect increased reliance on Internet databases in the future. Data obtained from the Internet do not have the immutable quality of the printed page. Such data can be altered by intent, through misadventure or through malice. Therefore, the NRC needs to provide applicants with guidance to ensure that data they obtain from the Internet are valid in the sense that they reflect the intent of the developer of the database. The data may be needed long after an early site permit has been approved and after many revisions of the electronic site from which the data were originally obtained. Consequently, guidance on ensuring the retrievability of the data is also needed. Furthermore, based on our recent review of the Vogtle early site permit application, it may be necessary for the NRC to interact with other government agencies to assist applicants in obtaining the validation that the staff feels is necessary for the data provided by these agencies via the Internet.

Sincerely,

/RA/

William J. Shack
Chairman

References:

1. Memorandum dated November 8, 2006, from Annette L. Vietti-Cook, Secretary of the Commission, NRC, to John T. Larkins, Executive Director, ACRS; Subject: Staff Requirements — Meeting with Advisory Committee on Reactor Safeguards, 2:30 P.M., Friday, October 20, 2006, Commissioners' Conference Room, One White Flint North, Rockville, Maryland (Open to Public Attendance).
2. Letter dated September 22, 2006, from G. B. Wallis, Chairman, ACRS, to L. A. Reyes, Executive Director for Operations, NRC, Subject: "Lessons Learned From the Review of Early Site Permit Applications."
3. Draft United States Geological Survey Report, revision dated September 30, 2007, "The Current State of Knowledge Regarding Potential Tsunami Sources Affecting U.S. Atlantic and Gulf Coasts."

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Letter To: The Honorable Dale E. Klein
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From: William J. Shack
ACRS Chairman

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