VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

October 14, 1998

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20005

Serial No.: 98-411
NCM:JDH R12
Docket Nos.: 50-280/281
50-338/339
License Nos.: DPR-32/37
NPF-4/7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION
NORTH ANNA POWER STATION
DESIGN AND LICENSING BASIS DOCUMENTS—REVISED SCHEDULES

On May 23, 1997, Virginia Electric and Power Company (Virginia Power) notified the NRC that it had voluntarily initiated a major project involving the design and licensing bases for the Surry and North Anna Power Stations. As a primary objective of the project, Virginia Power had established the goal of validating the content of the Surry and North Anna Updated Final Safety Analysis Reports (UFSARs) by October 18, 1998. That objective had been established in response to NRC's October 18, 1996 enforcement policy revision. In that policy revision, the NRC had offered a two-year enforcement discretion period as an incentive to licensees to voluntarily initiate the actions necessary to ensure the accuracy and completeness of the UFSAR.

Virginia Power established the October 18, 1998 date consistent with the two-year enforcement discretion policy. The objective was established at the time in recognition of the regulatory importance of the issue even though the methodology for achieving the objective had not been fully developed and the necessary resources had not yet been acquired. It was our intent, as experience was gained during the course of the project, to assess our ability to achieve the objective and take action as appropriate to revise the scope, methodology, resources, and schedules in support of that objective.

Since that time significant progress has been made. A comprehensive methodology has been developed, substantial resources have been dedicated to the project, and sufficient experience has been acquired to accurately assess the effectiveness of our efforts. The methodology being employed, designated the integrated review, accomplishes several goals. It supports the validation of the UFSARs, the preparation of Improved Technical Specifications, and the issuance of Surry and North Anna

Design Basis Documents. Based on the project's performance, it is evident that the methodology being employed is achieving the objectives stated in the NRC enforcement policy. However, because of the time required to conduct integrated reviews, the validation of the Surry and North Anna UFSARs will not be completed by October 18, 1998. Thus, we have determined that a revision to the schedule is necessary. Because of the integrated nature of the project, the other document schedules are similarly affected. In brief, the schedules have been revised as follows:

- For completing the UFSAR validation program Phase I activities (for both risk-significant and other items), from October 18, 1998 to April 18, 2000
- For submitting Improved Technical Specifications, from February (North Anna) and April (Surry) 1999 to July 2000 and September 2000, respectively
- For issuing Design Basis Documents, from June 30, 1999 to December 29, 2000.

On September 15, 1998, the NRC's Office of Enforcement extended the exercise of discretion for UFSAR discrepancies. According to Enforcement Guidance Memorandum 98-007, the provision for the exercise of discretion for violations involving UFSAR accuracy and completeness that otherwise meet the requirements as described in Section VII.B.3 of the NRC Enforcement Policy has been extended from October 18, 1998 to March 30, 2000 for risk-significant items and to March 30, 2001 for all other issues. As described in our March 27, 1997 letter, Virginia Power's UFSAR validation program fully complies with the requirements established in the NRC's October 18, 1996 enforcement policy regarding UFSAR discrepancies. Thus it is understood that the NRC will continue to exercise enforcement discretion with respect to Virginia Power's UFSAR validation program (Phase I) through the extended period.

Virginia Power remains committed to achieving these objectives on the revised schedules. Appropriate background information, the bases for continued enforcement discretion, and a more detailed description of the methodology and resources being utilized by Virginia Power to achieve the objectives set forth above are provided in the attachment.

If you have any questions or require additional information, please contact us.

Very truly yours,

James P. O'Hanlon

Attachment

Commitment Summary:

- The schedule for completing the UFSAR validation program Phase I (for both risk-significant and other items) is revised from October 18, 1998 to April 18, 2000
- The schedule for submitting the North Anna and Surry Improved Technical Specifications is revised from February and April 1999 to July and September 2000, respectively
- The schedule for issuing Design Basis Documents is revised from June 30, 1999 to December 29, 2000.

cc: U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
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Atlanta, Georgia 30303

Mr. R. A. Musser
NRC Senior Resident Inspector
Surry Power Station

Mr. M. J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

Attachment

VIRGINIA POWER
INTEGRATED CONFIGURATION MANAGEMENT PROJECT

Overview

In January 1997, Virginia Power established a new organization, the Integrated Configuration Management Project, to manage ongoing programs intended to improve design and licensing basis information and ensure that station operations were consistent with those bases. Virginia Power made several commitments to the NRC related to those activities. In a February 2, 1997 letter (Serial No. 96-535) responding to the NRC's request for information regarding the availability and accuracy of design basis information, we committed to issue Design Basis Documents (both System Design Basis Documents and Plant Design Basis Documents) by June 30, 1999. We also committed to separately submit a UFSAR review and validation plan to the NRC. In a May 23, 1997 letter (Serial No. 97-108), we fulfilled the latter commitment by submitting a UFSAR review and validation plan for Surry and North Anna Power Stations. In the same letter, we also committed to complete the UFSAR validation program Phase I activities by October 18, 1998, conduct a broad-scope root cause evaluation of departures from the UFSAR, and conduct an assessment of change processes to ensure the integrity of the current licensing basis. Finally, in a letter dated March 27, 1997 (Serial No. 97-091A), we committed to submit proposed North Anna and Surry Improved Technical Specification license amendments in February and April 1999, respectively.

Methodology

The overall approach envisioned for the project is to complete verification and validation of Surry and North Anna plant configurations, operations documents, the Updated Final Safety Analysis Reports (UFSARs), and the Improved Technical Specifications (ITS) on a system-by-system basis following the issuance of System Design Basis Documents (SDBDs). The integration review teams (IRTs), led by project engineers and comprised of engineering, operations, and licensing personnel, are to conduct the reviews and initiate the change documents as required to meet the established goals.

The methodology employed by the IRTs to validate the Surry and North Anna UFSARs is comprehensive. It results in a thorough review and the development of documentation that demonstrates that operation of Surry and North Anna Power Stations complies with their design and licensing bases. The results of the review are documented in an electronic project database. The database structure establishes the relationship between design, licensing, and operation information. Any discrepancies involving design, licensing, or operations are reported and corrective action assigned utilizing Virginia Power's existing deviation reporting and corrective action system.

There are several key elements to the integrated review methodology to ensure that it is comprehensive. The elements include a system review, a design basis functional verification, UFSAR validation, ITS development, and SDBD issuance.

To support the system review, documents that potentially impact the design and licensing bases for a system are identified, reviewed by the IRT, and the results documented in the project database. The document types reviewed include the SDBD (including any open items), design change packages, engineering work requests, engineering transmittals, setpoint documents, NRC correspondence, safety evaluations, calculations, and others.

To support the design basis functional verification, the safety-related and other functions of the system are identified as well as the key parameters necessary to ensure that the system functions are achieved. The IRT ensures that the design and licensing bases requirements are being implemented in the operation of the facility by identifying the appropriate site implementing documents. The functional requirements, key parameters, and design, licensing, and implementing documents are entered into the project database and a narrative description of how those documents are used to demonstrate compliance with the design basis is provided.

To support the UFSAR validation, each of nearly 50,000 separate statements in the Surry and North Anna UFSARs is being reviewed by the IRTs. The design, licensing, and/or station implementing documents that demonstrate compliance with each UFSAR statement are identified in the project database and a narrative description of how those documents are used to demonstrate compliance with the UFSAR statement is provided.

To support ITS development, the IRT develops and reviews proposed changes to the current Technical Specifications associated with the system to ensure that the ITS and ITS Bases are consistent with the system's design and licensing bases. IRT reviews are documented on the hard-copy change packages utilized within Virginia Power's Technical Specification change process.

To support SDBD issuance, the IRT reviews existing SDBDs to ensure that the document is consistent with the design and licensing bases. The IRT updates the document to incorporate information developed since its issuance or last revision, and then prepares and issues a revised SDBD. In cases where no SDBD currently exists, the IRT completes development of the document and issues the SDBD.

The results of the IRTs efforts demonstrate that only a comprehensive methodology ensures the identification and correction of the various inadequacies and discrepancies that exist between design, licensing, and operation documents. Our experience with less rigorous methods, such as that employed in support of the industry initiative in 1996-97 to assess programs for maintaining the licensing basis (NEI 96-05), indicates that methodologies that rely primarily on the background and plant-specific knowledge and memory of the individuals involved do not achieve the desired results.

Resources and Schedule

A typical IRT consists of a project team leader and a combination of permanent (project) and matrixed team members who have expertise in safety analysis, electrical/I&C and mechanical engineering, systems engineering, operations, licensing and in the preparation and development of ITS and SDBDs.

The integrated review methodology requires an IRT to expend a minimum of 8 to 12 weeks per system to accomplish its assigned task. As an example, the pilot IRT for the North Anna Auxiliary Feedwater System was 13 weeks in duration and represented approximately 100 man-weeks of effort on a single system. There are approximately 120 systems[1] scheduled for review within the scope of the Integrated Configuration Management Project.

There are seven IRTs currently active and conducting integrated reviews. Substantial progress has been achieved. Integrated reviews of important safety-related systems have been or are nearing completion. For North Anna, these systems include Auxiliary Feedwater, Quench Spray, Reactor Protection, and Reactor Coolant. For Surry, these systems include Recirculation Spray, Safety Injection, Emergency Diesel Generators, and Service Water. In addition, the broad-based root cause evaluation to determine the reasons for departures from the UFSAR has been completed and will be used as input to identify process enhancements. However, based on the current status and the required duration to complete an integrated review in accordance with the methodology described above, it will be necessary to extend the commitment dates for completion of the project by eighteen months. Accordingly, the revised milestones are as described below:

- Complete UFSAR validation Phase I program (for both risk-significant and other items) by April 18, 2000
- Submit Improved Technical Specifications for North Ana and Surry by July 2000 and September 2000, respectively
- Issue Design Basis Documents by December 29, 2000.

In order to ensure that the project's objectives are successfully accomplished in accordance with the revised milestones, it is currently planned that the number of IRTs will be expanded from seven to eleven. Further, in establishing the priorities and sequences of system reviews, the risk-significance of each system has been considered. Systems for which the contribution to core damage frequency is about two percent or greater (roughly corresponding to a frequency of 1.0E-6/year) are considered risk-significant for the purpose of UFSAR validation and are, in general, given priority. However, it should be noted that other factors are also taken into consideration when establishing the priority and sequence of the integrated reviews and thus the schedule is not purely risk-driven. As risk information is revised or enhanced, it will be taken into consideration in any further revisions to the project schedule.

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[1] In certain instances, the IRT conducts an integrated review of a topic, rather than a system, because the subject is common to multiple systems

Basis for Extending Enforcement Discretion

On October 18, 1996, the NRC revised its Policy and Procedures for Enforcement Actions ("Enforcement Policy") associated with departures from the UFSAR. The policy revision provided for a two-year period of enforcement discretion as an incentive to encourage licensees to voluntarily identify and resolve discrepancies between the design and operation of their facilities and the Updated Final Safety Analysis Reports. The policy also described criteria that licensees needed to meet in order to qualify for enforcement discretion.

In its May 23, 1997 letter, Virginia Power notified the NRC of its intent to take advantage of the two-year enforcement discretion period and described the means by which it intended to accomplish the various tasks required to meet its commitments and NRC's expectations. At that time, Virginia Power committed to ensure the accuracy of the current content of the Surry and North Anna UFSARs by October 18, 1998. That activity was designated the UFSAR validation Phase I program. As described above, it is now evident that additional time is required in order to meet the project's objectives.

The justification for the additional time needed to complete the validation program Phase I activities is based on the methodology being used and the results being achieved. The integration review methodology being utilized by Virginia Power is comprehensive. It results in a thorough review and the development of documentation that demonstrates that the operation of Surry and North Anna Power Stations complies with their design and licensing bases. Corrective action, where appropriate, is being implemented in a timely manner. Moreover, the results indicate that only a comprehensive methodology is adequate to ensure the identification and correction of inadequacies/discrepancies between design, licensing and operations documents. For that reason, it is undesirable to revise the current methodology to a less rigorous or comprehensive methodology in order to meet the original schedule. However, as described above, the methodology being employed is both time- and resource-intensive and thus additional time is required.

Efforts have continued by both the NRC and industry to develop and issue guidance for updating the UFSAR. Both the NRC, through its preparation of a draft generic letter, and the industry, through the submittal to the NRC of a draft industry guidance document, NEI 98-03, have made significant progress. Both have demonstrated a willingness to work cooperatively to complete development and endorsement of the guidance. The guidance is expected to contain information pertaining to format and content enhancements as well as guidance for updating the UFSAR in accordance with 10 CFR50.71(e).

It is anticipated that once issued, the guidance will require some time for licensees to implement. In SECY 98-087, dated June 30, 1998, the Commission directed the NRC staff to provide an additional period within which licensees could implement the guidance without being penalized by the NRC. That direction included the

Commission's expectation that licensee schedules for validating information in the UFSARs should take risk-significance into account when implementing the guidance. On September 15, 1998, the NRC's Office of Enforcement extended the exercise of discretion for UFSAR discrepancies.

According to Enforcement Guidance Memorandum 98-007, the provision for the exercise of discretion for violations involving UFSAR accuracy and completeness, that otherwise meet the requirements as described in Section VII.B.3 of the NRC Enforcement Policy, has been extended from October 18, 1998 to March 30, 2000 for risk significant items and to March 30, 2001 for all other issues. As described in our March 27, 1997 letter, Virginia Power's UFSAR validation program fully complies with the requirements established in the NRC's October 18, 1996 enforcement policy. As described above, Virginia Power has taken risk-significance of the various systems into account in establishing the integrated review schedule. Thus, it is understood that the NRC will continue to exercise enforcement discretion with respect to Virginia Power's UFSAR validation program (Phase I) through the extended period for both risk-significant and other items. When the UFSAR update guidance is formally endorsed by the NRC, Virginia Power would expect to implement the guidance within the specified time frame. It is Virginia Power's intent to take full advantage of the enforcement discretion incentive in order to complete its UFSAR validation program activities.