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OCT 20 1988

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of	)	Docket Nos. 50-327
Tennessee Valley Authority	)	50-328

SEQUOYAH NUCLEAR PLANT (SQN) - POSTRESTART SCOPE AND SCHEDULE FOR THE DESIGN BASELINE AND VERIFICATION PROGRAM (DBVP)

References: 1. Presentation to NRC by TVA on July 21, 1988, "Phase II Design Baseline and Verification Program"

2. TVA letter to NRC dated May 12, 1987, "Sequoyah Nuclear Plant - Postrestart Scope and Schedule For The Design Baseline And Verification Program (DBVP)"

In accordance with a TVA commitment made as a part of the reference 1 presentation, enclosure 1 provides the revised DBVP scope and schedule for phase II (postrestart) of SQN units 1 and 2. This information revised the program as outlined in reference 2.

TVA is utilizing lessons learned during the phase I DBVP as indicated in reference 1. This allows the DBVP processes to be optimized while retaining the more valuable aspects of phase I efforts. Consistent with this position, the commitment to review change documents has been revised, phase II design criteria have been issued, and functional walkdowns will be conducted. Overall program findings, corrective measures, conclusions, and recommendations will be summarized in a phase II final report.

Enclosure 2 states and summarizes TVA's commitments for the phase II DBVP. As the tabulation indicates, most of these commitments have already been completed. The commitment to evaluate change documents has been revised in accordance with the reference 1 presentation; existing commitments address this item. Enclosure 3 includes a revision to the issue date for the phase II DBVP final report to December 31, 1989. This change is needed in order to incorporate the results of functional walkdowns.

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Enclosure 4 provides the justification for excluding the in-core instrumentation system (94) from the scope of the phase II effort. When the reference 1 presentation was made, TVA intended to include system 94 in the phase II DBVP. A recent review of commitments associated with this system has indicated that it should not have been included in the phase II program.

TVA has reevaluated the benefits associated with updating and maintaining the commitments/requirements (C/R) data base. Based on this review, TVA has decided to archive the current C/R data base and rely on the corporate commitment tracking system (CCTS) and the tracking and reporting of open item (TROI) system to track commitments, and to rely on formal engineering procedures to more effectively accomplish and control design document updates. The basis for TVA's position is described in enclosure 5.

Please direct questions concerning this issue to J. W. Proffitt at (615) 870-7461.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

W. F. Ray for

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Enclosure
cc: See page 1

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ENCLOSURE 1

POSTRESTART PHASE

DESIGN BASELINE AND VERIFICATION PROGRAM (DBVP)
SCOPE AND SCHEDULE

INTRODUCTION

The following discussion provides the information describing the postrestart phase of the DBVP (phase II). Specifically, it defines the actual systems that are included, the attributes of the phase I scope that are applicable, and a schedule for completion.

Phase II will establish the functional baseline for the safety-related systems or portions of systems as defined by table 1.

SCOPE

The scope of the program is divided into design control activities and baseline and verification activities.

Design Control

Implementation of improved design control practices that began in phase I will continue. The transitional design control system will continue to be used until all work initiated under this program is complete. Implementation of the permanent design control program began on March 31, 1988.

Baseline and Verification

A. Safe shutdown and accident mitigation (SS/AM) systems

These systems or portions of systems were the subject of phase I. Work in phase II to complete this scope is as follows:

1. Postrestart modifications and documentation corrections identified in phase I will be completed.

2. Postrestart configuration control drawings (CCDs) will be issued.

B. Additional safety-related systems

This scope includes the additional safety-related systems and the additional safety-related portions of the SS/AM systems defined by table 1. Calculation SQN-SQS4-0129 has been prepared to define the phase II system boundaries.

1. Design Criteria/Design Basis

   The existing C/R data base has been used to develop new or to revise existing design criteria, as needed, to cover the system scope.

2. System Walkdown/Test

   System walkdowns will be performed as needed to verify the functional configuration of the phase II systems. Equivalent means, such as functional testing, may be substituted for system walkdowns where appropriate. Dimensional data will be obtained from the walkdowns, as required, for input to the CCD program.

   Test reviews will not be performed as a part of the phase II DBVP. The units 1 and 2 restart test programs adequately address the portions of systems 74, 77, 84, and 90 included in the phase II scope (see table 1). Moreover, either a verification of functional operability or an in-service functional test will be performed for the phase II portions of systems 68, 78, and 79 (see table 1). Thus, phase II DBVP test reviews would be a duplication of effort.

3. Evaluation of Engineering Change Notices (ECNs) Not Addressed in Phase I of the DBVP (Implemented ECNs Pertaining to Systems 79, 84, and the Phase II Portions of the Other Systems in Table 1)

   Recent enhancements in the TVA design control process, resulting in large measure from the phase I DBVP, make an independent plant change evaluation under the phase II DBVP an unnecessary duplication of effort. There are four NRC commitments that meet the intent of the change document review:

   1. NCO-87-0041-001 — Complete ECN backlog closure in support of the 1989 Final Safety Analysis Report (FSAR) update
   2. NCO-87-0041-003 — Complete the FSAR verification program
   3. NCO-87-0184-003 — Develop CCDs
   4. NCO-87-0184-002 — Implement the permanent design control program (This program has been implemented.)

   In conjunction with the walkdown effort discussed above, these four commitments considered collectively provide assurance that modifications are done consistent with the scope of the authorizing ECN and do not violate requirements stated in the associated safety evaluation, unreviewed safety question determination. Moreover, the commitments mandate that plant configurations be accurately shown on CCDs and accurately depicted in the FSAR. Thus, it is concluded that these four commitments in combination provide a satisfactory basis for satisfying this phase II DBVP commitment.

The evaluation of change documents, other than those explicitly stated above, associated with these systems was performed during phase I under Sequoyah Engineering Project (SQEP) 28 (procedure for evaluating ECNs, field change notices, etc., not reviewed by phase I DBVP).

4. Final status report and corrective actions

The objectives, results, and conclusions of this program will be documented in a final report for submission to the TVA vice president in charge of nuclear engineering. Based on review of the report, this individual will determine if the stated objectives of the program have been met or if additional actions are required.

Corrective actions required to resolve discrepancies identified in the phase II DBVP may require drawing changes, design basis document changes, and/or licensing commitment changes. These findings will be tracked by a punchlist data base and TVA's corrective action process (Nuclear Engineering Procedure [NEP] 9.1), as appropriate.

SCHEDULE

The overall schedule for phase II is shown in exhibit 1. The program is scheduled to conclude with the issuance of the final report on or before December 31, 1989. Exhibit 1 depicts the interrelationships between the various phase II program elements and associated commitments.

ORGANIZATION

A team to implement the phase II effort will be organized under the SQN engineering project. Liaison within Nuclear Quality Assurance, Site Licensing, Nuclear Construction, and Nuclear Engineering organizations at SQN will be established and maintained.

ENGINEERING ASSURANCE (EA)

EA oversight of the phase II DBVP effort will be accomplished by the performance of technical audits of phase II activities to verify adequacy of phase II DBVP and interfacing programs. A separate program plan will be prepared to define the scope and details of this activity.

PROGRAM PROCEDURES

Procedures required to assign specific responsibilities, define methods, and establish documentation requirements are being developed or revised, based on phase I experience.

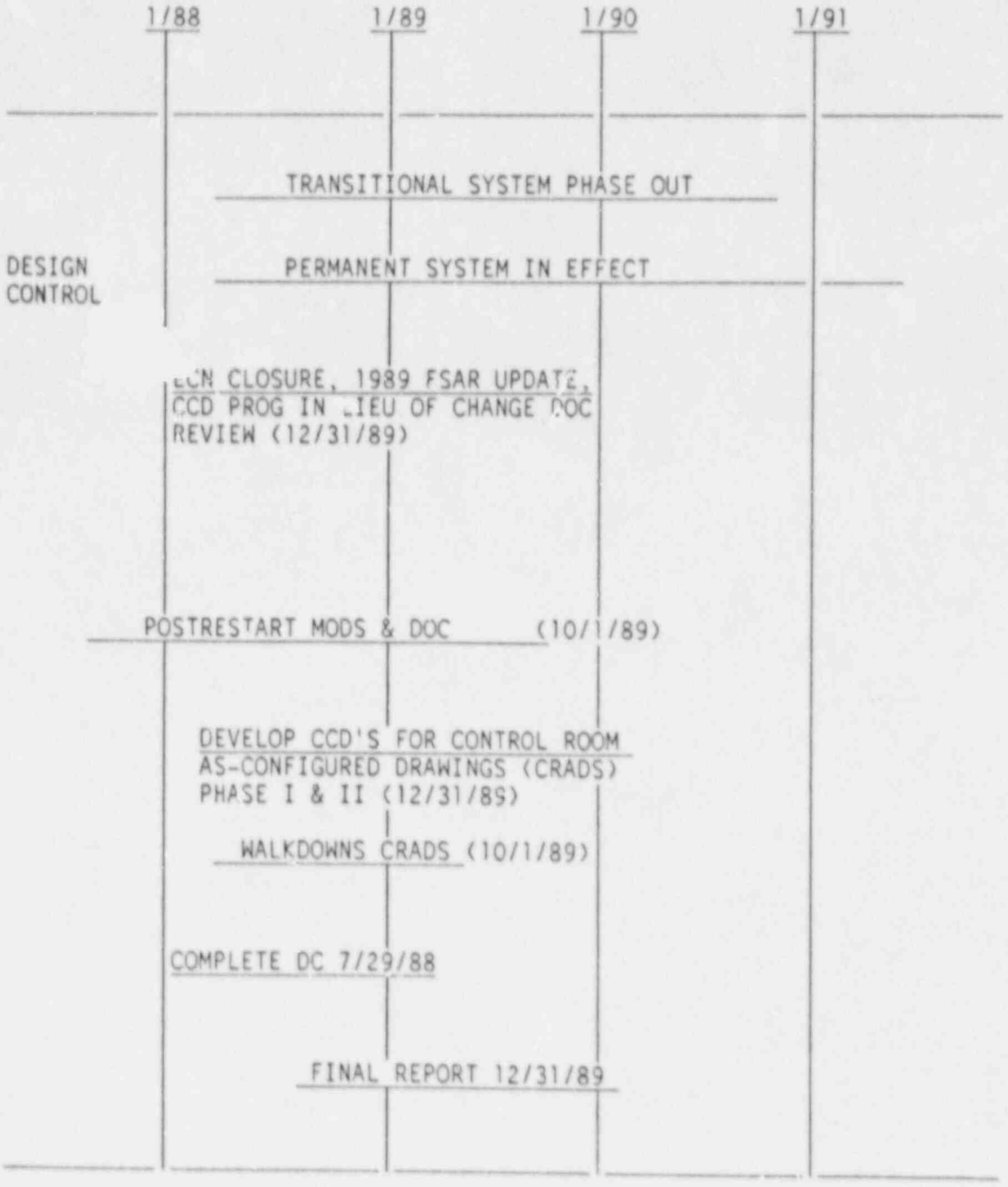
TABLE 1

PHASE II SAFETY-RELATED SYSTEMS

SYSTEM NO	NAME
68	Reactor Coolant System--Reactor Vessel Level Indication System (RVLIS)
74	Residual Heat Removal System--Cold Shutdown Capability
77	Waste Disposal System--Effluent Monitoring
78	Spent Fuel Pool Cooling System--Pumps, Heat Exchangers, and Associated Equipment
79	Fuel Handling and Storage System--Fuel Handling Accident
84	Flood Mode Boration System--Entire System
90	Radiation Monitoring System--Effluent Monitoring

Note: Portions of systems 68, 77, 78, and 90 received phase I evaluations. The phase II scope for these systems consists of the remaining safety-related portions as described in the above table. The in-core instrumentation system (94) will not be included in the phase II DBVP. See enclosure 4 for the justification.

EXHIBIT 1



SCHEDULE
DBVP SQN UNITS 1 & 2
PHASE II

ENCLOSURE 2
PHASE II DBVP COMMITMENTS

COMMITMENT NUMBER	DESCRIPTION	ORIGINAL DUE DATE	STATUS
NCO-86-0297-013	Extend DBVP to other systems	01/31/90	New date 12/31/89[1]
NCO-86-0471-002	Complete phase II design criteria (superseded by items NCO-86-0471-006, -007, -008, -009, and -010)	05/31/88	Complete
NCO-86-0471-003	Submit phase II scope and schedule to NRC (superseded by NCO-87-0001-004)	03/21/87	Complete
NCO-86-0471-004	Perform phase II DBVP walkdowns	End of U2C4 Refueling Outage	New Date 10/01/89[1]
NCO-86-0471-006	Complete phase II design criteria for systems 74, 77, 84, and 94	05/31/88	Complete
NCO-86-0471-007	Complete phase II design criteria for system 90	06/30/88	Complete
NCO-86-0471-009	Complete phase II design criteria for system 79	07/29/88	Complete
NCO-86-0471-010	Complete phase II design criteria for system 78	07/29/88	Complete
NCO-87-0001-004	Submit phase II scope and schedule to NRC	06/21/87	Complete
NCO-87-0184-001	Issue phase II DBVP final status report	10/01/89	New Date 12/31/89[2]
NCO-87-0184-002	Implement permanent design control system	03/31/88	Complete
NCO-87-0184	Develop configuration control drawings	12/31/89	On schedule
NCO-87-0184-004	Perform phase II DBVP change document review and test evaluations	04/01/89	See Note 3 below

[1] This date was reviewed and schedule improved because of the exclusion of system 94 from phase II.

[2] This date has been revised in order to adequately reflect system walkdown findings in the final status report.

[3] This phase II DBVP commitment has been revised, see enclosure 1, items B.2 and B.3 for detail.

ENCLOSURE 3

REVISED COMMITMENT LIST

TVA will issue the DBVP phase II final report by December 31, 1989.

ENCLOSURE 4

IN-CORE INSTRUMENTATION SYSTEM (94)
JUSTIFICATION FOR EXCLUSION FROM PHASE II DBVP

System 94 consists of two subsystems: the flux mapping system and the in-core thermocouple system. This system was originally included in the phase II DBVP scope, and an associated design criterion was issued. A review of the system boundary and associated commitments has shown that this system is outside the scope of the phase II program. The basis for this position is discussed below.

FLUX MAPPING SYSTEM

This system provides a means of acquiring data used to verify reactor core parameters. The system boundaries range from the initiating devices (moveable flux detectors) to the system output devices (strip chart recorders) and include the thimble guide tubes, seal table rotary transfer devices, and drive units. This system performs no active plant safety function, but portions of the system meet safety-related design requirements to ensure that other interfacing safety systems are not degraded. These safety-related features (seismic and reactor coolant system pressure boundary requirements) were evaluated under the phase I DBVP; therefore, no additional evaluation is necessary.

IN-CORE THERMOCOUPLE SYSTEM

The in-core thermocouple system was also originally designed as a non-safety-related data acquisition system. The boundaries of the presently installed system range from the in-core thermocouples to the information readout in the main control room inclusive of the reference junction box and the process computer units. The original system requirements were changed as a result of NRC regulations stated in NUREG-0737, II.F.2, and regulatory guide 1.97. TVA was committed to complete the upgrade of this system to class IE requirements before restart following the unit 2 cycle 4 refueling outage. Modifications will be performed by ECN L6189, which is currently unimplemented, under the improved, permanent design control process, which began during phase I DBVP. A walkdown of the upgraded system cannot be performed until after the unit 2 cycle 4 refueling outage, which is inconsistent with phase II objectives and schedule. However, upon implementation, ECN L6189 will be reviewed for completeness/closure in accordance with NRC commitments as discussed in enclosure 1, item B.3, which does satisfy phase II DBVP objectives.

ENCLOSURE 5

BACKGROUND

The concern of how to ensure past commitments and requirements were incorporated when preparing design baseline documents was discussed with NRC. TVA's solution was to establish the C/R data base as described in a December 31, 1986 letter to NRC (L44 861231 808). In this letter, TVA discussed how the C/R data base was to be developed and how it would be utilized in design criteria preparation to support the DBVP. As indicated in another letter to NRC dated February 27, 1987 (L44 870222? 805), the C/R data base was an enhancement tool for design criteria preparation.

Based on the need to capture C/Rs on SQN before the start of the DBVP (mid-1986), the C/R data base was a useful tool. Continued maintenance and updating is, however, a duplication of effort based on the requirements in NEP-6.1, 6.2, 6.3, 6.4, 6.5, and 6.7. Specifically, NEP-6.1, attachment 1, "Checklist of Potential Effects on Design Documents"; section 3.5 of NEP-6.4 on plant modifications package requirements; and NEP-6.7, "Documents Update Process--Modifications," provide lists and specific requirements to address design documentation revisions in support of plant changes. Also, Program Manual Procedure (PMP) 0602.01, section 6.3, requires a response package, which contains such items as:

- Impact on prior regulatory positions, documentation, regulations, TVA policy, procedures, or commitments

- Allocations of resources, schedule, and cost

Moreover, section II.1.2.7 of the SQN Nuclear Performance Plan (NPP) outlines the method of capturing and controlling TVA's commitments to NRC. The SQN Site Licensing CCTS was established to fulfill this commitment. In addition, section II.2.5.1 of the NPP discusses the use of the TROI system for improving the systematic flow and timeliness of corrective action implementation. These two tracking systems, in combination, will be a substantial improvement to the C/R data base in ensuring that commitments and requirements are appropriately captured in design documentation.

CONCLUSION

The current C/R data base has served its intended purpose as an enhancement tool in design criteria preparation in support of DBVP. The C/R data base as it is now structured is also a duplication of the requirements delineated in specific NEPs, PMPs, and NPPs. Therefore, the C/R data base for SQN will be archived, and the processes described above will be utilized to track and incorporate commitments in design documentation.