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LR-N970234

MAY 14 1997

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

**SCOPE AND SCHEDULE OF DESIGN/LICENSING BASES REVIEW PROJECT
HOPE CREEK AND SALEM GENERATING STATIONS
FACILITY OPERATING LICENSES DPR-70, DPR-75, and NPF-57
DOCKET NOS. 50-272, 50-311, AND 50-354**

Gentlemen:

By letters LR-N970074 and LR-N970093, dated February 11, 1997, Public Service Electric & Gas Company (PSE&G) forwarded responses to the Nuclear Regulatory Commission's (NRC) request for information pursuant to 10CFR50.54(f) regarding adequacy and availability of design bases information for the Salem and Hope Creek Generating Stations. In these responses, PSE&G provided reasonable assurance that the Salem and Hope Creek plants are being operated in accordance with their design bases. PSE&G also committed to provide details of the scope and schedule of PSE&G's Design/Licensing Bases Review Project (DLBRP).

In Attachment 2 to each of the February 11, 1997 letters, PSE&G stated that the DLBRP will (1) reconfirm or identify design bases requirements and related system attributes, (2) initiate changes to the Configuration Baseline Documents (CBD), as appropriate, and (3) initiate UFSAR change requests to clearly delineate both the design bases requirements and system attributes which implement the design bases. The DLBRP will complement the work already completed to provide further assurance that Hope Creek and Salem are operated in accordance with their design bases.

The attachment to this letter forwards a description of the scope, methodology, and schedule for the DLBRP. PSE&G expects to refine the process as the DLBRP proceeds; therefore the scope, methodology, and the schedule of the project may change without notification to the NRC.

MAY 14 1997

If you have any questions, we will be pleased to discuss them with you.

Sincerely,

E C Simpson

Attachment

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DESIGN/LICENSING BASES REVIEW PROJECT
SCOPE, METHODOLOGY AND SCHEDULE

I. SCOPE

The Design/Licensing Bases Review Project (DLBRP) will focus on deficiencies discussed in Public Service Electric & Gas Company's (PSE&G) February 11, 1997 responses to the NRC's October 9, 1996 request for additional information, and on areas of review not covered by previous assessments. Details of the DLBRP are included in the DLBRP Project Manual. The manual is an internal document providing in-depth information on the specifics of the review process. The reviews will be prioritized based on the safety significance of the plant systems.

Systems have been categorized according to their significance as Safety Analysis, Risk Significant, Risk Important, and Other. The highest category, Safety Analysis, includes systems explicitly relied upon in the UFSAR Chapter 15 Accident Analyses. Systems categorized as Risk Significant using the categorization methodology of the Maintenance Rule were also categorized as Risk Significant for the DLBRP, unless they were already identified as Safety Analysis systems. Probabilistic Safety Assessment identified key systems were classified as Risk Important, unless already included in one of the previously discussed categories. Management identified systems which do not fall into any of the above categories were categorized as Other.

The assessment will be performed by systematically reviewing design and licensing basis documents, design output documents, implementing documents, and by performing plant walkdowns. The intent of the reviews and walkdowns is to identify deficiencies, missing information, or ambiguities in the design basis documentation, operating procedures, and engineering design output documents. Assessment and review depth will, in part, be adjusted as appropriate upon identification of deficiencies that may exist in a system's baseline design bases or design documentation. Each reviewed system's design and licensing basis limits, the operational limitations within the UFSAR, and design information output documents will be verified. An inspection plan will provide guidance to team members for the review of plant design documentation during the validation of design basis parameters. The plan is not intended to be a checklist or a rigid format for inspection; rather it serves as a starting point.

Deficiencies which the reviews identify will be handled in accordance with the plant's Corrective Action Program. The product of the DLBRP will be documented design/licensing bases for the reviewed systems, which have been validated through plant procedures and will be easily accessible for use in day-to-day conduct of work.

II. METHODOLOGY

Each system review will be performed in three phases: preparatory review, inspection, and documentation. The preparatory review phase includes a Licensing Commitment Review, Design Basis Document (DBD) development, UFSAR Review, and Document Identification. The Configuration Management Program (CMP) will be reviewed and the DLBRP will be integrated into the CMP to assure continued validity of the DBDs. This will be followed by a detailed inspection in accordance with the Design Basis Inspection Plan. Upon conclusion of the inspection, the results will be incorporated into a Design Basis Document. Appropriate UFSAR changes will be initiated in accordance with plant procedures. These activities are described below in more detail.

The reviews will maximize the use of PSE&G resources to ensure clear ownership and improve the understanding of design bases by PSE&G personnel. Multi-discipline teams will be formed to perform a comprehensive review of design bases information on a system basis. Wherever possible, these teams will be structured to comprise the system manager, system design engineer, operations personnel and other cross-disciplinary engineering support personnel as may be required by the particular system.

The initial reviews will be performed on the safety analysis systems. Following review of the initial system(s), an independent expert team will be tasked with a review of the results. The expert team will also review the methodology and conclusions drawn by the DLBRP. The results of the expert team review will be factored into the future reviews.

1. PREPARATORY REVIEW

CONFIGURATION MANAGEMENT

The Configuration Management Program (CMP) will be reviewed and the DLBRP will be integrated into the CMP to assure continued validity of the DBDs.

REGULATORY COMMITMENT REVIEW:

A regulatory commitment review will be performed to ensure commitments are known and implemented. The review will concentrate on commitments made since January 1, 1992, and also include additional commitments made in response to significant Hope Creek, Salem or industry issues.

DESIGN BASIS DOCUMENT:

For each system under review a Design Basis Document (DBD) will be developed. Each DBD will be comprised of several separate matrices. The matrices will typically be organized by subject as follows: System Performance Functions, System Specific and Topical Design Requirements, System Performance Parameters and Limits, System Boundaries and Interfaces, Key Component Design Requirements, System Performance Testing Requirements, Technical Specification Bases, Design Function, and Configuration Assumptions. Each DBD will provide design basis descriptions, functions, parameters, limits, requirements, bases, and licensing commitments, as appropriate.

UFSAR REVIEW:

In addition to the UFSAR reviews inherent in the development of the DBD, a review of the UFSAR will be performed for consistency between sections. Reviews of Safety Evaluation Reports (SERs) will be performed for consistency with the UFSAR, including P&IDs and One-Line Electrical drawings.

DOCUMENT IDENTIFICATION:

Controlled documents associated with each reviewed system will be identified. Typically this will include operating procedures, emergency operating procedures, surveillance procedures, Inservice Test procedures, calculations, engineering evaluations, vendor technical manuals, and specifications. Drawings identified will be, as a minimum, those that are in the UFSAR, including P&IDs and one line electrical drawings.

2. INSPECTION (DESIGN BASIS INSPECTION PLAN)

The inspection will consist of an audit level review of chosen parameters within each system as well as a Safety System Functional Inspection (SSFI) type review to identify programmatic deficiencies or missing information related to the system. Credit will be taken and clearly identified for activities initiated since June, 1995 which will not be part of the review of specific systems. An example of this would be accepting the results of the Technical Specification review for surveillances performed as part of TSSIP (Technical Specification Surveillance Improvement Program).

DESIGN

Major component and system functions explicitly assumed in the safety analysis will be reviewed. The review will confirm that input assumptions used in the licensing basis analyses are consistent with the current plant design, configuration and operation. Information will be developed to:

1) identify safety analysis key input assumptions with a reference to specific accident analysis calculation files,

2) confirm that system design basis information for each analysis input is bounded, and

3) identify applicable surveillance/test procedures with acceptance criteria as necessary to show that the accident analysis inputs are verified in the field.

The design calculations that support each of these assumptions will be reviewed. A review of the calculation's purpose and scope as well as results and conclusions will be completed to identify inconsistencies between the accident analysis inputs and the basic system design. The review will examine calculation methodology, assumptions, inputs and outputs (including margins). If discrepancies are identified, an expanded review will be performed to assure that the following topics are specifically addressed: verification of accident analysis fidelity, validation of consistency with system plant design limits and operational parameters, and verification that the calculations are consistent with industry standards considering the type and time of the original calculation.

For the systems that are not specifically relied upon in the accident analysis, a sample of the various types of calculations will be reviewed. The review will examine calculation methodology, assumptions, inputs and outputs (including margins). This review will verify consistency of design assumptions, assumed operator actions, and available margins with respect to the appropriate design basis criteria and limits.

The team will evaluate design issues when a disparity is found between plant implementation documents and the design basis. Deficiencies will be handled in accordance with the plant's Corrective Action Program.

OPERATIONS

Procedures will be reviewed for the adequacy of normal, abnormal and emergency operations. Acceptance criteria, operating ranges and operating limits within procedures will be compared to the design basis parameters. Instrument uncertainties will be reviewed to assure that they are appropriately considered.

Alarm responses associated with each system will be reviewed. Alarm setpoints, acceptance criteria and operating limits within the procedures will be compared to the values and/or ranges of values in the design basis parameters. Instrument uncertainties will be reviewed to assure that they are appropriately considered.

Configuration assumptions identified for design basis parameters will be reviewed. Additional configuration assumptions identified in the design review portion of the validation will be considered and compared to conditions established in operations procedures.

A plant walkdown of the reasonably accessible portions of the system will be conducted, applying appropriate ALARA considerations. Environmental conditions, configuration and interfacing/supporting systems will be reviewed for consistency with the design basis parameters.

MAINTENANCE

The review will ensure calculation requirements are implemented in PM tasks. Vendor Technical Manuals (VTMs) will be reviewed. The review will verify that vendor requirements are correctly translated and implemented into maintenance procedures, and are in agreement with values established by design basis parameters. If this review identifies problems that warrant further assessment, the review will be expanded as appropriate.

SURVEILLANCE AND TESTING

Surveillance Test procedures associated with the Technical Specifications will be reviewed. The review will ensure that the design requirements contained within Technical Specifications and other design documents are properly implemented in Surveillance Test Procedures. This review will address the following criteria:

- Applicable LCOs are addressed in design documents
- Feasibility of surveillance tests
- Surveillance tests demonstrate operability
- Surveillance/testing intervals and Modes are appropriate

Technical Specification Interpretations will be reviewed to ensure consistency with design basis documents.

Start-up and Pre-operational testing will be considered where appropriate.

Testing procedures will be reviewed for the effect of instrument accuracy on design basis parameters. The review will ensure that instrument uncertainties are considered and are consistent with the assumptions in the design calculations.

Acceptance criteria for surveillance and test procedures will be verified to be consistent with the Technical Specifications and other requirements.

Procedures for surveillance and testing will be reviewed to determine if they comprehensively address required system responses and are consistent with the values and the functions referenced in the UFSAR and other relevant documents.

Technical Specification values will be reviewed to verify that they are consistent with the UFSAR and other relevant documents and that the LCO value is conservative relative to the design basis. The as-operated value should allow for instrument uncertainties and margin.

SPECIAL CONSIDERATION

Open Condition Reports and procedure changes written against each system will be reviewed to determine their impact on the parameters selected for validation.

3. DOCUMENTATION

VALIDATED DESIGN BASIS DOCUMENT:

Following the implementation of the Design Basis Inspection Plan, an updated, accurate, validated Design Basis Document (DBD) will be completed. Each parameter in the DBD will be assigned a designator. These parameter designators will be used in the DBD Validation Tables.

DESIGN BASIS DOCUMENT VALIDATION TABLE:

After completion of the Design Basis Inspection Plan for each system, a review will be completed of implementing documents, design output documents and selected design documents associated with each designated parameter. The details of this review including document identification, findings, identified changes and action tracking documentation will be compiled in the Design Basis Document (DBD) Validation Table. The DBD Validation Table will be sorted by DBD parameter designators to allow the user to determine which implementing documents were reviewed in validating that particular parameter and to determine the validation findings associated with the parameter.

UFSAR CHANGES:

UFSAR change requests and associated 10CFR50.59 Safety Evaluations will be prepared when appropriate to clearly delineate both the design bases requirements and system attributes which implement the design basis.

III. SYSTEM MATRICES

Salem and Hope Creek systems were categorized by safety significance. The DLBRP will initially review the Safety Analysis Systems, focusing on deficiencies discussed in Public Service Electric & Gas Company's (PSE&G) February 11, 1997 responses to the NRC's October 9, 1996 request for additional information, and on areas of review not yet covered by previous assessments. Systems not deemed safety significant will not be reviewed. The extent of review for each system will also be defined partly by each systems' safety significance. As an example, safety analysis systems for Salem are shown below.

SAFETY ANALYSIS SYSTEMS	Safety Analysis Input & Assumptions	Technical Specifications & OL Commitments	UFSAR Description	Configuration Baseline Documents	Design Drawings/Output Documents	Emergency Operating Procedures	Calculations & Engineering Analyses	Plant Procedures (OPS/MAINT/TEST)	As-Built Configuration	Design/Configuration Control Process
Auxiliary Feed	V	S	S	S	R	S	S	R	V	V
Containment Building Ventilation	V	V	V	S	V	S	V	V	V	V
Feed & Condensate	V	S	S	S	V	S	S	R	V	V
Containment Spray	V	S	S	S	R	S	S	R	V	V
Chemical & Volume Control	V	S	S	S	R	S	S	R	V	V
Diesel Generator	V	S	S	S	S	S	S	R	V	V
Main Steam	V	S	S	S	R	S	S	R	V	V
Reactor Coolant	V	S	S	S	R	S	S	R	V	V
Rod Control System	V	S	S	S	S	S	S	S	V	V
Residual Heat Removal System	V	S	S	S	R	S	S	R	V	V
Reactor Protection System	V	S	S	S	V	S	V	V	V	V
Safeguard Equipment Cabinet	V	S	S	S	R	S	S	R	V	V
Safety Injection	V	S	S	S	R	S	S	R	V	V
Turbine/Turbine Bypass	V	S	S	S	V	N/A	N/A	R	V	V
Control Area Ventilation	V	V	S	S	S	S	S	S	V	V
Auxiliary Building Ventilation	V	V	V	S	V	S	V	V	V	V
Fuel Handling Building Ventilation	V	S	S	S	V	S	V	V	V	V

LEGEND:

V RECENT VALIDATION

S SAMPLE VALIDATION

R REASONABLE CONFIDENCE

"Recent Validation" means that the parameter was validated since June 1995 and the results of the validation provide reasonable assurance of compliance.

"Sample Validation" means that the parameter was validated on a representative sample basis since June 1995 and the results of the validation provide reasonable assurance of compliance.

"Reasonable Confidence" means there is reasonable assurance of compliance, as discussed in the February 11, 1997 letters to the NRC.

The following table cross-references the DLBRP with the design and licensing basis elements as shown in the above matrix.

MATRIX ELEMENT	DESIGN AND LICENSING BASIS REVIEW PROJECT ELEMENT
Safety Analysis Input & Assumptions	Addressed in the Design Basis Inspection Plan - Design Review.
Technical Specifications and OL Commitments	Addressed in the Licensing Commitment Review and Design Basis Inspection Plan - Surveillance and Testing
UFSAR Description	Addressed in the UFSAR Review, Licensing Commitment Review and UFSAR Changes
Configuration Baseline Documents	Will be replaced by Validated Design Basis Documents upon conclusion of system review
Design Drawings/Output Documents	Addressed in Document Identification, Design Basis Inspection Plan, and Design Basis Document Validation Table
Emergency Operating Procedures	Addressed in Document Identification, Design Basis Inspection Plan - Operations, and Design Basis Document Validation Table
Calculations & Engineering Analyses	Addressed in Document Identification, Design Basis Inspection Plan - 1.0 Design, and Design Basis Document Validation Table
Plant Procedures (OPS/MAINT/TEST)	Addressed in the Document Identification, Design Basis Inspection Plan - Operations, Maintenance, Surveillance & Testing, and Design Basis Document Validation Table
As-Built Configuration	Addressed in the Design Basis Inspection Plan - Operations
Design/Configuration Control Process	Addressed in the entire Design/Licensing Bases Project Plan

IV. SCHEDULE

The first reviews will be starting in May, 1997. The balance of the reviews will be scheduled based on availability of personnel and plant support requirements. Following the initial reviews, an independent expert team will be tasked with a review of the effort. The expert team will review the methodology and conclusions drawn by the DLBRP teams. The results of the expert team review will be factored into the future reviews.

For Hope Creek and both Salem units combined, over 90 systems will be reviewed. Project completion is expected in 2000.