Consumers Power
POWERING MICHIGAN'S PROGRESS
General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-1636

Kenneth W Berry
Director
Nuclear Licensing

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Nuclear Regulatory Commission
Document Control Desk
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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
RESPONSE TO INSPECTION REPORT 89-021 OPEN ITEM 01

NRC Inspection Report No. 50-255/89021 included an evaluation of the Palisades Plant Configuration Control Project (CCP) and identified one open item regarding apparent differences between the project scope and previous CPCo submittals. The purpose of this letter is to clarify the scope of the project in response to the inspectors advice that prior submittals should be corrected.

The Configuration Control Project was initiated in partial response to an NRC confirmatory action letter dated May 21, 1986, to address concerns with missing or inadequate Palisades Plant design information. Consumers Power Company letters dated December 1, 1986 and January 28, 1987 provided a preliminary description of the project purpose, scope and schedule. A detailed description of the project scope was provided to NRC during an April 24, 1987 meeting. Additionally, the scope and status of the project have been discussed with the NRC on 10 occasions since the April 24, 1987. The schedule has been amended by Consumers Power Company letters dated July 29, 1988 and December 13, 1988.

The CCP consists of three elements: reconstitution of the design basis for the 13 plant systems considered most important to plant safety, validation or confirmation that the system as designed satisfies the design basis functional requirements of the system, and verification and correction of certain plant design documentation. Each of these elements is discussed in more detail below.

DESIGN BASIS RECONSTITUTION

This element of the CCP involves the development of approximately 33 "Design Basis Documents" (DBD) for 13 plant systems considered important to safe plant operation. An additional system, Control Room HVAC, has been subsequently identified as a candidate for a DBD. Completion of this new system prior to 1991 may result in extending one of the system in our 4/29/88 letter beyond 1991. A DBD is a controlled document containing current configuration design

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basis information for a specific system, or portion of a system, which can assist the user in making changes to the design, maintenance or operation of the system without violating its design basis. A DBD is written and intended primarily for use by design modification engineers, plant system engineers and personnel performing nuclear plant safety reviews. The existence of the DBDs are expected to enhance the ability of these groups to establish accurate system design modification requirements and margins as well as in reaching accurate conclusions when performing associated 10CFR50.59 safety evaluations. As part of the design basis reconstitution process, historical design information as well as licensing information is reviewed to recover the design basis for the current system configuration. The system's design basis, as defined by Consumers Power Company, consists of "system functional requirements, regulatory requirements, and original design codes and standards of record (unless clearly superseded by a regulatory commitment to a later code or standard)". During this reconstitution process it is expected that certain design basis information will not be found due to a lack of documentation requirements at the time of original plant construction. It is the intent of the CCP to reconstitute missing critical "design basis" information as defined in 10CFR50.2. This includes, for example, information needed to establish the system functional requirements, or specific values of controlling parameters chosen as bounds for design. It is not our intent, however, to reconstitute all "design" information (i.e. that information, such as calculations, used to establish that the chosen design configuration met the design basis). Missing design information (as opposed to design basis information) is only being reconstituted in special cases where it has been recognized that the design may be marginal and needs to be confirmed. Otherwise, missing design information is being identified in the DBDs for future reconstitution if required by design modification engineers.

The design basis reconstitution element is expected to complete 13 System DBD's by the end of 1991, as committed in on 7/29/88 letter. As Consumers Power Company gains experience in design basis compilation and as plant needs dictate, the specific system DBD's to be completed may change to encompass the more significant systems.

SYSTEM DESIGN CONFIRMATION

The second element of the CCP involves the confirmation of the system design basis for the thirteen plant systems. The principal method for confirming the design basis is the Safety System Design Confirmation (SSDC) review. The SSDC provides an independent evaluation of the selected system DBD(s) relative to design commitments, operation procedures, maintenance practices and surveillance testing. Interfaces between the selected system and other supporting and supported systems are reviewed, as well as selected plant practices which may affect system design.

The SSDC is conducted using a multi-discipline team using design experienced contractors working with Consumers Power Company personnel. Representation from the plant staff is available as a resource to the SSDC Team from the System Engineering, Operations and Maintenance organizations. The SSDC is performed as a combination of design and facility change documentation review, plant and procedure walkdowns and interviews with plant and engineering personnel. Emphasis of the SSDC is on the integration of functional design basis information into the operations and maintenance of the plant. The SSDC is conducted over a four week span, two weeks of which are located at the Palisades Plant.

For those CCP systems which have been modified infrequently or which are non-safety related, a modified approach to design confirmation has been formulated. This modified review, a Design Basis Validation Review (DBV), provides a limited review of key system design basis parameters against the normal and emergency operating procedures, and surveillance and augmented testing programs. The DBV is conducted using CCP personnel only and is intended to double check implementation of the selected parameters.

As shown on the attached table, eleven SSDCs are currently planned covering twenty-six DBDs. An additional three DBVs are planned to validate six additional DBDs. Confirmation reviews are not presently planned for three DBDs addressing non-safety systems or topical issues which are not system oriented. Thus, all safety related DBDs will receive confirmation by either the SSDC or DBV methodology. Two SSDCs were conducted in 1989 on the Component Cooling System and the 4160V AC system. Conduct of the remaining SSDCs and DBVs depends on the completion of the appropriate Design Basis Documents (DBDs) and the desire to maintain only one SSDC Team to ensure continuity and quality. Thus, during each of the remaining years, three or four system confirmations will be completed. The decision on the number of confirmations to be conducted depends on the complexity of the systems being reviewed.

The System Design Confirmation element is expected to be completed in the second quarter of 1993, approximately 18 months following completion of the DBDs for the CCP Systems. System specific issues are addressed at the completion of the confirmation. Programmatic issues are addressed as they are identified during the review of the systems. Thus extension of the schedule will not have a significant impact on plant safety.

DESIGN DOCUMENTATION VERIFICATION AND CORRECTION

This element of CCP involves the verification and correction of selected design documentation including electrical wiring diagrams, cable and raceway schedules, and selected engineering data fields in the plant equipment data base. The scope of this element is essentially the same as that described in Consumers Power Company letter dated April 16, 1987, as well as the various

meetings with NRC at which the confiuration control project scope and status were discussed. The "Q-Classification" of previously unclassified components has been completed. The remaining portions of this element are expected to be complete in 1991 as committed in our April 16, 1987 letter.

Kenneth W Berry

Kenneth W Berry
Director, Nuclear Licensing

CC Administrator, Region III, USNRC
NRC Resident Inspector - Palisades

Attachment

ATTACHMENT

Consumers Power Company
Palisades Plant
Docket 50-255

RELATIONSHIP BETWEEN DESIGN BASIS DOCUMENTS AND SYSTEM DESIGN CONFIRMATION ELEMENT

January 23, 1990

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ATTACHMENT

RELATIONSHIP BETWEEN DESIGN BASIS DOCUMENTS

AND SYSTEM DESIGN CONFIRMATION ELEMENT

Safety System Design Verification	Design Basis Document
Component Cooling System (CCS)	CCS
4160 VAC	4160 VAC External Power Supply Transformers 480 VAC (partial)
Battery/DC Power	Station Batteries 125 VDC System (Q)
Service Water System (SWS)	SWS
Engineered Safeguards	High Pressure Safety Injection Low Pressure Safety Injection
2400 VAC/Diesel Generator (DG)	2400 VAC Diesel Auxiliaries DG and DG Protective Performance Criteria Loadshed Circuits Shutdown Sequencer DBA Sequencer DG Alarms & Controls
Auxiliary Feedwater (AFW)	AFW
Reactor Protection System (RPS)	RPS Preferred AC
Control Room HVAC	Control Room HVAC
Compressed Air System	Instrument Air System
480 VAC (Q)	480 VAC (partial) Instrument AC Lighting System
Containment Spray System (CSS)	CSS
Primary Coolant System* and CRD	Primary Coolant System Control Rod Drive (CRD) CRD Power Supply Pressurizer Heater Emergency Power
Chemical Volume Control System (CVCS)*	CVCS
480 VAC (non-Q)*	480 VAC (partial)

*Design Basis Validation (DBV)

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