50-255 CPC PALISADES

RESPONSE TO NRC RAI RE ADEQUACY AND AVAILABILITY OF DESIGN BASIS INFO

REC'D W/LTR DTD 02/06/97....9702110357

ATTACHMENT 1

CONSUMERS POWER COMPANY
PALISADES PLANT
DOCKET 50-255

Consumers Power Company
(Palisades Plant)
Responses to NRC 50.54 (f) letter
(dated October 9, 1996)

ATTACHMENT 1

NRC Request (a)

NRC Request:

(a) *Description of engineering design and configuration control processes, including those that implement 10 CFR 50.59, 10 CFR 50.71(e), and Appendix B to 10 CFR Part 50;*

CPCo Response:

The Palisades configuration management program is an integrated process which establishes policy to ensure:

- The design requirements for plant structures, systems, and components are defined and documented.
- Changes to design requirements are identified, documented, controlled, evaluated and approved. Approved design changes are installed and tested per procedural requirements.
- Plant configuration documents including those specifying operations, maintenance, testing, installation, procurement and training requirements as well as the FSAR are updated to reflect design requirements and implementation status.

The procedures which provide for configuration control at Palisades implement the requirements of 10 CFR 50.59, 10 CFR 50.71(e), and Appendix B to 10 CFR 50.

Documentation of Design Requirements:

Palisades has developed 31 Design Bases Documents (DBDs) for plant systems and 4 Topical Reports. DBDs were prepared for those systems or portions of systems judged to have the highest safety significance using selection criteria available during the late 1980s. Following issuance of the Maintenance Rule, the safety significance ranking was altered such that approximately 80% of plant systems ranked safety significant under the Maintenance Rule have an associated DBD. By the end of 1998, DBDs for the remaining maintenance rule safety significant systems will be completed.

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New design requirements can result from NRC rule making, Generic Letters, Bulletins, Information Notices, NRC commitments, industry feedback, and the corrective action process. The Palisades configuration control process contains the necessary elements to ensure that these changes to plant design are properly implemented. Actions in response to the NRC are identified by the Palisades Licensing organization, assigned to the responsible organization and tracked, from initiation to completion. Actions are entered into the Licensing tracking system and remain until final closure.

To supplement the controlled hard copies located in the plant, computerized data bases have been developed to enhance the retrievability of licensing and design bases information. The FSAR, Technical Specifications, DBDs, Safety Evaluation Reports (SERs), and Docketed Correspondence are available on the plant Local Area Network (LAN) with the capability for search and retrieval.

Engineering Design and Configuration Control Processes:

The Palisades' configuration control processes: 1) direct changes to the design requirements, 2) implement design changes, and 3) regulate the maintenance of plant configuration documents such that consistency between the plant and the design bases is maintained. Palisades' configuration control is defined and implemented through a number of plant procedures. In preparing this response, a comparison of the significant procedures was made to the INPO model for configuration control. This comparison is shown in Figure A and illustrates how the Palisades plant procedures important to configuration control relate to the components of the INPO model. Attachment 3 contains summary descriptions of the Palisades procedures shown in Figure A and listed in Table A. These summary descriptions do not describe all features of the subject procedures, but do highlight those attributes of the procedures that are intended to assist in maintaining compliance with the Design Bases.

As described in Attachment 3, the purpose of Administrative Procedure, AP 9.00, "Design Engineering & Configuration Management," is to provide a description of design engineering and configuration management at the Palisades Nuclear Plant, including appropriate definitions, responsibilities for the design authority and identification of required interfaces.

Specific contributions of this procedure to configuration control include:

- Establishing a Configuration Management (CM) Policy.

- Identifying responsibilities and interfaces for Engineering and Plant personnel relative to maintaining the design bases.

- Listing design authority and configuration management responsibilities relative to maintaining the design bases.

- Establishing interface responsibilities for configuration control.

- Establishing a standard approach to identifying and dispositioning design related problems/discrepancies to ensure that design bases considerations are taken into account.

New design requirements to the plant can result from self identified and industry feedback including NRC rule making, Generic Letters, Bulletins, Notices, commitments, and the plant corrective action process. This feedback is processed as described below and documents are changed through normal change processes.

Plant procedure AP 3.16, "Industry Experience Review Program," describes the process for evaluating industry feedback. Lessons learned from industry operating experience are translated into appropriate actions to improve plant safety, reliability, and availability.

- Industry Experience Assessment personnel:
  - Screen incoming reports for applicability to the plant.
  - Select evaluator, coordinate a review/evaluation effort, and assess adequacy of reviews/actions.
  - Screen vendor documents and determine if a vendor manual revision is required.
  - Screen for applicability for Maintenance Preventable Functional Failure.
  - Tracks status, distributes, and maintains database.

- Management Review Board shall approve the evaluation and recommended actions for all INPO SOERs. System Engineering performs the final review.

- NRC generic letters and bulletins are processed by the Licensing Department.

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Actions in response to the NRC are identified by the Palisades Licensing organization, assigned to the responsible organization and tracked to completion in accordance with plant procedure AP 3.14, "Commitment Management System." Plant procedure AP 3.03, "Corrective Action Process," describes the process for implementing corrective actions.

Control of Facility Changes is described in Administrative Procedure, AP 9.03, "Facility Changes." The purpose of AP 9.03 is to establish the requirements for the initiation, design development, authorization, installation, testing, and documentation of a facility change (FC) to plant systems, components and structures. Facility Changes are the highest level of plant modifications, specifically those that constitute:

- Alterations of the plant design bases.
- Change(s) to the Technical Specifications.
- Changes that constitute complex engineering and/or installation activities.
- Changes that significantly impact other engineering disciplines, systems or equipment designs.

The primary tool for completing a Facility Change (FC) is the Facility Change Master Checklist which serves to identify the necessary steps, documents, and signoffs in the proper order to successfully process the modification. The intermediate steps of this process are controlled by a series of forms and checklists described below.

- Project Responsibility Identification Matrix identifies the modification team members' responsibilities.
- Functional Description form specifies the functional description of the modification.
- Design Input Checklist (DIC) specifies the design requirements.
- Design Document Checklist (DDC) identifies the design documents that may or will be affected by the modification.
- Design Input/Output reconciliation form is used to insure design inputs are translated to design outputs.
- Design Review Checklist directs the final design review.

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- Engineering Design Change (EDC) process controls field changes.

- Specific checklists for fire protection, seismic design, motor & air operated valves design, equipment qualification evaluation, and nonradiological environmental evaluation specify that program reviews are to be performed.

Technical reviews are performed for: 1) detailed design and 50.59 acceptability by the Safety/Design Review Section, 2) multi-disciplinary design review by engineers from various disciplines, 3) an overview to ensure proper reviews have been performed is conducted by the Design Engineering Supervisor and 4) modification acceptance by operations and engineering supervision to ensure acceptance and testing requirements have been met .

Attributes of the procedure relevant to maintaining the design bases are:

- Safety Evaluation is required by the Facility Change (FC) Master Checklist to be performed during conceptual design.

- Identification of FSAR, Technical Specifications and DBDs on the Design Input Checklist (DIC) as design input sources to review for the FC.

- Direct correlation of output reconciliation to the identified DIC inputs.

- FSAR, Technical Specification and DBDs identified on Design Document Checklist (DDC) for review to ensure they are updated as necessary.

- Identification of Operations & Maintenance procedures and surveillance procedures affected by the FC.

- Design document update requirements.

- Engineering Design Change (EDC) process requires assessment of change impact on Safety Evaluation and PRC reviews if required.

- Pre & post design walkdowns to ensure consistency between documentation and the configuration.

- Procedures required to be updated prior to declaration of operability. FSAR, Technical Specification and DBD update is required.

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Summary descriptions for less significant changes such as Temporary Modification Control, Functional Equivalent Substitution, Temporary Repairs, Control of Jumpers/Leads/Links, Specification Control and other procedures related to facility change control, etc. are contained in Attachment 3.

Procedure initiation and revision is described in Administrative Procedure, AP 10.41, "Procedure Initiation/Revision." The purpose of AP 10.41 is to establish the responsibilities and controls necessary to initiate, revise, review, approve, maintain, cancel, and inactivate procedures.

Attributes of the procedure relevant to maintaining the design bases are:

- Procedure sponsor is responsible for:
  - Verifying all applicable commitments have been included or appropriately dispositioned.
  - Ensuring completion of the safety review per plant procedure.
  - Ensuring that the licensing bases and design bases are appropriately identified.
- An independent technical reviewer confirms the accuracy of the technical content and verifies the proper plant and system conditions are established.
- The user reviewer is responsible for performing the validation if required.
- If a change to a procedure (other than editorial) could affect the FSAR or the Technical Specifications, or is listed in RG 1.33, App A or Technical Specification, Section 6.8, then a Safety Review is performed to determine if a 10 CFR 50.59 review is required .

<u>10 CFR 50.59 Processes</u>:

Administrative Procedure, AP 3.07, "Safety Evaluations," provides the direction to determine the need for and the guidance to properly complete a Safety Evaluation in compliance with 10 CFR 50.59. This procedure also provides guidance to ensure 10 CFR 72.48 requirements are met when changes are processed involving the Ventilated Cask Storage System.

The qualification requirements and the responsibilities of personnel who prepare or review documents supporting the Safety Evaluation process are also provided in the procedure.

The procedure defines a safety review process to document whether a proposed activity requires a 10 CFR 50.59 / 72.48 evaluation.

Attributes of the procedure relevant to maintaining the design bases are controlled as follows:

- The Safety Review (screen for 10 CFR 50.59/72.48 applicability) determines and documents if a proposed activity is a change to procedures as described in the FSAR (stated or implied), change to the facility as described in the FSAR, test or experiments not described in the FSAR, or changes to the Technical Specification (TS) or its bases. The specific sections of the documents reviewed to answer the above questions should be documented (i.e. FSAR, TS, Design Bases Documents as applicable). Negative responses require justification if the logic is not obvious.

- A positive response to any of the above Safety Review questions require a determination and documentation whether the proposed change is an Unreview Safety Question (USQ). Guidance is given for answering each of the seven 50.59 questions. Written justification is required for each answer. Any positive response to the seven questions represents an unreviewed safety question (USQ) and NRC approval is required prior to implementation.

- An item is reported in accordance with plant procedures as part of an FSAR update when the item involves any of the following:

  - Changes to the facility, organization, procedures as described in text, drawings, tables, or figures in the current revision of the updated FSAR.

  - Safety Evaluations which justify alternative means of satisfying Licensing Bases when those means conflict with an existing Technical Specification Basis or FSAR description.

  - Analysis of a new safety issue performed at NRC request if the issue can be construed as a new Licensing Basis.

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- The Preparer completes the Safety Evaluation documents and initiates a review from either a certified Safety/Design Reviewer or the Plant Review Committee (PRC).

- The review and signature by the Safety/Design Reviewer(or alternate PRC) signifies that the safety evaluation is technically adequate and prepared in accordance with this procedure.

- Safety/Design Reviewers refer safety evaluations to PRC for review if:

  - An USQ may exist.

  - A change to Technical Specification bases is proposed.

  - Safety/Design Reviewer determines PRC attention is warranted.

- Safety/Design Reviewer's approval satisfies the Technical Specification requirement for PRC approval except as limited above.

A significant strength of the Palisades configuration management program is that 10 CFR 50.59 reviews (reference AP 3.07) are processed through a dedicated and qualified Safety/Design Reviewer in the Design Engineering Department (or alternately by a full PRC quorum). This group also reviews safety evaluations including those that do not require an unreviewed safety question evaluation. This program has been in place since 1989. This same group is also responsible for incorporating FSAR changes (reference AP 3.12) resulting from these 50.59 evaluations into the FSAR revisions. This gives this group of specialists a "design bases maintenance" focus. An NRC audit of the 50.59 process (Inspection Report IR-92003) notes this as a strength. Nuclear Performance Assessment Department (NPAD) audits of the 50.59 process have observed that safety evaluations reviewed provide clear discussions, including supporting documentation when applicable. In addition to audits, the internal Independent Safety Review Group (ISRG) (part of NPAD) reviews 50.59 safety evaluations. This review has not identified any unreviewed safety questions missed by the 50.59 process. The ISRG also reviews a sample of 50.59 screening reviews to assure screening properly identifies cases requiring a 50.59 safety evaluation. A few cases where a required safety evaluation was not completed have been identified; but, when completed, the evaluation did not identify any unreviewed safety questions.

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10 CFR 50.71(e) Processes:

The FSAR update process is procedurally controlled by AP 3.12, "FSAR and VSC Licensing Basis Book Control and Maintenance." The purpose of this procedure is to define responsibilities for FSAR content, establish a control program for preparation, review and approval of FSAR changes, and provide for distribution of the FSAR.

Changes to the updated FSAR are controlled as follows:

- Responsibility for overall accuracy and completeness of the FSAR is assigned to the Safety and Design Review Section (S/DR).
- Frequency of FSAR updates is specified consistent with 10 CFR 50.71 requirements.
- All FSAR changes have an associated safety evaluation in accordance with, plant procedure (see AP 3.07) or an NRC SER in the case of NRC issued documents.
- Individuals responsible for proposing FSAR changes are responsible for reviewing DBDs and identifying any changes required in the DBD.
- FSAR changes, as a minimum, receive two (2) reviews (originator's supervisor and S/DR).
- A list and description of outstanding (pending) FSAR changes are periodically transmitted to controlled copy holders.

Appendix B to 10 CFR Part 50:

The details of the CPCo QA program are described in Topical Report CPC-2A. For its QA Program, Palisades is committed to ANSI N18.7-1976, except as noted in NRC approved exceptions included in CPC-2A.

The implementing configuration control procedures listed in Table A implement and are subject to the requirements of 10 CFR 50, Appendix B. The requirements of the Quality Assurance Program and the various ANSI standards to which it commits are incorporated into the plant's implementing procedures. As noted above, the design and configuration control processes are described in these documents, including the organization, responsibilities, and quality

requirements applicable to each process.

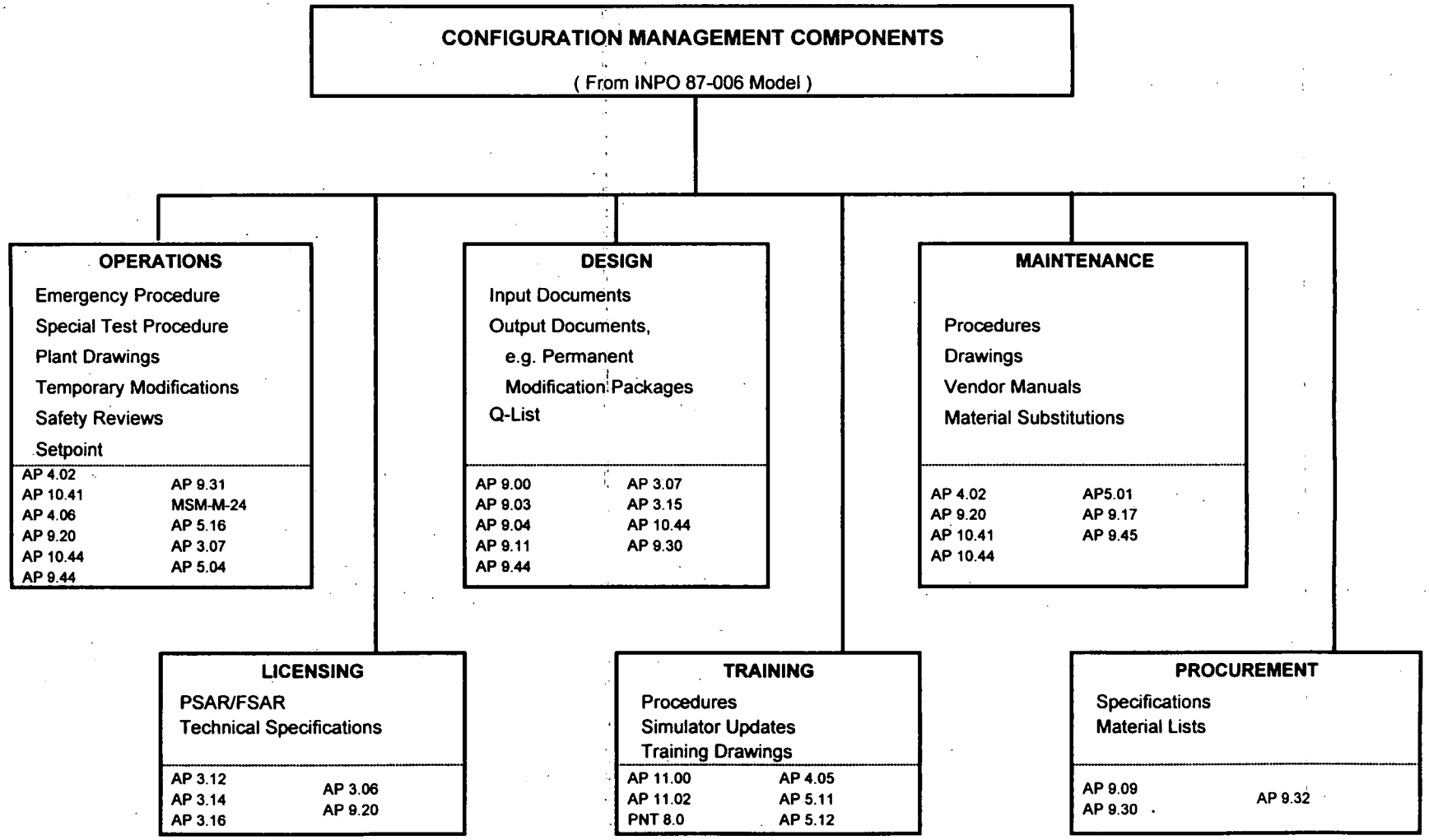
Periodic audits of design and configuration control processes are conducted by the Nuclear Performance Assessment Department (NPAD) to assess compliance to the quality assurance program and to determine program effectiveness. Where practical, these audits utilize performance based techniques, such as observation of field activities, verification of as-built conditions against the design bases, and review of the technical adequacy of documents and procedures. For example, in 1993 NPAD performed "vertical slice" audits for the Service Water System and Station Blackout Rule; in 1994 NPAD used NRC Inspection Procedure 938071 in an audit of establishment and control of setpoints for four safety functions; in 1995 NPAD used vertical slice techniques in a surveillance of compliance to NRC GL 89-10 for three motor operated valves; and in 1996 NPAD's audit of engineering support examined an ongoing modification to the Auxiliary Feedwater System and related Design Bases Documents.

In addition to regular audits and assessments, Palisades, in the mid 1980s, completed a comprehensive review of QA requirements and a verification that procedure(s) implemented each requirement. The results of this review were captured in a database, the Quality Assurance Requirements Matrix (QARM) and necessary procedure changes were made to correct any weaknesses. Between 1990 and 1993, the procedures for design control and modifications underwent revisions, with primary focus on simplifying processes while meeting QA CPC-2A requirements. This effort gave additional assurance that applicable programmatic controls were properly implemented, but the QARM was not maintained. During 1997 and 1998, Palisades plans an assessment of the quality requirements to the procedures. As part of this assessment we plan to update the QARM data base, and thereafter, maintain the data base as a reference tool for personnel making procedure revisions.

Palisades' engineering design and configuration control processes are believed to be comprehensive. The extensive re-engineering of the process has incorporated many improvements in configuration control methodology. Procedures that implement 10 CFR 50.59, 10 CFR 50.71(e), and Appendix B to 10 CFR Part 50 are included in the process. Assessments of the process under Appendix B that are discussed in the following sections look for any weaknesses in interactions of the various procedural components and activities which may be mis-applying the process.

Table A
Palisades Procedures for Configuration Management

Procedure No.	Title
AP 3.03	Corrective Action Process
AP 3.06	Operating License & Tech Spec Changes
AP 3.07	Safety Evaluations
AP 3.12	FSAR & Ventilated Storage Cask Licensing Basis Book
AP 3.14	Commitment Management System
AP 3.15	Design Bases Document Maintenance
AP 3.16	Industry Experience Review Program
AP 4.02	Control of Equipment
AP 4.05	Operator Training
AP 4.06	Emergency Operating Procedure Development/Implementation
AP 5.01	Process Work Request/Work Orders
AP 5.04	Control of Installed Plant Instrumentation
AP 5.11	Instrument and Control Technician Training and Qualification
AP 5.12	Electrical and Mechanical Training and Qualification
AP 5.16	Control of Jumpers/Leads/Links
AP 9.00	Design Engineering & Configuration Management
AP 9.03	Facility Changes
AP 9.04	Specification Changes
AP 9.09	Specification Control
AP 9.11	Engineering Analyses
AP 9.17	Functional Equivalent Substitution
AP 9.20	Technical Specification Surveillances and Special Tests
AP 9.30	Q-List
AP 9.31	Temporary Modification Control
AP 9.32	Equipment Data Base
AP 9.44	Design Document Control
AP 9.45	Vendor Manual Control
AP 10.41	Procedure Initiation/Revision
AP 10.44	Engineering Records Center Dist/Control of Design Documents
AP 13.01	Identification and Tracking of CCP Discrepancies
MSM-M-24	Temp Repair Liquid/Gas Leaks
	Core Operating Limits Report
	Offsite Dose Calc Standard
FPIP-1	Fire Protection Plan
	Standing Orders 54 & 62
AP 11.0	Plant Training Organization and Responsibilities
AP 11.02	Training and Qualification Program for Technical Managers/Supervisors and Engineering Support Personnel
PNT 8.0	Simulator Configuration Control


CONFIGURATION MANAGEMENT COMPONENTS
(From INPO 87-006 Model)
OPERATIONS
Emergency Procedure
Special Test Procedure
Plant Drawings
Temporary Modifications
Safety Reviews
Setpoint
AP 4.02
AP 10.41
AP 4.06
AP 9.20
AP 10.44
AP 9.44
AP 9.31
MSM-M-24
AP 5.16
AP 3.07
AP 5.04
DESIGN
Input Documents
Output Documents,
e.g. Permanent
Modification Packages
Q-List
AP 9.00
AP 9.03
AP 9.04
AP 9.11
AP 9.44
AP 3.07
AP 3.15
AP 10.44
AP 9.30
MAINTENANCE
Procedures
Drawings
Vendor Manuals
Material Substitutions
AP 4.02
AP 9.20
AP 10.41
AP 10.44
AP5.01
AP 9.17
AP 9.45
LICENSING
PSAR/FSAR
Technical Specifications
AP 3.12
AP 3.14
AP 3.16
AP 3.06
AP 9.20
TRAINING
Procedures
Simulator Updates
Training Drawings
AP 11.00
AP 11.02
PNT 8.0
AP 4.05
AP 5.11
AP 5.12
PROCUREMENT
Specifications
Material Lists
AP 9.09
AP 9.30
AP 9.32

ATTACHMENT 1

NRC Request (b)

NRC Request:

(b) Rationale for concluding that design bases requirements are translated into operating, maintenance, and testing procedures;

CPCo Response:

Palisades management has concluded that there is reasonable assurance that design bases requirements are translated into operating, maintenance, and testing procedures. The rationale for this conclusion is based primarily on the following:

- System Functional Evaluation (SFE) identified functional requirements for systems with design bases specified in the FSAR and verified that plant procedures validated the requirements,
- Safety System Design Confirmation (SSDC) project that verified design bases requirements were reflected in procedures,
- Program improvements resulting from corrective actions from internal and external oversight.

This conclusion is supported by the programs described below that show the Palisades Design Bases are defined, controlled, and understood.

Conceptually, a clear understanding of the plant Design Bases is required before they can be translated into operating, maintenance and testing procedures. In the late 1970s and early 1980s, the NRC Systematic Evaluation Program reviewed selected Palisades Design Bases to reconfirm and document their adequacy. Documentation of Design Bases was further enhanced by the FSAR update program culminating with the submittal of the updated FSAR in 1984. Since that time the FSAR has been maintained in accordance with 10 CFR 50.71(e).

Confidence that plant procedures are consistent with Design Bases information has been provided by two significant programs, the System Functional Evaluation and the Safety System Design Confirmation Program performed in conjunction with development of Design Basis Documents.
The control processes for procedure and facility changes and the 10 CFR 50.59 reviews have since kept the procedures aligned with the plant Design Bases. Also, the ownership by procedure sponsors and maintenance of "System

Notebooks" by the system engineers help preserve and enhance procedures. Each element supporting this conclusion is discussed in detail below.

Palisades began operation prior to publication of the Standard Review Plan (SRP) and 10 CFR 50, Appendix B. Extensive efforts over the years have been devoted to understanding and documenting the plant Design Bases. As design bases requirements were documented by the programs discussed below, existing Palisades procedures were reviewed to determine if the requirements were adequately addressed. If a requirement was not adequately addressed, procedure changes were initiated or new procedures were generated.

The first significant effort to update the documented Design Bases was the NRC's Systematic Evaluation Program (SEP) between 1977 and 1982. This program was designed to provide a framework for reviewing the designs of older operating nuclear power plants to reconfirm and document the safety of these facilities. The review provided:

- An assessment of the significance of differences between then current NRC technical positions on safety issues and those that existed when the particular plant was licensed,
- A basis for making decisions on how these differences should be resolved in an integrated plant review, and
- A documented evaluation of plant safety.

The SEP benchmarked the plant Design Bases to the review criteria of the late 1970s. The SEP reviewed 90 of 137 topic areas considered directly applicable to Palisades. The review criteria were based on licensing criteria such as regulations, Regulatory Guides, Branch Technical Positions, and SRP review criteria, or the equivalent of such criteria. Plant changes, technical specification changes, and refined engineering analyses were required to resolve SEP issues. The Palisades SEP review culminated in a report, NUREG-0820, the "Integrated Plant Safety Assessment Report," dated October 1982. The issues identified by the SEP had been resolved or were being addressed through normal licensing actions, as documented in the Safety Evaluation Report for the Full Term Operating License, issued in November, 1990.

As the SEP Program was concluding, the requirement to maintain an Updated Final Safety Analysis Report (UFSAR) became effective. A review of the docketed correspondence was performed to identify design bases and licensing

bases information to be incorporated into the UFSAR. Information from selected Safety Evaluation Reports (SERs) and from the SEP (NUREG-0820) were also incorporated into the UFSAR.

The prior programs helped to establish the plant Design Bases. A program to align docketed design information to actual plant operation followed a May 1986 plant trip which resulted in operator challenges due to multiple equipment failures. This event prompted a Confirmatory Action Letter with many corrective actions. One of the significant actions involving configuration control was the commitment to perform a System Functional Evaluation (SFE). This program enhanced both the understanding of the plant Design Bases and the translation of design bases into testing and operating procedures. The SFE started with the list of safety functions used to develop the Emergency Operating Procedures (EOP). The EOP diagrams (resource trees) for these functions were used to identify the systems required for safe shutdown. Also included were the systems that directly supported the operability of the safe shutdown systems. Upon completion of this initial SFE effort, the program was expanded to include systems which had design bases statements in the FSAR and were required to support normal and transient operation. The functional and operating requirements imposed on these systems were obtained by reviewing the FSAR design bases, plant Technical Specifications, System Operating Procedures, and Safety and Accident Analyses. Operating and test procedures were then located or developed and performed to verify that each functional requirement had been demonstrated. The primary output of the SFE was verification that systems operated per the design bases functional requirements and the development of additional testing of items identified in the FSAR which were not previously included in established testing programs. Technical Specification surveillance tests, or other existing tests, were revised to include 83 additional testing items. Ninety-five new tests were implemented and administratively controlled through AP 5.14, the "Periodic and Predetermined Activity Control" Procedure. The SFE examined approximately 1400 system requirements and resulted in 276 actions.

The most significant effort to assemble the plant Design Bases was the Configuration Control Program (CCP), a nine year effort that started in 1986 and resulted in the development of 31 Design Bases Documents (DBD) and four Topical Reports. Consumer's Power Co. management played a leading role in the development of the NUMARC 90-12 guidelines which were used in the development of the DBDs. Follow-on DBD development continues with ten (10) additional DBDs scheduled for 1997 and 1998. A description of the past and future programs are provided in Attachment 2. Reasonable assurance that the plant operating, maintenance, and testing procedures conform to the plant

ATTACHMENT 1

NRC Request (b)

Design Bases has been provided by the Safety System Design Confirmations (SSDC) conducted as part of the CCP. These confirmations were the equivalent of SSFIs except each started with the recently completed DBD rather than the original research to identify design bases. The DBDs performed the latter. There were 11 SSDCs performed covering approximately 70% of the Maintenance Rule safety significant systems. Primary elements of these inspections were system walkdowns and assessment of the integration of functional design bases information into the operation, testing and maintenance of the plant and into plant operator training programs. A more detailed description of this program is provided in Attachment 2.

Five major NRC Team Inspections with a design bases focus have provided additional assurance that the plant Design Bases were being translated into procedures; Safety System Functional Inspection in 1986, Electrical Distribution System Functional Inspection in 1991, Modified Operational Safety Team Inspection in 1992, Diagnostic Evaluation Team in 1994 and Service Water System Operational Performance Inspection in 1994. In addition, a number of assessments have identified procedure and program weaknesses including some relating to implementation of design bases. The responses to issues evolving from these external inspections (approximately 300 commitments made) and internal assessments have resulted in improvements to testing, operating and maintenance procedures as well as processes and equipment.

The efforts described above were directed toward establishing procedures which accurately reflect the plant Design Bases. The controls which assure that procedures continue to conform with design bases are primarily contained in the procedural change process and the 10 CFR 50.59 review process described in response to NRC Request (a). These processes require the DBDs and the FSAR to be checked when changes are made to the facility or procedures. A dedicated and formally qualified group of experienced engineers is responsible for reviewing safety evaluations for changes to procedures and plant modifications. These same individuals are responsible for maintaining the FSAR. This focus of the group on the 10 CFR 50.59 process and the preservation of the FSAR enhances the quality of the FSAR. In addition to the 10 CFR 50.59 process, the maintenance of the "System Notebooks" by system engineers through walkdowns and observations of tests keep the procedures updated and aligned with the plant Design Bases. Each procedure has a "sponsor" which gives ownership and accountability for the procedure accuracy. New design requirements/deficiencies (such as those identified by industry feedback) are discussed in response to NRC request (a). The effectiveness of the industry feedback program is assessed by internal audits. Required audits and special

assessments have identified design bases/procedure deficiencies in the past and give assurance that the above processes are working or corrected to keep the procedures in conformance with the plant Design Bases.

Based on the prior discussion, Palisades has:

- Performed programs to document its Design Bases,
- Performed an SFE and SSDCs to ensure procedures reflect the Design Bases, and
- Developed processes and an established organizational structure to control changes to procedures, DBDs and the FSAR.

For these reasons, we have reasonable assurance that design bases requirements have been translated into operating, maintenance, and testing procedures.

ATTACHMENT 1

NRC Request (c)

NRC Request:

(c) *Rationale for concluding that system, structure, and component configuration and performance are consistent with the design bases;*

CPCo Response:

Palisades' management has concluded that there is reasonable assurance that system, structure, and component configuration and performance are consistent with the plant Design Bases. The rationale for this conclusion is based primarily on the following:

- Performance of the Configuration Control Program described in the response to NRC Request (b) and in Attachment 2,
- Completion of System Functional Evaluation that resulted in FSAR corrections, drawing updates and plant improvements,
- Implementation of the Maintenance Rule through "System Notebooks" and "System Health Reports," and
- Enhancements resulting from corrective actions from internal and external oversight.

The configuration control processes described in the response to NRC request (a) maintain the consistency between the physical plant and the Design Bases. The programs and inspections discussed below support the above conclusion. The extensive design bases confirmation efforts (SSDCs) provide assurance that the physical plant reflects the plant Design Bases and the completeness of this information (see Attachment 2 for additional DBDs to be generated). Also, discussed below are some design bases deficiencies discovered during NRC inspections and internal assessments. These deficiencies have been corrected and enhance the design bases documentation.

As discussed in the Response to NRC Request (b), extensive efforts have been conducted since plant startup to confirm that the plant's physical configuration matches the design bases documentation. The most significant confirmation occurred during the performance of the Configuration Control Project (CCP) described in Attachment 2. The CCP had four major elements: development of the system DBDs, performance of SSDCs, verification of selected documentation, and equipment modifications to make the plant consistent with

design bases. The purpose of the SSDC was to verify that the selected system was capable of performing the safety and normal functions required by its design bases and to validate that performance met design requirements. Electrical, mechanical, and instrumentation reviews were conducted to establish operational parameters over the full range of operating modes. The required operational and design values were compared to performance data to ensure sufficient margins existed. The SSDC included historical reviews of LERs, Condition Reports, and NPRDS for high failure rates and long term inoperabilities. Also, plant modifications were reviewed to assure plant design documentation was accurate. In addition plant walkdowns were performed to verify that the physical plant matched design documents. Interfaces between the selected system and other supporting systems were also reviewed.

As discussed in Attachment 2, in more detail, the third element of the CCP involved the verification and correction of selected design documentation. Over 3500 discrepancies were identified and closed in the performance of this element of the CCP.

Another program discussed in NRC Request (b) that also assured the physical plant matched the Design Bases was the System Functional Evaluation (SFE). The SFE included systems required to support safe shutdown plus systems which had design bases statements in the FSAR and were required to support normal and transient operation. The functional and operating requirements imposed on these systems were obtained by reviewing the FSAR design bases, plant Technical Specifications, System Operating Procedures, and Safety and Accident Analyses. The primary output of the SFE was the verification by existing or new tests that the components or systems were performing within their design bases. As a result of the SFE program the following improvements were made:

- Seventy-one FSAR corrections or clarifications,
- Drawings were revised to reflect "as-built" conditions,
- Power Operated Relief Valve (PORV) modifications were identified and implemented, and
- Service water and component cooling water modifications were implemented to monitor flow performance.

ATTACHMENT 1

NRC Request (c)

While extensive efforts have been made to understand and document the plant Design Bases, implementation problems and incomplete corrective actions have occurred. From 1994 - 1996, four Level III violations were identified because of weaknesses in the modification, design control, corrective action, or testing programs. These violations were:

- Four out of five adverse conditions identified by the SWSOPI had been previously identified by SSDCs and not corrected.

- Operation with degraded Emergency Diesel Generators because of inadequate post maintenance testing, not performing vendor recommended maintenance, and failure to perform safety evaluations for load profile changes due to a weak administrative procedure (self-identified during plant maintenance testing).

- A vendor supplied modification installed RPS circuit boards that disabled the containment high pressure trip (self-identified during design change testing).

- Failure to take prompt and effective corrective action for deficiencies in 10 CFR 50 Appendix R compliance.

Corrective actions included enhancements to the modification and analysis processes. Enhancements included performing additional technical and multi-disciplinary reviews, requiring more stringent standards for technical reviews of engineering design work, preparing quality verification plans for modifications, and using a core group for multi-disciplinary technical reviews. The vendor manual control process was improved. The surveillance testing process was also improved such that the system engineer was made the testing authority and procedures were upgraded to provide additional guidance on complete functional testing and overlap testing.

Because of weak performance by operations and engineering during the 1993 refueling outage, the NRC conducted a DET inspection. Enhancements to the plant Design Bases as a result of corrective actions from DET findings included:

- Plant communications and training on the nuclear safety philosophy. This included training of engineering personnel on configuration management which stressed the importance of maintaining the Design Bases.

- The assignment of a specific DBD sponsorship to an experienced design

engineer and technical experts to support portions of the DBD.

- Enhancements were incorporated in design related procedures which strengthen the tie to plant Design Bases and the design bases documentation.

- Safety related systems were evaluated and confirmed to have sufficient design margins to perform their safety function. (A program is planned to enhance design margin documentation in the applicable DBDs.)

Assessments since 1994 by the Nuclear Performance Assessment Department have also identified strengths and weaknesses associated with design bases documentation and maintenance. Some of the weaknesses noted are:

- Service Water System design bases contained some inaccuracies/ inconsistencies, and design bases and margins were not adequately defined.

- EDSFI followup showed evidence of potential violations of general design criteria and a lack of clear design criteria for engineering parameters such as cable resistance and breaker impedance.

- Vendor manual control program judged as ineffective.

- Potential condition (AOV failure to close) outside main steam line break analysis.

- Post modification testing deficiencies for RPS trip connector block pins.

- Inadequate closure of corrective actions for fuse/breaker coordination and 1E/non-1E separation.

- 25% of "as-found" breaker test results did not meet criteria for full coordination.

These weaknesses have been addressed through the Corrective Action Process and most have been resolved. Those items that remain open are documented in the Corrective Action Process and will be tracked through completion.

Some typical strengths denoted by assessments were:

- Personnel performing safety evaluation reviews have a high level of technical expertise and knowledge.
- MOV program (GL 89-10) well implemented.
- Training was conducted and surveillance of work orders performed to ensure proper facility change process applied.

The latest program to assure design bases information reflects "as-built" systems resulted from implementation of the Maintenance Rule. The procedure for implementation of the Maintenance Rule requires the system engineer as part of the "System Notebook" to assimilate design bases information and to perform weekly system and structures walkdowns. Quarterly "System Health Reports" per plant procedure (EM-20) report the system's performance against predetermined performance criteria, and summarizes reliability/availability data, maintenance work, temporary modifications, operator work-arounds, and improvement plans. These reports are sent to a coordinator who reviews them for consistency, and meetings are held with plant management and other system engineers to detect adverse trends and to assess overall system performance.

In July of 1996 the Plant General Manager had the System Engineers, as part of their oral presentations of "System Health Reports" for the second quarter of 1996, address pending FSAR changes to assess that the operation and design as described in the FSAR complies with the "as-built" and as operated system in the plant. No significant deficiencies have been reported to date during their quarterly reports.

Based on the prior discussion, Palisades has:

- Performed programs to document its Design Bases,
- Performed an SFE and SSDCs to verify systems or components perform within their design bases,
- Implemented the modification process described in response to NRC request (a) that ensures plant changes are documented and consistent with the design bases,
- Implemented the Maintenance Rule through "System Notebooks" and "System Health Reports" that check system performance and accuracy of design information, and

- Enhanced processes and corrected deficiencies as the result of corrective actions from internal and external oversight.

For these reasons we have reasonable assurance that system, structure, and component configuration and performance are consistent with the Design Bases.

ATTACHMENT 1

NRC Request (d)

NRC Request:

(d) Processes for identification of problems and implementation of corrective actions, including actions to determine the extent of problems, actions to prevent recurrence, and reporting to NRC;

CPCo Response:

Palisades processes for identification, evaluation, reporting, correcting and preventing recurrence of problems have been structured and implemented to meet regulatory requirements as committed to in our Quality Program Description for Operational Nuclear Power Plants, CPC-2A. Plant procedures require that potentially adverse conditions be documented and evaluated in the Corrective Action Process, and site staff, depending on their roles, receive general or specific training in its provisions.

Many activities and processes provide opportunity for identification of problems, deviations, deficiencies and conditions potentially adverse to quality or safety, that may impact plant operation or design. A partial list includes:

- Identification of issues through ongoing maintenance, operations, testing, work/modification planning, and management observations,
- Identification of issues through periodic self-assessments,
- Identification through specific reviews included in process controls for activities such as procedure and drawing changes, preparation of engineering for modifications (design reviews), changing the Technical Specifications and FSAR, changing Design Bases Documents, and performing engineering evaluations,
- Identification through routine equipment/system performance monitoring and preparation of quarterly System Health Reports (detailed reviews of system performance) for both safety and non-safety related systems,
- Identification through the Industry Experience Review Program which screens and evaluates industry identified problems applicable to the plant,
- Identification through periodic common cause trend analysis of conditions reported in the corrective action process,

- Identification through the internal audit program, implemented in accordance with 10 CFR 50, Appendix B,

- Identification through reviews by the Independent Safety Review Group, performed as required by the Quality Program description, CPC-2A,

- Identification through audits, inspections and evaluations by external agencies,

- Identification through occurrence of unexpected events. Routine equipment problems are typically resolved through the maintenance work request/work order process. This process addresses equipment operability and immediate actions for equipment control, in addition to documenting the work done.

Regardless of the method of identification, the Corrective Action procedure provides for documenting adverse conditions at a low threshold (about 1800 Condition Reports per year). When a condition adverse to safety or quality is identified, the Corrective Action Process requires plant personnel to place the plant in a safe status and initiate a Condition Report. For conditions affecting installed equipment, the Condition Report is immediately taken to the operating Shift Supervisor to determine operability and immediate reportability to NRC according to Technical Specifications, 10 CFR 50.72 and 50.73, 10 CFR 21, 10 CFR 72 and 10 CFR 73. If necessary, the Shift Supervisor declares the equipment inoperable and takes actions required by plant Technical Specifications, including verbal reporting to NRC when necessary. Plant Licensing reviews each condition report to assure the correct reportability decision was made, and follows up with any required written reports, including Licensee Event Reports (LER). In addition to reporting required by Technical Specifications and related requirements, there is almost daily contact with NRC Resident Inspectors, as well as frequent contact with the NRC-NRR Project Manager for Palisades. Resident Inspectors attend many plant status and management meetings, and are informed of significant plant conditions or events at the same time as plant management and NRC Region III. Examples of conservative reporting include:

- August 17, 1995: (Informational) LER 95-011 submitted to report discovery of shorted up-down control rod drive motor switches in one drive. The condition resulted in the motor driving arbitrarily in either direction depending on which directional control circuit was energized first. The condition was not reportable under 10 CFR 50.73, but was reported

because of its potential to result in an inadvertent reactivity insertion and as a general interest to the industry.

- May 13, 1996: The plant made a telephone report of a condition outside the plant design basis when Fire Door 81A was discovered in the closed position, instead of the open position as stated in the applicable Design Bases Document. Further analysis and testing determined the door could be in either the open or closed position without affecting design basis compliance and the DBD statement was corrected. After retracting the telephone report, the plant continued the reporting process and submitted Informational LER 96-008 on June 12, 1996.

The Corrective Action Process continues with an evaluation to determine the scope, extent, generic implications and cause(s) for the condition, and determination of the appropriate remedial and preventive corrective actions:

- Condition Reports (CRs) are screened every working day by the Condition Review Group (CRG) which is comprised of representatives from System Engineering, Operations Support and the Nuclear Performance Assessment Department. The CRG reviews the CRs to assure that operability, reportability and maintenance rule applicability determinations are documented and that the CR is assigned an appropriate significance level. CRs which do not represent a significant condition adverse to quality are assigned for evaluation of apparent cause, correction and/or trending. Evaluations are performed or reviewed by persons specifically trained in root cause analysis techniques and formally qualified for this function. In 1996, the plant completed 1000 apparent cause evaluations. An additional 700 non-significant conditions were trended.

- For significant conditions adverse to quality, the evaluation includes a determination of root cause(s) through various investigative and analytical techniques, identification of implications generic to equipment, systems or processes, and determination of actions necessary to restore the condition to acceptable status and prevent its recurrence. During the evaluation process consideration is again given to operability and reportability determinations based on the results of the evaluation. If, during the evaluation, it is determined that a condition outside the design bases exists, consideration is given to the need to perform a safety evaluation. Evaluations of significant conditions are performed or reviewed by dedicated persons specifically trained in root cause analysis techniques and formally qualified for this function. In 1996, the plant completed nearly

90 evaluations of this type.

Plant senior management is involved in and monitors the corrective action process, providing direction and resources for thorough evaluations. Direct involvement includes the Corrective Action Review Board (CARB), which reviews significant conditions adverse to quality. CARB reviews decisions on significance, operability, reportability and immediate actions. It also makes departmental assignments for evaluations and determines future involvement by the Plant Review Committee (PRC) and Plant Managers. A recent NRC inspection (96012) stated "the CARB appeared to be a valuable tool to ensure prompt and thorough management review of significant conditions." Additional involvement is provided by the Management Review Board, which reviews each evaluation and recommended corrective actions to assure they address the causes and actions to prevent recurrence, assigns responsibility, and determines due dates for significant conditions adverse to quality.

The Corrective Action Process provides computerized tracking of each identified condition from initiation through evaluation to completion of corrective actions. Coming due and overdue report listings are periodically distributed to Plant Management for followup. Management reviews action completion prior to document closure to assure the correction(s) has been made. Performance indicators for the Corrective Action Process (including number and age of backlog) are published monthly and discussed at periodic management review meetings.

The corrective action procedure requires that process data be used to perform periodic common cause trend analyses to detect and correct organizational, programmatic and human performance issues. Results of common cause analyses are reviewed by senior plant management and additional investigative and corrective actions are taken as warranted. Reports from the corrective action system, as well as other internal and external performance data, are also used by the Nuclear Performance Assessment Department (NPAD) (the internal, independent oversight organization) to provide semi-annual reports of the overall performance of the plant to the Management and Safety Review Committee (MSRC) which is comprised of internal managers and experienced industry consultants. The MSRC critically examines the plant's performance and advises senior corporate management on performance issues.

In July 1996, Palisades self-identified an adverse trend regarding the implementation effectiveness of the corrective action process. The adverse trend included cases where previous Condition Reports had been closed prior to

corrective actions being completed, evaluations had been incomplete or actions inadequate to resolve the deficiency. While most of the examples did not relate directly to design bases issues, plant management determined the corrective action process could be further improved. Several actions were taken, or are ongoing, including:

- Improving guidance for CRG and CARB assignment of CR significance levels to reduce evaluation of non-consequential conditions while allowing more resources for investigation of significant issues.

- Re-establishing plant management expectations for evaluator level of effort, manager involvement, issue ownership, participant alignment, due date management, and adequacy of issue closure.

- Reviewing the current backlog of open Condition Reports for consolidation or reduction of non-essential work (to free resources to better address significant issues).

- Scheduling a re-assessment of the corrective action process for mid-1997 to confirm changes made have had the desired effect.

The Palisades corrective action process has been generally successful at identifying and correcting weaknesses. Plant management implemented a new lower threshold corrective action process in May 1994. Prior to May 1994, about 300 "Deviation" Reports were initiated each year for all types of deficiencies. Since then about 1800 "Condition" Reports have been initiated each year. The lower threshold system coupled with heightened management sensitivity and questioning attitudes continue to result in the identification of issues related to design bases clarity and compliance. An independent assessment (JUMA) of the corrective action process in September, 1996 identified strengths in the consistent management and staff understanding of expectations for the process, in the initiation and threshold for writing Condition Reports, in the conduct of CRG meetings and the level of experience of the participants. In addition, a recent NRC inspection (96012) concluded "the corrective system was functioning well," "the threshold for writing CRs was appropriately low," and "problems were being identified and corrective actions for those problems were being specified." Examples where the new system has been properly used to identify and correct design bases issues include:

- In July 1994, an evaluation of a Condition Report related to marginal emergency diesel generator performance test led to the discovery that the

generator load profile was not enveloped by the then current technical specification surveillance test, and that equipment performance had declined. Both diesel generators have since been completely overhauled and restored to satisfactory performance, and the test procedures have been revised to provide adequate testing.

- In August 1995, during testing for a terminal block replacement in the RPS, evaluation of a Condition Report concluded the containment high pressure protective trip of the reactor had been inoperable for two cycles after installation in 1992. A thorough evaluation identified several contributing causes, with appropriate corrective actions, including establishing a dedicated testing authority to enhance testing controls. Additionally, subsequent actions based partially on this event led to an organizational change which established a dedicated technical review group to enhance design controls.

- In December of 1996 the corrective action process was used to effectively resolve a configuration control issue regarding the incorrect application of EEQ splices for some plant wiring. An in-depth evaluation of this issue resulted in identifying over 300 splices for evaluation and inspection. Over 240 splices were reworked to ensure conformance to design requirements.

We believe Palisades' corrective action process properly addresses; identification of adverse conditions, determination of equipment operability, reporting to regulatory agencies, determination of cause(s) and extent of problems, and implementing actions to prevent recurrence. We monitor process effectiveness through periodic management reviews, regular analyses for common causes, and internal and independent assessments, and have, and will continue to make process adjustments to improve our ability to prevent recurrence of significant adverse conditions. The corrective action process has been effectively applied to enhance the configuration control process.

ATTACHMENT 1

NRC Request (e)

NRC Request:

(e) The overall effectiveness of your current processes and programs in concluding that the configuration of your plant(s) is consistent with the design bases.

CPCo Response:

Palisades' belief that current processes and programs at Palisades are effective in maintaining consistency between the plant configuration and the design bases is based on the following:

- Cumulative efforts to date in documenting the Palisades Design Basis requirements,
- Confidence provided by the past significant efforts in assuring consistency between the plant and the Design Bases,
- Configuration management process for maintaining design bases,
- Low threshold for problem identification and active management involvement in the corrective action process,
- Internal assessments by NPAD and senior management oversight,
- External assessments by NRC and INPO leading to improved processes.

Design Bases Documentation Efforts:

The significant programs that document the plant Design Bases and confirm that requirements are reflected in procedures and plant configuration are described in response to NRC requests (b) and (c). Table B of Attachment 2 lists plant systems, prioritized in accordance with the Maintenance Rule, for which DBDs have been completed and systems for which DBDs will be completed with a schedule for completion. Currently, DBDs for approximately 80% of the Maintenance Rule systems have been completed and open items are scheduled for resolution. DBDs for the balance of the Maintenance Rule systems are scheduled for completion by the end of 1998.

ATTACHMENT 1

NRC Request (e)

Comparison of Plant Configuration and Operations to Design Bases:

An FSAR verification effort was performed in early 1987. This examination, entitled System Functional Evaluation (SFE), examined plant safety and operational requirements from a functional perspective. The SFE started with a list of safety functions used to develop the Emergency Operating Procedures (EOPs). The EOP diagrams (resource trees) for these functions were used to identify the systems required to provide safe shutdown. Also included were the systems that directly supported operability of the safe shutdown systems. Upon completion of this initial SFE effort, the SFE was expanded to include systems which had design basis information in the FSAR and were required to support normal or transient operation. The SFE determined that plant systems met design intent through formalized testing or plant operation. Approximately 1400 system functional requirements were validated. This effort was a milestone in benchmarking conformance to FSAR requirements.

Additionally, Safety System Design Confirmations (SSFI type inspections) were performed for 23 of the Maintenance Rule safety significant systems to compare the plant configuration to the design requirements. This effort has provided confidence in the consistency between the plant configuration and the design bases requirements.

Processes for Configuration Management:

In response to NRC Request (a), we describe our configuration control processes for maintaining the plant design bases and licensing bases. The comprehensiveness of the Palisades configuration control process is illustrated in Figure A of Response (a) by a comparison of plant procedures to the components of the INPO model for configuration control. Palisades believes that its processes include the necessary attributes to provide assurance that consistency is maintained between the plant configuration and the Design Bases. The procedure summaries in Attachment 3 highlight these attributes.

Two additional attributes to an effective configuration control program are: 1) training of individuals who make changes to the facility, procedures, and design basis information, and 2) providing efficient retrievability of design basis information. This training highlights the importance of maintaining the Design Bases and where the Design Bases are located. Attachment 3 contains descriptions of Palisades training programs for significant elements of the configuration control program. Computerized retrievability has enhanced the accessability of licensing and design basis information. The FSAR, Technical

ATTACHMENT 1

NRC Request (e)

Specifications, SERs, docketed correspondence, and DBDs reside on the plant Local Area Network (LAN) with the capability for search and retrieval.

The Palisades processes for configuration management were re-engineered in 1993. As such, much of the discussion below regarding effectiveness and assessments of the configuration control processes (current processes) focus on the period from 1992 through 1996.

Corrective Action Process and Management Involvement:

A key feature that enhances effectiveness of Palisades' corrective action process is plant senior management involvement. During the early stages of significant deficiency reporting, the Corrective Action Review Board reviews decisions on significance, operability, reportability, and immediate actions. This board also makes departmental assignments for evaluations and determines future involvement by PRC and Plant Managers. At the completion of the discrepancy evaluation, senior management is again involved in reviewing the more significant issues through the Management Review Board. This Board reviews evaluation results and recommends corrective actions, assigns responsibility, and determines due dates. NRC Inspection Report IR-96012 states the corrective action system was found to be functioning well.

Internal and External Assessments:

In preparing this response, Palisades completed a review of Nuclear Performance Assessment Department (NPAD) audits, surveillances and activity monitoring for 1994 through 1996. The review showed that NPAD has been active in examination of both engineering processes and products. This included more than 25 documented assessments of, or covering aspects related to, engineering and design basis compliance. NPAD has reviewed other areas of configuration control, such as procedural compliance with design basis, 50.59 evaluations, simulator fidelity, availability of correct design basis information to plant personnel, and the importance and location of design basis information. These reviews have confirmed that personnel both inside and outside of engineering are cognizant of the importance of maintaining consistency between the plant and its design basis. A recent external review (JUMA) determined the audit program meets Quality Program Description requirements for frequency, subjects and scope of coverage. NRC Inspection Report IR 96012 stated the audit program provided adequate coverage of plant activities, audits were adequately performed, and the audit program covered the required areas and was identifying problems and concerns. Audit and assessment results have

generally confirmed adequacy of plant design control processes and products.

Assessment or oversight of Palisades activities from a senior management perspective is also provided. In early 1994, CPCo formed a Management and Safety Review Committee (MSRC) to review performance at both its nuclear plants, and to meet periodically to advise Senior Corporate Management. The Committee consists of both internal managers and external, highly experienced industry leaders, currently including a retired nuclear utility vice president and a retired NRC region administrator. The Committee critically examines Palisades' responses to performance and industry issues, and provides a check on management's prioritization and approach. This critical feedback promotes appropriately conservative and questioning resolution of important performance and safety issues.

Monitoring of configuration control also occurs by the system engineers in performance of system monitoring as required by plant procedures described in Response (c). System walkdowns are performed and the system notebook maintained by the system engineer relies upon the FSAR and DBDs. Quarterly System Health Assessments include overall system rating, and temporary modifications and other operator work-arounds. When a condition is identified which indicates that a system, component, or structure is or will be operating outside the established performance criteria, the system engineer initiates a Condition Report as required by the Corrective Action Process.

Several planned actions related to assessment activities are listed below.

1. Revise the current limited scope FSAR Validation project to a more comprehensive FSAR Verification project.

2. Conduct at least one (1) Safety System Functional Inspection (SSFI) per fuel cycle.

3. Perform an assessment of the configuration management process.

Effectiveness Summary:

Several large projects were conducted to validate and maintain consistency among plant configuration, plant procedures, and the design bases. The configuration control processes were re-engineered to take advantage of latest methodology and to strengthen Palisades' processes. Internal and external assessments have been effective in identifying potential weaknesses and the

resulting corrective actions have been or are being implemented. A low threshold corrective action process with management involvement was recently introduced. Significant efforts have been expended to make design requirements accessible and retrievable. Employees are trained on the proper use of the plant processes. The amassing of these attributes provides reasonable assurance that processes are effective and the plant is consistent with the design bases. In order to continue to enhance this assurance, further strengthening of plant processes and design basis documentation will result from commitments listed in the cover letter and the plans described throughout this response.

ATTACHMENT 2

CONSUMERS POWER COMPANY
PALISADES PLANT
DOCKET 50-255

Palisades Plant
Configuration Control Program Description

ATTACHMENT 2

Configuration Control Program Description

In the 10 CFR 50.54(f) letter, licensees were requested to indicate whether they have undertaken any design review or reconstitution programs and, if not, to provide a rationale for not implementing such a program. In either case, certain additional information was requested. Following are descriptions of: 1) the completed efforts for design bases review and documentation, 2) SSFI type confirmations of procedures and plant hardware, 3) Utilization of the reassembled design bases information during plant or procedure changes, and 4) the plans for additional design bases documentation and confirmation.

Historical Design Bases Reconstitution:

The Configuration Control Program (CCP) for Palisades was a nine year program initiated in May, 1986. A preliminary project purpose, scope, and schedule was described in correspondence to the NRC dated December 1, 1986 and January 28, 1987. Revisions to scope and schedule were routinely communicated in an annual status letter, through routine presentations to NRC Region III Staff, and/or during routine inspections. Although the CCP was initiated prior to the development of NUMARC 90-12, "Design Basis Program Guidelines", the program was adjusted as the new guidance was developed. The Vice President of Nuclear Operations chaired the NUMARC Design Basis Issues Working Group that developed the guidelines, and the assigned CCP manager was instrumental in preparing and reviewing NUMARC 90-12. The Palisades CCP was designed to adhere to the guidelines.

The CCP consisted of four elements:

1. Collation of the design bases for plant systems considered at the time to be most important to plant safety;

2. Confirmation that each system, as designed, satisfied the design bases functional requirements for that system;

3. Verification, correction, and development of selected plant design documentation; and

4. Modifications of equipment to be consistent with the design bases.

The first element of the design bases collation process was to review historical design and licensing information to recover the design basis for the current system configuration. A total of 31 Design Bases Documents (DBD) and four Topical Reports were created from this information over a nine year period. Each DBD consisted of a controlled document containing current configuration design bases information for a

specific system, portion of a system or a plant topical subject. Design bases information included system functional and regulatory requirements, original design codes and standards of record. The DBDs were designed to assist the user in making changes to the design, maintenance or operation of the system in conformance with its design bases.

The second element of the CCP involved confirming the system design bases. The Safety System Design Confirmation (SSDC) review was the method for verifing design bases compliance. The SSDC reviews were performed in accordance with Plant Administrative Procedure AP 13.03, "Safety System Design Confirmation," which used NRC Inspection Manual Procedure 93801 as a guide. The SSDC provided an independent evaluation of the design commitments, operating procedures, maintenance practices and surveillance testing of the selected DBDs. Additionally, physical and functional interfaces between the selected and other supporting systems were reviewed as well as selected plant practices which may affect system design.

SSDC activities included a design and facility change documentation review, system walkdowns, procedure verifications, and interviews with plant and engineering personnel. The SSDC's emphasis was directed to the integration of functional design bases information into the plant's operation and test procedures. Maintenance procedures were sampled to validate integration of functional design bases information. Each SSDC consisted of a four week review conducted over a five week period. Eleven SSDCs were completed addressing 26 of the 31 DBDs. The SSDC reviews provide reasonable assurance that plant operational, maintenance, and testing activities are in alignment with documented design information.

Discrepancies were identified as a result of performing CCP elements one and two. Resolution of these descrepancies required decisions on the need to restore critical design bases information or design documentation revision for DBD information alignment. Discrepancy identification and tracking during DBD development and SSDC reviews were controlled by a CCP procedure AP 13.01, "Identification and Tracking of CCP Discrepancies."

The third element of the CCP involved the verification and correction of selected design documentation including electrical wiring diagrams, mechanical/civil design drawings for major plant systems and structures, and selected engineering data fields in the plant equipment data base which included the Q- classification of previously unclassified components. Over 3500 discrepancies were identified and closed in the performance of this element of the CCP. Also included was the development of an enhanced circuit and raceway schedule.

ATTACHMENT 2

Configuration Control Program Description

The fourth element, Modifications, was implemented when plant equipment was found to be outside the design bases and more than a documentation change was necessary. All Modifications were implemented via the normal plant change processes. Examples of plant modifications directly associated with performance of the CCP include rerouting of electrical cable to satisfy cable separation criteria, placing the diesel generator fuel oil tank in a tornado proof vault, and providing the diesel generator fuel oil transfer pumps with seiche protection.

Current Design Bases Maintenance Activities:

The plant systems for which DBDs were prepared and SSDC's performed are presented in Table B. Safety significance of the system was the criteria used to select systems for the CCP. As Probabilistic Risk Assessment (PRA) information became available additional systems and Topical Reports were recommended and approved by management for inclusion. In recent years the implementation of the Maintenance Rule has used similar techniques to identify safety significant systems. The systems listed on the first page of Table B are those identified during the Maintenance Rule safety significance determination process, which incorporated PRA information and the experiences of the Maintenance Rule Expert Panel. This table illustrates that the majority of the safety significant systems have DBDs prepared and SSDC's performed, as well as having special NRC inspections conducted. The second page lists Topical Reports and additional system DBDs.

The CCP was terminated March 30, 1995. Responsibility for DBD maintenance was distributed among design engineers. Each design engineer was trained on his/her assigned system(s). The 168 open deficiencies were transferred into the Palisades corrective action process. The resolution of these deficiencies and updating of the DBDs was not rigorously pursued, however, and was the subject of a May 1996 NRC violation. This violation identified a continuing pattern of failing to resolve CCP identified deficiencies in a timely manner and a lack of management attention to DBD updating. The response to this violation included a commitment (IR 96003 NOV response dated July 3, 1996) to review and revise all DBDs. This committed action is intended to be preceded by closure of all open CCP identified deficiencies.

The DBDs are used and controlled similar to the FSAR. There are nine controlled hard copy files strategically located around the plant, and a full text searchable electronic copy located on the Local Area Network. Whenever a plant modification or procedure change is being performed, the 50.59 Safety Evaluation procedure requires the initiator to consult the DBDs. The quality of the 50.59 Safety Evaluation process is enhanced by having a dedicated group of Safety/Design reviewers who review the safety evaluations for hardware or procedural changes proposed at the plant. This group of experienced

individuals is expert in using data base search capabilities to assess impact on the design basis. These tools and the reviewers expertise result in high quality reviews, providing thorough and comprehensive safety evaluations as well as maintenance of the design basis documents.

Planned Activities:

During an Engineering Programs Status Meeting in Region III on July 29, 1996, Plant Management described its plans to prepare additional DBDs on fire protection, instrument air, containment air coolers, and High Energy Line Break by December, 1997. During recent reviews on the degree of DBD and SSDC coverage, it was determined that approximately 80% of the systems ranked with high safety significance using the Maintenance Rule have associated DBDs and/or SSDCs. As a result of this review, the decision was made to prepare DBDs for the remaining high safety significance systems. With consideration of industry experience, management also decided the Spent Fuel Pool Cooling System be included. This will require preparation of six additional DBDs beyond those already planned. The six additional DBDs are Containment Building, Main Steam, Pressurizer Pressure Control, Reactor Vessel, Ultimate Heat Sink, and Spent Fuel Pool Cooling.

The need to monitor effectiveness of configuration control processes was recognized and it was determined the performance of one SSFI type inspection each fuel cycle to be an effective monitoring tool. The decision will be made in the future on the format of the SSFI type inspection. The current options are to participate in Owners Group Task to share resources and perform an SSFI per the NRC Inspection Manual, or to perform a SSDC per our internal Administrative Procedures.

These activities are considered to be enhancements to the Palisades configuration control and are included as commitments in the "Summary of Commitments" section of the cover letter.

ATTACHMENT 2 **TABLE B**

MAINTENANCE RULE HIGH SAFETY SIGNIFICANT SYSTEMS					
SYSTEM	DESIGN BASIS DOCUMENT	SAFETY SYSTEM DESIGN CONFIRMATION	SPECIAL NRC INSPECTIONS		INTERNAL ASSESSMENTS
		DATE	DATE	INSP TYPE	
AC Pwr, 2400 V	3.04	6/27/91 3/18/91	1/31/92	EDSFI	4/13/94 Effectiveness of fulfilling EDSFI commitments
AC Pwr, 480 V	3.05	6/27/91	1/31/92	EDSFI	4/13/94 Effectiveness of fulfilling EDSFI commitments
AC Pwr, Pref 120 V	4.03, 4.04	6/27/91	1/31/92	EDSFI	4/13/94 Effectiveness of fulfilling EDSFI commitments
Air, Inst & Hi Press	NOTE 1				
Aux Feedwater	1.03	11/19/92	6/15/94	DET	4/16/94 Control of SSDC observations
Boric Acid, Conc	1.04	11/20/92			11/17/94 Compliance to TS associated with PCS
Charging	1.04	11/20/92			11/17/94 Compliance to TS associated with PCS
Component Clg Water	1.01	6/28/89	3/4/92	SWSOPI	1/12/94 Effectiveness of Eng Controls on SW
Cont Air Clrs	NOTE 1				
Cont Isol & Penetrations	**	**			10/23/92 Effectiveness of adhering to Tech Spec requirements for containment systems
Cont Spray	2.03				
Cont. Bldg	NOTE 2				
Control Rod Drive	2.06, 3.06	10/30/92			
Control Room HVAC	1.06				
Critical Service Water	1.02	6/22/90	3/4/92	SWSOPI	1/12/94 Effectiveness of Eng Controls on SW 3/31/95 Closeout of SW insp/audit items
DC Pwr, 125 V	4.01, 4.02	3/26/90 6/27/91	1/31/92	EDSFI	4/13/94 Effectiveness of fulfilling EDSFI commitments
Emg D/G Room HVAC	1.07				
Emg Diesel Gen	5.01, 5.02, 5.03	6/27/91 4/15/92	1/31/92 6/15/94	EDSFI DET	4/13/94 Effectiveness in fulfilling EDSFI commitments 4/16/94 Control of SSDC observations
ESF Actuation	2.05	10/30/92			
Fire Protection Inc/ Aux Hot SD Panel	NOTE 1 ***	***	9/78 thru 8/92	8 SER's issued	12/14/94 Effectiveness of Fire Protection Program 12/20/95 Effectiveness of Appendix R Program 4 Contracted self-assessments 6/94 to 6/96
Safety Inj Tanks	2.01	2/13/91			
Safety Inj, Low Press	2.01	2/13/91			
Safety Inj, High Press	2.02	2/13/91	12/22/86	SSFI	
Main Steam	NOTE 2 ++	++			
Neutron Monitoring	****	****			
NSD & DBA Sequencer	5.04, 5.05	6/27/91			
Primary Coolant	2.04	10/30/92			12/19/94 Tech Spec associated with PCS
Pzr Press & Level Cntrl	NOTE 2 +++	11/20/92			
Reactor Protection	2.05	10/30/92			
Reactor Vessel	NOTE 2				
Shutdown Clg	++++	++++			
SIRW & Cont. Sump	2.02	2/13/91	12/22/86	SSFI	
Switchyard	3.01, 6.02	6/27/91	1/31/92	EDSFI	4/13/94 Effectiveness of fulfilling EDSFI commitments
Ultimate Heat Sink	NOTE 2		3/4/92	SWSOPI	
NOTE 1: DBD scheduled for completion by end of 1997 (previous commitment)					
NOTE 2: DBD scheduled for completion by end of 1998					
** Containment Isolation is included as a system design requirement for each system					
*** Fire Protection is a Design Requirement Source Document for each system					
**** Neutron Monitoring outputs to RPS are covered in RPS 2.05					
++ Majority of active components covered in PCS 2.04					
+++ Pressurizer level included in CVCS 1.04, Pzr Press partially covered in PCS 2.04					
++++ Majority of system covered in LPSI 2.01					

ATTACHMENT 2 **TABLE B**

ADDITIONAL SAFETY SYSTEM DBD's AND TOPICALS					
SYSTEM	DESIGN BASIS DOCUMENT	SAFETY SYSTEM DESIGN CONFIRMATION	SPECIAL NRC INSPECTIONS		INTERNAL ASSESSMENTS
		DATE	DATE	INSP TYPE	
Aux Bldg HVAC	1.07				
ATWS	2.05	10/30/92			
Ext Pwr Transformers	3.01	6/27/91	1/31/92	EDSFI	
AC Pwr, Instrument	3.02	6/27/91	1/31/92	EDSFI	
AC Pwr, 4160V	3.03	10/17/89, 2/27/91	1/31/92	EDSFI	
Pzr Htr Emg Pwr	3.07	3/18/91			
Emg Lighting	3.08				
Spent Fuel Pool Clg	NOTE 2				
I&C for DG and Auxil	5.06	4/14/92	1/31/92 6/15/94	EDSFI DET	4/13/94 Effectiveness in fulfilling EDSFI commitments 4/16/94 Control of SSDC observations
TOPICALS					
Elec Grid Interface	6.01				
EEQ Qual Program	7.01				
EEQ Equip List	7.02				
Flooding	7.08				
HELB	NOTE 1				
NOTE 1: DBD scheduled for completion by end of 1997 (previous commitment)					
NOTE 2: DBD scheduled for completion by end of 1998					

ATTACHMENT 3

CONSUMERS POWER COMPANY
PALISADES PLANT
DOCKET 50-255

Palisades Nuclear Plant
Descriptions of Processes Affecting Design Basis

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
CORRECTIVE ACTION PROCESS - AP 3.03 (Rev 15)

II. **Purpose:**
This procedure provides for the identification, documentation reporting, evaluation, correction and trending of conditions that may be adverse to quality or safety. It includes provisions for determining and documenting the operability of installed plant equipment (whether safety-related or not), for determining condition reportability to NRC and other agencies, for evaluating the extent and causes of significant conditions adverse to quality or safety, and for determining and implementing remedial and preventive corrective actions.

III. **Summary of Procedure:**
The corrective action process starts when any plant employee discovers or recognizes a condition that may be adverse to quality or safety. The employee documents the condition on a Condition Report for supervisory review. The supervisor assures any immediate actions needed to make the situation safe are taken, and, for conditions affecting installed plant equipment, carries the Condition Report to the Operations Shift Supervisor for determination of equipment operability and immediate reportability according to Technical Specifications, 10 CFR 50.72 and 73, 10 CFR 21, 10 CFR 72 and 10 CFR 73. If necessary, the Shift Supervisor declares the equipment inoperable and takes actions required by Technical Specifications, and/or makes necessary verbal reports to NRC. Plant Licensing follows up with any required written reports.

Each Condition Report is then reviewed by a committee, (i.e., Condition Review Group) including expertise in Operations, System Engineering and corrective action, to determine its "significance level," which is related to the actual or potential consequences represented by the condition. In addition, all equipment related Condition Reports are evaluated for Maintenance Rule applicability, and all Condition Reports are reviewed by the Licensing Department for concurrence with initial reportability determination. Conditions determined to be reportable under plant Technical Specifications or other NRC requirements are reported according to these rules (eg, LERs).

Conditions determined to be significant are reviewed by plant management (i.e., Corrective Action Review Board) to review the operability and initial reportability determinations, establish an evaluator and due date, and determine if Plant Review Committee review is required (per Technical Specifications). The assigned evaluator determines the scope and extent of the condition, its effects on plant safety (if any), the root causes, and the actions needed both to correct (remedial) and prevent recurrence (preventive) of the condition. The evaluation and proposed corrective actions are reviewed by plant management (i.e., Management Review Board) to assure adequacy and resource availability, and to assign actions and due dates. The condition is subsequently trended, including affected organizations, programs, activity and cause(s).

For less significant conditions, the Condition Report is assigned for determination and implementation of remedial corrective actions, and trending. If during this process it becomes apparent the condition is one with more significant consequences or implications than originally thought, the Condition Report is brought before plant management for consideration of a higher significance level and completion of more in-depth evaluation.

On completion of corrective actions (remedial or preventive), a Department Manager reviews the actions for completion as intended, and a person designated and trained in cause analysis techniques provides close-out review to assure all committed actions have been completed with the intended effect.

IV. Specific Contribution to Maintaining Design Basis:

The Corrective Action Process contributes to maintaining the Design Basis by providing a plant-wide, low-threshold system for documenting any identified problem or condition. This includes discrepancies between installed equipment configuration and design, operating, and testing documents (drawings, manuals, procedures, FSAR, Technical Specifications), as well as equipment failures, anomalous or unexpected equipment operation, operation, testing or maintenance outside the approved procedures, and recognition of adverse trends. Once identified, the Corrective Action Process assures significant conditions are evaluated for effect on design bases, appropriate corrective actions are selected and implemented, and necessary reports to regulatory agencies are made. Management involvement in the evaluation and correction of significant deficiencies is provided through reviews at various stages, including initiation, evaluation and determination of corrective actions, and closeout. Management awareness of the progress of corrective actions is maintained through computerized tracking and regular status reports.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
OPERATING LICENSE AND TECHNICAL SPECIFICATIONS CHANGES - AP 3.06 (Rev 9)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To establish guidance for initiation, preparation, review, approval, and submittal of proposed operating Licensing Technical Specifications, and Technical Specifications Bases changes. Also, provides {1.1} guidance for implementation of operating License and Technical Specifications Amendments. {1.2}

III. **Summary of Procedure:**
This procedure applies to changes to the Operating License, Technical Specifications, and Technical Specifications Bases. {2.0}

IV. **Specific Contribution to Maintaining Design Basis:**

- Specifies when a License or Technical Specification change should be initiated. For example, "when the plant design basis is changed, either placing reliance on a piece of equipment or on an analytical assumption which is not addressed in existing Technical Specifications. {5.1.1.b}
- Provides design basis related "Criterion" to be used in evaluating need for a License, Technical Specification or Technical Specification Bases change. {5.1.2}
- Specifies which regulations are pertinent to requesting an Operating License or Technical Specification change. {6.0}
- The Initiator completes the "No Significant Hazard" analysis in accordance with 10 CFR 50.92(c). {5.3.3.c}
- Provides criterion for determining when a Technical Specification Bases change must be submitted for prior NRC review. {5.4} Requires that Technical Specification Bases changes not requiring prior NRC review, use the guidance of 10 CFR 50.59. {5.4}
- FSAR change requests associated with Technical Specification Change Requests are forwarded to the section responsible for FSAR changes in accordance with procedures. {7.1.f}
- Originator (Licensing Department) is responsible for ensuring that affected departments implement the required surveillance requirements, procedure revisions, training, and other changes prior to implementation date. Reviewing department notifies the Manager, Licensing when all procedure changes and surveillance changes have been completed. {7.3}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
SAFETY EVALUATIONS - AP 3.07 (Rev 8)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
This procedure provides the guidance to determine the need for and to properly complete a Safety Evaluation. The Safety Evaluation process ensures compliance with 10 CFR 50.59, "Changes, Tests, and Experiments." This procedure also provides guidance to ensure 10 CFR 72.48 requirements are met when changes are processed involving the Ventilated Cask Storage System.

The qualification requirements and the responsibilities of personnel who prepare or review documents supporting the Safety Evaluation process are also provided in the procedure.

III. Summary of Procedure:
Defines a safety evaluation process to document whether a proposed activity requires a 10 CFR 50.59/72.48 evaluation, and if required whether the activity is consistent with the current plant licensing or ventilated storage cask bases and therefore can be implemented without prior NRC approval.

IV. Specific Contribution to Maintaining Design Basis:

- The Safety Review (screen for 10 CFR 50.59/72.48 applicability) determines and documents if a proposed activity is a change to procedures as described in the FSAR (stated or implied), change to the facility as described in the FSAR, test or experiments not described in the FSAR, or changes to the Technical Specification (TS) or it bases. (i.e. FSAR, TS, Design Bases Documents as applicable). Negative responses require justification if the logic is not obvious. {5.2}
- A positive response to any of the above Safety Review questions requires a determination and documentation whether the proposed change is within the licensing bases of the plant. Guidance is given for answering each of the seven 50.59 questions. Written justification is required for each answer. Any positive response to the seven questions represents an unreviewed safety question (USQ) and NRC approval is required prior to implementation. {5.3}
- The item shall be reported in accordance with plant procedures as part of a FSAR update when the item involves any of the following:
  - Changes to the facility, organization, procedures as described in text, drawings, tables, or figures in the current revision of the updated FSAR.
  - Safety Evaluations which justify alternative means of satisfying Licensing Bases when those means conflict with an existing Technical Specification Basis or FSAR description.

  - Analysis of a new safety issue performed at NRC request if the issue can be construed as a new Licensing Basis. {5.4.2}
- Technical Specification or bases changes are processed in accordance with plant procedure. {5.4.3; 5.4.4}
- While awaiting NRC approval of a Technical Specification or license change, advance approval of an activity for construction, testing, etc. may be granted by Safety/Design Reviewers or Plant Review Committee (PRC) as long as any affected structures, systems or components are allowed by TS to be inoperable during the proposed activity, and as long as some other method outside the Safety Evaluation/PRC Review processes will prevent reliance on the affected equipment until after NRC approval. {5.4.5}
- The Preparer completes the Safety Evaluation and documents and initiates a review from either a certified Safety/Design Reviewer or an alternate PRC Review. {5.5.1}
- The review and signature by the Safety/Design Reviewer(or alternate PRC) signifies that the safety evaluation is technically adequate and prepared in accordance with this procedure. {5.5.4}
- Safety/Design Reviewer shall refer safety evaluations to PRC for review if:
  - An USQ may exist.
  - A change to Technical Specification bases is proposed.
  - Safety/Design Reviewer determines PRC attention is warranted. {5.5.5; 5.5.6}
- Safety/Design Reviewer's approval satisfies the Technical Specification requirement for PRC approval except as limited above. {5.7}
- Special review requirements and documents (10 CFR 72.48) for the Ventilated Storage Cask System are discussed. {5.6}
- Safety/Design Reviewer training and experience qualifications are documented. {Attachment 6}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
FSAR AND VSC LICENSING BASIS BOOK CONTROL AND MAINTENANCE - AP 3.12 (Rev 5)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To define responsibilities for FSAR content and establish a control program for preparation, review and approval of FSAR changes, and distribution of the FSAR.

III. **Summary of Procedure:**
This procedure applies to all changes to all sections of the updated FSAR.

IV. **Specific Contribution to Maintaining Design Basis:**
Changes to the updated FSAR are controlled.

- Responsibility for overall and completeness of the FSAR is assigned to the Safety and Design Reviewer (S/DR). {4.1}
- Frequency of FSAR updates (consistent with 10CFR50.71) is specified. {5.1.4}
- All FSAR changes have an associated safety evaluation in accordance with, plant procedure (see AP 3.07) or an NRC SER in the case of NRC issued documents. {5.1.5}
- Individuals responsible for proposing FSAR changes are responsible for reviewing DBDs and identifying any changes required in the DBD. {4.4}
- FSAR changes, as a minimum, receive two (2) reviews (originator's supervisor and S/DR).
- A list and description of outstanding (pending) FSAR changes are periodically transmitted to controlled copy holders. {4.4}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
COMMITMENT MANAGEMENT SYSTEM - AP 3.14 (Rev 3)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
Describe the Commitment Management System (CMS) at Palisades used to control, document, evaluate, track and maintain commitments made to regulatory bodies.

Describe expectations associated with the revision and elimination of commitments which are no longer effective, provide little or no safety benefit for the cost or are addressed through normal programs or processes currently in place.

Establish basic expectations in the processing and review of licensing correspondence.

III. Summary of Procedure:
This procedure describes management expectations for processing regulatory commitments, processing of incoming and outgoing NRC correspondence, administration of the CMS (commitment database), and analyses and approvals necessary for changing or elimination of established commitments.

IV. Specific Contribution to Maintaining Design Basis:

- CMS is used to help ensure that commitments are not missed or voided in the day-to-day operation, support, and design of the plant and consist of three interactive functions. {5.2}
  - Licensing correspondence tracking.
  - Commitment tracking.
  - Corrective Actions.
- Responsibilities for managing commitments is clearly defined. {4.03}
- All correspondence to the regulatory bodies is reviewed to capture commitments for tracking by the CMS. {4.3.c; 7.1}
- Management expectation is that verbal commitments will be documented and communicated to the NRC in writing. {4.8; 5.1.1; 6.1}
- Commitment change process is proceduralized. {10.3.3}
- Palisades follows "NEI Guidelines for Managing NRC Commitments," dated 12/20/95 as endorsed by NRC SECY letter 95-300, when revising commitments. {10.2}
- Codified commitments embodied in the FSAR requires a 10 CFR 50.59 evaluation to revise. {5.1.3}

- The change process identifies revised commitments requiring NRC notification annually or along with FSAR updates as required by 10 CFR 50.71(e). {10.4; 10.5}
- Changed commitments not requiring reporting to the NRC are retained for the life of the facility. {10.5}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
DESIGN BASIS DOCUMENT MAINTENANCE - AP 3.15 (Rev 5)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To define responsibilities for Design Basis Document (DBD) maintenance and establish a control program for preparation, review, and approval of DBD Revisions and immediate changes.

III. **Summary of Procedure:**
Provides a structured methodology for identifying and processing changes to the Palisades DBDs to ensure that they reflect the plant configuration and design.

IV. **Specific Contribution to Maintaining Design Basis:**

- The DBD Sponsor is specifically assigned the responsibilities for DBD maintenance and for processing revisions and immediate changes. {4.1; 4.2}
- Plant staff members and nonplant support staff and contractors are assigned responsibility for initiating DBD change requests as required by other plant procedures. {4.3}
- DBD change requests considered significant by the DBD Sponsor have an expedited process. {5.2; 6.0; Att 6}
- The DBD Sponsor is required to perform a Biennial Review of the DBD to verify the contents accurately describe the Plant Design, including a screening of the Safety Evaluation Log for DBD identified updates. {5.3}
- A Safety Evaluation is required for routine revisions {5.6} and for immediate changes. {6.6}
- Specific guidance on DBD content is provided in Attachment 3 of this procedure.
- The DBD Revision Quality Checklist provides detailed guidance for ensuring consistency and thoroughness in processing DBD revisions. {Att 4}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
INDUSTRY EXPERIENCE REVIEW PROGRAM - AP 3.16 (Rev 4)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To define responsibilities and provide instructions for processing the flow of industry operating experience documents and also provide definition and scope for the vendor interface program for the Palisades Plant Industry Experience Review Program.

III. **Summary of Procedure:**

- To ensure lessons learned from industry operating experience are translated into appropriate actions to improve plant safety, reliability, and availability. {6.1.1}
- Industry Experience and Assessment personnel:
  - screen incoming reports for applicability to plant {6.1.2}
  - select evaluator and coordinate a review/evaluation effort and assess adequacy of reviews/actions {6.1.2}
  - screen vendor documents and determine if manual revision required {6.4.1.e}
  - screens for applicability for Maintenance Preventable Functional Failure {6.4.1.g}
  - tracks status, distributes, and maintains database {6.4.2}
- Management Review Board shall approve the evaluation and recommended actions for all INPO SOERs. {5.7}
- System Engineering performs the final review. {6.1.2}
- NRC generic letters and bulletins are processed by the Licensing Department. {6.1.2}
- The evaluator should consider the following for corrective actions: {6.6}
  - changes to plant procedures
  - changes to plant equipment design
  - changes to training programs
  - changes to maintenance activities including surveillance tests.
- The performance of corrective actions is via AP 3.02, "Action Item Record" or AP 3.03, "Corrective Action Process". {6.8}

IV. Specific Contribution to Maintaining Design Basis:

- Changes to plant procedures, training, equipment design, or maintenance activities controlled via plant processes {6.8}

- Program corrects design bases problems, operation outside design bases, equipment deficiencies, etc. identified from Industry Experience before they occur at Palisades.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
CONTROL OF EQUIPMENT - AP 4.02 (Rev. 13)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
This procedure defines general administrative requirements and operator responsibilities for proper equipment control.

III. **Summary of Procedure:**
This procedure applies to the control of equipment status during all modes of plant operation. It defines approvals, reviews, communications, checklists, key controls, tagging, logging, who performs equipment manipulations, valve and breaker controls, special parameter controls, and adverse condition reporting.

IV. **Specific Contribution to Maintaining Design Basis:**
Operations maintains a list of "Operator Work Arounds." {5.1.5}

- Defined as any equipment deficiency that could affect plant operations or cause operators to take compensatory actions beyond the intended design.
- Items of safety/risk significance as defined by Operations management and not on LCO lists.

Instrument setpoints changes shall be performed only in accordance with plant procedure for specification changes. {5.4}

The following controls are established to ensure conformance to plant design intent/operability requirements.

- Any alterations shall be controlled by approved procedure process.
- Temporary Modification process used for any alteration with exception defined by this procedure. {5.10}

If the required valve position (per checklist) disagrees with the P&IDs, then a document change request should be initiated per plant procedures for design control. {7.3}

New (or changes) to checklists require review (review should consider design basis and FSAR) and approval of two plant review committee members (one must have an SRO). {7.6.4}

Operations checklist shall be reviewed on a two year cycle. {7.7.2}

Special valve lineup sheet - an abnormal lineup not covered by existing procedures will be processed by Temporary Change generation. {8.0}

Operability testing shall be performed on safety-related equipment and should be performed on nonsafety-related equipment following maintenance that has the potential to affect operability. {9.3.b}

A safety assessment shall be performed by the PRA Section for maintenance or test activities which have an effect on the operability of Maintenance Rule required systems, structures, or components. {9.5.b.2}

Controls for blocking open flood doors, fire barriers, and security barriers are defined. {11.0}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
Operator Training - AP 4.05 (Rev. 12)
I&C Technician Training and Qualification - AP 5.11 (Rev. 6)
Electrical and Mechanical Training and Qualification - AP 5.12 (Rev. 7)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
These procedures provide specific guidance to plant departments concerning initial qualification and the maintenance of qualification of plant workers in various work disciplines.

III. **Summary of Procedure:**
These procedures provide specific program content and progress definition to each affected training program area.

Specifically:

AP 4.05 defines the program content and evaluation methodologies, and guidance on performance evaluations and proficiency certifications.

AP 5.11 provides specific program content for entry, support system and advanced system duty areas.

AP 5.12 defines the content of initial and job specific training programs.

Operator Training, I&C Technician Training and Electrical/Mechanical Maintenance Training programs are INPO accredited programs.

IV. **Specific Contribution to Maintaining Design Basis:**

- Training for plant operations personnel provides the knowledge and understanding of the plant design basis such that in conducting plant operations they do not place the plant in a condition outside the design basis of the plant. {AP 4.05 - 5.5; 8.1; 9.0; 10.2}
- Training for plant repair workers contributes to individual awareness of plant design basis and that changes to any component in the plant may result in a change to the design basis of the plant. {AP 5.11 - 6.1; 6.3} {AP 5.12 - 6.1; 6.2}
- Continuing training for plant workers provides a vehicle to make them aware of modifications to the physical plant, and the impact that such a modification may have on their work and their ability to ensure integrity of the design basis. {AP 5.11 - 6.3} {AP 5.12 - 6.2}

- Training is an essential element in providing competent workers who do their jobs correctly the first time and contribute to sustaining the design basis of the plant. {AP 4.05 - 7.0; 8.0; 9.0; 11.0} {AP5.11 - 6.1; 6.3} {AP5.12 - 6.1; 6.2}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
Emergency Operating Procedure Development and Implementation - AP 4.06 (Rev 6)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To describe the general requirements and methods for development, verification validation, and implementation of Palisades Plant Emergency Operating Procedures (EOPs).

III. **Summary of Procedure:**
This procedure applies to any updates or revisions to the Emergency Operating Procedures. In addition to the items in the purpose, the procedure defines responsibilities, controls, reviews, usage, and training.

IV. **Specific Contribution to Maintaining Design Basis:**

- Source documents are listed (FSAR, DBDs, Tech Spec, NRC commitments, "as-built" drawings, etc.). {6.1.2}
- The EOP sponsors shall maintain the EOP Basis Documents which provide justification for each operator action in the EOP. {6.4}
- Basis documents shall receive a technical and a safety review (ensures plant bases and licensing commitments satisfied). The safety review also ensure safety significant deviation from the Combustion Engineering (CE) generic guidelines do not constitute an unreviewed safety question. {6.4.3}
- Basis documents are controlled per plant procedures. {6.4.4}
- Each EOP receives a verification/validation review to ensure the EOPs conform to the assumptions and analysis of the plant safety analysis and plant design basis documents. {6.5.3.c}
- Results of the verification/validation are retained as a permanent record per plant procedures. {6.5.4; 6.6.5.d}
- Changes are reviewed to ensure consistency with the plant specific technical guidelines and this procedure including the verification/validation requirements (for non-editorial changes). Marked copies of basis documents should be included in the change package.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
PROCESSING WORK REQUEST/WORK ORDERS - AP 5.01 (Rev 19)

II. **Purpose:**
This procedure provides controls for requesting, planning and processing Work Requests and Work Orders to accomplish routine and corrective maintenance, and to install approved modifications (using Work Orders).

It also provides for Shift Supervisor authorization to remove equipment from, or return it to service (controls operability for maintenance).

III. **Summary of Procedure:**
Instructs Condition Reports (CR) (AP 3.03) are to be used:

- To document equipment malfunctions, damage or degradation other than anticipated wear (also if new evidence during work provides this information).
- To document potential Functional Failures under the Maintenance Rule for determination if they were maintenance preventable.
- If the cause of equipment condition is determined to be a deficient operating procedure, deviation from the operating procedure, inadequate preventive maintenance, potential design deficiency, or any other unknown situation.

The Shift Supervisor (SS) determines for potentially inoperable equipment:

- Operability.
- Reportability under the Technical Specifications.

During planning and scheduling planners verify:

- Appropriate documentation supporting any design changes have been properly processed and approved.
- The scope of work to be done to assure no unintended design changes are included and request engineering assistance to determine acceptability of items found.

Part of the maintenance activity determines likely cause(s) for the equipment condition and the procedure calls for initiation of a Condition Report if warranted.

Upon completion of the maintenance work, the work package is reviewed to assure no unauthorized design changes or system alterations were made. For Work Orders implementing approved design changes, the work package is reviewed to assure the scope of the intended change was met and no changes were made outside the approved change. If unauthorized design changes or changes outside the scope of an approved change are identified, a Condition Report is written.

IV. Specific Contribution to Maintaining Design Basis:

AP 5.01 contributes to maintaining the plant's design basis, as well as operation in accordance with the design basis, by maintaining the plant's equipment so that its performance is consistent with design. AP 5.01 provides for initial equipment operability and reportability determinations, as well as specific connection to the corrective action process (AP 3.03) for any condition outside the expected and normal. The corrective action process provides additional opportunity for determining equipment operability and condition reportability, as well as evaluation of impact on design basis compliance and plant safety.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
CONTROL OF INSTALLED PLANT INSTRUMENTATION (IPI) - AP 5.04 (Rev 10)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
This procedure establishes the requirements and responsibilities to assure that Installed Plant Instrumentation (IPI) is tested, calibrated, and maintained to specified requirements.

III. **Summary of Procedure:**
This procedure establishes the program and identifies the requirements to assure that IPI (shown in Plant design documents) are tested, calibrated, and maintained to technical requirements and that data provided is valid and sufficiently recorded with nonconformances properly dispositioned.

IV. **Specific Contribution to Maintaining Design Basis:**
- This procedure lists plant design documents which contain technical data used for calibration of IPI. {5.0.3}
- Controls for calibration data are defined. {5.1; 5.3}
- Setpoint changes shall be processed per specification change procedure for design and configuration management. {6.3.6}
- Definition and dispositioning of nonconformances are specified. {8.6; 8.7}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
CONTROL OF JUMPERS, LEADS, AND LINKS DURING MAINTENANCE, MODIFICATIONS, AND TESTING - AP 5.16 (Rev. 3)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
The purpose of this procedure is to provide controls for lifted leads, electrical jumpers, and links during maintenance, modifications, and testing activities.

III. **Summary of Procedure:**
This procedure applies to all plant activities involving lifted leads, jumpers, and links at the Palisades Plant including disabling/enabling of computer contacts. The requirements of the plant Temporary Modification procedure are also applicable.

IV. **Specific Contribution to Maintaining Design Basis:**

- Technical reviewer reviews the lifted leads/link control sheets for proper identification and classification, and resolves any differences. {9.3; 9.4}

- Post maintenance testing shall be performed to provide assurance of proper restoration of leads, links, and jumpers when work is performed on a work order. {10.8}

- Lifting of leads or placing of jumpers on Class 1E terminations requires Double Verification, and restoration of leads or removal of jumpers requires Independent Verification. {6.4}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
DESIGN ENGINEERING & CONFIGURATION MANAGEMENT PROGRAM DESCRIPTION - AP 9.00 (Rev 8)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
To provide a comprehensive description of design engineering and configuration management at the Palisades Nuclear Plant, including appropriate definitions, responsibilities for the Design Authority and identification of required interfaces.

III. Summary of Procedure:
AP 9.00 consists of:

- Configuration Management (CM) policy statement.
- Reference to relevant procedures.
- Comprehensive listing of related terms and definitions.
- Description of organizations and responsibilities, including the design authority and individual & common supervisory responsibilities.
- Discussion of design interfaces within the plant and external.
- An overview of the design engineering and CM processes, including initiation and processing of an Engineering Assistance Request (EAR).
- Explanation of the modification selection process.
- Guidance on the application of design controls for commercial controls.

IV. Specific Contribution to Maintaining Design Basis:

- Establishes CM Policy to ensure consistent application of design basis activities. {2.1}
- Identifies specific responsibilities and interfaces for Engineering and Plant personnel relative to maintaining the design basis. {2.1.c}
- Provides consistent definitions of design basis terms, such as;
  - Engineering Design Bases. {4.12.1}
  - Licensing Design Bases. {4.12.2}
  - Functional Design Basis. {4.12.3}
  - Design Implementation Information. {4.12.4}
  - Design Margins. {4.20}
  - Margins of Safety. {4.39; etc.}
- Lists specific Design Authority responsibilities relative to maintaining the design basis. {5.1.b}
- Establishes a standard approach to identifying and dispositioning design related problems/discrepancies to ensure that design basis considerations are taken into account. {7.0}

- The EAR contains prompts to ensure that the design basis for the system or component is understood and that any functionality changes are evaluated before dispositioning the EAR {7.14}. The RE is also directed to review the DBDs for modifications to determine the affects of the activity. {Attachment 4, 1.41}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
FACILITY CHANGE - AP 9.03 (Rev 15)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
To establish the requirements for the initiation, design development, authorization, installation, testing, and documentation of a Facility Change (FC) to plant systems, components and structures. Facility Changes are the highest level of plant modifications, specifically those that constitute:

- Alterations of the plant design bases
- Change(s) to the Technical Specifications
- Changes that constitute complex engineering and/or installation activities
- Changes that significantly impact other engineering disciplines, systems or equipment designs

III. Summary of Procedure:
The primary tool for the completion of an FC is the Facility Change Master Checklist which serves to identify the necessary steps, documents and signoffs in the proper order to successfully process the modification. The intermediate steps of this process are controlled by a series of forms and checklists. The modification team members responsibilities are identified on the Project Responsibility Matrix; the functional description of the modification is specified on the Functional Description form; Design Requirements on the Design Input Checklist; the design documents that may or will be affected by the modification are identified on the Design Document Checklist; to insure design inputs are translated to design outputs the Design Input/Output reconciliation Form is used; the final design review is directed by the Design Review Checklist; field changes are controlled by the Engineering Design Change process; specific program reviews are performed via specific checklists for fire protection, seismic design, motor & air operated valve design, equipment qualification evaluation, and nonradiological environmental evaluation; technical reviews are performed for 1) detailed design and 50.59 acceptability by Safety/Design, 2) multi-disciplinary design review by engineers from various disciplines, 3) an overview to ensure proper reviews have been performed is conducted by the Design Engineering Supervisor and 4) modification acceptance by operations and engineering supervision to ensure acceptance requirements and testing have been met.

IV. Specific Contribution to Maintaining Design Basis:

- Safety Evaluation is required on FC Master Checklist to be performed during conceptual design. {6.4.9}
- Identification of FSAR, Technical Specifications and DBDs on the Design Input Checklist as design input sources to review for the FC. {6.4.5; Att 4}
- Direct correlation of output reconciliation to the identified Design Input Checklist inputs. {6.5.3}
- FSAR, Technical Specification and DBDs identified on Design Document Checklist for review to ensure appropriate documents are updated as necessary which reflect the FC. {6.4.6; Att 6}
- Identification of operations & maintenance procedures and surveillances affected by the FC. {6.9.3; 6.15.a}
- Design document update requirements. {6.4.6; Att 6}
- Design Review Checklist (DRC) requirements to identify critical design features and how they will be verified. DRC also addresses FSAR review, looks for alignment with Accident Analysis, PRC review and Safety Evaluation validity. {6.6.1.b; Att 7}
- Notice of Modification identifies operations, maintenance and Technical Specification Surveillance procedures affected by the FC. {6.9.3; 6.12.8; Att 10}
- Engineering Design Change process requires assessment of change impact on Safety Evaluation and PRC review if required. {Att 8}
- Pre & post design walkdowns to ensure consistency between documentation and the configuration. {6.4.8; 6.13}
- Operations procedures required to be updated prior to declaration of operability. {6.14.1.c}
- FSAR, Technical Specification and DBD update requirements. {6.5.7; 6.12.e; 6.15.e & f}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
SPECIFICATION CHANGES - AP 9.04 (Rev 12)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To establish the process of performing a Specification Change (SC) (modifications which are functionally equivalent to the original equipment and do not require the level of controls and documentation needed for Facility Changes) and documenting reviews and approvals of SCs to existing equipment, components, systems or structures, including set point changes.

III. **Summary of Procedure:**
Provides controls for changing setpoints to installed equipment, modifications made by equipment vendors, materials substitutions and/or technical or code requirements. SCs are changes needed to support maintenance activities or minor equipment modifications to improve equipment/system reliability or efficiency.

IV. **Specific Contribution to Maintaining Design Basis:**

- Assigns responsibility for Design Engineering Manager to assure proper notification to Configuration Section of any status changes {4.1.d} and support multi-disciplinary design review of safety related SCs with the potential to affect plant operation or reliability. {4.1.e}
- Assigns responsibility for SC initiator to ensure that all appropriate design requirements are identified, satisfied and final "As-Built" conditions match the approved design. {4.4.4}
- Establishes responsibility for the Modification Acceptance Group (MAG) to review the SC to ensure that acceptance requirements have been met, post-mod testing is complete and that all testing discrepancies are appropriately dispositioned. {4.9}
- SC Coversheet requires identification of original requirements. {7.1.1.d; 7.1.2; Att 1, and Att 2}
- SC Checklist, item number 9, Design Document Checklist (DDC) requires identification of design documents which will require revision, such as Administrative, Operations, and Maintenance Procedures, FSAR, DBDs, etc. {7.1.2.i}
- Engineering analysis requirements beyond those imposed by AP 9.11, specifically: describe design basis function of system to which SC is being made and justification that basis will be maintained. {7.1.3.a.2}
- Safety Evaluation required in accordance with AP 3.07. {7.1.14}

- Requirement for technical review by System Operations Support representative to ensure SC will integrate with existing systems and will meet operational requirements. {7.2.1}
- PRC review required in accordance with AP 3.01. {7.2.4}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
SPECIFICATION CONTROL - AP 9.09 (Rev 6)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To establish the methods for preparation, revision, and approval of specifications.

III. **Summary of Procedure:**
Provides a structured format and methodology for generating and maintaining design specifications at the Palisades Plant.

IV. **Specific Contribution to Maintaining Design Basis:**

- Revisions to specifications are required to have specified codes and addenda verified against FSAR requirements. {5.1}
- Development of Plant generated specifications requires the Responsible Engineer to research source materials to determine the requirements that apply. {5.2.1}
- Specifications determined to be Q-Listed require a safety evaluation and PRC review. {5.2.4.b}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
ENGINEERING ANALYSIS - AP 9.11 (Rev 8)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
To establish the responsibilities and administrative controls for the performance of Engineering Analysis (EA) (documented technical determinations, supporting specific requirements involving one or more engineering disciplines and/or plant system design basis or expectations).

III. Summary of Procedure:
Establishes a prescribed methodology for preparing, reviewing, revising and approving Engineering Analysis.

IV. Specific Contribution to Maintaining Design Basis:

- EAs that could affect design bases require safety evaluations and checklists similar to modifications. {5.1; 6.2.1}
- Requires justification for use of alternative analysis inputs when normal inputs (codes, standards, governing principles, Technical Specifications, etc.) not are available. {6.1.4.c}
- Identifies the following required elements of analysis:
  - Consideration of the effects of change to design basis on testing requirements. {6.1.4.g.2.d.4)}
  - Consideration of the effects of system degradation over time on design margins. {6.1.4.g.2.d.5}
- Requires walkdowns if dimensional information is part of input/output. {6.2.4}
- EA Checklist specifically requires addressing FSAR, Technical Specifications, DBDs. {Attachment 4}
- Technical Review Checklist specifically addresses bounding design basis changes in the applicable safety evaluation. {Attachment 5}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
FUNCTIONAL EQUIVALENT SUBSTITUTION (FES) - AP 9.17 (Rev 4)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To provide a uniform, controlled methodology for evaluating, reviewing and documenting equivalent substitutions that do not change the item or component function.

III. **Summary of Procedure:**
Establishes a structured evaluation process for comparing, at the critical design characteristic level, original item design attributes and requirements against those of a proposed alternate or substitute.

IV. **Specific Contribution to Maintaining Design Basis:**

- The FES evaluation process requires identification of critical design characteristics. {5.2.7; Attachment 4}
- An assessment is required to determine if the FES implementation will meet the design requirements as specified in the DBD, FSAR, design specifications, etc. The FES initiator must document the requirements and the rationale for concluding that they are satisfied. {5.2.11}
- For components described in the FSAR, a safety review is required in accordance with AP 3.07. {5.2.14; Attachment 3}
- Changes to DBDs or FSAR required by the FES must be completed per AP 3.15 or AP 3.12, respectively. {5.3.3}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
TECHNICAL SPECIFICATION AND SPECIAL TEST PROGRAM -
AP 9.20 (Rev 11)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To describe the Technical Specification Surveillance and Special Test Program.

III. **Summary of Procedure:**
Applies to development, implementation, and review of Technical Specification Surveillance Procedures. Technical Specification Surveillance Procedure Basis Documents, and Special Test Procedures. This procedure complements the requirements of Palisades Administrative Procedure 10.41, "Procedure Initiation and Revision", by providing additional requirements for content, format, and technical reviews. {2.1}

AP 9.20 consists of:

- References to applicable Palisades procedures. {3.2}
- Organizational responsibilities. {4.0}
- Definitions (such as acceptance criteria, basis document, limiting condition for operation, special test, etc.) {5.0}
- Requirements for development of Technical Specification Surveillance Test Procedures and Special Test Procedures (discuses format, content, margin, etc.). {7.0}
- Description of method of scheduling tests (includes schedule date, late date, etc.). {8.1}
- Implement of test (includes actions to take if test is late or test results are unacceptable). {9.0}

IV. **Specific Contribution to Maintaining Design Basis:**

- Basis document for each Technical Specification Surveillance Test. {7.2}
- "Procedure Sponsor" for each Technical Specification Surveillance Test and Special Test. {6.1.2}
- Computer tracking system data base used to ensure test is performed per schedule requirements of Technical Specifications. {8.1}
- Second level review performed by assigned technical reviewer (typically system engineer) plus management review of test results. {10.4.2; 10.4.3}
- Technical reviewer must concur with operability determination. {10.3; Attachment 5}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
Q-LIST - AP 9.30 (Rev 10)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To establish and maintain the Palisades Plant Q-List for structures, systems, consumables and components.

III. **Summary of Procedure:**
Provides the methodology and guidelines for determining the Q-List classification of Palisades Plant structures, systems, consumables and components.

IV. **Specific Contribution to Maintaining Design Basis:**

- Plant Safety/Design Engineering Review performs technical review of all Q-List interpretations which have changes to the Q-list interpretation fields. {5.5; 8.3, 8.4}
- Q-List interpretation Form requires FSAR & Technical Specification references for each component evaluated. {Attachment 1}
- Performance of Q-List evaluation for component description fields require review of FSAR, DBD, Technical Specifications, and EOPs as applicable to determine commitment and operating function. {Attachment 2}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
TEMPORARY MODIFICATION CONTROL - AP 9.31 (Rev 12)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
Control Temporary Modifications (TMs) to ensure operator awareness, conformance with design intent and operability requirements, and preservation of plant safety and reliability. Also, provides for periodic reviews to verify TMs are maintained and that a continued need exists.

III. Summary of Procedure:
Control of temporary (installed for short duration) minor alterations made to plant equipment that do not conform with approved drawings or other design documents (ex: lifted leads, electrical and mechanical jumpers, etc.). {4.13}

IV. Specific Contribution to Maintaining Design Basis:

- TMs are controlled and safety/technical reviews are conducted in accordance with plant procedures.
  - SRO approval required for installation and removal. {5.2.1}
  - Operations awareness is maintained via annual reviews of installed TMs. {5.2.2}
  - Dedicated Safety/Design Review Group ensures completion of 50.59 review requirements and adherence to technical adequacy. {5.1.3}
  - Safety review shall be prepared in accordance with plant procedure. {7.1.9}
  - TMs involving safety related equipment are reviewed by Plant Review Committee. {7.1.9}
  - System Engineer reviews and endorses continued use of all TMs on their systems semi-annually {8.1}.
  - Senior Plant Management is briefed on the status of TMs periodically during System Health Assessment Meetings. {8.2}
  - Control Room drawings are up dated prior to declaring a TM operable. Also, guidance is given for document updates after TM removal. {7.1.1.e}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
EQUIPMENT DATA BASE - AP 9.32 (Rev 6)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
To define responsibilities and establish the requirements for maintaining the Palisades Equipment Data Base (EDB).

III. Summary of Procedure:
Provides a consistent methodology for identifying, formatting and controlling equipment data and equipment numbers.

IV. Specific Contribution to Maintaining Design Basis:
- Initiator of EDB input or change is responsible for revising existing equipment information to reflect current plant conditions. {5.7.a.3}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
DESIGN DOCUMENT CONTROL (DDC) - AP 9.44 (Rev 3)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
To describe the responsibilities and requirements for the preparation, review, approval, revision and control of Palisades design documents.

III. Summary of Procedure:
Provides a uniform methodology for processing the documents generated as a result of engineering activities that serve to describe the inputs used in the design development, identifies personnel involved in the design and review process, the design outputs and satisfactory implementation and test results.

IV. Specific Contribution to Maintaining Design Basis:
- Establishes the Design Change Request (DCR) to identify proposed changes to design documents. {4.2}
- Assigns responsibility for initiator to perform walkdown to verify "As-Built" condition. {5.8.a}
- Cross reference to specific controlling procedures to maintain FSAR and DBDs. {9.0.b}
- Incorporates process to address the completion of prints required to support operability. {9.4}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
VENDOR MANUAL CONTROL - AP 9.45 (Rev 2)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
To outline the process for developing, maintaining and distributing plant vendor manual files. The procedure also describes the process for approving changes to vendor manuals and documenting deviations from vendor recommendations.

III. Summary of Procedure:
AP 9.45 applies to installed equipment and instrumentation only. This procedure establishes controls for new vendor manuals and revisions to existing vendor manuals to ensure the correct version of these manuals are made available to support plant activities.

IV. Specific Contribution to Maintaining Design Basis:
- System engineer assigned responsibility to ensure that procedures and/or maintenance tasks affected by a vendor manual and associated with a modification are identified and completed. {6.2.2}
- Caution note that vendor manuals and vendor drawings should be verified and validated before use for decision making or design input. {6.7}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
PROCEDURE INITIATION AND REVISION - AP 10.41 (Rev 25)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To establish the responsibilities and controls necessary to initiate, revise, review, approve, maintain, cancel, and inactivate procedures.

III. **Summary of Procedure:**
Establishes the approval authority and sponsor qualifications for procedures.

IV. **Specific Contribution to Maintaining Design Basis:**

- Procedure sponsor is responsible for:
  - Verifying all applicable commitments have been included or appropriately dispositioned. {5.2.1.h}
  - Ensuring completion of the safety review per plant procedure. {5.2.1.p}
  - Ensuring that the current licensing basis and design basis are appropriately identified. {5.2.1.g}
  - Forwarding safety reviews to the Safety/Design Review Group when required. {5.2.2}
- An independent technical reviewer confirms the accuracy of the technical content and verifies the proper plant and system conditions are established. {5.3.1.c}
- The user reviewer is responsible for performing the validation if required. {5.4.1.b}
- If a change to a procedure (other than editorial) can affect the FSAR or the Technical Specifications or is listed in RG 1.33, App A or Technical Specification, Section 6.8, then a 10 CFR 50.59 review shall be performed.
- All temporary changes shall be reviewed by at least two Plant Review Committee members (one must be an SRO) to ensure an unreviewed safety question does not exist. The temporary change process cannot be used for temporary changes to procedures/facility described in the FSAR or that involve a test or experiment not in the FSAR or conflict with the Technical Specifications. The revision process must be used. {Attachment 3}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
ENGINEERING RECORDS CENTER DISTRIBUTION AND CONTROL OF DESIGN DOCUMENTS - AP 10.44 (Rev 12)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
Describes responsibilities and requirements for the Engineering Records Center (ERC) to receive, process, index, retrieve, store and distribute Palisades design documents.

III. Summary of Procedure:
Provides a description of ERC activities related to controlling Palisades design documents.

IV. Specific Contribution to Maintaining Design Basis:
- Provides specific responsibilities for ERC to preserve and control Palisades design documents. {5.5; 5.6}
- Identifies the responsibilities of Design Document Change initiator to revise design documents to accurately reflect the Plant "As-Built" condition. {5.8.a}

HISTORICAL REFERENCE ONLY

This procedure is no longer being used. The following description is being included to provide understanding on a critical element of the past Configuration Control Program (CCP). Current and future discrepancies are/will be processed through the Condition Report system described in Response (d) to this letter.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:

IDENTIFICATION AND TRACKING OF CONFIGURATION CONTROL PROJECT DISCREPANCIES - AP 13.01 (Rev 4)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:

To provide a standard method to document, evaluate, report, and track discrepancies identified during the conduct of the Configuration Control Project (CCP) activities.

III. Summary of Procedure:

AP 13.01 establishes a structured mechanism to document and disposition discrepancies found during CCP walkdowns and investigations.

IV. Specific Contribution to Maintaining Design Basis:

- Categorization scheme for ranking discrepancies to provide prompt processing of significant items for resolution. {4.1}
- Requirement for initial screening evaluation of discrepancy to determine Technical Specification performance problem, possible FSAR compromise or adverse impact on licensing commitments. {5.3.2.a}
- CCP Discrepancy evaluations are approved by the CCP Manager. {6.1.3}
- Task Project Engineer determines if closure of the CCP Discrepancy Report requires an immediate DBD change. {6.3.1}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
TEMPORARY REPAIR OF LIQUID OR GAS LEAKS ON PLANT SYSTEMS, PARTS, COMPONENTS, AND EQUIPMENT - MSM-M-24 (Rev 4)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
To provide instruction for proper temporary repair of liquid or gas leaks on: valves, flanges, fittings, pipes, tanks, and tubing.

III. Summary of Procedure:
Allows use of temporary leak repair procedure rather than Temporary Modification (TM) process for these repairs.

IV. Specific Contribution to Maintaining Design Basis:

- The following controls are as stringent as TM procedures:
  - All repairs shall be implemented in accordance with plant procedures for configuration management and document control. {3.1.3; 3.1.10}
  - Seismic design checklist must be completed by the Responsible Engineer (RE). {3.1.5}
  - Fire Protection/Safe Shutdown Checklist must be completed by RE. {3.1.6}
  - Technical review by the Safety Design Review group required. {3.1.11}
- The following controls are more stringent than TM process:
  - PRC review required even if not safety related. {3.1.8}
- Provides for dedicated "Temporary Leak Repair" tracking.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
CORE OPERATING LIMITS REPORT - COLR (Rev 3)

II. **Purpose:**
Report to the NRC cycle specific core operating limits determined using NRC approved analytical methods.

III. **Summary of Procedure:**
Report to the NRC cycle specific core operating limits determined using NRC approved analytical methods that are referenced in Section 3.

IV. **Specific Contribution to Maintaining Design Basis:**

- The following limits are provided:
  - Axial Shape Index Limits for T(inlet) Function.
  - Control Rod Regulating Group Insertion Limits.
  - Linear Heat Rate Limits.
  - Radial Peaking Factor Limits.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
OFFSITE DOSE CALCULATION MANUAL - ODCM (Rev 10)

II. Purpose:
To define procedural requirements (to meet NRC requirements) and calculational methodology and parameters related to gaseous and liquid effluents, total dose, environmental monitoring, and associated NRC reporting requirements.

III. Summary of Procedure:
The Offsite Dose Calculation Manual (ODCM) contains methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm/trip setpoints, and in the conduct of the Radiological Environmental Monitoring Program. The ODCM also contains;

1. The Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by the Technical Specifications and,
2. Descriptions of the information that should be included in the Annual Radiological Environmental Operating and Radioactive Effluent Release Reports required by the Technical Specifications. The Administrative Controls are contained in Technical Specification Sections 6.6.2, 6.6.3 and 6.5.1.c.

IV. Specific Contribution to Maintaining Design Basis:

- Changes to the ODCM are controlled per Technical Specification Section 6.5.1.c and become effective after approval by the Plant General Manager.
- Major modifications to the radioactive liquid and gaseous waste treatment systems are defined in the ODCM.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
Fire Protection Plan, Organization and Responsibilities - FPIP-1 (Rev. 6)

II. **Purpose:**
Establishes the organization and personnel responsibilities for fire protection at the Palisades Plant.

Defines controls for fire protection activities which affect safety-related and certain non-safety-related structures, systems and components.

III. **Summary of Procedure:**
FPIP-1 consists of:

- References to plant Safe Shutdown Analysis, Fire Hazards Analysis, Fire Protection Program Report, Technical Specifications and FSAR.
- References to pertinent NRC and industry documents.
- Description of organizations and responsibilities.
- Quality Assurance requirements for fire protection activities.
- Listing of fire protection equipment, procurement and modification requirements, implementing procedures, instructions, and emergency shutdown procedures for a fire.
- Identifies Licensing Bases.

IV. **Specific Contribution to Maintaining Design Basis:**

- Organizational responsibilities are specified.
- Fire Protection and Appendix R design authority is assigned to the Fire Protection/Appendix R staff.
- Accountability for maintenance of the Fire Protection/Appendix R Design Bases is assigned to the Fire Protection/Appendix R staff.
- Requirements for reviews by a qualified Fire Protection Engineer are specified.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
STANDING ORDER No. 54 (Rev 41)

II. Purpose:
To implement supplementary operational requirements resulting from proposed changes to Technical Specifications which are more restrictive (more conservative) than those in the approved Technical Specifications.

III. Summary of Procedure:
These supplementary requirements are treated as Technical Specification requirements except for violation reporting and deviations.

IV. Specific Contribution to Maintaining Design Basis:

- All changes to supplementary operational requirements require:
  - Check of commitments.
  - A 50.59 safety review/evaluation.
  - Plant Review Committee review and recommendation for approval.
  - Plant General Manager approval.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
STANDING ORDER No. 62 (Rev 34)

II. **Purpose:**
This standing order is a consolidation of Technical Specification interpretations/guidance.

III. **Summary of Procedure:**
- Technical Specification interpretations/guidance are given and source references defined.

IV. **Specific Contribution to Maintaining Design Basis:**
- All changes to Technical Specifications interpretations/guidance require:
  - A 50.59 Safety Review/Evaluation.
  - Plant General Manager approval.

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. Title - Procedure Number:
Plant Training Organization and Responsibilities - AP 11.00 (Rev. 10)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. Purpose:
Provides Palisades supervisors and managers with methods for identifying training needs of plant employees and for ensuring the delivery of training designed to meet those needs.

III. Summary of Procedure:
Defines the administrative framework guiding all training activities at Palisades -- discipline specific training programs are defined within specific departmental procedures.

IV. Specific Contribution to Maintaining Design Basis:
- Training is an essential element of maintaining a work force that is knowlegeable and skilled in their specific disciplines. {5.5; 5.9; 5.12}
- Through discipline specific continuing training programs personnel are kept abreast of how plant modifications affect their area of work activity. {6.1.2}
- Training is the principal vehicle through which knowledge and awareness of design basis is conveyed to plant personnel. {6.1.2}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
Training and Qualification Program for Technical Managers/Supervisors and Engineering Support Personnel - AP 11.02 (Rev. 5)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
Establishes the minimum requirements for the development and maintenance of training and qualification programs for Palisades technical managers/supervisors and engineering support personnel.

III. **Summary of Procedure:**
Defines the specific requirements for Engineering Support Personnel (ESP) training programs in the following training areas:

General Indoctrination Training
Orientation Training
Job Specific Training
Management Training
Continuing Training
Task Qualification Cards

Note: The ESP program is an INPO accredited program.

IV. **Specific Contribution to Maintaining Design Basis:**

- Provides training to engineering personnel on a wide variety of subjects which directly involve design basis documents and configuration management such as: {5.1; 5.2; 5.3; 5.4; 5.5; 5.8; 5.11}

  Technical Specifications and FSAR
  Codes and Standards
  Palisades Procedures
  Lists, Tables and Vendor Documents
  Engineering Drawings
  Configuration Management
  Procurement/ Service Coordinator
  Modification Program
  Corrective Action Program
  Operating Experience Review
  Basic Systems Orientation
  Safety Evaluations - 50.59

- Continuing training programs for ESP personnel periodically stress design basis ownership and maintenance. {5.11}

- Continuing training programs have provided case studies, involving student participation, concerning design basis ownership and maintenance. {5.11}

Palisades Nuclear Plant
Description of Process Affecting Design Basis

I. **Title - Procedure Number:**
Simulator Configuration Control - PNT 8.0 (Rev.3)

[The information provided can be found in the sections of the referenced procedure denoted in the brackets { }.]

II. **Purpose:**
To ensure that only approved and tested changes are made to the simulator software and hardware configuration which is used for training.

III. **Summary of Procedure:**
Provides the methods and process to address Simulator Deficiency Reports, and to review and implement as appropriate plant modifications that affect the simulator and its operation.

IV. **Specific Contribution to Maintaining Design Basis:**
- Trains operators using a simulator that accurately reflects the plant physical configuration. {5.4; 5.5; 5.7}
- Ensures that operators are aware of changes to the physical plant configuration that affect operational considerations. {5.3; 5.4}