

INDEPENDENT QUALITY ASSURANCE EVALUATION
OF PALO VERDE NUCLEAR GENERATING
STATIONS UNITS 1, 2 AND 3

BI-WEEKLY STATUS REPORT #4
for the
Period Ending August 27, 1982

TASK A - EVALUATION OF PROJECT MANAGEMENT ORGANIZATION

This task is complete.

Two Potential Finding Reports (PFRs) were initiated on this task.

TASK B - MANAGEMENT POLICIES TOWARD QUALITY ASSURANCE

Work on this task is complete except for Subtask B8 (APS Management Dedication and Commitment to the Independent Evaluation).

Questionnaires have been distributed to all project personnel to provide input for Subtask B8.

Three PFRs were initiated on this task.

TASK C - QUALITY ASSURANCE ACTIVITIES

Work on this task is complete except for issuance of the Task Summary Report.

Two PFRs were initiated on Subtask C3 (APS Audit Program) and twelve on Subtask C5 (APS Inspection Program).

TASK D - DESIGN VERIFICATION REVIEW

Work on Subtask D1 (Procedure Review) is complete except for issuance of the Subtask Summary Report.

Three PFRs were initiated on this subtask.

Subtask D2 (Design Procedure Implementation Review) is essentially complete. One additional trip to Bechtel is required to complete review of two items (Reactor Makeup Water Tank and Auxiliary Feed Water System). All assigned items at C-E were completed successfully. Core Protection Calculator review will be accomplished when agreement between C-E and GA is finalized.

A total of 14 PFRs were initiated on Subtask D2.

Subtask D3: Technical review of selected PVNGS features is approximately 80% complete. The review status of each feature is summarized in Table 1. Fifteen (15) PFRs were initiated on this Subtask.

The procedure for the Core Protection Calculator technical review was issued.

A need for performing an alternate (independent) seismic analysis for the condensate storage tank was established in order to assess the impact of several PFRs issued against the design and analysis of both the Condensate Storage and Refueling Water Tanks.

TASK E - CONSTRUCTION VERIFICATION REVIEW

Work on Subtask E1 (Field Change Design Control) is complete except for issuance of the Subtask Summary Report. One PFR was initiated on this subtask.

Work on Subtask E2 (As-Built Drawing Control) is complete with respect to the procedure review. A detailed checklist has been prepared for evaluation of the as-built drawing system. No PFRs have been initiated on this subtask.

Subtask E3 (Physical Verification): The procedure for QA review of walkdown activities (2426-PD-12) was issued August 16, 1982. QA coverage of the site walkdown is being performed by one QA engineer assigned full-time at the site with part-time assistance as needed.

The full walkdown team of eight engineering personnel is on-site at PVNGS. Fifty eight (58) Mechanical and Six (6) Electrical Walkdown Packages have been identified. Four walkdown packages have been completed and the walkdowns performed. Preparation of the remaining packages is underway.

TASK F - PROCESSING OF FINDINGS

As of August 27, 52 Potential Finding Report (PFR) numbers had been issued. Table 2 lists their status as of August 27, 1982.

COST AND SCHEDULE

All the program milestones scheduled for completion by August 27 had been completed except for the completion of the design procedure implementation review (Milestone D2b), which is nearing completion.

Pertinent manpower applied to the project is shown in Figure 1, in which the planned manhours curve has been adjusted to reflect the additional efforts for Design Procedure Review and Core Protection Calculator (CPC) Technical Review. Actual spending has not kept up with the plan largely due to the lack of a mutually acceptable confidentiality agreement regarding the CPC information, which has delayed that review. An agreement was concluded on August 27, 1982, however.

TABLE 1
STATUS OF FEATURE REVIEW

Containment Spray Pump: Technical review has been completed and the preparation of Review Evaluation Report (RER) is underway. One PFR has been initiated. PFR-2426-050.

Containment Spray Pump Motor: Technical review has been completed. RER draft is complete.

Shutdown Cooling Heat Exchanger: Evidence of validation of computer codes used in performing the analysis has been requested from C-E. The technical review is complete except for this validation. The draft RER is complete.

Condensate Storage Tank: The technical review has been completed. Preparation of RER is underway. Five (5) PFRs have been issued. BPC has responded to two PFRs, PFR 2426-021 and PFR-2426-028. The other three PFRs issued are PFR 2426-038, 2426-039, and 2426-040.

Auxiliary Feedwater Pump: The technical review has been completed and the RER is being prepared.

Auxiliary Feedwater Pump Motor: The technical review and the draft RER have been completed. One PFR has been initiated, PFR-2426-052.

Safety Injection and Shutdown Cooling System Piping: The review status is:

- a) for the small bore piping of the spray chemical system, the technical review and the draft RER have been completed. BPC has agreed with the PFR-2426-017. Assessment of impact on safety has been initiated.
- b) for the containment spray discharge train B, the design review and the RER have been completed. BPC has responded to PFR-2426-018.

Safety Injection and Shutdown Cooling System Pipe Supports: Six pipe support designs have been reviewed and found structurally adequate. The draft RER has been completed

Auxiliary Feedwater System Piping: Additional piping analyses computer output has been received and they have been reviewed. One PFR has been initiated, PFR-2426-051.

Auxiliary Feedwater System Pipe Supports: Four support designs have been reviewed and the draft RER has been completed.

Safety Injection and Shutdown Cooling System Valves: Additional valve drawings have been requested from C-E to complete the technical review.

Auxiliary Feedwater System Valves: The technical review is complete. Draft RER is in preparation.

TABLE 1 (Continued)
STATUS OF FEATURE REVIEW

Auxiliary Feedwater System Function: The technical review has been completed and the RER is being prepared.

Motor Operated Valve Motors: The technical review has been completed and the RER is being prepared.

Motor Control Center (480V): The technical review has been completed and the draft RER has been completed. One PFR has been initiated, PFR-2426-048.

Switchgear (4160V): The technical review has been completed and when qualified in accordance with requirements, appears adequate. The draft RER has been completed.

Instrumentation and Controls: Additional documents have been requested from C-E to complete the review. The review is approximately 50% complete.

Cable Tray Supports: The technical review of tray supports between a) the containment spray pump and switchgear and b) the auxiliary feedwater flow transmitter and the control room have been completed. Two PFRs have been initiated, PFRs 2426-045 and 2426-046.

Pressurizer: The review status of the pressurizer is:

- a) for the surge nozzle, the detailed review and input to the RER have been completed.
- b) for the safety valve nozzle, the review has been completed and input to the RER is underway.
- c) for the pressurizer support skirt, the review is nearly complete. One PFR has been initiated, PFR-2426-047.

Equipment Supports: The equipment supports include a) shutdown cooling heat exchanger support, b) pressurizer support, c) containment spray pump support, and d) auxiliary feedwater pump support. The status of the review is:

- a) the review of the shutdown cooling heat exchanger support has been completed and RER is being prepared.
- b) for the pressurizer support, the review has been completed and the RER is being prepared.
- c) for the containment spray pump support, the review has been completed. One PFR has been initiated, PFR-2426-044. Preparation of RER is underway, and
- d) the review and the draft RER for the auxiliary feedwater pump support has been completed.

TABLE 1 (Continued)
STATUS OF FEATURE REVIEW

Containment Building Penetrations: The technical review is nearly complete. .
RER preparation is underway.

Core Protection Calculator: Technical review has not yet begun. Agreements have
been reached with C-E regarding protection of their proprietary and commercial
secrets associated with the CPC. Actual review of CPC documents is scheduled
to start on August 31 at C-E, Windsor.

TABLE 2
STATUS OF
POTENTIAL FINDING REPORTS (PFR)
AS OF AUGUST 27, 1982

NUMBER	SUBJECT	DATE	COMMENTS
2426:PFR:001	Control of Design Criteria - Licensing	7/20	Sent to APS on 8/3
2426:PFR:002	Significant Corrective Action Report	7/26	Declared invalid in Internal Review
2426:PFR:003	Design as As-Built Conformance Checklist	7/26	Sent to BPC on 8/26
2426:PFR:004	Non-existent Design Verification Procedures Referenced	7/26	Sent to BPC on 8/26
2426:PFR:005	Dwg CN Incorporation Time Limit Exceeded	7/26	Returned from BPC on 8/23. Disagreed. Initiator re-review Completed 8/25.
2426:PFR:006	SDDR Disposition Variance	7/26	Rec'd from BPC on 8/19. Disagreed. In Review.
2426:PFR:007	APS QA Staffing	7/26	Rec'd from APS on 19. Agreed
2426:PFR:008	Salary Ranges of APS/QA Dept.	7/26	Revised due to APS response. Issue B sent to APS on 8/15
2426:PFR:009	Condensate Storage Tank (CTE-T01; SS Liner)	7/27	Sent to BPC on 8/11
2426:PFR:010	Shutdown HE, PO 9061519, Tag No. IM-SIB-E01	7/27	Sent to BPC on 8/11
2426:PFR:011	Aux. Feedwater Transmitter - Incorrect Dwg. Rev. Flow Transmitter 01-J-AFB-FT41B	7/27	Sent to APS on 8/11

TABLE 2

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AS OF AUGUST 27, 1982

NUMBER	SUBJECT	DATE	COMMENTS
2426:PFR:012	Aux. Feedwater Flow Transmitter - 01-J-AFB-FT 41B No. CIP	7/27	Sent to APS on 8/11
2426:PFR:013	COMP - Press. Transmitter 1-J8CD-PT352D 1-J8CD-PT351D, CIP Dated 4/29/82	7/27	Sent to BPC on 8/11
2426:PFR:014	Flow Transmitter 1-J-AFB-FT41B (unqualified inspector)	7/27	Sent to APS on 8/11
2426:PFR:015	Flow Transmitter 1-J-AFB-FT41B (Welding)	7/27	Sent to APS on 8/11
2426:PFR:016	Aux. Feedwater System Valve 01J-AFB-BHV-031	7/27	Rec'd from BPC on 8/23. Agreed. Impact Assessment prepared on 8/24.
2426:PFR:017	Small Bore Piping BPC Piping Anal. Calc S1516D	7/28	Returned from BPC on 8/16. Agreed.
2426:PFR:018	BPC Design Spec 13-PM-102 Comments	7/28	Returned from BPC on 8/16. Disagreed. In Review.
2426:PFR:019	Calculations not Marked Prel. Per Procedure	7/29	Returned from BPC on 8/16. Disagreed In Review.
2426:PFR:020	Calculations not Initialed by Grp Leader per Procedure	7/29	Combined with PFR:019 on internal review
2426:PFR:021	Condensate Storage Tank Calc 13-CC-CT-015	7/29	Sent from BPC on 8/18. Agreed.

TABLE 2

STATUS OF
POTENTIAL FINDINGS REPORTS (PFR)
AS OF AUGUST 27, 1982

NUMBER	SUBJECT	DATE	COMMENTS
2426:PFR:022	Orig. Calcs not in File	7/30	Combined with PFR:019 on internal review
2426:PFR:023	Transfer of System and Component from Construction and Operation	8/4	In Preparation
2426:PFR:024	Audit Reports not signed by Audit Team	8/5	Sent to APS on 8/13
2426:PFR:025	Pressure Relays - Bolts torqued to to incorrect value	8/5	Sent to APS on 8/13
2426:PFR:026	Flow and Pressure Transmitters	8/5	Sent to APS on 8/13
2426:PFR:027	Instrumentation	8/5	Sent to APS on 8/13
2426:PFR:028	Condensate Storage Tank 13-CC-CT-015	8/5	Returned from BPC on 8/23. Agreed. In review.
2426:PFR:029	Deficient QA Program in Bechtel Supplier Unistrut	8/6	Returned from BPC on 8/20. Disagreed. In Review.
2426:PFR:030	Review of Audit Performed did not have signature of Audit Team Leader	8/9	Sent to APS on 8/17
2426:PFR:031	Discrepancies between Calc Title Sheets on CEBUS Log	8/10	Returned from BPC on 8/23. Agreed. To FRC on 8/25.
2426:PFR:032	Outstanding (Unincorporated) DCN's Against Drawings.	8/10	Returned from BPC on 8/23. Agreed. To FRC on 8/25

TABLE 2
STATUS OF
POTENTIAL FINDING REPORTS (PFR)
AS OF AUGUST 27, 1982

NUMBER	SUBJECT	DATE	COMMENTS
2426-PFR-033	PSAR & APSQAN Disagreement and review & Approval Policy	8/10	Sent to APS on 8/12
2426-PFR-034	Review & Approval of Bechtel Purchase Order/Spec.	8/11	Sent to APS on 8/12
2426-PFR-035	Engineering Responses SDDR	8/11	Sent to APS on 8/17
2426-PFR-036	SDDR Disposition Clarity	8/11	In Preparation
2426-PFR-037	Minor Discrepancy on Termination Records	8/13	Sent to APS on 8/24
2426-PFR-038	Condensate Storage Tank 13-CC-CT-015	8/17	Sent to BPC on 8/23
2426-PFR-039	Condensate Storage Tank 13-CC-CT-015	8/17	Sent to BPC on 8/23
2426-PFR-040	Condensate Storage Tank 13-CC-CT-015	8/17	Sent to BPC on 8/23
2426-PFR-041	Required Assumptions & References missing from Calcs.	8/19	In Preparation
2426-PFR-042	ASME B&PG Code 3 Required missed from Project Spec. for Safety Related Comp.	8/19	In Preparation
2426-PFR-043	Technical Change of Safety System Comp. without spec. for drawing revisions	8/19	In Preparation
2426-PFR-044	Containment Spray Pump Calc # 13-CC-ZA-130	8/19	Sent to BPC on 8/25
2426-PFR-045	Cable Tray Supports/No Calcs.	8/20	Sent to BPC on 8/24
2426-PFR-046	Cable Tray Supports - Method & Overstressed EZJ-2B-H1110/EZJ-2B-H119	8/20	Sent to BPC on 8/25

TABLE 2

STATUS OF
POTENTIAL FINDING REPORTS (PFR)
AS OF AUGUST 27, 1982

2426-PFR-047	Pressurizer Core Support Buckle Modum Failure	8/23	In Preparation
2426-PFR-048	480V Motor Control Center	8/24	In Preparation
2426-PFR-049	Task EIC - Field Design Change Control	8/24	In Preparation
2426-PFR-050	Containment Spray Pump	8/25	In Preparation
2426-PFR-051	Mech. Penetration 76 of Aux. F/W Sys.	8/26	In Preparation
2426-PFR-052	Aux. Feedwater Pump Motor M-AFB-P01	8/26	In Preparation

