

FEB 01 1985

Memorandum For: Darrel G. Eisenhut, Director
Division of Licensing

From: Dennis Kirsch, Acting Director
Division of Reactor Safety and Projects

Subject: Request for Selected Inspections/Audits and SSER Input
Diablo Canyon Unit 2

Attached are the results of inspections performed pursuant to your request dated January 24, 1985, same subject. The construction work for the three IRP packages has not been completed but is scheduled for completion prior to fuel load. We will followup on this item if you so desire.

Original signed by
D. F. Kirsch

D. F. Kirsch, Acting Director
Division of Reactor Safety and
Projects

Attachments:
As stated

cc w/attachments:
H. Scherling

bcc:
RSB/Document Control Desk (RIDS) ✓
Mr. Martin
pink/green/file copies
Resident Inspector

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Dodds/dot

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Kirsch

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1. Design Verification and Modification

The three IRP packages mentioned in the request were audited and found to be open. Below is a listing of the IRP package numbers and their associated DCN's:

- 2-0034- DC2-E-M-12437 (open)
DC2-E-M-24899 (open)
DC2-E-M-26320 (open)
DC2-SP-24899 (work comp. - in s/u)
- 2-1088- DC2-E-C-24892 (open)
- 2-8010- DC2-E-M-06009 (work comp. - in s/u)
DC2-E-M-14180 (work comp. - in s/u)

At this time approximately 27 IRP packages are open, consisting of approximately 100 open DCN's. 50 of the 100 open DCN's are for three IRP packages relating to raceway supports, rupture restraints, and HVAC duct supports. Construction is putting together a completion status list from IRP related DCN's. No deficiencies were identified during the review of the IRP packages or the DCN paperwork that was available for review.

2. Residual Heat Removal (RHR) System Low Flow Alarm (Unit 2)

The licensee's startup test procedure 10.2 Addendum 2 for the subject alarm was reviewed. This completed test procedure showed that the alarm had been installed and acceptably tested. The test had been reviewed and accepted by licensee's management. The identical test has been observed by NRC Region V inspectors on Unit 1 and the alarm has performed its function on Unit 1 for at least two loss of RHR flow incidents. Additionally, the licensee's annunciator response manual was reviewed to verify that the alarm and associated operator actions were appropriately identified. Finally, a commitment by the licensee to maintain the power supply to the RHR hot leg suction valves has been verified by in-plant observations and by review of selected operating procedures related to the RHR system. Based on these reviews and observations, there is reasonable assurance that the RHR system low flow alarm will perform acceptably.

3. Seismically Induced Systems Interaction Program (SISIP)

The four followup items identified in Inspection Report 50-275/84-09 were reviewed. The licensee's response and corrective actions were found sufficient to close the items (84-09-01, 84-09-02, 84-09-03, and 84-09-04).

A review of the Unit 2 program was also performed. This entailed a review of Unit 2 SISIP packages and a discussion with cognizant licensee's personnel of the program differences between Unit 1 and Unit 2. No deficiencies were identified. Two followup items were developed: 1) review the report of the post-program reconciliation of results for Unit 1 and Unit 2, to assure that all Unit 1 interactions were addressed in Unit 2, and vice-versa, and 2) receive final

notification from the licensee regarding construction completion of interaction modifications.

4. Design and Construction Quality Assurance Programs

Since September 1981, inspection activities have consisted of approximately 50 inspections principally by Region V inspection staff supplemented on occasion by other NRC staff and contract personnel. Table 1 lists the subject inspection reports.

Sixteen violations pertaining to construction activities were issued since September 1981. The majority of these violations addressed a cross-section of construction errors in welding of structural steel, piping, raceway, and HVAC supports. The licensee was responsive to the notices of the violation. Considering this extensive inspection effort and the relatively small number of minor violations, it appears that adherence to procedures was generally satisfactory.

The construction inspections also showed licensee management to be frequently involved in construction activities. The licensee's personnel generally had a good understanding of safety issues and worked towards resolution in a timely manner. The licensee's construction staffing appeared to be adequate with identified positions filled on a priority basis. Training and qualification of licensee/contractor inspection personnel has been improved in response to several of the previously mentioned violations related to contractor quality control.

Since September 1981, extensive NRC examinations were also performed as a consequence of an unprecedented number of allegations. These allegations dealt principally with design and construction activities, quality assurance, and quality control. Although over 1400 allegations were received by the NRC from various sources, the great majority of these allegations were received by the staff since September 1983, coincident with the Diablo Canyon Unit 1 readiness for fuel loading and low power testing.

This expansive staff effort examined, analyzed, and assessed the safety significance of all outstanding issues of concern. As part of this effort, several onsite team inspections were conducted by the staff and consultant personnel (during March 30 thru April 29, 1983, January 4 thru 20 of 1984, and November 28 thru December 9 of 1984). Approximately 3342 staff inspector hours were devoted to this effort. Supplements 21 and 22 of NUREG-0675 (Safety Evaluation Report related to the operation of Diablo Canyon Nuclear Power Plant) were issued, subsequent to those onsite inspections, to report the status of staff resolution of allegations or issues. Due to continuing allegations, a subsequent team inspection was performed (May 14 - May 25, 1984) involving 523 staff inspection hours. Supplement 26 of NUREG-0675 was issued as a result of this inspection. Finally, another supplement to NUREG-0675 is in the final stages to address additional allegation concerns.

The results of these examinations and investigations indicated that, while there may have been some lapses in the quality and management systems related to construction, the systems have worked reasonably well.

There is reasonable confidence that the licensee and contractors have acted responsibly over the years. In conclusion, this extensive inspection effort demonstrated that the licensee has constructed the plant in substantial agreement with regulatory commitments and requirements.

Table 1

INSPECTION REPORT ON DESIGN & CONSTRUCTION QA
SINCE SEPTEMBER 1981

<u>Unit 1 No.</u>	<u>Unit 2 No.</u>	<u>Topic & Violations</u>
81-26	81-16	Routine Construction Inspection of Modifications & TMI Items
81-28	81-17	Allegation followup on Pipe Support Design & Construction
81-29	81-18	QA Programs & Management Controls on Seismic Design
82-01	82-01	Routine Construction Inspection - 1 Violation Failure to Provide Quality Engineering Coverage Level V
82-02	82-02	Seismic QA Inspection
82-07	-	Routine Construction Inspection - 1 Violation on Failure to Follow QA Instructions Level V
82-10	82-06	Routine Construction Inspection
82-13	82-08	Routine Construction Inspection - 1 Violation on Pre-hydro Test Walkdown Level V
82-16	82-09	Routine Construction Inspection - 1 Violation on Release of Material for Construction Prior to Receipt of Documentation Level V
82-20	82-10	IDVP & Engineering Procedures
82-22	82-11	Routine Construction Inspection
82-26	82-13	Routine Construction Inspection
82-30	82-14	IDVP & QA Program
82-31	-	Construction Design Changes & Modifications
82-32	82-15	IDVP & QA Program
82-35	-	Routine Construction Inspection
82-36	-	Construction Design Changes & Modifications
82-39	82-17	Routine Construction Inspection and QA Surveillance of Onsite Contractors
82-41	82-19	Design & Procurement on "Super Strut"

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INSPECTION REPORT ON DESIGN & CONSTRUCTION QA
SINCE SEPTEMBER 1981

<u>Unit 1 No.</u>	<u>Unit 2 No.</u>	<u>Topic & Violations</u>
82-42	-	QA Audit Program & Allegations on RHR Design
83-02	83-01	Routine Construction Inspection
83-04	83-03	IDVP, QA Program
83-05	83-04	Routine Construction Inspection - 1 Violation on NDE Personnel Qualifications Level V
83-06	83-05	Routine Construction Inspection
83-08	83-07	Routine Construction Inspection - 1 Violation Failure to Follow Quality Procedure on Welding Activities Level IV
83-13	83-10	Allegation Followup on QA & Construction Items - 3 Violations Failure to 1) follow procedures Level V, 2) requalify welder Level IV, and 3) recertify welder Level IV
83-15	83-12	Routine Construction Inspection
83-20	-	Inspection of Construction & Preoperations Problem Areas - 1 Violation Failure to Promptly Report Potential Construction Deficiency to NRC Level IV
83-26	-	Problem on RCS Pipe Wall Thickness
83-29	83-21	Routine Construction Inspection
83-34	83-24	Construction QA Inspection (NSC Audit)
83-37	83-25	Construction QA Inspection (NSC Audit) - 1 Violation Failure to Quality & Certify Welding Inspectors in Accordance with Procedure Level IV
84-01	84-01	Routine Construction Inspection - 1 Violation Failure to Follow Quality Procedures on Structural Steel Welding Level V
84-02	84-02	Routine Construction Inspection - 1 Violation on Failure to Follow Procedures on Welding & Bolting Level IV
84-03	84-03	Storage of Class 1 Material - 1 Violation on Access to Storage Facility Level IV

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INSPECTION REPORT ON DESIGN & CONSTRUCTION QA
SINCE SEPTEMBER 1981

<u>Unit 1 No.</u>	<u>Unit 2 No.</u>	<u>Topic & Violations</u>
84-04	84-04	Routine Construction Inspection - 1 Violation on Electrical Raceway Supports Procedural Compliance Level IV
84-09	-	Seismically Induced System Interaction Program Inspection
84-11	84-11	Allegation Followup
84-13	84-05	Routine Construction Inspection 1 Violation on As-Built & Construction Deficiencies Level IV
84-16	84-06	NSC Audit Inspection
84-17	84-07	QA Program Implementation
84-20	84-09	Allegation Followup
84-24	84-14	HVAC As-built Verification
84-25	84-17	Allegation Followup on Pullman Audit Program
84-28	84-15	Routine Construction Inspection
84-38	84-25	Inspection of As-built Turnover & Allegation Followup
-	84-30	Routine Construction Inspection
84-42	84-31	Allegation Followup