

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)
PACIFIC GAS AND ELECTRIC COMPANY) Docket No. 50-275
Diablo Canyon Nuclear Plant Unit No. 1)

AFFIDAVIT OF ALLEN D. JOHNSON

STATE OF CALIFORNIA)
COUNTY OF CONTRA COSTA) SS

I, Allen D. Johnson, being duly sworn do depose and say:

1. I am employed by the U.S. Nuclear Regulatory Commission in the Region V Office, as Enforcement Officer. A statement of my professional qualifications are attached hereto as Exhibit A and incorporated herein by reference.
2. I personally conducted inspections of the Diablo Canyon facility during the period of 1968 to mid 1972. During that period, I was assigned as the principle reactor inspector responsible for conducting the agency's inspection program at the Diablo Canyon construction project.
3. I have read the document entitled "Joint Intervenors' Motion to Reopen the Record on the Issue of Construction Quality Assurance," dated May 10, 1983, as well as the affidavit of Richard B. Hubbard entitled "Joint Intervenors' Motion to Reopen the Record," dated June 7, 1982, and "Supplemental Affidavit of Richard B. Hubbard Concerning Breakdowns in the Diablo Canyon Quality Assurance Program," dated March 29, 1983.
4. The purpose of this affidavit is to address the matter raised in the above noted Joint Intervenors' Motion and Mr. Hubbard's supplemental affidavit, insofar as they relate to the concerns expressed about QA/QC activities during the early periods of construction.
5. The actual construction of major civil structures commenced in the summer of 1969. At that time, Appendix B to 10 CFR Part 50 had been published for comment and was made effective later in July 1970.

During my inspection activities, I used the proposed and later the final criteria of 10 CFR Part 50, Appendix B as my standards to evaluate programs and procedures used by the licensee and its contractors for the construction of safety related structures, systems and components at Diablo Canyon. In general, I verified during the time when I was responsible for inspection activities at Diablo Canyon that safety related construction activities affecting quality were being performed in accordance with specifications, instructions, procedures, and drawings appropriate to the circumstances and that those documents included appropriate acceptance criteria to determine that

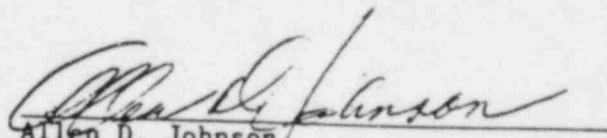
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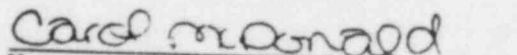
Important activities had been satisfactorily accomplished and documented as required by 10 CFR 50, Appendix B. Attached hereto as Exhibit B and incorporated herein by reference is an inspection history and short summary of inspection findings that was compiled from the inspection reports issued during the period of March 23, 1968 through January 18, 1974. This summary covers the first five calendar years of construction activities at the project and provides AEC/NRC finding concerning over 75% of construction of the project. As indicated in Exhibit B attached hereto, a construction QA/QC program has been in existence since the start of construction at the project. The program essentially met the requirements of 10 CFR 50, Appendix B and covered the licensee, its vendors, and its construction contractors. For additional details concerning the evaluation of QA/QC for a site contractor (H. P. Foley Company), refer to Exhibit B of John D. Carlson's Affidavit. I have also examined the history of enforcement action taken against the licensee for noncompliance with AEC/NRC requirements from 1969 to date of this affidavit. Based on my examination of the items of noncompliance relating to construction QA/QC I have concluded:

1. During the major construction period of 1969 thru and including 1980 the AEC/NRC issued notices of violations containing a total of thirty-three (33) items of noncompliance related to construction QA/QC. During the period of January 1, 1981 to date an additional nine (9) items of noncompliance relating to construction QA/QC were identified in Notices of Violations issued to the licensee. All of the foregoing items were handled by routine notices of violations.
2. None of the items of noncompliance, or groups of items during a particular period of time, represented a condition that constituted a major breakdown of the construction QA/QC programs of the licensee and its contractors.

I attest that the foregoing affidavit is true and correct to the best of my knowledge and belief.


 Allen D. Johnson

Subscribed and sworn to before me
 this 27 day of May, 1983


 Notary Public

My Commission expires: 5-11-84



50-275 DIABLO CANYON 1, INSPECTION HISTORY

A Short Summary of Inspection Findings

<u>Report</u>	<u>Date</u>	<u>Item Description</u>	<u>=</u>
68-01	3/23/68	Initial meeting with PG&E discussing the role of the Division of Compliance	=
69-01	3/3/69	1) Project Administration <ul style="list-style-type: none"> a) List PG&E's organization concerned with construction b) List of vendors 2) Status of Construction, site preparation 3) Quality Assurance - Quality Control (QA-QC) <ul style="list-style-type: none"> a) QA-QC program to be formulated prior to 5/1/69. Tentative meeting to review PG&E's program in first part of May. b) Quality Assurance Organization Chart 	
69-02	3/21/69	1) Status of Construction 2) Containment Construction Schedule 3) Meteorological Data, six on-site meteorological data collection system	
69-03	4/14/69	1) Evaluation of ESCO's QA-QC program relative to primary coolant systems	
69-04	5/13/69	1) QA-QC <ul style="list-style-type: none"> a) No formalized QA-QC program per se. Function being fulfilled by Eng. Department but explained in report. b) More formalized program is currently being prepared. . Planned program currently is undergoing an upgrading process so that it will conform to the Commission's proposed amendment to Part 50, providing guidance for an adequate program.	
		2) Changes to Containment Design	

<u>Report</u>	<u>Date</u>	<u>Item Description</u>
70-01	4/3/70	Nonconformance item, PSAR required test of liner plate material to be normalized, but plate material to be normalized, but plate material was not normalized, and ASTM allows use of not normalized.
		1) Overall construction 4.5% complete
		2) QA program as it relates to construction activities appeared to be comprehensive and effective in detecting construction variations from prescribed requirements.
		a) System of documenting corrective action was found to lack ready retrieving capability.
		b) No system to assure audits of activities are performed on a timely basis.
		c) Both a. & b. were remedied
		3) Reinforcing Steel Quality
		4) Validity of Physical Test Results - Containment Building Liner
		5) Weld Rod Control
		6) Cadweld Operator Re-Qualification
		7) Documentation of Followup Action on QA Audit Deficiencies
		8) Scheduling of Periodic QA Audits
		9) Atkinson QA-QC Program reviewed
		10) Containment Building Liner Material
70-02	7/16/70	1) Item of Nonconformance - Thickness of the reinforcement on several containment building liner plate welds was observed to be greater than that permitted.
		2) Status of Previously Reported
		a) Containment Building Liner Material Certification
		b) Weld Rod Control
		3) Construction Status 13.7%
		4) Verification of Quality Control Information on Certification Documents

EXHIBIT B

<u>Report</u>	<u>Date</u>	<u>Item Description</u>
69-05	5/12/69	1) Cameron Iron Works, review of QC records
		2) Southwest Fabricating and Welding Company
		a) Reviewed QA program
		b) Weld records
		c) Other related records
69-06	7/11/69	1) Contract for construction of major civil structures awarded to Guy F. Atkinson Company.
		2) Batch Plant constructed
		3) Manufacture and Transportation
		4) Quality Assurance program has been formulated and currently implemented.
		a) Training 12 employees to be assigned responsibility for concrete inspection, completed a one week training
		5) Site Evaluation, R. H. Johns, Geologist Consultant examined "as found" geological conditions.
		6) Tour of Meteorological Data Collecting Stations
		7) Breakwater, plans for installing
69-07	10/10/69	1) Concrete
		a) Implementation of QA
		b) Review of Quality Control System
		c) Inspector Qualifications, review of requirements
		i.) Job experience
		ii.) Certify suitability for responsibilities
		iii.) Requirements for selecting inspectors
		2) Reinforcing Steel
		a) QC procedures reviewed
		3) Containment Building Steel Liner
		a) Review of field quality control procedures

<u>Report</u>	<u>Date</u>	<u>Item Description</u>
		5) Discrepancy Control
70-03	7/16/70	1) Operations, preparation for operation activities and startup
70-04	10/16/70	1) Construction status 15% complete
		2) Resolutions of: <ul style="list-style-type: none"> a) Inadequacy of Radiographic Ex. of Containment Welds b) Indentation Stamping of Class 1 Piping c) Protection of Stainless Steel from Salt Air d) Effect of Structural Steel Channels on Operation of Containment Spray e) Placement of Special Concrete in Area Between Wide Beam Flanges and Containment Liner f) Verification of Quality Control Information on Certification Documents
		3) QA Construction Deviation Reports disposition of identified discrepancies in construction activities have been processed in accordance with QA procedures
		4) Steam Generator Supports QA-QC Program reviewed for Murphy-Pacific.
70-05	12/29/70	1) Construction status 18.7%
		2) Resolution of Previous Issues <ul style="list-style-type: none"> a) Indentation Stamping of Class I Piping b) Placement of Special Concrete in Area Between Wide Beam Flanges c) Verification of Quality Control Information on Certification Documents d) Adequacy of Dye Fenetrant Tests
		3) Construction Discrepancies <ul style="list-style-type: none"> a) Deviation reports were being processed in accordance with QA discrepancy procedure. b) Reviewed the minor variation log.
		4) Steam Generator Supports
		5) Steam Generators
		6) Reactor Vessel

<u>Report</u>	<u>Date</u>	<u>Item Description</u>
		7) QA Audit Program reviewed.
		<ul style="list-style-type: none"> a) Reading of recent audit reports b) QC inspections c) Transporting, handling and storage of steam generators and reactor vessel. d) Receival and storage of electrical equipment e) Installation of auxiliary salt water piping f) Mechanical equipment - inspection, storage and placement. g) Fabrication of liquid holdup tanks. h) Containment structure
71-1	5/6/71	<ul style="list-style-type: none"> 1) Construction Status 21.1% 2) Resolution of Previous Issues <ul style="list-style-type: none"> a) Indentation Stamping of Primary Coolant Piping b) Verification of Quality Control Information on Certification Documents c) Concrete Sampling 3) Review of deviation and minor variation reports, proper progress. 4) Reactor vessel transportation 5) Instrumentation and Electrical <ul style="list-style-type: none"> a) Implementation of QA Program, developed to meet the criteria of App. B to 10 CFR Part 50. b) Review of QC System <ul style="list-style-type: none"> i.) Required QC actions are described by procedures contained in H.P. Foley's QA Manual and the PG&E's "Electrical and Instrumentation Instruction Book for QA."
71-02	7/22/71	<ul style="list-style-type: none"> 1) Status of Construction 23.3% complete 2) Review of Procedures and Records <ul style="list-style-type: none"> a) Control Rod Drive Mechanisms b) Steam Generators c) Pressurizer d) Safety Injection Pumps e) Reactor Coolant Pumps

<u>Report</u>	<u>Date</u>	<u>Item Description</u>
71-03	11/10/71	3) Review of QC System for Other Class I Components 1) Construction Status 27% complete 2) Records and procedures review a) QC program review relating to reactor vessel b) M. W. Kellogg Company's QA-QC for Class I piping c) Westinghouse design control procedures d) Records relating to surveillance of reactor vessel internals e) PDM logbook f) G. F. Atkinson logbooks g) List of logbooks maintained h) PG&E's Instructions for completing daily logs i) PG&E's request to all contractors to provide procedures in their QA programs for control of all logs, personal diaries and similar records which may reflect quality of contract work performance j) Schedule for steam generator work
72-01	2/7/72	1) Status of Construction 31.7% complete 2) Ironworker attempted to cover up defects in cadweld splices in the Unit No. 1 containment building.
72-02	5/12/72	Resolution of following items: 1) Polar Crane repair 2) Auxiliary Salt Water Piping, radiography deficiencies 3) QA Program Manual reviewed and updated to reflect corporate management organization. Other changes noted were found to be consistent with the AEC criteria in 10 CFR 50, App. B (changed manual was awaiting final typing). 4) Cadweld Splicing Program changed to provide additional assurance of proper production and inspection
72-03	8/24/72	1) Status of Construction 50% 2) Inspected QA Manual covering installation of wire and cable by H. P. Foley.

<u>Report</u>	<u>Date</u>	<u>Item Description</u>
		3) Inspected weld procedure and welding operator qualification records.
		4) Written procedures or other instructions had not been established to control the segregation of hand tools. Enforcement Action
		5) Different identification numbers on four wide flange beams, steam generator. Enforcement Action
73-01	2/23/73	1) Enforcement, rejected electrical cables were not being segregated and controlled in accordance with procedures.
		2) Minor electrical fire in warehouse, damage to 4 circuit breakers.
		3) Construction Status 62.5%
		4) Minor variation reports and logs for civil, mechanical and electrical departments were reviewed, including PG&E audit reports of same. Review indicated that PG&E has implemented adequate controls and disposition of nonconforming items.
		5) Review of audit reports indicated effective coverage of contractors and PG&E activities.
		6) Environmental Radiological Monitoring Program reviewed.
73-02	3/4/73	1) Procedure review of raising the reactor vessel procedure
73-03	6/8/73	1) Enforcement, <ul style="list-style-type: none"> a) Stainless steel welds which did not conform to licensee's specification were not dispositioned in accordance with QA program requirements. b) Discrepant stainless steel pipe spools were not identified as such.
		2) Construction status 70% complete
		3) Initiation of wall thickness measurements for Class I valves.

<u>Report</u>	<u>Date</u>	<u>Item Description</u>
		4) Reviewed features of primary coolant piping installation
73-04	9/17/73	1) Construction Status 71.5% complete
		2) QA Program, Foley <ul style="list-style-type: none"> a) Detailed inspection records or checklists were not being maintained to verify conformance to requirements related to: <ul style="list-style-type: none"> 1) cleaning of conduits 2) use of approved pulling compounds 3) adherence to maximum pulling tensions for wire & cable b) Cable Tray Support Structures, discrepancies in main cable spreading room. c) Electrical wiring withing control panels.
		3) Reactor Coolant System Fabrication, Erection and Welding.
		4) Other Class 1 Piping Systems
73-05	10/25/73	1) Report concerned with deficiencies pertaining to the Wismer & Becker Contracting Engineers welding of the reactor coolant piping.
73-06	11/8/73	1) Construction Status 72.9% complete
		2) Preoperational Test Program Review
		3) Reactor Coolant System Piping
73-07	1/18/74	1) Construction Status 76.9% complete
		2) Preoperational Test Program
		3) ECCS tests
		4) Reactor Coolant System Hydrostatic Test
		5) Pressurizer Relief Tank Test
		6) Installation of Electrical & Instrumentation Systems

3/75

QCP-6 R1

QM develop
Trng & Doc
for personnel
engaged in
Qual Activities

QC Dept
Conducts Trng

QM Responsible to
Develop Trng for
QC Dept Personnel

Doc
Trng Sessions
by Group (Not
in individuals
Folder)

5/79

QCP-6 R2

OP-542-6
For civil

QM Responsible
to:
Indoc, Trn
Exam (whom
required by
this procedure
Qual Persn)

Doc. of Qual Per
a) Resum
b) Initial
& Periodic
Review
c) Training
d) Type of
Cert

CAR Being Issued
for this program

QM Provide
Training for Prod
Prod Engr & QC Dept
QC Dept
conduct Training

Doc
Training Session
by Group (Not in
individual's Folder)

4/80

QCP-6 R3

QM Responsible to
Indoc, Trn &
Certify Qual
Personnel

Documentation Qual Personnel
Training Sessions
by Group (Not
in individual's folder)

1/81 & 7/81
R-E Commit
to ANSI 45.2.6
at time
contract is
issued
Full power
Operating
Licenses

H P F Training/Doc for
Quality Personnel

1/81

OCP-6 Rev 4

Audit
20801
8/72

QM Responsible to
Indoc, Trng & Cert
of Qual Personnel

Documentation Quality Personnel
Personnel Cert
Base on Educ
Trng + Exp

12/82

ANSI 45.2.6
QCP-6A ROARR

Audit 27043
2/83

NCR 9902-874 3/83

ANSI N 45.2.6
Requirements

OKed for
R11/83 57

Print

Note: QCP-6 is call
applicable to all
personnel
QCP 6A is for
applicable for
QC Personnel
QC only 60

Personnel Training Program

Pg 1 of 2
sked for
Allen 57

PA-13 6/12/75 HPF OCP-6 (R1)

Audit indicates that

- (1) Trng program was developed & implemented for incoe a Training of Quality & Production personnel to make personnel cognizant of Quality Requirement in work assignments
- (2) Trng sessions have been documented & are being maintained.

No findings

PA-48 7/76 HPF "Procedure for Training of Personnel"
OCP-6 (R1)

Audit indicates that

- (1) Training sessions have been documented & are being maintained
- (2) Outside Training Source are being utilized
- (3) Trng program for incoe a Trng of Quality & Prod Personnel to make personnel cognizant of Qual Requirement in Work Assignment
- (4) Requirements for Quality Dept personnel trng are being adhered to

No findings

PA-72 12/77 HPF Training of Personnel OCP to RI
Audit indicate that

Finding →

1) QC trng logs were not being maintained from
1/77 to 12/77

Answered - QC Spvrs have conducted
individual & group training sessions
with their personnel since
1-77 and that Quality
Engineering will assure that
trng sessions are documented
in the future

PA-124 1/83 HPF Organization of Quality Personnel
OAM Sec 1

Audit shows that

D) A survey of active Quality Personnel file
to determine area of responsibility of
Trainers / indoctrinators. 29 Packets Audited
12 had in doc forms ~~added during~~
~~current period~~ Trng coordinators are
full time members of QA Dept +
are responsible to QA manager

QA Manual →

PA-137 10/83 HPF Indoc + Trng Cert
OCP-6 Rev 5, OCP-6A R

Audit indicated

- (1) 7 Welder lacked Quality Indoc forms in their documented
- (2) QC certification i.e.w OCP-6A
- (3) OM ^{has an} ~~has~~ Indoc + Trng Program for ~~for~~ personnel under their jurisdiction i.e.w OCP-6 R5 + is sat
- (4) Indoc of newly hired Qual Personnel is being conducted + doc.
- (5) Insp'n personnel records audited were i.e.w OCP-6A

ACTIVITY AUDIT

Mugshot
Allied 57

Pacific Gas and Electric Company
Quality Assurance Department

Audit No.: 91714

Title/Subject:

QCP-6 QC Training (HPFoley)

Audited Organization/
Facility:

Station Construction - Electrical
Diablo Canyon

Auditor(s):

Ms Dohrensky

Date(s) Performed:

5.14.78 -

5.18.78

1.0 Scope

This audit was conducted to verify that Quality Control and Production personnel are receiving indoctrination and training as required by QCP-6 (E-1) "Training of Personnel". The following elements were reviewed for verification:

1. Classes held on Procedures issued to Production personnel (#4.2.2)
2. Training program for QC Personnel (#4.3.1)
3. Training documented on form HPF/QC-7.

2.0 Conclusions

A review of the above elements indicates that in general the HPFoley training program is in conformance with QCP-6 Rev 1. QCP-6 was Revised (Rev 2) and issued during the course of the audit; the program appears to be in conformance with the new revision as well.

no open items issued.

3.0 Effectiveness of Elements Audited

See "Conclusions" Above.

00002-2252

00002-2253

4.0 Details of Audit

Reviewed training records for 1977, 1978 & 1979 and verified that Production and QC Personnel are receiving training - and is being documented

Revision 2 (issued 5.17.79) added the following requirements:

1. Scheduled weekly training meetings
2. Indoctrination of new hire personnel.

A schedule of weekly training meetings was being formulated at the time of the audit. New hires are being indoctrinated as required. Records indicate that new hires have been indoctrinated even prior to the issue of Rev 2.

5.0 References

Procedure QCP-6 (Rev 1, Rev 2) "Training of Personnel."

6.0 Signature(s)

Date(s)

Michael S. Anthony / M. E. Loggler 5/24/79

cc: [Signature] 5-31-79

PACIFIC GAS AND ELECTRIC COMPANY
QUALITY ASSURANCE DEPARTMENT

AUDIT PLAN

Audit No.: 91714

00002-2254

Activity to be Audited: QCP-6 QC Training (Foley)

Organizations to be Notified: Station Construction - Eled.

Scope of Audit: Verify that production and Quality Control personnel are receiving training in accordance with QCP-6 "Training of Personnel"

Documents Researched:

1. QCP-6 (R-1) "Training of Personnel"
2. _____
3. _____
4. _____
5. _____
6. _____

Tentative Audit Points:

1. Classes on procedures issued to production (P4.2.2)
2. Training Program for QC Personnel (4.3.1)
3. Training Documented on form HPF/QI-T
4. _____
5. _____
6. _____
7. _____
8. _____

(over)

AUDIT PLAN

Documents to be Reviewed During Audit:

1. Same as those researched.
2. Form HPE/QI-T "Quality Induction and
3. Training Meeting"
4. _____
5. _____
6. _____

Supplementary Information (optional): _____

TENTATIVE SCHEDULE:

Notification: by memo Audit Performance: 5.14.75

Post Audit Conference - Report to Management: -

Procedure or Check List Required for This Audit: -

YES NO

PREPARED BY: Michael S. Delizanti 5.14.75

Audit Team Leader Date

Audit Team Members: _____

cc: Audit Team

00002-2255

ACTIVITY AUDIT

Report for
Atty 57

Pacific Gas and Electric Company
Quality Assurance Department

11/11/81

Audit No.:

Title: H.P. FOLEY TRAINING & INSPECTOR QUALIFICATION

Organization: STATION CONSTRUCTION - H.P. FOLEY

Facility: DIABLO CANYON POWER PLANT

Auditor(s): MS DOBRZENSKY

Date(s) Performed: 2/17/81

00057-3431

1.0 Scope

This audit was conducted to verify that procedure OCP-6
"Training of Personnel" is being implemented and inspectors
are qualified in their areas of inspection.

2.0 Persons Contacted

<u>D. Rockwell</u>	<u>PGandE</u>	<u>V. Tennyson</u>	<u>H.P. Foley</u>
<u>S. Foat</u>	<u>PGandE</u>	<u>J. Thompson</u>	<u>H.P. Foley</u>

* Denotes those persons attending the exit interview.

3.0 Conclusions

1. The H.P. Foley Co. is implementing their training procedure
OCP-6 was being revised at the time of this audit to
incorporate findings of an earlier audit (QA 00507).
2. "Certification of Qualification" forms were on file for the
inspectors. They indicate the areas qualified to inspect
the basis for certification.

NO OPEN ITEM REPORTS WERE ISSUED.

(over)

00167-3437

4.0 Identification of Elements Audited

Element 11, "Quality Assurance Program"

Training has not been effectively implemented in the past but is being improved through new revisions to their training procedure.

5.0 Details of Audit

Reviewed forms HPF/QI & T, "Quality Indocination and Training Meeting" for 1980. All of the inspectors had attended at least one of the training sessions and signed the attendance sheet.

6.0 References

QCP-6 Rev. 3, "Training of Personnel"

7.0 Signature(s)

Date(s)

Thomas S. Robinson 2-26-81

R T Twiddy 2-26-81

[Signature] 2-27-81

WESTERN GAS AND ELECTRIC COMPANY
QUALITY ASSURANCE DEPARTMENT

AUDIT PLAN

Audit No.: 11412

Activity to be Audited: H.P. FOLEY TRAINING & INSPECTOR CERTIFICATION

Organizations to be Notified: STATION CONSTRUCTION

DIABLO CANYON POWER PLANT

Scope of Audit: Verify that QCP-6, "Training of Personnel" is implemented and inspectors are qualified in their areas of inspection.

Documents Researched:

1. H.P. Foley QA Manual Procedures:
2. QAP-2, "Quality Assurance Program"
3. QAP-10, Inspection"
4. Audit 00507 & OIR 031-80
5. _____
6. _____

Tentative Audit Points:

1. Is there a tentative schedule.
2. Are training sessions documented on form HPP/QI & T.
3. How are newly hired personnel 'advised' of Quality requirements.
4. Are inspector qualifications documented.
5. _____
6. _____
7. _____
8. _____

(over)

00067-544

1 IDENTIFICATION: NUMBER 8 3 - 0 2 4
Year Sequence

AUDIT NO. 8 3 0 4 3 A
 N/A

INSTRUCTIONS FOR COMPLETING ON BACK OF THIS FORM

2 Reference Requirement(s) ANSI N45.2.6 - 1978 Project or Plant(s) Diablo Canyon Power Plant
3 Item or Activity Inspector Qualifications Response Department Quality Assurance (GC Audit Point)

4 P
R
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Description of Problem
This OIR provides follow-up to an audit point that could not be answered before the conclusion of the audit. Cataract Engineering and Construction is obtaining records from their home office to show the objective evidence used as the basis for qualifying five of their ANSI Qualified Inspectors. The five inspectors are a sample chosen during the audit.
Suggested Resolution (optional)

5 Initiated by Michael S. Dobzynski Supervisory Approval [Signature] for RTT Date 2/15/83

TO BE COMPLETED BY RESPONSIBLE DEPARTMENT WITHIN 15 WORKING DAYS OF ITEM 5 DATE

6a NCR/Problem Report Number []

6b Problem has been resolved as described in item 7.

6c Issued to Track Supplier Audit Finding Reports.

6d For Quality Assurance Department use only:

Assigned to [] By [] Date []

7 R
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Action Taken
INFORMATION COPY
Approved by [] Date [] Scheduled Corrective Action Date 3-1-83

RETURN TO QUALITY ASSURANCE DEPARTMENT

9 V
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Assigned to MSD N/A Supervisory Approval [Signature] for RTT Date 2/15/83

10 Results of Investigation/Comments
Cataract supplied 'Investigation Reports' (conducted by Tri-State Investigation) for the five individuals; these investigations adequately confirm the basis of qualification and validity of the information. See Audit No. 83137A for more details.

The Resolution and Corrective Action are Verified as being complete Michael S. Dobzynski Date 3/23/83

11 Supervisory Approval R. T. Twiddy Date 3/23/83

DISTRIBUTION (Other Departments to receive information copy when originated - check below)

- V. P., Nuclear Power Generation
- Chief, Engineering Research
- Engineering
- Manager, Nuclear Plant Operations
- Manager, Materials
- Station Construction
- Project Manager
- Plant Mgr. and/or Plant Supt.
- Contractor HPF
- Manager, Quality Assurance
- Authorized Inspector (for ASME items)
- Other



Cataract Engineering & Construction

March 17, 1983

H. P. Foley Company
Diablo Canyon Nuclear Power Plant
P. O. Box 327
Avila Beach, CA 93424

Attention: Jim Thompson
QA Manager

Subject: Tri-State Reports
Enclosed With Our Letter of 03/11/83

Dear Jim:

Please consider this as confirming our telephone conversation of 03/15/83.

All information, except "Dates Given", on the Tri-State Investigation report is actual/confirmed information supplied by the employer or educational institution.

Furthermore, unless the information is denoted with "verbal", we maintain written back-up documentation for all information on the report.

Should you have any questions, please feel free to call me.

Sincerely,

CATARACT ENGINEERING & CONSTRUCTION

Roger G. Cates
Project Manager

RGC:aw

cc: A. E. Moses, H. P. Foley Company/Avila Beach, CA
R. J. Messere, Cataract/Newtown, PA

CORRECTIVE ACTION REQUEST

No. 004

ISSUED TO: <u>Howard P. Foley Company</u> <u>Rick Wilson</u> Responsible Production Management & Discipline	ISSUED BY: <u>J. Rothstein, QA Supervisor</u> H.P. Foley Q.A. Personnel Title <u>01-11-84</u> Date Initialed <u>02-11-84</u> Date Response Due
--	---

REQUIREMENT: (State Document, Section and Paragraph and Requirement Violated) .
 OP-5422-6 REV. 0, Paragraph 5.6 ... "Certification form, HPF/QC (Exhibit B) shall be used to document the type of certification for each individual."
 OCP-6 REV. 4, Paragraph 4.2.5.2 "Personnel certifications shall be documented..."

DEFICIENCY: (State Deficiency, Items Involved, etc.)
 Contrary to the above requirement, inspection personnel were not issued written certifications prior to performing inspection activities.

RECOMMENDED CORRECTIVE ACTION:
 Review and evaluate personnel to determine if they were certifiable under the procedure in effect at the time.

<u>2 R Wilson</u> <u>1/11/84</u> Q.D. Approval for Issuance Date	<u>2 R Wilson</u> <u>1/11/84</u> Representatives Acknowledgement Date
---	--

MANAGEMENT RESPONSE: (State cause of deficiency and Corrective Action)
 Review of personnel records indicated that during this time frame of the newly imposed procedure requirements for written certifications, the written certifications apparently lagged behind the actual time of qualification, (CONTINUED ON PAGE 2)
 Date Corrective Action to be Completed N/A 2/11/84

<u>John Rothstein</u> <u>1/11/84</u> Representative Responding Date	Approved <u>2 R Wilson</u> <u>1/11/84</u> Q.D. Review Date
--	--

IMPLEMENTATION OF CORRECTIVE ACTION Satisfactory Unsatisfactory

COMMENTS: INFO

THE HOWARD P. FOLEY COMPANY

CORRECTIVE ACTION REQUEST
CONTINUATION SHEET

ORIGINAL

DEFICIENCY
RECOMMENDED CORRECTIVE ACTION
MANAGEMENT RESPONSE
IMPLEMENTATION OF CORRECTIVE ACTION

0000

NO.

004

PAGE 2 OF 2

DATE

01-11-84

MANAGEMENT RESPONSE: (CONTINUED FROM PAGE 1)

and in some cases were never issued, however the ultimate responsibility for keeping personnel informed of Quality Requirements rested with the supervision directly responsible for the individual. Personnel newly hired were advised of all the Quality Requirements pertinent to their intended area of activity prior to their beginning work. Also, re-evaluation of personnel records revealed that the personnel were certifiable in accordance with the procedures in effect at that time prior to performing inspection activities.

No Corrective Action is required. Current procedures are being strictly adhered to and documentation is in order.

INFORMATION ONLY

Inspector	Dates of Employment	Education	Experience	Certifications Issued/Date
J. Nighswanger	4-1-81 to 1-22-82	High School	5-73 - 12-79 Inspector, Continental Can	Civil No Level 6-2-81 Elect. No Level 11-6-81
S. Ryan	9-3-78 to present	High School AAS, Welding Tech.	9-78 - 5-80 Q.C. Inspector, H.P.F. 5-80 - Present Mechanical Inspector, H.P.F.	PT Level I 5-21-81 PT Level II 11-3-81 Civil No Level 4-20-81 Mech. No Level 4-21-81
R. Simas	4-6-81 to 9-20-82	High School AAS, Welding Tech.	6-75 - 8-75 Welder, Caetana Co. 4-77 - 9-79 Machinery maintenance, United Lumber Co.	Mech. No Level 6-3-81
G. Stephen	8-3-78 to 7-11-80	High School	2-77 - 7-77 Q.C. Inspector, Chemtrol Corp. 10-77 - 7-78 Q.C. Inspector, Tech-Sil Corp.	None
A. Twiddy	4-28-81 to 9-7-83	High School	6-80 - 11-80 Maintenance Asst. Crstwood Manor 1-79 - 5-79 Laborer, Ross Co. 6-78 - 9-78 Painter, PG&E	Mech. 7-6-81 Civil 7-20-81 Mech. Weld 7-7-82
O. Vogt	7-17-77 to 8-11-80	High School	1-75 - 10-76 Q.C. Inspector, S&Q 3-74 - 10-74 Q.C. Inspector, PDM 10-68-12-73 Q.C. Director, San Bernadino Materials Co. 7-65 - 10-68 Quality Eng., Aero Jet Co. 1958-1965 Q.C. Inspector, Aero Jet Co.	PT Level II 4-17-78

INFORMATION ONLY

Inspector	Dates of Employment	Education	Experience	Certifications Issued/Date
R. Boase	11-27-78 to 10-8-80	High School	1939-1972 Aircraft Technician & Testing - Assume 10% of time spent for testing & examination. 33=3.3 years related experience	None
R. Churchman	5-12-80 to 8-23-82	High School	1975-1979 Residential remodeler plumbing and electrical.	Mechanical - No Level 4-20-81 Civil - No Level 4-21-81
L. Clover	9-30-76 to 8-15-77 2-20-78 to 9-6-79	High School B.S. Degree	8-76 - 2-78 Field Clerk, HPF 2-78 - 7-79 Q.C. Inspector, HPF	None
H. Easton	9-24-80 to 5-28-81	High School B.S. Degree	8-78 - 10-79 Asst. Field Eng., L.K. Comstock 8-76 - 8-78 Laborer, Howard Elect.Co. 6-75 - 12-75 Eng. Clerk, NPS Const. Co.	Mechanical - No Level 4-20-81 Electrical - No Level 4-21-81
K. Moses	2-4-80 to 5-6-80	High School	N/A	Performed no independent inspection (Trainee)

INFORMATION ONLY

OPEN ITEM REPORT

1 IDENTIFICATION:

NUMBER 8 3 - 1 2 8
Year Sequence

AUDIT NO. 8 3 2 9 1 A
 N/A

INSTRUCTIONS FOR COMPLETING ON BACK OF THIS FORM

2	Reference Requirement(s)	H.P. Foley Proc. 17 & ANSI N45.2.9	Project or Plant(s)	Diablo Canyon Power Plant	
	Item or Activity	Maintenance of QA Records - Crit. VI & XVII	Responsible Department	H. P. Foley	
4	P R O B L E M	Description of Problem			
		Numerous closed out work request packages are stored in the H. P. Foley vault. No duplicate storage for these records is available. Fire resistant cabinets are provided for storage of a large number of these packages; however, many records are stored in pasteboard boxes temporarily until additional fire (continued)			
		Suggested Resolution (optional) Provide fire resistant cabinets for storage of the affected records promptly.			
5	Initiated by	H. R. Booth	Supervisory Approval	R. T. Twiddy	
				Date	8/9/83

TO BE COMPLETED BY RESPONSIBLE DEPARTMENT WITHIN 15 WORKING DAYS OF ITEM 5 DATE

6a Problem Report Number MVR E-2677

6b Problem has been resolved as described in item 7.

6c Issued to Track Supplier Audit Finding Reports.

6d For Quality Assurance Department use only:

Assigned to	By	Date
-------------	----	------

7	Action Taken					
8	Approved by	<u>System</u>	Date	10-3-87	Scheduled Corrective Action Date	11/27/83

RETURN TO QUALITY ASSURANCE DEPARTMENT

9	Assigned to	<u>MSL</u>	<input type="checkbox"/> N/A	Supervisory Approval	R. T. Twiddy	Date	8/9/83	
	Results of Investigation/Comments							
10								
11	The Resolution and Corrective Action are Verified as being complete						Date	/ /
	Supervisory Approval						Date	/ /

DISTRIBUTION (Other Departments to receive information copy when originated - check below)

- | | | |
|--|--|--|
| <input type="checkbox"/> V. P., Nuclear Power Generation | <input type="checkbox"/> Chief, Engineering Research | <input type="checkbox"/> Engineering |
| <input type="checkbox"/> Manager, Nuclear Plant Operations | <input type="checkbox"/> Manager, Materials | <input checked="" type="checkbox"/> Station Construction |
| <input type="checkbox"/> Project Manager | <input type="checkbox"/> Plant Mgr. and/or Plant Supt. | <input checked="" type="checkbox"/> Contractor <u>H.P.F.</u> |
| <input checked="" type="checkbox"/> Manager, Quality Assurance | <input type="checkbox"/> Authorized Inspector (for ASME items) | <input type="checkbox"/> Other |

4 - Problem, continued

resistant cabinets are available. It is understood that 10 additional cabinets are on order.

Personnel QA record files are stored in J. Thompson's office (no duplicate storage) in non-fire resistant cabinets.

Current storage of the above described records does not meet requirements of H. P. Foley QA Procedure 17, paragraph 3.6.

To: All Q.C. Inspectors
From: L.R. Wilson
Subject: Existing Work

July 11, 1983

The purpose of this memorandum is to clarify The Howard P. Foley Company's responsibilities relative to the existing facility.

Diablo Canyon has been under construction or modification since 1968. At that time 10CFR50 had not been enacted, the ANSI standards were not conceived and the commercial nuclear industry was in it's infancy. The facility has been constructed to various editions of the codes, all of which have different acceptance criteria than the codes in use today.

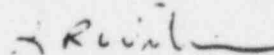
The early construction was conducted and inspected in accordance with an approved PSAR and Quality Assurance program which was designed to provide assurance that the work in place was accomplished in accordance with the design criteria. There is no evidence to indicate that the existing facility does not meet the design criteria that it was constructed to.

The Howard P. Foley Company is currently performing modifications to the facility. Our contractual responsibility is obviously limited to the work which we are performing and does not extend to previous work which has been performed by others.

We do not want to dilute our efforts at fulfilling our Contractual responsibilities to the Owner by reviewing history; however, there may be cases where, in the inspection of The Howard P. Foley Company modifications, an item of concern is noted in the existing work.

The Owner has stated that they want us to report conditions which are clearly deficient and would impair the ability of the Plant to function as designed.

In these cases we should report the concern to the Owner. You are expected to utilize your professional judgement and experience when evaluating existing conditions and avoid reporting trivia that does not affect the safe and reliable operation of the plant.



Rick Wilson
Quality Director



THE
HOWARD P. FOLEY
COMPANY

*Gen. M. L. 1
OC 12 GA*

OPEN ITEM REPORT

Sheet 1

IDENTIFICATION: NUMBER 1 3 1 - 8 2 AUDIT NO. 2 0 8 0 1
Sequence Year N/A

INSTRUCTIONS FOR COMPLETING ON BACK OF THIS FORM

2	Reference Requirement(s) HPFoley Q.A. Manual Sect. II	Project or Plant(s) DCPP
3	Item or Activity Quality Program	Responsible Department G.C. (H.P. Foley)
4	Description of Problem There is no detail procedure which describes how, or requirements to qualify and certify quality persons.	
	Suggested Resolution (Optional) Provide a detailed procedure to certification of quality persons. Suggest follow ANSI N45.2.6 outline.	
	Initiated by <i>R.T. Twiddy</i>	Supervisory Approval <i>R.T. Twiddy</i>

TO BE COMPLETED BY RESPONSIBLE DEPARTMENT WITHIN 15 WORKING DAYS OF ITEM 5 DATE

6a Nonconformance Departmental Problem Report Number MVR E 2394 Issued.

6b Additional information indicates open item was improperly identified and no corrective action is necessary.

INFORMATION COPY

6c For Quality Assurance Department use only

Assigned to	By	Date
-------------	----	------

7	Action Taken		
8	Approved by <i>S. E. Bunter</i>	Date <i>9/7/82</i>	Responsible Department <i>Elect.</i>

RETURN TO QUALITY ASSURANCE DEPARTMENT

9	Assigned to <i>CIAS</i>	<input type="checkbox"/> N/A	Supervisory Approval <i>R.T. Twiddy</i>	Date <i>9/6/82</i>
	Results of Investigation/Comments <i>Reviewed HPF proc. @ CP GA "Quality Control Procedure for Certification of Quality Control Personnel"</i>			
	The Resolution and Corrective Action are verified as being complete <i>[Signature]</i>			
10	Supervisor's Approval <i>[Signature]</i>			Date <i>06/05/83</i>
	Approver <i>R.T. Twiddy</i>			Date <i>6/8/83</i>

DISTRIBUTION (Other Departments to receive information copy when originated - check below)

- | | | |
|--|--|---|
| <input type="checkbox"/> V. P., Nuclear Power Generation | <input type="checkbox"/> Chief, Engineering Research | <input type="checkbox"/> Engineering |
| <input type="checkbox"/> Manager, Nuclear Plant Operations | <input type="checkbox"/> Manager, Materials | <input type="checkbox"/> Station Construction |
| <input type="checkbox"/> Project Manager | <input type="checkbox"/> Plant Mgr. and/or Plant Subt. | <input type="checkbox"/> [unclear] |
| <input type="checkbox"/> Manager, Quality Assurance | <input type="checkbox"/> Authorized Inspector (for ASME Items) | <input type="checkbox"/> Other |

MINOR VARIATION REPORT

LOCATION: Location	Diablo Canyon	Unit No.	1	Reference Spec No.	9502	Page	1
Contractor	GC Electrical	Discrepancy Report No.	1/2	Project MVR No.	E-2392		
Send copy to Contractor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Name	H. P. Foley Company				

DESCRIPTION OF DISCREPANCY

Item: Certification and Qualifications of Personnel
 Explanation: There is no detailed procedure which describes how, or the requirements for qualifying and certifying quality personnel.
 (Ref. OIR 131-82).

Initiated by: *D.O. Reckard* Date: 9/3/82

DISPOSITION: The H. P. Foley Company shall write a detailed procedure for certification of quality personnel.

Additional concurrence, when required: Name: N/A Date:
 Senior Site Representative: *D.O. Reckard* Date: 9/3/82

REVIEW: This Minor Variation Report, (1) Is Not Reportable; May be Reportable (per Title 10CFR Part 21)
 (2) Is Not a Nonconformance
 Quality Control: *JR Brattley* Date: 9/10/82
 Senior Site Representative: *D.O. Reckard* Date: 9/3/82

DISPOSITION ACCOMPLISHED

Remarks: H. P. Foley QC procedure QCP-6A has been written and approved 12/7/82. This procedure details the program for certifying qualified personnel.

FOR REVIEW ONLY

Inspected by: *[Signature]* Date: 3/22/83
 Quality Control: *JR Brattley* Date: 3/30/83

ATTACHMENTS: 1. OIR 131-82.

Original

THE HOWARD P. FOLEY COMPANY

NONCONFORMANCE REPORT

Page <u>1</u> of <u>2</u>	NUMBER: 8802-824 Rev. 1
---------------------------	----------------------------

DESCRIPTION: QUALIFICATION/CERTIFICATION OF THE HOWARD P. FOLEY COMPANY / CATARACT ENGINEERING and CONSTRUCTION INSPECTION PERSONNEL	ATTACHMENTS Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DATE: 6-6-83
	HOLD TAG # REMOVED	

REF. HPF/IR NUMBER: N/A

BY _____ DATE _____

UNIT I UNIT II /LOCATION VARIOUS CLASS I NON-CLASS I

INSPECTION CRITERIA: DRAWING SPECIFICATION PROCEDURE

DOCUMENT TITLE AND NUMBER: QCP-6A, Rev. 0

DESCRIPTION OF NONCONFORMANCE: (Including Cause)
 H.P. Foley's procedure for certification of Quality Control personnel (QCP-6A) was approved and has been in effect since Dec. 7, 1982. Contrary to this procedure, numerous Quality Control personnel have been performing and documenting Class I inspections prior to the issuance of the required certification in their associated work areas.

(Continued on Page 2)

[Signature] 6/6/83 [Signature] 6/6/83
 INITIATED BY DATE Q.C. SUPERVISOR REVIEW DATE

DISPOSITION:

- Contact previous employers of applicable inspectors to determine experience and levels of Certification. —
- Evaluate previous experience and education to determine appropriate level of certification for each inspector.

(Continued on Page 2)

[Signature] 6/6/83 [Signature] 6/6/83 [Signature] 6-30-83
 DISPOSITION BY DATE QUALITY REVIEW DATE P.G. & E. CO. DATE

DISPOSITION ACCOMPLISHED

Close to File (date) 11-16-83

[Signature] 11-11-83 [Signature] 11/11/83
 VERIFIED BY DATE Q.C. SUPERVISOR DATE

FOR INFORMATION ONLY

HPF/NCR 5-20-83

Original

THE HOWARD P. FOLEY COMPANY
NONCONFORMANCE REPORT - CONTINUATION SHEET

NO.
8802-824 Rev 1

CONTINUATION OF: DESCRIPTION OF NONCONFORMANCE <input checked="" type="checkbox"/>	PAGE <u>2</u> OF <u>2</u>
PROPOSED DISPOSITION <input type="checkbox"/>	
DISPOSITION ACCOMPLISHED <input checked="" type="checkbox"/>	DATE 6-6-83

DESCRIPTION OF NONCONFORMANCE: (Including Cause) (Continued from Page 1)

Between 12-7-82 and 3-10-83, it was also noted that Level I inspection personnel did not require a Level II co-signature (Ref. Memo Dated 3-9-83). This Nonconformance encompasses both the H.P. Foley direct inspection personnel and the sub-contracted Cataract personnel (Ref. P.G. & E. Audit 83043A for previous review of Cataract personnel). Due to the two distinctions (Foley/Cataract) the disposition to this Nonconformance should be in two sub-categories; one for H. P. Foley inspection personnel and the second for Cataract inspection personnel.

NOTE: Original NCR 8802-824 was inadvertently misplaced.

DISPOSITION INCLUDING MEANS TO PREVENT RECURRENCE: (Continued from Page 1)

- 3) Reinspect 10% of work of inspectors which cannot be certified to determine acceptability and document results.
- 4) Through interviews with inspection supervision determine competence and performance level of inspectors whose certifiability is questionable. (See items 2 & 3 above)
5. It is not required that a Level I acceptance or rejection be cosigned by a Level II when no evaluation of results is required.
- 6) Future screening of potential inspectors will be performed by H. P. Foley's QA Department prior to employment to determine the appropriate level of certification.

Close to File (date) 11-11-83

FOR INFORMATION ONLY


HPF/TCK

SUMMARY OF REINSPECTION PER NCR 8802-824 Δ

Ed Girard RT
Background Info.
~1-20-84
H.E.
#57

In order to identify those inspectors (non-structural) that required 10% reinspection per NCR 8802-824 Δ , payroll records were reviewed to determine who was assigned to the Foley Quality Department. H.P. Foley Quality Assurance conducted a survey including personnel interviews with inspectors and supervisors of former inspectors to determine which people performed inspections and in what area. From this survey it was determined that many persons were non-inspector types, such as rod control, clerks, etc. These individuals were eliminated from the reinspection, as were those inspectors whose inspection activities were limited to structural steel weld inspections. The structural weld inspectors work was re-inspected per the disposition of the 8833XR-74 series NCR's.

After the list of inspectors was reduced to those that could have performed inspections, the records in the vault were reviewed to locate inspections made by the suspect inspectors. This involved 22 inspectors from the Electrical and Mechanical groups. See the attached list for specific inspectors and number of inspections.

INSPECTORS REQUIRING 10% REINSPECTION PER NCR 8802-824  (Non-Structural)

NAME	TOTAL INSP.	10%	** ACCEPT	WELDING REJECT	OTHER REJECT	COMMENTS
R. Little	15	2	2	0	0	
D. Hannah	63	7	6	0	1*	
M. Alexis	14	2	2	0	0	
C. House	5	1	0	0	1	
C. Springer	8	1	1	0	0	
K. Mattina	4	1	1	0	0	
M. Calloway	2	2	1	0	1*	
J. Nathaniel	41	6	4	0	2*	
D. Larson	14	2	0	0	2	
M. Campbell	157	16	15	0	1*	
M. Dillwith	232	24	19	0	5*	
B. Calmenson	85	10	10	0	0	
S. Dougherty	167	17	17	0	4*	
J. Perry	81	8	8	0	0	
J. Webb	101	11	8	0	3*	
S. Grocott	71	9	1	0	8*	
M. Stich	64	8	7	0	1*	
J. Mc Quilliams	11	2	2	0	0	
R. Spencer	86	10	7	3	0	
J. Stava	98	13	12	1	0	
B. Anderson	4	2	2	0	0	co-signed by Level II
B. Graft	33	100%	29	3	0	
R. Horvath	588	100%	561	27	0	
<p>Note: Reject weld items identified and repaired per NCR-8827-38-1, 8827-29-1, and 8827-45</p> <p>** The number accepted may involve both welding and non-welding attributes</p> <p>* Minor discrepant items repaired or identified on IR 8802-1696, 1747.</p>						

TO: File NCR 8802-82-R1

Rich

FROM: L. R. Wilson, Quality Director

During the reinspection effort associated with NCR 8802-82, it was noted that eleven of the people sampled had a higher than acceptable level of rejectable work. The analyses conducted during the reinspection process and conclusions drawn are as follows:

1. In one case there was one reject in seven reinspections. A review of that reject determined it was invalid.
2. In one case there were five rejects in twenty-four reinspections. A review of those rejects determined that one was invalid and three were on work performed after the initial inspection. Thus the actual rate was one reject in twenty-four reinspections. This is an acceptable error rate.
3. In one case there was one reject in eight reinspections. Research revealed that the reject was the fact that the hanger was no longer installed. The hanger was deleted after the initial inspection.
4. In one case there were eight rejects in nine reinspections. In all eight cases the rejections were due to an improper stencil and were not hardware problems. They are not considered significant.
5. In four cases there was a total of seven rejects in thirty reinspections. In all cases the rejections were not significant and were approved by P. G. & E.
6. In one case there was one reject in two reinspections. Further research revealed that there was one over span condition in a raceway with more than fifty supports. This was not considered significant.
7. In two cases there were six rejects in twenty-three reinspections. The rejections consisted of loose clamps and spring nut alignments. In no case were they significant enough to warrant complete reinspection of the individual's work.

RW:tt
1/19/84

cc: K. Glenn PG&E
NRC



THE

HOWARD P. FOLEY
COMPANY

SUMMARY OF STRUCTURAL STEEL REINSPECTION

FHB-I

NRC inspections between 2-22-83 and 3-3-83 resulted in PG & E NCR DCO-83-RC-N001 requiring H.P. Foley to reinspect 10% of the welded connection in Fuel Handling Building I to determine if a problem exists, and, if so, the scope of the problem. The 10% reinspection of all single and multiple pass fillet welds were carried out on random connections on 4-23-83 (these connections were picked by placing all connections in a hat and 10% of the connections were selected.)

On 4-26-83 HPF/NCR 8833XR-74 was written addressing the unacceptable results of the 10% reinspection and the disposition was to do 100% reinspection of all single and multiple pass fillet welds. The NCR was signed and the disposition was accepted on 4-27-83 and packages were let out for rework on swing shift 4-27-83. Reinspection of Fuel Handling Building I was performed on two shifts seven days a week through 5-14-83. The last field work was completed approximately 5-18-83. At this time there were still NCR's and EDR's pending on some connections; most of these problems were cleared up by 5-26-83.

The sequence for the reinspection and repair work was:

- 1) Engineering assembled the necessary information and made a package. The package consisted of weld reinspection sheets with weld numbers, connection numbers and other documents that pertained to the work.
- 2) Q.C. Inspectors added the required drawing and completed the reinspection.
- 3) After the inspections were complete, the package was reviewed by Q.C. and those welds requiring repair were flagged out and a work package was transmitted to the field for rework.
- 4) Upon completion of the rework or at required hold points, the Q.C. Inspector was called and the necessary inspections were made and documented.
- 5) Then the completed package was reviewed to ensure the required repairs had been completed and documented.

CONTAINMENT I

As a result of the number of welds that required repair during the Fuel Handling Building reinspection, a 10% reinspection on the platform and annulus steel of Containment I was performed starting on 7-8-83. Within a few days the 10% sample was complete and revealed a reject rate at about the same as found in the FHB-I reinspection. NCR 8833XR-74-1 and NCR 8833XR-74-2 were written to document defects found on the platform and annulus steel of containment. PG & E directed that a 100% reinspection be made on all fillet welds made between 1-01-83 and 3-15-83. Later these dates were extended by H.P. Foley management to 5-1-83 to assure all potential problem welds were included in the reinspection.

Summary of Structural Steel Reinspection

Page 2

In an effort to avoid some of the coordination problems experienced in the reinspection and repair of FHB-1 welds, a joint effort was planned and implemented for the Containment.

The sequence involved three steps:

- 1) Packages were pre-planned by Engineering. The packages included the required drawings, supplementary information (DCN's, EDR's, etc.), and an improved weld inspection sheet.
- 2) Work stations were established in the building and a task force of inspectors, craft, and engineers were assigned fulltime to the effort. Inspections were made, and repairs were made and documented on the spot. Minor repairs such as arc strike, splatter, etc. were corrected and noted as accepted on the weld inspection sheet. Repairs requiring filler metal were documented utilizing WIR's.
- 3) Upon field completion, the work package was returned to engineering for review and status. Engineering turned them back to Q.C. for final review and filing.

The whole Containment was inspected and reworked in just over a week, including Saturday and Sunday work.

HOT SHOP I/II and FUEL HANDLING II

In an effort to assess the quantity and type of defects in the Hot Shop and FHB-II, one bay of each was reinspected. The result of the one bay reinspection resulted in HPF/NCR 8833XR-74-3 for Hot Shop, and HPF/NCR 833XR-74-4 for FHB-II. These were written on 7-26-83 and work started immediately. In an effort to close out priority 400 work, Hot Shop took priority. Reinspection of Hot Shop was completed about 8-11-83.

Unit II reinspection was a lot slower due to the fact that it wasn't priority item 400. The reinspection was done as the manpower was available and the time was allotted. The same one package system used in the Containment reinspection was used with the one page Reinspection Checklist. Reinspection of Unit II Fuel Handling Building was completed about 9-30-83.

SUMMARY OF WELDS RE-INSPECTED AND REPAIRED
AS A RESULT ON NCR-8802-824 1

Unit I Fuel Handling Building per HPF/NCR8833XR-74
Total Welds reinspected 3,744
Total Welds Requiring Filler 557

Unit I Containment Platforms per HPF/NCR8833XR-74-1
Total Welds reinspected 1,547
Total Welds requiring Filler 127

Unit I Containment Annulus per HPF/NCR8833XR-74-2
Total Welds reinspected 1,127
Total Welds requiring Filler 83

Units I and II Hot Shop per HPF/NCR8833XR-74-3
Total Welds reinspected 2,676
Total Welds requiring Filler 390

Unit II Fuel Handling Building per HPF/NCR8833XR-74-4
Total Welds reinspected 3,169
Total Welds requiring Filler 486

ATTACHMENT TO HPF/NCR 8802-824, REV. 1

Disposition Accomplished Summary as requested by the NRC

- i. Employment verification was performed and documented on all currently employed QC Inspectors. The following methods were used:
 - A) Record of telephone verification.
 - B) Verification by letter.
 - C) When verification was not feasible, personnel interviews were conducted to determine if the individual had the knowledge one would expect him to have in the position they held.
 - D) When previous experience was not exclusively in Quality, a statement documenting a percentage of time spent performing Quality related activities was prepared.
 - E) Tri-State Investigative Services was employed by Cataract to perform background verification on their personnel.
2. Previous experience and education was evaluated to determine the appropriate level of certification. ANSI N45.2.6-1978 was used as a guideline. Inspectors determined to be certifiable were issued new certifications by discipline. Inspectors determined to be un-certifiable were reinspected in accordance with Item 3.
3. A 10% reinspection of work of Inspectors who could not be certified was conducted and documented. Inspectors who worked in the Civil/Structural discipline were 100% reinspected under the HPF/NCR 8833XR-74 series NCR's.
4. Interviews were conducted with inspection supervision to determine competence and performance level. The supervisors were asked to come on line stating they evaluated the inspectors' performance level and that the inspectors were cognizant of the codes, standards and procedural requirements applicable to this project.
5. H.P. Foley QCP-6A, REV. 1, Paragraph 4.3 has been revised to indicate capabilities of Level I and Level II personnel.
6. Screening of potential inspectors is performed by H.P. Foley QA prior to hire. Verification of education and previous experience is performed and documented prior to certification and release to begin inspection activities.

(Partial Listing)

MTG w/ DR. H. MYERS
11/19/83 3:50 → ~ 7:20 PM
@ DR. MYERS OFFICE

B

Uncertified, unqualified QC Inspectors - Allegation # 57

Ref: QC Insp list
NCR 8802-824 Rev1
PGE Audit 83043A

Up to 1/83 no true safety cert program; 9/12/79-4/25/80 civil insp. were req'd to be cert'd by procedure - but none were per QCIAT; 3/2/81 thru 12/7/82 QC cert reg't per procedure - but no criteria; insp not cert'd to specific task; General certs "Electrical Insp" issued; prior to 1/83 QC insp. no educ. background & no prior exp. experience → no consistent training program.

(NCR 824 - only address prob post 12/7/82 not post 10 yrs
PGE Audit 83043A only " " " " " "
C → NCR not reported to NRC.

- Review/analyze

Task: Allegation or Concern No. 58

FILE COPY

ATS No: RV-83-A-57

BN No: N/A

Characterization:

Foley allows "Red Head" Anchors Studs Reported Improperly Installed.

Implied Significance to Plant Design, Construction, or Operation

See Task Allegation or Concern No. 25

Assessment of Safety Significance

See task Allegation or Concern No. 25

Staff Position

See Task Allegation or Concern No. 25

Action Required

See Task Allegation or Concern No. 25

(Public Listing)

MIR w/ DR H MEYERS
1/19/83 ETC ~ 7:20 PM
© DR MEYERS OFFICE

→ Uncertified, unqualified GE inspectors - Allegation # 57

Ref: GE Insp list
NCR 8802-824 Rev1
PGE Ault 83043A

Up to 1/83 in the Safety Act program; 9/12/79-4/25/80 civil insp were
req'd to be cert'd by program - but none were per GE list; 3/2/81
then 12/7/82 GE cert req'd per procedure - but no criteria; insp not
cert'd to specific tasks; General certs "Electrical Insp" issued; prior
to 1/83 GE insp no educ background & no prior work experience → no
consistent training program.

(NCR 824 - only address post post 12/7/82 not post 10/82
PGE Ault 83043A only " " " " "
→ NCR not reported to NRC.

- Review/analyze

Information obtained by Bishop from
Meyers.

1/83 3:50 EST → ~ 7:20 PM
Dr. Myers Office

Allegation #57

1) 5 pg typed document listing allegations
entitled: Diablo Canyon Nuclear Power Plant
The Problems (a partial listing)

Other documents

General label

- 1. a. 1st ICCFIC 21 Nonconformance report 6/30/83
(not reportable ref Foley NCR 8802-824 rec J) ^{Forest} _{Russell}
- b. 2nd Foley NCR 8802-824 rec J 6/6/83
Unit 1/2 Class I ref inspection EICP-6A, Inc C
Init'd 3: Foley 6/6/83; R.A. Carter 6/6/83 C.C. Sup
[Disposition Wilson 6/6; PGC Russell 6/30/83 into DB]
"Between 12/7/82-3/10/83 Level I inspectors audit reg...
Level II Co sign-off ref memo dated 3-9-83"
NCR applicable to both Foley inspectors and Foley contract
contract personnel (ref PGC audit 83043A)
"Original 8802-824 NCR was inadvertently misplaced"
Temp 10% of work for questionable inspectors
Interview supervisors determine confidence level.
Level II not sig'd to sign if no verification of results sig'd.
- c. 3rd Activity Audit PGC GA Regt. 83043A
Auditor H/S Dolz-zensky 2/7-11/83 Kcam

Not dispositioned
by PGC yet

(what does this mean)

d. "QC Inspector List"

Planned	DISC. DATE	INITIALS / EXIT DATE	Time period	3/6/83 - 12/7/83	12/7/83 - 12/31/83
Agueda, Craig			9/2/79-4/2/80		
Zenzen, Richard			(initially - Mac, G. H. H. H.)		

(31 pages)

PROBLEM STATEMENT

Allegation No(s): 58

ATS No(s):

BN(s):

This document lists (or directly references) each allegation or concern brought to the attention of NRC personnel. The purpose of this statement sheet is to assure that ALL points raised by the allegor are covered.

If the problem statement is not clear as to who, what, where, when, of why regarding the issue, the commentary section will amplify the statement. The commentary section will also be used if there is apparent conflicting information or if there is NO or very little original information available which describes the concern(s). (This can occur if, for example, a one line concern was received in an interview).

PROBLEM STATEMENTS (use extra sheets as necessary)

ALLEGATION #
58

VERBATIM STATEMENT OR REFERENCE

Phillips Red Head stud anchors have been forbidden for use in nuclear power plants; inspectors have reported than many were improperly installed--inconsistent drilling depth--and are subject to frequent dislodging. See also allegation Nos. 25, 142 154 and 176.

COMMENTARY

Date This Statement was Completed 3/16/84

D. Haist

Technical Reviewer
Signature



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION V
 1990 N. CALIFORNIA BOULEVARD
 SUITE 202, WALNUT CREEK PLAZA
 WALNUT CREEK, CALIFORNIA 94598

97

CONFIDENTIAL SOURCE:
 YES
 NO

SUMMARY OF SPECIAL WSP -RELATED INFORMATION

DIABLO CANYON

ISSUE: CONCERNS	DATE: 2/3/84	TIME INITIATED: 4:40 p.	TIME COMPLETED: 5:10 p.
TYPE <input type="checkbox"/> MEETING <input checked="" type="checkbox"/> INTERVIEW <input type="checkbox"/> TELEPHONE-CALL COLLECT: () YES () NO <input type="checkbox"/> OTHER Q = Question R = Reply	<h1 style="font-size: 4em; margin: 0;">COPY</h1>		
	PARTICIPANTS OTHER: NAME Jim Dale QC Assistant Manager (2nd shift)		NEC: E. H. Girard ORGANIZATION Foley
LOCATION CALLED NO.		CALLING NO.	

SUMMARY:

ARE YOU, OR ARE YOU AWARE OF, IMPROPER MANAGEMENT PRESSURES

- Q: STANDARD QUESTION: TO "CUT CORNERS" (i.e. sacrifice safety to meet schedules, etc)?
 R: No direct knowledge, but has heard rumors of problems on intake structure repair work.
- Q: Do you consider the training and qualifications of the craft + QC inspectors to be adequate?
 R: The craft needs better training. The training + qualification requirements for inspection personnel would not be adequate but we ^{brought} ^{good} in experienced people.
- Q: Do you consider the procedures + drawings have to be adequate?
 R: They are not as good as at WPPS but ~~they~~ I believe they are adequate.
- Q: Are you aware of any harassment?
 R: No. Overall our relationship with the craft is good.
- Q: Do you believe the quality of the work at this plant is adequate to assure safe operation?
 R: Nothing I've seen in field would

(OVER)

WRITTEN BY: Edward H. Thurl	DATE: 2/5/84	PAGE OF: 1
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INFORMATION CONTAINED HEREIN IS UNCLASSIFIED DATE 10/15/03 BY 60322 UCBAW/SJS

5. CONTINUED -

give me cause for concern. However, there are two ~~things that give me some concern~~

things that give me some concern:

- The use of red heads. At Trojan where they used them they are coming out of the walls. Tests on them at WPPS indicated they were not good. Also primer tight is ^{too} interesting.
- Rumors of problems at the intake station. I believe you should talk to some of our QC inspectors about this:

PREVIOUS EXPERIENCE:

Civil Engineering QC/QA area

- 6 yrs at Hanford
- 1 yr Alaska pipeline
- short time at Trojan, Fermi 2 + Marble Hill

SUMMARY: Individual has concerns relative to the following:

- ① Use of red head anchor bolts and inadequate torquing requirements for attachment to anchors.
- ② Intake station repairs.

27/2 12/5

3 Use of Red Head Stud Anchors Allegation # 58

Ref HP Rly Procedure QCPE-9, REV 0, pg 10, para 4.7

Callows Phillips Red Head Stud Anchor - have been forbidden for use in n.p.p. for years ; inspectors have reported that many were improperly installed -- inconsistent drilling depth of holes -- and are subject to frequent dislodging.

(- email -)

(no supporting data)

(Partial Listing)

11/19/83 3:00 - 7:20 PM
© DR. MYERS OFFICE

~~Uncertified, unqualified QC Inspectors - Allegation # 57~~

Ref: QC Insp list
NCR 8802-824 Rev 1
PGE Audit 83043A

Up to 1/83 no true safety cert program; 9/12/79-4/25/80 civil insp. were req'd to be cert'd by procedure - but none were per QC list; 3/2/81 thru 12/7/82 QC cert reg'd per procedure - but no criteria; insp not cert'd to specific task. General certs "Electrical Insp" issued; prior to 1/83 QC insp no educ. background & no prior work exper. & no consistent training program.

(NCR 824 - only address prob post 12/7/82 not post 10 yrs
PGE Audit 83043A only " " " " " "
NCR not reported to NRC.

- Review/analyze

OTHER Allegations

11/21/83

CONFIDENTIAL SOURCE
(TOPICS WILL IDENTIFY)
INDIVIDUAL

10/8

Phonecall 9:10 PM - 10:55 PM

DR. H. Myers, Allegor / TUB

GENERAL DISCUSSIONS OF TUB QUESTIONS TO ALLEGOR.

TUB SPENT ~ 3 1/2 HRS ON 11/19 @ DR. MYERS'S OFFICE REVIEWING DOCUMENTS SUBMITTED BY ALLEGOR (REF. SEPARATE LISTING)

- Allegor does not want to identify himself by name.
- direct discussion of allegor's topics with contractor (Foley) or Project will cause allegor to be identified
- Allegor suggested ~ 'Comments came to NRC through a former employee.'

Allegation No. 57:

- Thompson has most knowledge of this problem.
- believes list of inspectors is basically comprehensive.
- believes POIE has accepted / signed off NCR 8002-824.
- no other info

Allegation No. 58:

- Foley inspectors in field have most knowledge on this issue
- not aware of any current failures
- not aware of any failures that were not fixed.
- now, they perform tongue to verify newly installed anchors are satisfactory.
- the direction is cut not to tongue cid

NiB. →

anchors, (because to do so would cause them to fail).

Allegation No. 59

- not sure what "TH" stands ^{for}, but Foley receives cable reels under a purchase order number. These numbers begin with "AR....". Foley then adds their own alpha numeric code. Log ^{of these} called "TH Log"
- One purchase order may have may different reels. Foley adds reel numbers for control.
- Mark Papasergia is most knowledgeable ^(sp) of the situations where 'production' used their own private stock of cable. Production gets this cable as follows - when they have a job they procure X feet of cable and put it on a ^{small} reel. They only use "X-Y" feet, and therefore have y feet left over. They save this y feet (without traceability) and may use it later. Papasergia has documented this problem on several of his "Monthly Reports to the Quality Director". Do not approach Papasergia directly on this issue or it will cause allegor to be identified - instead ask Papasergia what problems has he had, where has he documented them, ask to see his "Monthly Reports" circa last spring and summer.
- When Thompson stated traceability was lost

N.B. {

N.B.

years ago, he meant that it was lost, and not since regained. Allegor doesn't know if Thompson told this to anybody else but believes so.

- Allegor believes traceability situation is hopeless and that Thompson and others believe so also.
- Allegor believes that records have been changed illegally, that person(s) have added reel numbers to documents that were not there before (no specifics) - anybody can get to records.
- Records are in a metal shead (vault), there is an access list but you can go in almost any time and see people in there who are not on the access list.

Allegation No. 60

- believes suppliers are approved "locally" by Foley.
- computer print out of ^{approved} suppliers is updated and published once per week.
- this problem (use of unapproved vendors) is pervasive - since the early 1970's and still today.
- PGE has issued a "new" NCR # DCO-83-SC N007, dated 6/10/83 which documents this problem (don't know status), but Allegor understands the corrective action to be a 100% review of Class I records. He believes this is ~~max~~ such

a massive chore that it will not be done all the way back to day zero, it would involve thousands of records.

- When asked for best NRC contact: Allegu replied, that the Supervisor of this area is relatively new, hired in March 83 (Kelly Calhoon) and that since this time Calhoon has signed off records which he should not have, i.e. he signed off records for which he did not have an inspection function, including records which predate his employment. He was caught at this. No disciplinary action was taken, Calhoon was asked to correct the records. (Suspects Calhoon was 'just not exercising good judgement')

NB. This is a new aspect - possible fraudulent records

Allegation no. 1

- Most knowledgeable individual on this issue is in the document control center Julie Carrel.
- Allegu mailed some new NCR's on this subject to Dr. Myers - should receive in a few days.
- Allegu feels this problem centers around document control and is due to ^apast lack of training of Foley and probably Pullman document control personnel and lack of cooperation between contractor doc. control and P.G. & E document control.
- no specific contact for field work of this area

- Believes PGE or Foley has now obtained a complete copy of drawing #100
- Drawing #100 is not currently being used.
- There are many DCs that have this problem, these discussed in the material given to Dr. Myers are probably the best written up.

Allegation No. 62

- Allegor believes the inadequate sampling problem may be true of electrical termination inspections also.

NB

- according to allegor - Foley does not have a program which requires inspection of each termination, which shows the right wire is connected to the right terminal block.
- Direct inspection, or reference to the way the 10% cable pulling inspection sample problem was handled will cause allegor to be identified - allegor suggests NRC approach by looking at logs of "quality work" and will see that there were no, or few inspections in the first few years. - getting NRC into the wire.
- Doesn't know PGE's status on this issue (whether NRC 8802-898 is now signed by PGE or not)

Allegation No 63

- Allegor feels the use of EDRs (like EDR # 8938) is too unofficial
- Foley also used telephone records to document official decisions - feels this is improper - this was done up until March 1983.
- EDR 8938 was signed off by "Zacharia" and initialed by Don Rockwell (DHR)
- Allegor, when asked, does not know why the "8" of EDR 8938 was hand written while the rest of the numbers were printed. (Now, he says, they are all hand written).

N.B. →

- The Fire control / Deluge circuits were not, and are now, Class I - These have traceability problems.

Allegation No. 64

NB

- Allegor says records show that the same "strength report" was used for two different types of grout.
- Suggests we check strength reports over time, randomly, so we don't draw specific attention to the allegor.
- Allegor doesn't know if any NCR's were written on this issue.
- Eaton works for Fidler,
- Eaton "makes up" the grout samples. - Eaton himself feels this is 'not right'.
- Allegor doesn't know where grout was ^{is} used.
- When asked, allegor did not know if proxy signatures were OK (e.g. "Richard Fox FOR EATON"), but says he's seen it before and it seems to be accepted.

Allegation 65

- Discussion to destroy records was focused, rather specifically, on non-quality required records called "Data Input Checklists"; per Allegation.
- "Data Input Checklists" have now been removed from ~~the~~ to a separate file in the Document Turn Over Trailer.
- Jim Thompson has given the direction to destroy these records
- "Data Input Checklists" are the results of clerical review of quality documents, and show problems. If they are destroyed a person could reconstruct the problems by looking at the actual quality document.
- Thompson has issued a memo (copy being mailed to Dr. Rogers) which tells personnel not to look at records prior to Sept 1981 because this was before the NRC license of Diablo and therefore 'out of scope' [Allegation believes reason is there are lots of problems in pre-9/81 records and Thompson/Wickham don't want to find them.]
- 70 to 80% of all Foley quality records have been reviewed by clerks for completeness, etc, but have not been reviewed by Document Analysts. [implying most records have not been adequately reviewed].
- Data Input Checklists are not quality documents.

Other statements (in resp. to questions)

- Skip Moses is the person putting pressure on Thompson to get job finished.
- Thompson is "weak" - if pressured by Moses he will submit. ; if "pressured" by the NAC he will probably ~~identify~~ open up and discuss ~~all~~ his knowledge of problem areas. or offer immunity^{Dr. Meyer}.
- Wilson will "stone wall"
- Foley just received a "maintenance contract", they have been concerned, for months, whether they would/would not receive this contract.
- Regarding protection of identity - "don't reference any document" provided to Dr Meyer's by the allegor.

NB

← END

— T W I Self

Task: Allegation #58

ATS. No. RV 83A

Characterization: A site contractor (HPFoley) allows the use of Phillips Red Head anchor studs, many of which are reported to be improperly installed and are subject to frequent dislodging.

Initial Assessment of Significance: (refer to Allegation No. 25).

Source: Anonymous (via Dr. H. Myers)/Confidential 11/83

Approach to Resolution: (refer to Allegation No. 25).

Status: Not started.

Review Lead: Region V

Support: NRR-DE-MEB

Support:

Estimated Resources: (refer to Allegation No. 25).

Estimated Completion: 12/9/83 Evaluation (preliminary)
1/27/84 Final Evaluation

Task: Allegation No. 58

ATS. No. RV 83A 0057

Characterization: A site contractor (H. P. Foley) allows the use of Phillips Red Head anchor studs, many of which are reported to be improperly installed and are subject to frequent dislodging.

Implied Significance to Plant Design, Construction or Operation

Refer to Allegation No. 25.

Assessment of Safety Significance

Refer to Allegation No. 25.

Staff Position

Refer to Allegation No. 25.

Action Required:

Refer to Allegation No. 25.

Task: Allegation No. 80

FILE COPY

G.T.
Final
3.8.84

ATS No: RV-83-A-64

Characterization

Letters dated 4 November 1983, 9 December 1983 and 9 January 1984 from Dr. Richard Kranzdorf, Spokesperson for Concerned Cal Poly Faculty and Staff, concluded that the licensing process for the Diablo Canyon Nuclear Power Plant (DCNPP) should cease until four primary issues regarding emergency planning by San Luis Obispo County/Cities are resolved:

1. The evacuation time calculations are not adequate because only 20% was added to the normal evacuation times to account for adverse weather conditions. Dr. Kranzdorf does not feel that the 20% factor represents the "worst case" possible which he considers may be dense fog.
2. The main evacuation transportation routes for the Baywood Park/Los Osos area are unacceptable because both are subject to flooding.
3. Sirens, as the primary means of notification, are not acceptable because they are powered by regular power lines and are, therefore, subject to periodic interruption. The back-up system (police cars with sirens) is not acceptable because it would not be as effective as a fully operational siren system.

61.

4. The evacuation time estimates are inadequate because the effects of earthquakes (e.g., potentially greater evacuation times) have not been considered.

Implied Significance to Design, Construction or Operation

Implied is that in the event of a major nuclear emergency at the DCNPP, planning is inadequate to insure the public health and safety through appropriate notification of the public and evacuation of some geographic areas within the emergency planning zone (EPZ) during inclement weather conditions such as fog and flooding, or other natural physical phenomena (e.g., earthquakes).

Assessment of Safety Significance

On 8 December 1983 a conference call involving Region IX of the Federal Emergency Management Agency (FEMA), the State of California Office of Emergency Services (COES), the San Luis Obispo County Office of Emergency Services (SOES), and NRC Region V was conducted to discuss and analyze the issues raised by Dr. Kranzendorf. Since FEMA has primary responsibility by Presidential Direction to take the lead in offsite planning for nuclear emergencies, FEMA Region IX agreed to coordinate the assessment of the allegations. Additionally, NRC Region V has performed an independent assessment of the allegations. The results of these assessments are as follows:

1. The evacuation time calculations are not adequate because only 20% was added to the normal evacuation times to account for adverse weather conditions. Dr. Kransdorf does not feel that the 20% factor represents the "worst case" possible which he considers may be dense fog.

Assessment

Several independent studies dealing with road capacities under adverse weather conditions concluded that a 20% reduction in speed and capacity is appropriate for a range of adverse weather conditions including heavy rain and fog. These studies were conducted in several different states including California (fog), New York (fog), Illinois (snow and rain) and Texas (rain). Since speeds during a fair weather evacuation are already reduced from maximum, an additional reduction of 20% appears to be reasonable. The 20% reduction factor is a widely accepted standard. Evacuation times during extremely adverse weather conditions (e.g., zero visibility fog) might be somewhat longer, however, the times noted in the San Luis Obispo County Emergency Plan for general adverse weather conditions are available to the decisionmakers so that during extreme conditions concurrent with a radiological emergency, appropriate protective measures could be taken based on these estimates. It should be noted that there is no requirement that evacuation time estimates be based on the worst possible weather conditions.

This issue was litigated in the licensing proceeding. In an initial decision regarding emergency planning for the DCNPP, dated August 31, 1982, the Atomic Safety Licensing Board (ASLB) in part stated:

o "The evacuation time estimate made by Applicant conforms with the requirements of Appendix 4 of NUREG-0654 and is therefore accepted for the purposes of this case. A second estimate of evacuation time, done independently by the TERA Corporation, leads to similar estimates as the above report.... The (Joint Intervenor) witnesses consistently urged the most conservative assumptions, however, which the Board concludes are not credible.... The time estimates by P.R.C. Voorhees were realistically made over a range of normal and adverse conditions.... We conclude that time estimates for emergency evacuation of the public within the plume exposure EPZ are valid and in conformance with Appendix 4 of NUREG-0654.... The board therefore finds that adequate protective actions can be taken both on site and off site in the event of an emergency and requirements of 10 CFR 50.47 and criteria of Part J of NUREG-0654."

2. The main evacuation transportation routes for the Baywood Park/Los Osos area are unacceptable because both are subject to flooding.

Assessment

These circumstances are addressed in the San Luis Obispo County Emergency Plan. The Plan acknowledges specific locations which have a tendency to flood and also notes duration of flood stage at those locations (normally 2 hours). County officials are prepared to consider temporary delays associated with these specific locations during flood conditions. Evacuation times would be extended in proportion to the lost capacity. In addition, the Plan has provided for a staged evacuation. This would help alleviate any added

congestion due to the use of alternate evacuation routes. Evacuation time estimates for a staged evacuation are provided in the Plan and are, therefore, available to the decisionmakers. County Officials would use these data to take the most prudent protective measures when faced with the prospect of or actual flooding.

An important point to be considered is that under severe flooding conditions the most probable protective measure which would be employed in the Baywood Park/Los Osos area would be sheltering instead of evacuation since a) a radioactive plume from the plant would be diffused by the hills and distance between the plant and the Baywood Park/Los Osos area and b) the Baywood Park/Los Osos area is greater than five miles from the plant and c) a storm of this magnitude resulting in the flood conditions discussed above would in itself inhibit migration of the plume.

FEMA has evaluated this situation and found that the county plans are satisfactory.

3. Sirens, as the primary means of notification, are not acceptable because they are powered by regular power lines and are, therefore, subject to periodic interruption. The back-up system (police cars with sirens) is not acceptable because it would not be as effective as a fully operational siren system.

Assessment

The siren system for alerting residents within the offsite jurisdictions around the DCNPP is electrically powered by sources distributed through seven different electrical power substations. The potential for power failures has been considered and procedures exist to verify power availability. Should a substation outage be reported as a result of that verification procedure, those responsible would dispatch appropriate county staff to the affected area for personal notification to residents. This activity would be performed in accordance with the guidance provided in NUREG-0654/FEMA REP-1, Rev. 1 that specifies the county has 45 minutes to alert that portion of the public that did not receive the initial alert.

4. The evacuation time estimates are inadequate because the effects of earthquakes (e.g., potentially greater evacuation times) have not been considered.

Assessment

The effects of earthquakes, with respect to evacuation times, has been considered and data has been provided in the county plan. An estimate of the evacuation times has been provided for light, moderate and heavy damage levels. These data are available to the decisionmakers so that in the event of a radiological emergency, during and/or after an earthquake, appropriate protective measures could be taken based on these estimates.

Staff Position

Based on the results of the combined assessment efforts by FEMA, State, County and NRC personnel, the staff position is that all allegations have been responsibility evaluated and addressed by all of the appropriate authorities.

Action Required

Provide Dr. Kranzdorf with the results of the assessment of the allegations. This will be accomplished by letter, telephone or possibly a meeting with Dr. Kranzdorf.