

I. General

Reference

During the appraisal period several major problem areas were identified or had been previously identified which indicated a poorly functioning Quality Assurance Program. These included soils compaction problems (excessive settling of safety related structures); qualification of quality control inspections, and significant quality assurance program problems associated with the Zack Company installation of heating ventilation and air conditioning (HVAC) at the facility.

A major reorganization of the licensee's quality assurance organization was initiated during the review period. This reorganization was not immediately effective but has been upgraded since that time. All Zack (HVAC) Company quality assurance functions have been taken over by the licensee's quality assurance organization.

A special Region III quality assurance inspection team reviewed the licensee's quality assurance program performance in May of 1981. While there were several items of noncompliance identified as a result of this inspection, the overall finding was that the company's reorganization of their quality assurance department had resulted in an improved and acceptable performance in this area.

IE Inspection Reports  
No. 50-329/81-12;  
50-330/81-12

II. Specific

A. Contention

"The Midland facility displayed evidence of weakness in ..... quality assurance (including management and training)...."

1. The qualifications of several quality control inspectors involved in the overview of containment post tensioning activities were found to be deficient.

IE Inspection Reports  
No. 50-329/79-19;  
50-330/79-19

2. NRC Actions

Following notification on July 26, 1979, by the licensee pursuant to 10 CFR 50.55(e) of receiving nonconforming containment building prestressing wire tendons, and the NRC finding of unqualified QA inspectors the following actions were taken:

IE Inspection Reports  
No. 50-329/79-22;  
50-330/79-22  
Item of Noncompliance  
"QC Inspectors Not  
Qualified"

Informed the licensee, during the inspection of September 11-14, 1979, that NRC inspection findings indicated that none of Bechtel's quality control inspectors about to be assigned to the inspection and testing of the containment prestressing system had any prior related work experience.

Enforcement Meeting to discuss QC personnel qualifications 10/25/79

Compared qualification records of eleven quality control personnel to the requirements of Regulatory Guide 1.58 and ANSI N45.26 and concluded that none of the inspectors met the qualification requirements for either experience or education.

IE Inspection Reports No. 50-329/79-23; 50-330/79-23

Issued an item of noncompliance (infraction for using personnel in the containment prestressing system that were not qualified to the requirement Regulatory Guide 1.58 and ANSI N45.26).

IE Inspection Reports No. 50-329/80-04; 50-330/80-04

IE Inspection Reports No. 50-329/80-09; 50-330/80-09

IE Inspection Reports No. 50-329/79-19; 50-330/79-19

Performed an inspection on October 10-12, 1979. The quality control inspectors (five Level I and three Level II) were given a written examination to evaluate the level of knowledge of the prestressing inspectors involved with the inspection and review of the prestressing system. The results indicate that certain QC inspectors, both Level I and Level II were not considered to be qualified.

IE Inspection Reports No. 50-329/79-22; 50-330/79-22

This inspection was followed up by a management meeting on October 25, 1979.

IE Inspection Reports No. 50-329/79-23; 50-330-79-23

Performed an inspection on March 25-27, 1980; reviewed testing results of quality control inspectors and found them to be qualified. Inspection Performed March 25-27, 1980

IE Inspection Reports No. 50-329/80-04; 50-330/80-04; 50-329/80-09; 50-330/80-09

### 3. Licensee Corrective Action

Following the September 11-14, 1979 item of noncompliance the following actions were taken by the licensee:

IE Inspection Reports No. 50-229/79-19; 50-330/79-19

- . Bechtel committed to retest three Level II and seven Level I inspectors involved in tendon inspection. Items of nonconformance, r.e., QC inspector qualification.
- . Bechtel committed to have a person onsite with prior post-tensioning experience and qualified as a Level II in accordance with ANSI N45.2.6-1973.
- . Consumer's Power Company agreed to relieve QC inspectors from regular duties until Consumers and NRC could evaluate requirements of their inspection function. IE Inspection Reports No. 50-229/79-22; 50-330/79-22

B. Contention

"The Midland facility displayed evidence of weakness in .... sub-structures and foundations...."

1. Basis

The Licensee's overview of a contractor's (Bechtel Corporation) Quality Assurance performance in the area of soils compaction failed to identify significant quality assurance/quality control deficiencies in a timely manner.

The failure to assure proper soils compaction prior to the construction of structures has resulted in excessive settlement of several safety-related structures. These include:

10 CFR 50.55e  
9/29/78, 11/7/78  
12/21/78, 1/5/79  
2/23/79

- . Diesel Generator Building and Foundation 4/3/79, 6/23/79
- . Borated Water Storage Tank Foundations 8/10/79
- . Service Water Structure 9/5/79

While extensive programs have been identified and corrective actions are in progress, none of the above problems have been finally resolved. Hearings are in progress. Letter Howell to Keppler 2/7/80

2. NRC Actions

The initial review of this matter was conducted by Region III personnel. The responsibility for the evaluations and

10 CFR 50.55(e) 9/27/78  
Memo 11/1/78 Keppler to Thornburg

resolution of this problem was transferred to NRR on November 1, 1978. NRC issued an order modifying the plant construction permits on December 6, 1979. Follow-up inspections have been conducted by Region III inspectors.

Memo 11/17/78 Reinmuth to Vassallo  
IE Inspection Reports  
No. 329/78-12;  
329/78-20; 329/79-06;  
329/79-19

The review and evaluation of the licensee's proposed remedial actions is currently in progress by NRR and IE.

10 CFR 50.54(b) 3/21/79  
11/19/79, 4/24/79,  
5/31/79

### 3. Licensee Corrective Actions

The licensee filed an amendment 72 to its application on December 19, 1979 and proposed remedial actions for which commission approval is sought.

Consumers Power Co.  
Amendment 72  
12/19/79

Prepared a program (part of Amendment 72) which included the following areas:

Letters from:  
S.H. Howell to  
J.G. Keppler;  
G.S. Keeley to  
J.G. Keppler,  
dated 4/24/79;  
S.H. Howell to  
H.R. Denton,  
dated 5/31/79  
and 7/2/79.

- . Installation of a permanent de-watering system.
- . Settlement criteria and settlement monitoring programs
- . Reorganization of the company quality assurance organizations.
- . Pre-loading of affected structures and monitoring programs to assure full settlement of structures prior placing structures in use.

## C. Contention

The Midland facility displayed evidence of weakness in safety-related components.

### 1. Basis

The licensee's overview of a contractor's (Zack Company) quality assurance performance in the installation of heating, ventilation, and air conditioning systems failed to identify significant quality assurance/quality control problems in a timely manner.

A Region III investigation into allegations regarding the Zack Company quality assurance performance revealed that twelve of the twenty-one allegations of poor performance were substantiated.

IE Inspection Reports  
No. 50-329/80-10;  
50-330/80-11 (18  
items of noncompliance)

2. NRC Actions

- . A special investigation was conducted (March 6 - July 31, 1980) regarding allegations concerning the quality assurance performance of the Zack Company in the installation of safety-related heating, ventilation and air conditioning. (HVAC) IE Inspection Reports No. 50-329/80-10; 50-330/80-11 (18 items of noncompliance)
  - . An immediate action letter was issued March 21, 1980, which stopped all safety-related Zack Company H.V.A.C. work on the site. This action was taken after it was determined that continued items of nonconformance existed in the Zack Company's implementation of their Quality Assurance Program. IAL 50-329  
IAL 50-330 3/21/80
  - . A management enforcement meeting was held in the Region III offices to review the licensee's proposed corrective actions. IE Inspection Report No. 50-329/80-14  
Management Enforcement Meeting 5/2/80
  - . Civil Penalty Issued (\$38,000.00) Docket No. 329  
EA-80-56 Civil Penalty  
1/8/81
  - . The licensee committed to a program and schedule for the resolution of all of the areas of concern regarding the Zack Company HVAC installation. Upon verification that these items were acceptably completed or in progress, the NRC permitted resumption of work Letter: Keppler to Howell 5/22/80.  
Letter: Cook to Keppler 6/30/80.
- Zack Co. released from Stop Work Order of March 20, 1980, by letter from Bechtel dated 8/14/80.  
IE Inspection Reports No. 50-329/80-26;  
50-330/80-27;  
50-329/80-21;  
50-330/80-22;  
50-329/80-23;  
50-330/80-24

3. Licensee Corrective Actions

- . The most significant licensee actions taken were to reorganize the Consumers IE Inspection Reports No. 50-329/81-08;

D. Contention

"In the area of quality assurance there were numerous items of noncompliance, instances of unqualified QC inspectors, and instances of inadequate control of contractor activities."

1. Basis

Major examples are the same as identified in Contentions A, B, and C.

2. NRC Actions

Major examples are the same as identified in Contentions A, B, and C.

3. Licensee Corrective Actions

Major examples are the same as identified in Contentions A, B, and C.

E. Contention

"Earlier quality assurance problems associated with materials and placement of soils and backfilling were identified during the evaluation period."

1. Basis

Same as identified in Contention B.

2. NRC Actions

Same as identified in Contention B.

3. Licensee Corrective Actions

Same as identified in Contention B.

F. Contention

"The licensee was slow in responding to NRC concerns regarding soil placement."

1. Basis

These concerns are still not fully resolved.

Same as identified in Contention B.

2. NRC Actions

Same as identified in Contention B.

3. Licensee Corrective Actions

Same as identified in Contention B.

G. Contention

"An NRC Order modifying the construction permit was issued to assure corrective action to the soil problems."

1. Basis

Same as identified in Contention B.

2. NRC Actions

Same as identified in Contention B.

3. Licensee Corrective Actions

Same as identified in Contention B.

H. Contention

"Major deficiencies were identified in quality assurance controls over the installation of safety-related heating, ventilating, and air-conditioning components."

1. Basis

Same as identified in Contention C.

2. NRC Actions

Same as identified in Contention C.

3. Licensee Corrective Actions

Same as identified in Contention C.

I. Contention

"Midland received a relatively large number of items of noncompliance when compared with other power reactor facilities under construction."

1. Basis

The number of items of noncompliance was slightly below average prior to including the items of noncompliance that resulted from the investigation of the Zack Com-

IE Inspection Reports  
No. 50-329/80-10;  
50-330/80-11;  
50-329/80-35;

pany (18). Thus, during the SALP-1 period there were a total of 37 items of non-compliance for this site (combined for Units 1 and 2).

50-330/80-36  
(SALP)

2. NRC Actions

Same as identified in Contention C.

IE Inspection Reports  
No. 50-329/80-10;  
50-330/80-11  
Docket No. 50-329;  
Docket No. 50-330  
EA-80-56  
Civil Penalty 1/7/81

3. Licensee Corrective Actions

Same as identified in Contention C.

Letter: James W. Cook  
to V. Stello 1/30/81

J. Contention

"These deficiencies resulted in the issuance of an NRC stop work order and the imposition of civil penalties to assure corrective action."

The deficiencies referred to and NRC actions taken are discussed in Contention C above.

K. Contention

"Technical responses to NRR were occasionally inadequate but have shown improvement during the evaluation period."

Response items during this SALP evaluation period have principally dealt with the soil settlement issue, the B&W Sensitivity and Post-TMI matters. The applicants response to the B&W Sensitivity and Post-TMI matters have shown a marked improvement compared to responses prior to the review period and are judged above average in responsiveness. The applicant's responses to the soil settlement requests were untimely and inadequate prior to December 6, 1971 and contributed to issuance of an Order which, in essence, would suspend soils construction activities until the staff received the information (criteria) needed to determine the adequacy of proposed remedial actions. As provided by the Order, the applicant requested a hearing on the Order, and thereby stayed the effectiveness of the Order pending Licensing Board ruling.