U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

DIVISION OF PROGRAM DEVELOPMENT AND APPRAISAL
PERFORMANCE APPRAISAL SECTION

Report No. 50-346/80-3 (PAS)

Docket No. 50-346 License No. NPF-3

Licensee: Toledo Edison Company
Edison Plaza, 300 Madison Ave.
Toledo, Ohio 43652

Facility Name: Davis-Besse Nuclear Power Station

Inspection At: Davis-Besse Site, Oak Harbor, Ohio and
Toledo Edison Company, Toledo, Ohio

Inspection Conducted: October 27-31, November 1, 3-7 and November 17-21, 1980

Inspectors:

A. T. Gody, Inspection Specialist (Team Leader)	12/18/80 Date Signed
L. W. Gage, Inspection Specialist	12/18/80 Date Signed
D. G. Hinckley, Inspection Specialist	12/18/80 Date Signed
P. H. Johnson, Inspection Specialist	12/18/80 Date Signed
W. L. Kushner, Inspection Specialist	12/18/80 Date Signed
C. R. Oberg, Inspection Specialist	12/18/80 Date Signed
J. D. Woessner, Inspection Specialist	12/18/80 Date Signed

Accompanying Personnel: L. Reyes, Senior Resident Inspector
+* V. Stello, Director, Office of Inspection & Enforcement
#* J. M. Taylor, Deputy Director, Division of Program Development and Appraisal
* J. G. Keppler, Director, Region III

* R. F. Warnick, Chief, Reactor Projects Section 3, R III
* W. Rogers, Resident Inspector
* D. Garner, Licensing Project Manager

Present for a plant tour on November 19, 1980.

+ Present for a plant tour on November 20, 1980.

* Present during the exit interview on November 21, 1980.

Approved By: _____ 11/5/81
W. D. Shafer, Acting Chief, Performance Appraisal Section — Date Signed

Inspection Summary

Inspection on October 27-31, November 1, 3-7 and November 17-21, 1980 (Report No. 50-346/80-3 (PAS)

Areas Inspected: A special, announced inspection was performed of the licensee's management controls over selected licensed activities. The inspection (by seven NRC inspectors) involved 703 inspector-hours at the site and in the corporate office.

Results: The licensee's management controls for nine areas were reviewed, and conclusions were drawn in each area based on the observations presented in this report. The conclusions are presented as good, average, or poor as follows: Section 3, Committee Activities - average; Section 4, Quality Assurance Audits - average; Section 5, Design Changes and Modifications - average; Section 6, Maintenance - average; Section 7, Review and Control of Licensed Activities (Operations) - average; Section 8, Corrective Action Systems - average; Section 9, Training - good; Section 10, Procurement - poor; Section 11, Physical Protection - average.

Additionally, a number of observations were presented to the Region III Senior Resident Inspector as potential enforcement findings for followup as appropriate. These observations were also discussed with the licensee during meetings on October 31, November 7, and November 21, 1980.

DETAILS

1. Persons Contacted

The following lists (by title) the individuals contacted during this inspection. The matrix to the right of the listing indicates the areas (number, corresponds to paragraph number in the report) for which that individual provided significant input. Other individuals were also contacted during the inspection including technical and administrative personnel.

Title of Individual	3	4	5	6	7	8	9	10	11
Corporate Office									
# President and Chief Operating Officer	X	X			X				
*# Vice-President Nuclear	X	X	X	X	X	X	X		
# Vice-President Administrative Services								X	X
*# Nuclear Services Director			X	X	X		X		
# Nuclear Engineering and Construction Director								X	
# Procurement Director								X	
# Industrial Security Director									X
Nuclear Engineering Manager			X	X		X		X	
Nuclear Construction Manager			X	X					
Site Engineering Manager			X	X		X			
# Plant Nuclear Systems Engineer								X	
Procurement Manager						X		X	
# Material Control Operations Manager								X	
Purchasing Supervisor								X	
Buyer						X		X	
Chairman, CNRB	X								
# Staff Assistant VP-Nuclear (CNRB)	X	X							X
# Nuclear Licensing Manager (CNRB)	X								X
General Superintendent (CNRB)	X								
Plant Process Systems Engineer									X
Onsite									
+*# Station Superintendent (CNRB)	X	X	X	X	X	X	X	X	X
* Assistant Station Superintendent (CNRB) (SRB)	X	X	X	X	X	X			
+*# Quality Assurance Director (CNRB)	X	X	X	X	X	X		X	
Nuclear Reliability Manager (SRB)	X			X	X	X			
*# Nuclear Training Manager					X		X		
*# Nuclear Security Manager									X
Operations Engineer			X	X					

Onsite (Continued)	3	4	5	6	7	8	9	10	11
* Operations Engineer (SRB)	X	X			X	X			
Maintenance Engineer (SRB)	X	X	X	X		X	X	X	
Technical Engineer			X	X	X	X			
+*# Senior Engineer						X			
Lead Maintenance Support Engineer				X		X	X		
Nuclear and Performance Engineer					X				
Lead I&C Engineer (SRB)	X	X		X			X		
Office Supervisor					X			X	
+*# Quality Assurance Supervisor		X	X	X	X	X	X	X	X
Operations Supervisor (Alternate SRB)	X	X	X	X	X	X			
Shift Supervisor (2)					X				
Shift Supervisor (Alternate SRB)	X	X							
Quality Control Supervisor			X	X		X		X	
Field Quality Assurance Supervisor			X						
Material Control Supervisor								X	
Nuclear Maintenance Training Supervisor							X		
Senior Assistant Engineer			X	X					
Assistant Shift Supervisor					X				
Code Inspector			X	X					
Operations Quality Assurance Engineer								X	
Surveillance Test Engineer					X				
Operations Quality Assurance Representative (4)		X						X	X
Quality Control Technician								X	
Quality Control Receipt Inspector								X	
Material Control Analyst								X	
Stores Foreman								X	
Storekeeper				X				X	
Instrument and Control Foreman				X					
Instrument and Control Specialist (2)	X	X		X					
Mechanical Maintenance Foreman				X					
Mechanical Maintenance Group Leader				X					
Repairman	X	X							
Maintenance Specialist (2)				X					
Electrical Maintenance Group Leader				X					
Electrician (2)				X					
Piping Maintenance Foreman				X					
Piping Group Leader				X					
Piping Repairman (2)				X					

Onsite (Continued)	3	4	5	6	7	8	9	10	11
Senior Technical Assistant				X					
Fire Protection Coordinator			X	X					
Results Clerk			X						
Qualifications Instructor							X		
Requalification Instructor							X		
C&HP Training Instructor							X		
Nuclear Maintenance Instructor							X		
General Training Instructor							X		
Shift Technical Advisor					X				
Reactor Operator (4)	X	X			X		X		
Auxiliary Operator (2)					X		X		
Senior Equipment Operator					X				
Equipment Operator					X				
Chemist and Health Physicist									X
Nuclear Security Clerk									X
Guard Supervisor (3)									X
Security Training Supervisor									X
Nuclear Guard Sergeant (2)									X
Nuclear Guard (14)									X
Station Review Board Clerk					X				
Distribution Clerk					X				

Attended Exit Meetings Only

\# Vice-President Energy Supply
\# Vice-President Public Relations
+*# Assistant to Vice-President Nuclear
\# Corporate QA Manager (Cleveland Electric)
\# Engineer, Nuclear Staff

\+ Attended meeting on October 31, 1980.
* Attended meeting on November 7, 1980.
\# Attended exit meeting on November 21, 1980.

2. Inspection Scope and Objectives

The objective of the inspection was to determine how the licensee performs licensed activities; the results will provide input to the NRC evaluation of licensees from a national perspective.

The inspection effort covered licensed activities in selected functional areas. In each of the functional areas the inspectors reviewed written policies, procedures, and instructions; interviewed selected personnel; and reviewed selected records and documents to determine whether:

a. The licensee had written policies, procedures, or instructions to provide management controls in the subject area;

b. The policies, procedures, and instructions of (a) above were adequate to assure compliance with the regulatory requirements;

c. The licensee personnel who had responsibilities in the subject areas were adequately qualified, trained, and retrained to perform their responsibilities;

d. The individuals assigned responsibilities in the subject area understood their responsibilities;

e. The requirements of the subject area had been implemented to achieve compliance and activities sampled had been appropriately documented.

The specific findings in each area are presented as observations which are inspection findings that the inspectors believe to be of sufficient significance to be considered in the subsequent evaluation of the licensee's performance. The observations include perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirement or guidance. The observations also include information about the licensee or his management controls which are not categorized as a strength or weakness. These are items that could be of significance in evaluating management control systems if they are later found to be generic to licensees having success in the subject area or to those licensees having problems in the area.

Certain observations in this report have been classified as weaknesses or strengths. Where appearing, these are identified in the report by a "W" or "S" in parentheses. Observations not so identified are provided for information.

The observations provide the basis for drawing conclusions in each inspected functional area. The conclusions are presented as good, average, or poor and represent the team's evaluation of the licensee's management controls.

Some of the observations identified as weaknesses are potential enforcement findings. These observations were discussed with the licensee and presented to the Region III Senior Resident Inspector. The followup of these items will be performed by the IE Regional Office.

3. Committee Activities

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls associated with activities conducted by the Station Review Board (SRB) and the Company Nuclear Review Board (CNRB).

a. Documents Reviewed

(1) Administrative Procedures (AD)

- AD 1805.00, Procedure Preparation and Maintenance, revision 15
- AD 1807.00, Control of Conditions Adverse to Quality, revision 5
- AD 1844.00, Maintenance, revision 5
- AD 1845.00, Changes, Tests and Experiments, revision 3

(2) Power Engineering Instruction (PEI)

- PEI DB1-320, Design Changes, Tests and Experiments (FCR's), revision 7

(3) Final Safety Analysis Report, Appendix 13C, Procedures, revision 24

(4) Davis-Besse Technical Specifications (TS), Section 6.0, Administrative Controls

(5) Nuclear Quality Assurance Manual (NQAM), revision 22

(6) CNRB Charter, revision 2

(7) SRB Charter, revision 3

(8) SRB Organizational Appointments, revision 17

(9) Selected SRB meeting minutes for 1979 and 1980

(10) Selected CNRB meeting minutes for 1979 and 1980

(11) CNRB Safety Evaluation Review Subcommittee meeting minutes for 1978, 1979, and 1980

(12) Selected LER's for 1979 and 1980

(13) 1979 Management Audit

(14) Memorandum to various company persons from W. A. Johnson, Resolution of Open Quality Assurance Audit Finding Reports, November 4, 1980

(15) Status of All Open TECO AFR's/CAR's for Davis-Besse Unit #1 (monthly), October 1, 1980, and November 1, 1980

(16) Memorandum to CNRB members from the QA Director, Audit Summaries of Facility Activities, October 2, 1980

(17) Selected Facility Change Requests (FCR's) for 1977, 1978, 1979, and 1980

b. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements but will provide the basis for subsequent performance evaluations.

(1) The TS and CNRB Charter defined the policies, goals, objectives, and provided guidance for CNRB activities. There were several differences between these two documents with the potential for causing problems in the organization of the committee; they could also cause review responsibilities to be overlooked.

In October, 1980, a major organization change became effective. The CNRB Charter was changed to reflect this; the TS were not. The changes had significant impact on the CNRB.

The TS designates the General Superintendent, Power Engineering and Construction, a position eliminated by the organization change, as Chairman of the CNRB. The new organization and the Charter named the Director, Fossil Facilities Engineering and Construction, as Chairman. Two other titles listed in the TS as CNRB members were also changed, as indicated in the latest revision of the CNRB Charter.

The qualification requirements for CNRB membership differed between the TS and Charter. The TS gives no specific qualification requirements for designated members but lists detailed requirements for "others as deemed advisable by the CNRB Chairman, who are appointed to the (CNRB)..." These requirements include an academic degree in Engineering or Science and five years technical experience, of which a minimum of three years is in one of the TS listed functional areas such as nuclear power plant operations or metallurgy. The Charter specified requirements for all CNRB members. They "shall be engineering or science graduates or have extensive experience in their fields of expertise. All members shall meet the minimum qualifications of Section 4.6 of ANSI N18.1-1971...." Section 4.6 of ANSI N18.1-1971 states that staff specialists "shall be competent in technical matters related to plant safety and other engineering and scientific support aspects."

There were portions of the TS that were not restated or detailed in the Charter. This is significant in that the Charter did not stand alone as a reference for the committee's use. For example, the TS specified all alternates be appointed in writing

by the CNRB Chairman. It also stated the committee "shall function to provide independent review and audit of designated activities in the areas..." such as operations, engineering, and radiochemistry. The Charter did not contain these provisions.

Two audit responsibilities were worded differently between the two documents. The Charter stated the audit program would encompass "the results of all actions taken to correct deficiencies..." and "the performance of all activities required by the... (QA) program...." The word "all" in each of the examples did not appear in the TS. As explained in Section 4 of this report, "all actions taken to correct deficiencies" were not audited every six months (emphasis added). (W)

(2) There were requirements in the Charter beyond the scope of the TS which were considered strengths in the licensee's program. (S)

- The audit program was required to be reviewed at least once per 12 months. These reviews are discussed in a later observation.

- The CNRB had a requirement to identify audit findings that demonstrated a "variance from the Operating License" and to prepare a report detailing the variance. (Interviews indicated that such a report had never been issued. The CRNB's response to audit findings is examined in more detail in a later observation.)

- Provisions detailing the organization and use of CNRB subcommittees and task forces were contained in the Charter. (This was considered a strength; however, use of the committee's single subcommittee resulted in a weakness as explained in a later observation.)

(3) The CNRB Charter did not contain the following features. (W)

- Guidance on what constitutes an unreviewed safety question (URSQ).

- A requirement that the assigned alternate to the CNRB Chairman be a regular member of the committee.

- Requirements to review the following

  - Facility operations and records to detect trends which would not be apparent to the day-to-day observer.

  - NRC correspondence, including IE inspection reports, Circulars, and Bulletins.

- Facility training programs to periodically determine their adequacy and effectiveness.

- Thirty day LER's.

- Changes to the NQAM or QA procedures.

- QA audit reports. These were sent to all individual committee members as required by the Charter, but were not reviewed by the committee in session.

. Provisions for issuing a meeting agenda.

. Provisions for handling dissenting opinions within the CNRB. The Charter did describe the procedure for the CNRB to resolve disagreements between the Station Superintendent and the SRB.

. Requirements to periodically visit the site or to hold some CNRB meetings at the site to observe licensed activities and provide for interaction between the Committee and plant staff.

. Criteria for the selection of alternates which ensure that the alternate can adequately serve in place of an appointed member.

. Guidelines on the use of alternates which include specifics on when an alternate could substitute for a member and the responsibility of each member to keep his alternate informed of CNRB activities.

(4) TS 6.5.2.7.a states the CNRB shall review "the safety evaluations for... changes to procedures... completed under the provision of Section 50.59, 10 CFR, to verify that such actions did not constitute an unreviewed safety question."

There were two significant concerns in this area which will be developed in the next several paragraphs. First, the CNRB did not perform a review as specified above. Second, the subcommittee established to conduct these reviews did so inadequately.

The Davis-Besse TS and the NRC's Standardized TS from which they were developed specifically designate those areas which an oversite committee or review group must review and those areas for which they are responsible to ensure that a review is performed.

The CNRB Charter permits the use of subcommittees, with at least one CNRB member as a member of the subcommittee, "to assist in the performance of the duties of the CNRB." In

February, 1978, the CNRB established the Safety Evaluation Review Subcommittee to perform reviews under TS 6.5.2.7. Two of the four members at the time of the inspection were CNRB members. No qualifications for subcommittee membership were established. No attempt had been made to duplicate the diversity of talent existing on the CNRB to ensure that the subcommittee gave the same quality of review that was originally intended in assigning this responsibility to the CNRB. The only records sent to the CNRB were the subcommittee meeting minutes which consisted largely of lists of the FCR's for which "safety evaluations were available." The CNRB received the subcommittee minutes, but performed no review of the subcommittee's work until October 16, 1980, two years and eight months after the subcommittee was formed. The minutes of October 16, 1980 stated the following:

> "C. O. Lietzow presented a summary of the conclusions of Safety Evaluation Review Committee from the meeting held on February 22, 1978, May 25, 1978, September 7, 1978, August 3, 1979 and February 11, 1980. No unreviewed safety question was identified by the Committee during this review. C. O. Lietzow was requested to report the future findings of the Safety Evaluation Review Committee to the CNRB Chairman with a copy to the President of the Company and to the CNRB membership within 14 days of Committee meeting."

This observation was discussed with the licensee and was presented to the Senior NRC Resident Inspector as a potential enforcement finding. (W)

The second part of this observation is multi-faceted. Essentially, the reviews conducted by the subcommittee acting under the provisions of TS 6.5.2.7.a were considered inadequate.

No reviews were performed of changes to procedures under this TS requirement. There appeared to be two principal reasons for this: (1) the safety evaluations for at least some procedure changes carried out under the provisions of 10 CFR 50.59 were never written, and (2) the subcommittee did not consider procedure changes part of their responsibilities.

The mechanism for getting safety evaluations to the subcommittee was vague. Some background information needs to be provided at this point. AD 1805.00 required the originator of a procedure change to perform a "Safety Review" to determine if it involved a change as described in the FSAR or a change in TS. If it did involve one of these and was not part of a Facility Change Request (FCR) or License Amendment, a "Safety Evaluation" was to be performed by the originator to determine if there was an URSQ. If so, the change was to be processed with an FCR. Both

the safety review and safety evaluation were to be documented on a Major Modification Request form.

AD 1845.00 stated "design changes, procedure changes, test or experiments are controlled through the use of a Facility Change Request (FCR) form...The FCR encompasses the processing of a proposed change, test or experiment from initial request through implementation."

PEI DB1-320 described the detailed handling of FCR's but made no reference to procedure changes. Only equipment or system modifications were described as requiring FCR's.

Procedures AD 1805.00 and PEI-DB1-320 both defined an URSQ as "a proposed design change, test, or experiment...." AD 1845.00 defined it as "a proposed facility change, procedure change, test or experiment. The definition of the first two procedures was divergent from that of 10 CFR 50.59 and was thus misleading.

The members of the subcommittee and CNRB who were interviewed were unaware of the apparent contradictions in the foregoing examples. All agreed that FCR's were used exclusively for equipment or system modifications, and only FCR's were reviewed by the subcommittee. The Chairman of the subcommittee stated the safety evaluations for changes to procedures were not included in the subcommittee's review responsibilities; however, the first set of minutes written by the subcommittee stated specifically the requirements of TS 6.5.2.7.a as the principal function of the subcommittee.

Examples of procedure changes which appeared to require a TS 6.5.2.7.a review were the deletions of two nuclear safety related procedures from Appendix 13C of the FSAR.

- MP 1401.15, Pressurizer Spray Valve Removal and Replacement, deleted April 16, 1980

- AD 1303.00, Control of Electrical Circuits, deleted October 11, 1977

It appeared that deletion of these procedures constituted changes to the FSAR. The safety evaluation for the deletion of AD 1303.00 could not be located by members of the plant staff. The Major Modification Request for the deletion of MP 1401.15 was found; however, neither the safety review or safety evaluation had been performed.

There appeared to be no mechanism, procedural or otherwise, for transmitting safety evaluations on procedure changes to the CNRB or subcommittee unless (as implied in AD 1805.00) an URSQ was already determined to be involved. FCR's were sent under some procedural guidance. However, there were weaknesses in

this system as well. The CNRB and subcommittee relied on the following two passages for the proper submittal of ECR's to them for review as required by TS 6.5.2.7.a.

- AD 1845.00 stated "the DB-1 Project Engineer shall be responsible for submitting a copy of Safety Evaluations for ECR's which were implemented pursuant to 10 CFR 50.59, to the CNRB chairman for review by the CNRB."

- PEI-DB1-320 stated "The Project Engineer shall also be responsible for submitting a copy of all Safety Evaluations for design changes, tests or experiments which were determined not to involve an Unreviewed Safety Question and which were implemented pursuant to 10 CFR 50.59, to the CNRB Chairman for review in a timely fashion by the CNRB."

Records of the CNRB's review of ECR's were inadequate. The ECR form contained no place for a CNRB review signature. The only record of the CNRB's review per TS 6.5.2.7.a was the subcommittee's meeting minutes. The majority of the meeting minutes, however, did not indicate that any specific safety evaluations were reviewed. A general statement stated only that "the subcommittee determined that safety evaluation's were available for the following nuclear safety related Facility Change Requests."

Neither the CNRB or the subcommittee conducted audits to verify that all applicable ECR's were routed to the CNRB. QA had not conducted such an audit. In summary, the CNRB and its subcommittee had no assurance that: (1) all nuclear safety related ECR's for which a safety evaluation was required were sent to them for review; and (2) other ECR's had not been properly dispositioned.

A significant weakness in the subcommittee's review process was its failure to follow up on many ECR's they reviewed. The subcommittee's minutes revealed numerous ECR's were sent back to the Project Engineer for various inadequacies noted by the subcommittee. In none of these instances was there evidence that the subcommittee ever made a subsequent and final review of the safety evaluations for the ECR's.

In some cases the ECR's were returned to the Project Engineer for lack of a review and approval signature. The initial review by the subcommittee may have been adequate such that a subsequent review by the subcommittee was unnecessary. This was not indicated, however, in the subcommittee meeting minutes.

In other cases the ECR's were sent back for substantial changes and no subsequent review was conducted. An example follows, as quoted from the subcommittee's minutes of August 3, 1979.

"Facility Change Request 78-456 and Supplements 1 and 2 involving local makeup tank level indication were reviewed. The safety evaluation for this FCR only addressed the use of Post Installation Construction Authorization (PICA) sheets to control the installation of Non-Q-list items to preclude those items from affecting the safety related function of Q-list structures, systems, or components. FCR 78-456 Supplement 1 involved a coredrill through a Q-listed wall. It was the opinion the subcommittee that the coredrill was outside the scope of original FCR safety evaluation. The subcommittee recommends the safety evaluation be rewritten to include the coredrill of FCR Supplement 1."

Perhaps the initial review was sufficient. This FCR was not examined by the inspector, and the extent of coredrill was unknown. Since none of the FCR's returned by the subcommittee were ever examined a second time, however, it appeared a second look would not occur regardless of the significance of the changes recommended by the subcommittee.

In conclusion, the re-written safety evaluation, and therefore the only safety evaluation for FCR 78-456 including the coredrill, was not reviewed by the CNRB. The licensee appeared to be in violation of TS 6.5.2.7.a. (W)

These observations regarding the CNRB's subcommittee were discussed with the licensee and were presented to the Senior NRC Resident Inspector as part of a potential enforcement finding for failure to follow TS 6.5.2.7.a.

(5) TS 6.5.2.7.e states the CNRB shall review "violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance."

Contrary to this, the CNRB did not review Deviation Reports (DVR's), Audit Finding Reports (AFR's), or QA audit reports, all of which revealed numerous violations of internal station procedures and potential TS violations. (W)

Exceptions to this observation occurred when the reported deficiency had a direct impact on the operation of the committee. An example was reported in the minutes of June 12, 1980. AFR 666-1 revealed that the CNRB had not fulfilled a TS requirement to perform a fire protection audit.

DVR's were not sent to the CNRB or to all individual members. AFR's and QA audit reports were sent to the members of the CNRB but were not normally reviewed by the committee in session. This practice afforded no opportunity for discussion of the

audit findings among various committee members of diverse backgrounds and disciplines, the primary reason for establishing a committee.

A similar finding by the NRC in late 1979 prompted the following in the CNRB minutes on December 21, 1979:

. "Prior to proceeding with the formal agenda items, E. C. Novak related to the CNRB some of the results of a recent NRC audit of CNRB activities. Areas of noncompliance were noted relating to review of Licensee Event Reports (LER's), review of NRC inspection results, and review of SRB minutes. LER's are being routed to each CNRB member but no official actions were recorded in the CNRB meeting minutes (similarly for SRB meeting minutes). Review of NRC inspection results by the CNRB had not been done to date. The NRC felt that this was required per wording in the Technical Specifications which require CNRB review of violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance. The NRC will issue a formal inspection report on the audit."

A CRNB meeting on March 28, 1980, resulted in the following minutes:

. "SRB minutes are distributed to all CNRB members. It was agreed that for future SRB minutes, opportunity will be afforded in appropriate CNRB meetings for acceptance and/or discussion of SRB minutes....Agenda item (5) was discussion on Licensee Event Reports (LER's). It was noted that LER's are distributed to each CNRB member as they are generated. It was agreed that, as with SRB minutes, opportunity will be afforded in appropriate CNRB meetings for acceptance and/or discussion of LER's on a periodic basis. Additionally, each member has a right and duty to call a meeting at any time should he feel that a safety item needs to be resolved or discussed."

Many AFR's examined, both from surveillances and scheduled audits, reported violations of internal procedures and the TS. Several examples are paraphrased as follows.

. 709-1, violation of AD 1805.00, procedure copies not kept current.

. 709-2, violation of AD 1839.00, tours by Shift Supervisors not performed.

. 610-7, station personnel exceeded the maximum time frequency allowed for conducting specific TS surveillance requirements.

. 610-9, station personnel failed to comply with a TS "Action" statement to perform certain surveillance activities "within one hour...with either an offsite circuit or diesel generator... inoperable."

No record search was performed by the inspector to determine whether the potential TS violations of 610-7 and 610-9 were submitted to the CNRB as LER's; however, interviews with members of the QA Department indicated that LER's did not result from these AFR's. Many of the violations of internal procedures reported in AFR's were also violations of the TS since most of the internal procedures cited in the AFR's were procedures required by TS 6.8. Hence a violation of one of these safety related procedures was a violation of TS 6.8. No member of the licensee's organization interviewed shared this interpretation.

This observation, failure of the CNRB to follow TS 6.5.2.7.e, was discussed with the licensee and was presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(6) TS.6.5.2.8 states that "audits of facility activities shall be performed under the cognizance of the CNRB." The QA Department was assigned the responsibility for performing the audits, but the CNRB assumed responsibility for periodically reviewing the adequacy and effectiveness of the audit program. Records and interviews revealed three primary methods in which this was done. One method, as previously described, was through sending AFR's and QA audit reports to all CNRB members. Additionally, a monthly summary of the status of all AFR's and Corrective Action Requests (CAR's) was sent to CNRB members. A second method was the performance of an annual management audit by an outside consultant firm. The third was a periodic summary of the audit program presented by the QA Director to the CNRB.

The most recently completed management audit was performed in February, 1979. In the words of the audit, its purpose was to provide "an independent assessment of the adequacy and implementation of the quality assurance program and to determine its compliance with 10 CFR Part 50, Appendix B Criteria." The effectiveness of the QA audit program was addressed in part of this audit. A short paragraph in the report revealed no adverse findings in implementation of the QA audit program.

Although this audit was performed in February, 1979, the results were not reviewed by the CNRB until the meeting of October 16, 1980, one year and eight months after the audit. Minutes of a meeting held on September 12, 1979, addressed the need to review the annual management audit; however, no action was taken until the October 16, 1980, meeting.

The third method used to evaluate the QA audit program was a periodic presentation by the QA Director to the CNRB. The last

such presentation was made at the meeting of October 3, 1980, which covered audits performed in 1978, 1979, and 1980. A summary of the audit program for those years was presented; however, few individual audit reports and AFR's were discussed. CNRB minutes indicated that the CNRB did not discuss the adequacy of the audit program. The subject at the CNRB meetings was principally whether or not the audit program met the schedule requirements, that is, quantity rather than quality. There was no indication the CNRB ever evaluated an audit checklist to examine an audit's scope or depth. There was no evidence of the CNRB ever verifying that an auditor was sufficiently trained to audit areas such as procurement or operations.

In conclusion, all of the methods used by the CNRB to examine the adequacy and effectiveness of the QA audit program had insufficiencies. It was apparent from minutes and interviews that certain individual committee members were active in their efforts to improve the audit process; however, the committee as a whole appeared weak as a review body for the audit program. (W)

(7) A problem that has apparently plagued Davis-Besse since the issuance of its Operating License has been the inadequate responses by station and corporate office personnel to AFR's and CAR's. This is discussed in greater detail in Section 5 of this report on QA audits. Briefly, over half of all AFR's issued in 1979 and 1980, examined by the inspector, received late responses or no responses at all. CAR's, which act as an escalated corrective action measure, require 30 day status reports be sent from the recipient to QA while corrective action is in progress. Licensee personnel responsible for these status reports were deficient in submitting them for all of the CAR's examined. (W)

The reason for describing this problem in this section is to point out that the CNRB, as well as the President and Chief Operating Officer to whom the CNRB reported, were aware of the extent of the problem and took little effective corrective action until November, 1980. Selected CNRB minutes revealed the following.

- December 6, 1979. "The Vice President-Nuclear was requested to review all outstanding Quality Assurance corrective action requests (C.A.R.'s) and report the current status, and planned disposition of any open items, to the CNRB Chairman within two (2) weeks. This special review was requested due to the recent organization changes to assure timely resolution of any open items."

- December 28, 1979. The Vice President-Nuclear "has reviewed all outstanding Quality Assurance Corrective Action Requests (CAR's) and sent a status report to the CNRB committee in accordance with CNRB meeting #50."

- July 25, 1980. "Discussions digressed on the apparent failure of a portion of the QA program. The CNRB members expressed concern that the total TECo QA program may need a Company-wide re-commitment. Lack of timeliness in response to QA problems was cited. It was noted by C. T. Daft that the average time to close an AFR by TECo parties is 15 months and by outside parties is 9 months. Corrective Action Reports (CAR's) took an average of 25 months to resolve. NCR's have also experienced lengthy disposition periods."

- August 28, 1980. The CNRB Chairman related that in accordance with the discussion at the meeting of July 25, 1980, on lack of timeliness in response to QA findings, he had contacted the President and Chief Operating Officer and reviewed the concerns.

- October 3, 1980. "The CNRB raised concern over the number of outstanding AFR's resulting from these audits and encouraged Nuclear Mission for expeditious resolution of these AFR's. Mr. R. P. Crouse indicated that the Nuclear Mission has already addressed this concern and appropriate actions are being taken. CNRB endorsed the Nuclear Mission's continued attention to AFR disposition."

- October 16, 1980. CNRB reviewed the February, 1979, annual management audit. One of the findings, AFR 573-2, reported that 30 day status reports on outstanding CAR's were not submitted as required.

In October, 1980, an independent consultant conducting the Annual QA Management Audit for 1980 expressed concern in the exit interview (the audit report was not available at the time of the inspection) regarding the timely closeout of AFR's. This resulted in a procedure prepared by QA and made effective November 1, 1980, Instruction for Eliciting Prompt Response to Internal Audit Finding Reports. The President and Chief Operating Officer signed the procedure and announced in a memorandum to his staff on November 4, that he would "monitor the effectiveness of this new program." Some of the main points of the procedure were as follows.

- The response date for AFR's will be within 30 days from the audit exit interview. It previously was within 30 days of receipt of the AFR.

- Corrective action must be completed within 90 days of the audit exit interview unless the Vice President of the audited organization approves a longer period.

- QA will verify corrective action within 30 days of notification of the completion of corrective action.

- Extensions to scheduled response dates will have tighter controls and will involve Division Heads and Vice Presidents.

- If any AFR response is overdue for two or more consecutive months, a CAR will be issued to the Vice President of the responsible organization.

The corrective action taken by the licensee appeared to be years late but appropriate for the condition now existing and potentially very effective. A new organization; the latest reaction to repeated evidence of findings by the NRC, consultants, and their own organization; and the attitude expressed in interviews and recent CNRB minutes, gave the definite impression of an active offsite review committee with renewed initiative. (S)

(8) The TS and SRB Charter defined the policies, goals, objectives, and provided guidance for SRB activities. Between these two there was one significant difference which may have resulted in the SRB failing to meet a TS requirement. (W)

TS 6.5.1.7.b requires the SRB to "render determinations in writing" with regard to whether or not nuclear safety related procedures, procedure changes, proposed tests and experiments, TS changes, modifications, and TS violations constitute URSQ's. The Charter was not as clear on this issue. There was no specific requirement to document in writing the determination of an URSQ. The Charter did, however, require a report on any URSQ which was identified during the review process. The Charter review requirements for each of the above items stated that the SRB shall assure that the items do not constitute an URSQ. The Charter further required that the SRB recommend to the Station Superintendent in writing the approval or disapproval of each item (except TS violations), thus implying that the documentation of their approval or disapproval constituted fulfillment of the TS 6.5.1.7.b requirement. This was the interpretation given by one SRB member interviewed. Other members either felt that the TS requirement was not being met or expressed no opinion. This is covered in more detail in a later observation.

(9) The SRB Charter did not contain any of the following features: (W)

- Guidance on what constitutes a URSQ.

- Assignment of an individual responsible for assuring all of the required reviews were completed.

. Assignment of responsibilities to verify the completion of corrective action for problems reviewed by the committee.

. Provisions for handling dissenting opinions among committee members, such as minority reports or inclusion in the minutes of the dissent and reasons for it.

. Requirements to review the following.

- NRC correspondence, including IE inspection reports, Bulletins, and Circulars.

- QA audit reports.

- Changes to the NQAM or QA procedures.

- CNRB meeting minutes, reports, and correspondence.

- Facility operations and records to detect trends which would not be apparent to the day-to-day observer.

- Training and re-training programs for licensed and unlicensed facility staff members.

- Guidelines on the use of alternates which included specifics on when an alternate could substitute for a member and the responsibility of each member to keep his alternate informed of SRB activities.

(10) There were also requirements in the SRB Charter beyond the scope of the TS. (S)

. A provision to ensure the prompt approval and distribution of SRB minutes. (This provision was seldom adhered to, however, as described in observation 15.)

. A requirement that approved procedures exist to ensure that all Charter required review items will be forwarded to the SRB for review and reporting.

. Qualification requirements for alternates.

(11) TS 6.5.1.2 requires the SRB membership to include a "Reliability Engineer." Records and interviews indicated that there was no company position outside the SRB with that title and no person in the company to fill the SRB position. An alternate had been assigned to the position by the two most recent revisions of the memorandum entitled "Station Review Board Organizational Appointments," August 27, 1980, and October 24, 1980. That individual stated he had been assigned as an alternate in

April, 1980, due to an organization change which gave him the title of Nuclear Reliability Manager. He had served no more than five times as an alternate, each time to make a quorum rather than due to his job specification. He had served as a full member, Reliability Engineer, for nearly two years. Since April he had been alternate for a non-existing member. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(12) TS 6.5.1.6.e requires SRB be responsible for the "investigation of all violations of the Technical Specifications including preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Vice President - Nuclear and to the Chairman of the Company Nuclear Review Board."

Contrary to the above, over the past year for which records were examined, SRB did not review or another group under its cognizance review violations of TS as reported in QA audit reports and AFR's. The SRB did not review these audit reports or their findings. Nearly every QA audit report and AFR examined contained findings which constituted violations of TS or violations of TS 6.8 required procedures. Examples are listed in observation (5) of this section. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(13) TS 6.5.1.7.b requires the SRB render determinations in writing with regard to whether or not each item considered under TS 6.5.1.6.e, TS violations, constitutes an URSQ.

Contrary to this requirement, over the past year for which records were examined, the SRB did not render determinations in writing with regard to whether or not items considered under TS 6.5.1.6.e constituted URSQ's. These items included LER's and DVR's, both of which reported TS violations and were reviewed by the SRB. They also included AFR's, which reported TS violations as revealed in observations (5) and (12), but were not reviewed by the SRB. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(14) Unlike CNRB, membership in SRB was not interpreted by the facility staff to mean that each member should plan to attend every meeting. While attendance by all members would not

necessarily be desirable for the SRB, participation in SRB meetings was kept to a minimum. The latest published roster (October 24, 1980) listed 9 members and 26 alternates; however, seldom were there more than 5 or 6 attendees at a meeting. Of the minutes examined (2 sets of 10 consecutive meetings each) 60% had only a quorum of 5 attendees, 30% had 6.

Interviews with SRB members and alternates revealed that alternates were used principally to meet quorum requirements, typically on back shifts and weekends. They did not receive copies of minutes and were not well informed of committee activities.

Several meeting minutes examined over the past year indicated part-time members who were present for only a portion of the meeting. In none of these meetings did the minutes indicate that quorum requirements were met for all of the TS required review items. (W)

(15) The SRB Charter stated that the SRB clerk "shall assure that the minutes are approved as soon as possible (generally within 30 days of the meeting) and distributed within a week of approval." Parentheses in the quotation belong to the licensee.

Of the minutes examined 65% were approved greater than 30 days after the meeting, and many of these were more than 60 days after.

c. Conclusions

The CNRB and SRB had generally well defined programs. There were numerous requirements, however, which were not being followed. This was due in part to a changing organization, to the use of a subcommittee with a poorly understood mission, to differences in interpretations of requirements, and to the perception of committees as having a "review-only" function. Both committees needed to expand their review activities. Both needed to increase their sensitivity to actual and potential problems, particularly those identified by the QA audit program. Both committees needed to go beyond their "review-only" role and direct management attention toward needed improvements.

The most significant weakness was the excessive length of time that the licensee had struggled with the problem of late responses to AFR's and CAR's. On the positive side, both committees, particularly the CNRB with its consistent membership, were increasingly active. There were corrective actions in progress or in the formative stages for some of the weaknesses noted in this area.

Based on all the above considerations, the management controls associated with committee activities were considered average.

4. Quality Assurance Audits

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls associated with quality assurance audit activities.

a. Documents Reviewed

(1) Administrative Procedures (AD)

- AD 1805.00, Procedure Preparation and Maintenance, revision 15
- AD 1807.00, Control of Conditions Adverse to Quality, revision 5
- AD 1844.00, Maintenance, revision 5

(2) Power Engineering Instruction (PEI)

- PEI DB1-320, Design Changes Tests and Experiments (FCR's), revision 7

(3) Davis-Besse Technical Specifications (TS), Section 6.0, Administrative Controls

(4) Nuclear Quality Assurance Manual (NQAM), revision 22

(5) Davis-Besse Final Safety Analysis Report (FSAR)

- Section 17.2, Quality Assurance Program for Station Operation, revision 26
- Appendix 13C, Procedures, revision 24

(6) QA Procedure (QAP)

- QAP 1040, QA Auditor Qualification, revision 3
- QAP 2011, Toledo Edison's QA Organization, revision 5
- QAP 2150, Nonconformances, revision 9
- QAP 2160, Corrective Action, revision 7
- QAP 2180, Audits, revision 5

(7) QA Instructions (QAI)

- QAI 4010, Stop Work, revision 3
- QAI 4160, Corrective Action Requests, revision 2

- QAI 4180, External Audit Scheduling, revision 2
- QAI 4181, Audits, revision 2
- QAI 4182, Audit Activity Log, revision 2
- QAI 4183, AFR Log, revision 2
- QAI 4184, Audit Activities, revision 1
- QAI 4185, QA Auditor Qualification, revision 3
- QAI 4186, Internal Audit Scheduling, revision 5

(8) QC Instructions (QCI)

- QCI 3101, QC Surveillance, revision 3

(9) 1979 Management Audit

(10) Memorandum to various company persons from W. A. Johnson, Resolution of Open Quality Assurance Audit Finding Reports, November 4, 1980 (with enclosure: Instruction for Eliciting Prompt Response to Internal Audit Finding Reports)

(11) Status of all open TECo AFR's/CAR's for Davis-Besse Unit #1 (monthly), October 1, 1980, and November 1, 1980

(12) CNRB Charter, revision 2

(13) Selected CNRB meeting minutes for 1979 and 1980

(14) Memorandum to CNRB members from the QA Director, Audit Summaries of Facility Activities, October 2, 1980

(15) Selected Facility Change Requests (FCR's) for 1977, 1978, 1979, and 1980

(16) Operational Phase Activities Internal Audit Schedule (annual), 1979 and 1980

(17) Administrative Memorandum No. 35-7, Station Superintendent to all station personnel, Handling AFR's, NCR's, and CAR's, February 21, 1980

(18) Training and auditor certification records for four members of the QA Department

(19) QA AFR Log

(20) Audit Log

(21) Stop Work Log

(22) Cross-reference chart of QA audit and checklist questions to TS requirements

(23) Standing Order No. 10-1, Station Superintendent, August 8, 1980

(24) Nuclear Quality Assurance Policy, W. A. Johnson, April 24, 1979

(25) Nuclear Quality Assurance Policy Supplemental Statement, W. A. Johnson, November 30, 1979

(26) Corrective Action Requests (CAR)

- CAR 77-03, September, 1977
- CAR 78-02, April, 1978

(27) Surveillance Audit AFR's

- AFR 608, FCR, July, 1979
- AFR 611, FCR, August, 1979
- AFR 726, Health Physics, October, 1980

(28) QA Audits

- 528, Corrective Actions, April-May, 1978
- 542, Operations (TS), August, 1978
- 610, Operations (TS), September-October, 1979
- 616, Corrective Actions, September, 1979
- 627, Maintenance, December 1979
- 651, QA, January, 1980
- 656, Corrective Actions, February, 1980
- 663, Chemistry and Health Physics, March, 1980
- 667, Administration, April, 1980
- 668, Engineering, April, 1980
- 687, Maintenance, June, 1980

. 704, Corrective Actions, August-September, 1980

. 709, Operations, September, 1980

. 711, Maintenance, September 1980

. 716, Operations (TS), November, 1980 (incomplete)

b. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements but will provide the basis for subsequent performance evaluations.

(1) The FSAR, NQAM, TS, Standing Order No. 10-1, the Company President's Nuclear Quality Assurance Program Policy and Supplemental Statement provided written statements from corporate management defining the policies, goals, and objectives of the QA audit program. These documents had wide distribution, and all QA personnel interviewed appeared familiar with them.

(2) All audits performed at the facility, other than the annual Management Audit, were performed by QA. The CNRB did not participate in or perform any audits. One member of the CNRB was the QA Director, who represented the interests and efforts of the QA Department on the CNRB.

(3) The licensee maintained written position descriptions and responsibilities for all auditors and supervisors in the QA Department. These stated the basic function of the position title, specific duties and responsibilities, and reporting relationships.

Among the duties performed by QA auditors were the following.

. internal audit performance and scheduling

. nuclear safety related procedure reviews

. FCR reviews

. supplier and contractor audits

. coordinated Bechtel shop inspection and audits

. purchase requisition reviews

. documentation reviews

. supplier and contractor procedure reviews

. specification reviews

A new QA organization structure expected to be in place by the end of 1980 would alleviate some of this workload by assigning all offsite supplier and contractor audits to a group called Quality Engineering. The most time consuming assignments, however, would remain. This workload appeared large relative to the size of the staff and was having a detrimental affect on the performance of audits.

There were only six auditors assigned to perform the above tasks, although at least four other individuals including two supervisors and the QA Director were qualified auditors and did, on occasion, assist in an audit. These auditors spent an average of 10 man days per audit based on the actual conduct of the audit, not including report writing or corrective action followup. Although 10 man days per audit is about average, based on PAS inspections conducted to date, the principal problem noted was the inability of QA to promptly followup corrective actions to audit findings. The monthly status report of all AFR's issued October 1, 1980, listed 130 open or unresolved AFR's. Nearly one-third (40) of these could not be closed-out because QA had not verified the corrective action already performed. The status report revealed that many internal AFR's had been in this status for over a year. (W)

Some entries on the status report were found to be in error. The November 1, 1980, report showed AFR 663-3 with a "date issued" of March 31, 1980, a "response due date" of June 30, 1980, one extension, and a status of "QA awaiting corrective action implementation." Audit records showed that a response with completed corrective action had been submitted on June 25, prior to the due date. QA did not respond to the corrective action until November 13, 1980. The corrective action was found to be unacceptable by QA. For this AFR, therefore, the status was reported incorrectly and unacceptable corrective action was in place for five months. (W)

Other evidence of the large workload to manpower ratio was the continually slipping audit schedule. For the years of 1979 and 1980, none of the slippages had been greater than 25% of the required frequency (3 months slippage, for example, on a 12 month audit frequency); and none of the required audits had been missed. The 1980 audit schedule, however, showed that a minimum of 10 internal audits needed to be conducted in the final 2 months of 1980. Considering the number of available auditors, the average man days per audit, the remaining 10 internal audits plus several external audits, the number of working days left in November and December, and the collateral duties of auditors, the team concluded that management must give immediate attention to maintaining an adequate QA audit

program. The audit schedule was a loosely controlled document and loosely adhered to. It was not reviewed and approved by the QA Director, and there was no requirement to do so. (W)

One action, previously taken to assist QA, was the employment of an outside consultant firm to perform one of the more involved audits, Technical Specifications. Another measure taken by the licensee would expedite the audit process but could have further detrimental effects on the workload unless other measures were employed. This was the November 1, 1980, Instruction for Eliciting Prompt Resonse to Internal Audit Finding Reports, described in observation (7) of Section 3 of this report. One of the instructions was that QA would verify corrective action within 30 days of notification of the completion of corrective action. Another passage provided that QA reduce the time to issue a report from 30 days to 20 days after the exit interview. The licensee had taken some steps to remedy the workload problems facing the QA staff; however, more attention was warranted in this area.

(4) The response of licensee personnel, who were recipients of AFR's or CAR's, or who were assigned responsibility for responding to AFR's or CAR's, was inadequate. (W)

The guidelines for responding to AFR's were detailed in QAP 2180, QAI 4181, and industry standard ASNI N45.2.12. All of these required a response by the audited organization within 30 days of the receipt of the audit report. Contrary to this, the majority of AFR's had late responses that were in excess of 30 days.

A random sample of 63 AFR's issued in 1979 (taken from 3 consecutive pages of the AFR Log) revealed that only 2 (3%) were recorded as having responses submitted on time. Thirty (48%) were identified to have late responses or no response submitted. The remaining 31 had no indication in the log as to whether or not the response had been punctual. A random sample of 15 AFR's from 1980 revealed that 13 (87%) had either late responses or no response at all.

The majority of AFR responses were the responsibility of persons working onsite for the Station Superintendent. These individuals had available to them the guidance of Administrative Memorandum No. 357. This instruction by the Station Superintendent made no mention of any time constraints for responses to AFR's or CAR's. It dealt primarily with the logging and distribution of all the paperwork involved in handling deficiencies.

When members of an audited organization responded to an audit they often did so with a request for an extension of time,

either to provide the initial response or to implement corrective action. Of the 75 AFR's from internal audits listed on the October 1, 1980, audit status report, 46 (61%) had been granted extensions. Several of these had been granted extensions eight and nine times.

Extensions were usually granted for 30 days. The extended date was often ignored, however, by the audited organization, and was not enforced by QA. As an example, AFR 663-1 was listed in the October 1, 1980, status report as having received three extensions for the initial response to the AFR. An examination of the audit records revealed that four "30 day extensions" had been granted over a seven month period.

There was virtually no guidance available on the use of extensions prior to the November 1, 1980, Instruction for Eliciting Prompt Response to Internal Audit Finding Reports. QAI 4181 stated only that the audit team leader could extend the scheduled response date if the management of the audited organization indicated that it couldn't meet the original date; however, the management would still have to respond in writing "no later than 30 days after receipt of the audit report." Administrative Memorandum No. 35-7, by the Station Superintendent provided guidance on the logging and distribution of extensions requested. The November 1 instruction permitted only a single 30 day extension of the originally scheduled corrective action date unless approved by a Vice President. This instruction appeared to be adequate corrective action with regard to the problem of late responses.

Responses to some audit findings by station personnel were inadequate. One AFR (709-2) reported a violation of AD 1839.00: the annual review of Special Orders had not been performed. The response was simply a reference to an earlier response, over a year old, which said that "the Special Orders are reviewed by the Office Supervisor and updated as needed." This type of response provided no solution to the problem identified in the AFR.

The guidance for CAR's was contained principally in QAI 4160. This instruction required that the responsible party "provide a written report, on the status of the CAR, to the Toledo Edison Quality Assurance Director every 30 days, until the completion of the corrective action requested, if the corrective action requested is not completed within 30 days of the date the CAR is issued." This was, in fact, one of the few distinguishing characteristics between an AFR and a CAR.

Contrary to QAI 4160, licensee personnel had repeatedly failed to submit 30 day status reports on CAR's. Correspondingly, QA repeatedly failed to enforce the QA program guidelines on this

matter. The following example is provided to demonstrate the breakdown in the use of CAR's by both the station personnel and QA.

CAR 77-03 was issued in September, 1977, to the Station Superintendent for the station's lack of responses to AFR's and for failure to track outstanding AFR's. During Audit 528 in April, 1978, the auditor discovered that 30 day status reports had not been submitted on CAR 77-03. This resulted in CAR 78-02 being issued. Three months passed with no status reports issued on either CAR. In July, 1978, the Station Superintendent issued a memorandum to all station personnel which stated that "personnel assigned corrective action for CAR's shall insure that while the CAR is outstanding, status reports shall be sent to QA every thirty (30) days until the CAR is closed." Based on this memo, CAR 78-02 was closed. During the next two years and three months, QA received only three memorandums from station personnel that referenced CAR 77-C3. This CAR was still open at the time of the PAS inspection.

QA contributed to this management control system breakdown by not escalating the issue with further CAR's or using their stop work authority. The checklist for Audit 656, performed in February, 1980, required the auditor to verify the issuance of 30 day status reports on all outstanding CAR's. Unexplicably the auditor found no problems. The remarks column of the checklist stated that this issue had been the "subject of a previous audit finding..." and referenced Audit 528, the one which had been conducted nearly two years before.

Observation (7) in Section 3 of this report points out that the CNRB was aware of the response problems for AFR's and CAR's, but failed to take any effective action. The November 1, 1980, instruction issued by the President and Chief Operating Officer was a first step to correct a significant problem.

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(5) As indicated in the previous observation, QA failed to use the tools available to them to correct the problem of late responses. (W)

The monthly "status of all open TECo AFR's/CAR's" was issued each month to senior management persons including the Station Superintendent, the Vice President-Nuclear, and the President and Chief Operating Officer. This should have served, in part, as a notice to all persons who were late in responding or responding inadequately to AFR's and CAR's. In addition to this reminder "past due notices" were sent by QA to responsible

parties; however, QA had failed to send these to all late respondents to AFR's. Audit records indicated several AFR responses overdue for a response of three or more months for which past due notices had not been issued. There were also numerous AFR's which had not been responded to, past due notices had been issued, but several months elapsed between past due notices.

One of the problems with past due notices was inadequate guidance in this area. QAI 4183 made a reference to the term "past due notices." QAI 4181 referred to contacting "the audited organization by letter, memorandum, or verbally to elicit a response to the audit report." It also stated that verbal conversations should be documented. These instructions were the only ones available on this subject.

QA exhibited a reluctance to issue CAR's. QAP 2160 instructed that CAR's were to be issued "when conditions adverse to quality are determined to be significant...." The procedure defined "significant" as (among other things) "failure to resolve a deficiency in a timely manner." During the past year, no CAR's were written by QA for any licensee organization; only one was written for a contractor.

One problem with CAR's was that they differed little from AFR's. The most significant difference was the 30 day status report requirements. CAR's received the same level of management attention as AFR's; both forms were submitted to the President and Chief Operating Officer.

The number of audits or the frequency of audits was not increased in areas where AFR responses or corrective action was inadequate. QAI 4186 stated that this will be done "when it is determined that there is a declining trend in the quality performance of an organization."

A Stop Work Order had not been issued by QA to any internal organization since issuance of the Operating License. QAI 4010 stated "Stop Work shall be initiated on any nonconforming activities...."

(6) FSAR Section 17.2.2.2.1 states "the Administrative Procedures for each NSR (Nuclear Safety Related) activity as listed in Appendix 13C must be reviewed and approved by QA."

FSAR Section 17.2.2.2.2 defines first category activities as "those NSR activities which are defined and controlled by Administrative Procedures but require special instructions or work procedures to be prepared each time the work activity is performed." Included in this category are modifications, major maintenance, fuel handing, inservice inspection, and procurement.

"For activities which are in this category, QA must review and approve the detailed procedures accomplishing the activity...."

AD 1844.00 stated in Section 5.1 "Maintenance Procedures controlling work classified as nonroutine maintenance on nuclear safety related structures, systems, and components shall be submitted to QA for review and approval as required by the TECo NQAM." Section 4.1 of the procedure stated that classifying a maintenance activity as "routine" or "non-routine" involved a qualitative rather than a quantitative judgment. It involved such considerations as job complexity, worker qualifications, requirements for special tools or equipment, and requirements for radiation protection.

Considering these guidelines, QA had not reviewed or approved the following FSAR Appendix 13C procedures or the revisions to them. (W)

- AD 1805.00, Procedure Preparation and Maintenance
- MP 1401.02, Pressurizer Relief Valve Removal and Replacement
- MP 1401.08, Control Rod Drive Handling
- MP 1402.08, Safety Valve Testing and Setting
- MP 1402.07, Valve Controller/Operator Removal and Replacement

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(7) ANSI N45.2.12 states "Personnel selected for QA auditing assignments shall have experience or training commensurate with the scope, complexity or special nature of the activities to be audited." Interviews and auditor training records revealed that auditors had limited experience or training in several areas which were the subject of audits. Procurement, operations, and corrective action systems were examples of such areas. In the latter example, one auditor responsible for reviewing procedure changes and FCR's for unreviewed safety questions revealed in an interview that he did not have any knowledge of the definition of an unreviewed safety question. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

QAI 4185 required auditors-in-training to read the documents listed therein. This list did not include 10 CFR 50.59 or the TS. No distinction was made between auditors and audit team leaders. Both were considered qualified after reading QAI 4185 and the listed documents successfully completing a one week Bechtel Audit Course, and participating in as few as two audits as an auditor-in-training. (W)

(8) QA suffered from numerous administrative problems. Logs were often inaccurate and misleading. Guidance for logging audit records and tracking audit findings was vague and in some instances non-existent. This appeared to be a significant administrative weakness, but had not yet become a serious impediment to the audit program. (W)

Two separate AFR logs were maintained. One was handwritten, the other typed. The typed version was presented to the inspector as the "official" log; however, it was found to be far less accurate and less current than the handwritten version, which was used as the basis for the monthly status reports. The typed log had numerous unfilled blank spaces. This log often did not indicate whether a response was accepted or rejected, and if rejected, when another response was due. The "Audit Date" and "Remarks, or Use Application Code Below" columns were not completed in numerous cases. Both typed and handwritten AFR logs contained a column entitled "Reply Rec'd." This was found to be blank in numerous instances for both logs. There was no guidance on the use of this column on the form. It had been in existence since 1977, but the procedure, QAI 4183, had never been changed to include it. A revision to QAI 4183 was being written at the time of the PAS inspection. It appeared these issues would be addressed in the new revision.

Other problems with the administration of AFR's included the fact that repetitive AFR's and, consequently, repeat offenders were not identified. Trending of AFR's was not performed.

The Audit Log also was subject to many of the same problems described above. The audit log form had been revised without a corresponding change in the procedure, QAI 4182. The procedure required the log to be filled out prior to conducting the audit. This caused problems with the log since there were numerous schedule problems, cancellations or delays of planned audits, and spur-of-the-moment surveillance audits. The Audit Log incorrectly indicated there had not been a single past due notice issued on a late response to any AFR in two and one-half years.

Another administrative problem involved the tracking of audits. There was no identifiable correlation between the audit schedule and the actual audit title or number. Tracking the specific

audit that satisfied a scheduled audit requirement was often a difficult task for the QA Department staff.

Locating any audit record appeared to be a difficult task. Audit records were not located in any single place. Some records of open audits were stored in a "working file" in the QA Audit Supervisor's office. Other parts of the same audits were kept by the responsible audit team leaders. Still other parts were found elsewhere in the QA offices. There was no occasion during the inspection when an audit record was not eventually located, but the filing system appeared disorganized and cumbersome.

(9) Checklists were prepared for each audit by the audit team leader using the guidance of QAI 4181. The only provisions in this instruction regarding the working contents of a checklist were as follows. "Enter the checklist items which should be audited. Specific attention shall be given to findings identified during the previous audit." That guidance appeared inadequate.

For each audit a new checklist had to be developed. Standardized checklists were not used. There was no requirement for any supervisor to review or approve checklists (although the QA Audit Supervisor stated he read each one prior to conduct of the audit). This lack of guidance provided no assurance that identified problem areas would be audited or that the depth or scope of checklists was adequate. There were no minimum requirements on the content of checklists and no guidance on sample sizes.

Auditors were given wide latitude to perform their assigned tasks; however, the continuity between successive audits was weak. This was particularly significant because of other factors previously addressed such as repeat findings not identified and quality judgements of checklists and audits not made (or at least not recorded).

The actual checklists exhibited several weaknesses. Some appeared too broad in scope to cover their area adequately. One in this category was the checklist used for Audit 610, Operations (TS). The checklist consisted of 90 items, the last of which required verification of all TS requirements in Section 6.0 for the CNRB. This single item could have been the subject of an entire QA audit. The audit activities performed for this item were extremely limited. Only two TS requirements for the CNRB were verified to be covered by the CNRB Charter, and a reference was made to one set of CNRB minutes which reviewed a portion of the audit program. The coverage given to most of the checklist items examined was poor, and numerous items were answered with "insufficient time to audit this activity." The

follow-on to this audit was Audit 716, in progress during the PAS inspection. The checklist for this audit sampled only one small portion of Section 6.0, TS 6.4, Training. (W)

For these TS audits the licensee kept a "matrix" which was a cross-reference between audits and checklist numbers versus individual TS requirements. This was the only document which gave a historical perspective to audits conducted in a given area. It was an accurate document showing, for example, that TS requirements marked "insufficient time..." on Audit 610 had not, in fact, been audited. It also showed that most TS requirements for the CNRB had not been audited on 610. The licensee representative stated that this matrix would serve as the basis for development of future TS audit checklists.

(10) The sample size of QA audits appeared inadequate. The audits on TS used virtually entire TS sections as samples. TS Section 6.0 was all but eliminated from the Audit 716 checklist. The audits on corrective action presented a different sampling concern. The checklist for Audit 704 required verification that corrective action on a random sample of DVR's, AFR's, and other items had been satisfactorily performed. Only two audits and five DVR's, however, were examined. One of these audits had been performed on a contractor; the other was a surveillance audit with a single AFR. The previous audit on corrective actions, Audit 656, had not included any DVR's or AFR's. (W)

(11) The strong point of the audit program was the individual AFR's. Only one of the numerous AFR's examined appeared to lack research. (One of Audit 610 AFR's reported a failure to meet weekly TS surveillance requirements. It turned out that the requirement was monthly and had been performed as scheduled.) The AFR's addressed substantial safety related issues. All of the auditors and QA supervisors interviewed gave a strong impression of being aggressive in pursuing safety problems and having a healthy independence from site management. Most of the QA problems identified by the PAS were blamed by QA supervisors and their management on the previous organization, and certainly there was some evidence to support that contention. In any case, there appeared to be little disagreement with the PAS findings at the time of the inspection, and solutions to many of the PAS concerns were being developed. (S)

(12) There was no effective audit conducted of TS Section 6.0 requirements in general, and SRB and CNRB activities in particular. The 1979 Management Audit, conducted by a consultant, covered SRB activities in a limited way. Two meeting minutes were evaluated. Based on this, the consultant concluded "the SRB was functioning within the administrative controls imposed under its charter." The annual audits on TS, also conducted by a consultant, provided little audit coverage in

these areas, as previously described in observation (9). No other audit provided any direct coverage of the review committees. (W)

(13) ANSI N45.2.12 requires that an audit report provide "a summary of audit results, including an evaluation statement regarding the effectiveness of the quality assurance program elements which were audited."

FSAR 17.2.18 states "...audits shall include an objective evaluation of ... QA practices, procedures, and instructions."

A few audits examined complied with the above requirements. Audit 667 was one of these which had the following statement. "Administrative controls which ensure the receipt of controlled documents and the return of obsolete documents were reviewed for adequacy and found acceptable." Most of the audits examined did not have such a statement. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

c. Conclusions

The QA Department performed an audit program that appeared fundamentally sound, but had numerous weaknesses. There were many administrative problems, inadequate training in specific audit areas, inadequate guidance for audits, and a need to improve the depth of checklists. On the positive side, the individual audit findings appeared well researched and substantial. The QA auditors and supervisors were active in their efforts and dedicated to improving the audit program. Management support for these efforts did not appear as vigorous.

Auditors had numerous collateral duties and their audit responsibilities appeared excessive for the number of auditors assigned. Responses to the needs of the audit program were slow in coming from the CNRB and upper level managers. Most significant was an attitude approaching that of disrespect for the QA audit program expressed by certain managers in their responses to audit findings. Replies to some findings were curt and provided no solution; other findings were answered late or not at all. The licensee was aware of some of these observations and had taken corrective action or was formulating such action.

Based on all the above considerations, the management controls associated with the QA audit program were considered average.

5. Design Changes and Modifications

a. Documents Reviewed

(1) Administrative Procedures (AD)

. AD 1804.00, Reports Management, revision

. AD 1805.00, Procedure Preparation and Maintenance, revision 15

. AD 1823.00, Jumper and Lifted Wire Control Procedure, revision 8

. AD 1823.01, Setpoint Control, revision

. AD 1844.00, Maintenance, revision 5

. AD 1845.00, Changes, Tests and Experiments, revision 3

(2) Toledo Edison Nuclear Quality Assurance Manual (NQAM)

. NQAM, Section 5.0, Program Descriptions, revision 22

. NQAM, Exhibit B, Q-List, revision 15

. NQAM, Exhibit C, Station Operation Activities Under the the Purview of the Quality Assurance

(3) Quality Assurance Procedures (QAP)

. QAP 2012, Control of Delegation of Authority, revision 2

. QAP 2030, Design Control, revision 6

. QAP 2051, Installation, Inspection, and Testing Procedures, revision 2

. QAP 5140, Changes, Tests, and Experiments, revision 1

. QAP 5200, Station Records Management, revision 1

. QAP 5230, Fire Protection, revision 0

(4) Power Engineering Instructions (PEI)

. PEI S-002, Commitment to Toledo Edison QA Program, revision 4

. PEI S-003, Delegation of Authority, revision 17

- PEI S-005, Training and Qualification of Personnel, revision 0
- PEI S-026, Specifications/Design Documents-Preparation and Control Standards, revision 5
- PEI S-028, Drawing Change Notice (DCN), revision 3
- PEI S-064, Test Results Other Than Startup/Preoperational, revision 1
- PEI DB1-221, Specification/Design Documents-Design Control, revision 5
- PEI DB1-320, Design Changes, Tests, and Experiments, revision 7
- PEI DB1-321, Specification/Design Documents-Design Control, revision 7
- PEI DB1-322, Drawings - Design Control, revision 6
- PEI DB1-324, Design Verification, revision 3
- PEI DB1-326, Previously Approved Specification-Design Control, revision 0
- PEI DB1-334, Safety Review/Evaluation/Accident Analysis (10 CFR 50.59), revision 2
- PEI DB1-351, FCR Work Package, revision 3
- PEI 125, Retention of Design Control Quality Assurance Records, revision 1

(5) Selected FCR's and Work Packages.

(6) FCR Control Log

(7) Davis-Besse Technical Specifications (TS), Section 6.0, Administrative Controls.

b. Observations

The following observations include general information items and the preceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements but will provide the basis for subsequent performance evaluations.

(1) A policy statement by the President of Toledo Edison endorsed the Davis-Besse Nuclear Quality Assurance Program. The policy

statement assigned the responsibility for assuring that the Nuclear Quality Assurance Program was established and implemented. This responsibility was assigned to the Vice President, Nuclear.

(2) QAP 2030 established the program for controlling design change and modification activities and included the following major items.

- References to applicable codes, guides, standards, and procedures.
- Requirements to develop and implement written procedures and instructions which address: design objective, design process, interface control, design verification, and design changes.
- Documentation and approvals.
- Responsibilities.

(3) Toledo Edison organization charts were available at the Corporate Office and the Davis-Besse site. Management responsibilities were identified. There had been recent changes in the Toledo Edison Organization. The nuclear organization and fossil organization had been separated with the nuclear portion being assigned to the Vice President, Nuclear. These organizational changes, however, were not reflected in the TS, FSAR, and applicable procedures. (W)

Nuclear Engineering and Construction was the responsible organization under the Vice President, Nuclear, for controlling all design changes, tests, and experiments. The Director of Nuclear Engineering and Construction had delegated this specific responsibility to the Manager of Nuclear Engineering.

The Nuclear Engineering Department consisted primarily of the Manager, Project Director, Senior Project Engineer, and the following sections: Plant Electrical, Plant Instrumentation and Control, Plant Process, Plant Nuclear, Civil and Structural, and Site Engineering. Under the Nuclear Engineering Manager, there were approximately 28 positions of which 5 had not been filled. In addition, an increase of 15 engineering positions had recently been authorized.

(4) No major design work was done by the Nuclear Engineering Department. Design work was performed by Bechtel and reviewed and followed by TECo engineers.

(5) Interviews revealed that the Nuclear Engineering Department held routine planning meetings. Communications between Nuclear

Engineering and site personnel were open and informal. Engineers were routinely involved in support of activities at the site.

(6) Job descriptions were provided for nuclear engineering personnel. Procedures also specified major responsibilities. The Project Engineer was identified as the key individual in the preparation and processing of FCR work packages.

(7) FCR's were required, by procedure, to be used to control the request, review, approval, and implementation of all design changes, tests, or experiments. Anyone could initiate an FCR submittal to either the Manager of Nuclear Engineering or the Davis-Besse Station Superintendent. Detailed instructions were provided for initiating and processing FCR's.

Instructions were provided to establish measures to control the preparation and approval of Safety Evaluations. These instructions referenced applicable procedures associated with facility changes.

A work package was assembled for each proposed design change, test, or experiment. The work package accompanied the FCR and established the proper implementation as described in reference specifications, drawings, procedures, and instructions. The approval of an FCR included the approval of the associated work package.

An FCR log was maintained under the cognizance of the Technical Engineer. This log was used to track the review, approval, and completion status of FCR's. Review of this log and review of selected FCR's verified that the log was being properly and currently maintained.

The Technical Engineer also verified completion of all FCR's and supporting documentation which included the following items:

- Post modification and final acceptance inspections.
- Revisions to applicable procedure.
- Marked up drawings.
- Completed work package attached to FCR.

All safety related FCR's and associated work packages were required to be reviewed by the Project Engineer, SRB, QA, and the Station Superintendent prior to implementation and after completion. The Project Engineer and Station Superintendent also approved the implementation and completion of FCR's and work packages. Examination of selected completed FCR's verified that these reviews and approvals were being performed.

(8) AO 1845.00 provided administrative controls over design changes, tests, and experiments affecting the Davis-Besse facility. This procedure included the following items:

- Applicability.
- References to applicable regulations, codes, guides, standards, and implementing procedures.
- Definitions, including safety review, safety evaluation, unreviewed safety question, accident analysis, nuclear safety related, and security review.
- Detailed instructions for processing FCR's.
- Process flow chart illustrating the sequence of steps and responsibilities for initiating, reviewing, approving, and implementing an FCR.
- Documentation and records.

(9) PEI DB1-320, described Nuclear Engineering's role in design changes, tests, and experiments made on the Davis-Besse facility. This procedure described the following items:

- References.
- Forms.

  Definitions, including safety review, nuclear safety related, safety evaluation, unreviewed safety question, and accident analysis.
- FCR initiation.
- Safety review and evaluation.
- Security review.
- Assigning of FCR numbers and tracking of FCR's.
- Review and approval of FCR's.
- Notification of affected parties.
- Preparation, review, and approval of FCR associated work packages, including design verifications.
- Requirement for CNRB review of safety evaluation.

. FCR implementation and test results.

. Completed FCR work package review and approval.

. FCR final disposition.

. FCR drawing change notice (DCN) control.

(10) Procedures associated with design changes, tests, and experiments cross-referenced other applicable procedures and assigned detailed responsibilities for all phases from conception to implementation.

(11) Implementation of all design changes, tests, and experiments was accomplished through the use of Maintenance Work Orders (MWO). The use of MWO's is described in Section 6 of this report.

(12) Interviews and document reviews revealed the number of FCR's had increased over the past year as a result of design changes required to upgrade the facility in areas such as fire protection, security, and seismic requirements for hangers and anchor bolts.

(13) Major modifications were performed by contractors. The contractor work activities were overviewed by Davis-Besse QA personnel. In many cases, contractor procedures were used for the installation and testing of these modifications. These procedures were reviewed by Davis-Besse QA and the Maintenance Engineer, if maintenance personnel were to be involved. However, safety related contractor procedures were not normally reviewed and approved by the SRB. (W)

(14) Interviews and document reviews revealed that FCR's and associated work packages were maintained in duplicate: one copy at the corporate office and one copy at the site. The site copies were maintained in the Station Central Files. Storage and retrievability were verified for selected documents.

(15) Drawing change notices (DCN's) were originated at Bechtel. PEI S-028 provided guidance for reviewing and processing Bechtel DCN's, including those resulting from FCR's.

(16) There was no distinction between major and minor FCR's; all FCR's were logged, tracked, and processed using the same procedures. The majority of FCR's submitted appeared to be relatively minor with regard to engineering and implementation man-days required. An October 24, 1980, computer printout identified over 1100 outstanding FCR's. A licensee representative stated that many of these FCR's had been completed during the recent outage and had not been closed out. Most FCR's

listed in the printout were of a relatively low priority (7-9). FCR priority codes were as follows.

Code	Description
1-5	Restraint to Operating License Modes 1, 2, 3, 4, or 5, respectively
6	Reserved for special high priority items. These are items that are affecting either station generating capacity, TS action statements, or personnel safety.
7	Work is required at the earliest convenience. These are items that could affect either station generating capacity, TS action statements, or personnel safety.
8	Work is required.
9	Work is highly desirable.
0	Work is desirable but can be done later.

(17) Interviews revealed that all outstanding FCR's were given an extensive review at least once a year. It was also determined that a Site Engineering Section, under the Nuclear Engineering Department, was being staffed. This section's initial responsibility was to review outstanding FCR's and to expedite a reduction in the large backlog.

This engineering section was to be located at the Davis-Besse site and will consist of a Site Engineering Manager, three engineers and two technicians. The manager had been designated and staffing was being pursued.

(18) Review of selected FCR safety evaluations revealed that in some cases, particularly in fire protection, hanger, and anchor bolt modifications, the safety evaluations did not address the safety aspects covering the interface between construction activity and the operating plant. (W)

(19) PEI S-005, established measures to assure that indoctrination and training of engineering personnel, assigned technical or design control responsibilities, were carried out in an approved and controlled manner. This procedure contained an extensive listing of documents, and each newly assigned engineer was required to review the documents designated by the Nuclear Engineering Manager. Interviews revealed that this procedure had been implemented and the designated reviews were documented. Engineering personnel met the qualification requirements of ANSI N18.1-1971.

c. Conclusions

The licensee had established a program to control safety-related design changes, tests, and experiments. The program appeared to have been implemented.

The Toledo Edison Company had recently undergone an extensive reorganization. The nuclear and fossil organizations had been separated at the Vice President level and below. The FSAR, TS, and procedures had not been revised to reflect these organizational changes.

Significant observations in this area were the large backlog of outstanding FCR's and an apparent lack of safety evaluations covering the interface between construction activities during operations when major design changes were being installed.

The licensee had recognized the need to reduce the large backlog of outstanding FCR's and was staffing a Site Engineering Section to evaluate and reduce this backlog.

The overall management controls associated with safety-related design changes, tests, and experiments were considered to be average.

6. Maintenance

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls associated with corrective and preventive maintenance activities.

a. Documents reviewed

(1) Administrative Procedures (AD)

- AD 1803.00, Safety Tagging Procedure, revision 8
- AD 1805.00, Procedure Preparation and Maintenance, revision 15
- AD 1805.02, Periodic Review of Station Procedures, revision
- AD 1806.01, Equipment Failures Trend Detection Program, revision 1
- AD 1823.00, Jumper and Lifted Wire Control Procedure, revision 8
- AD 1828.00, Personnel Training Program, revision 2
- AD 1828.08, Nuclear Instrument and Control Mechanics Training, revision 0

- AD 1828.11, Maintenance Section Training, revision 1
- AD 1838.00, Surveillance and Periodic Test Program, revision 5
- AD 1838.02, Performance of Surveillance and Periodic Tests, revision 7
- AD 1844.00, Maintenance, revision 5
- AD 1844.01, Preventive Maintenance, revision 2
- AD 1844.03, Control of Maintenance Instructions, revision 0
- AD 1844.05, Cleanliness Control, revision 1
- AD 1845.00, Changes, Tests and Experiments, revision 3
- AD 1848.05, Control of Drawings and Instruction Manuals, revision 2
- AD 1848.07, Control and Disposition of Records Generated by the DBNPS Maintenance Section, revision 2
- AD 1849.00, Measuring and Testing Equipment Control and Calibration, revision 1

(2) Toledo Edison Nuclear Quality Assurance Manual (NQAM)

- NQAM, Section 5.0, Program Descriptions, revision 22
- NQAM, Exhibit B, Q-List, revision 15
- NQAM, Exhibit C, Station Operation Activities Under the Purview of the Quality Assurance Program, revision 2

(3) Quality Assurance Procedures (QAP)

- QAP 2010, Organization, revision 3
- QAP 2012, Control of Delegation of Authority, revision 2
- QAP 2020, Quality Assurance Program, revision 5
- QAP 2021, Application of NRC Regulatory Guides and ANSI Standards, revision 3
- QAP 5050, Surveillance Test, revision 1
- QAP 5130, Maintenance, revision 2

- QAP 5210, Measuring and Test Equipment Calibration and Control, revision 2

(4) Quality Assurance Instructions (QAI)

- QAI 3103, Maintenance, revision 5
- QAI 3111, QC Verification of Station Surveillance and Periodic Tests, revision 5
- QAI 4010, Stop Work, revision 3

(5) Instrument Calibration and Testing Procedure IC 2100.00, Test Equipment Calibration, revision 8

(6) Maintenance Procedure MP 1410.03, Maintenance Test Equipment Calibration, revision 6

(7) Selected Maintenance Procedures (MP)

(8) Selected Maintenance Instructions (MI)

(9) Selected Surveillance Test Procedures (ST)

(10) Selected Periodic Test Procedures (PT)

(11) Davis-Besse Technical Specifications (TS), Section 6.0, Administrative Controls

b. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements but will provide the basis for subsequent performance evaluations.

(1) QAP's and AD's were provided to control safety related maintenance activities in conformance with the requirements. Applicable NRC Regulatory Guides and ANSI Standards were identified in these procedures.

MP's, MI's, ST's, and PT's were written to provide detailed instructions for the performance of corrective maintenance, preventive maintenance, and testing activities. AD 1805.00, provided guidelines for preparation and maintenance of procedures, including major and temporary modifications to existing safety related procedures.

Procedures used for maintenance and testing activities referenced associated procedures, standards, guides, and parent documents. Items in procedures which pertained to TS were indicated in the

margin by a specification number directly below. If the specification number was in the text of the procedure, then it was indicated by a "(TS)".

AD 1844.01 described the administrative controls established for performing preventive maintenance on nuclear safety related components. All preventive maintenance was performed using a Maintenance Work Order (MWO). The Maintenance Engineer was responsible for developing and controlling the Preventive Maintenance Program.

AD 1838.00 described the administrative controls established for the Surveillance Test Program. The scope of the program was defined, primarily, by the surveillance procedures which implemented the requirements of the TS. A cross-reference between these requirements and the specific surveillance procedures was provided.

AD 1823.00 described the program implemented to control, identify, and document the placing of jumpers or the lifting of wires. The term "jumper" referred to an electrical lead or mechanical connection that bypassed a normal circuit function, provided a temporary power supply, or provided a temporary pipe or tube for an alternate flow path for fluid or gas.

AD 1844.00 addressed the following areas associated with maintenance.

- References.
- Organization and responsibilities.
- Classification of maintenance.
- Control of maintenance procedures and instructions.
- Maintenance work order system.
- Conduct of maintenance.
- Personnel qualifications and training.
- Records and reports management.
- Quality verification.

AD 1848.05 provided detailed instructions for control of vendor manuals received from suppliers and contractors. Interviews revealed that vendor's manuals were being controlled by the Maintenance Department in accordance with this procedure.

(2) Interviews revealed that the Maintenance Department was adequately staffed for routine operation. During refueling and maintenance outages, contract labor personnel were utilized to support the maintenance organization.

The maintenance organization consisted of the following positions: Maintenance Engineer, Lead Maintenance Support Engineer, Lead Instrument and Control Engineer, Maintenance Supervisor, Instrument and Control Foreman, Electrical Foreman, Mechanical Foreman, Piping Foreman, Station Service Foreman, group leaders, craftsmen and technicians. The Maintenance Engineer reported to the Assistant Station Superintendent.

In addition to the maintenance line organization, a staff of specialists and assistant engineers reported to the Lead Maintenance Support Engineer and Lead I&C Engineer. These staff members were assigned specific responsibilities in support of maintenance activities.

The Station Superintendent was responsible for overall plant maintenance and reported directly to the Vice President, Nuclear. The Station Superintendent and Vice President, Nuclear, were members of the Company Nuclear Review Board.

(3) The Station Superintendent, Maintenance Engineer, and Lead Instrument and Control Engineer were members of the Station Review Board.

(4) The FSAR did not reflect the present maintenance organization. The last revision to the FSAR was in January 1977. (W)

(5) A program was established for control and calibration of measuring and testing equipment. Individuals were identified as being responsible for implementation of the program. Testing and measuring equipment to be controlled and calibrated were identified in written and approved procedures. The calibration frequency was also designated. A sticker affixed to each piece of equipment indicated the calibration due date.

(6) Maintenance activities were classified as non-routine or routine and preventive or corrective. Non-routine and routine maintenance activities are defined in AD 1844.00 and described in Section 5 of this report. The determination of the classification was the responsibility of the Maintenance Engineer. Non-routine maintenance activities required the use of procedures approved by the SRB, QA, and the Station Superintendent.

(7) TS 6.8.2 requires that applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33 be reviewed by the SRB and approved by the Station Superintendent. Appendix "A" of Regulatory Guide 1.33 specifies that maintenance that can

affect the performance of safety related equipment should be properly preplanned in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances.

Contrary to TS 6.8.2, the SRB did not review the following items.

- Maintenance instructions and vendor manuals used for routine safety related maintenance activities that are beyond the skill of the crafts.

- Procedures used by contractors doing safety related work activities (for example, anchor bolt installation and testing).

Furthermore, AD 1805.02 specified that station procedures shall be reviewed in accordance with the schedule shown on the Test and Procedure Index. The most recent printout of this index, however, did not specify the required procedure review frequency. (W)

These observations were discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(8) All nuclear safety related maintenance activities were performed using a Maintenance Work Order (MWO). Detailed instructions were provided in AD 1844.00 for preparation and disposition of MWO's. The MWO included the following items.

- Equipment or instrument identification.

- Source of MWO initiation.

- Description of problem or malfunction.

- Work classification.

- Radiation Exposure Permit (REP) requirements.

- Cleanliness inspection requirements.

- Nuclear Plant Reliability Data (NPRD) identification.

- Maintenance procedures and instructions.

- Maintenance Engineer approval.

- QC Review and inspection requirements.

. Responsibility for maintenance.

. Permission to commence work, including system alignment and tagging.

. Work performed.

. Test equipment I.D. number and calibration status.

. Spare parts required.

. Maintenance completion and inspection approvals.

. Test completion and inspection approvals.

. Action items for followup.

. Completed MWO review and approval.

An MWO consisted of a multi-colored, four-sheet form with the following distribution.

. White copy - routed to be completed and then filed in Equipment History File.

. Blue copy - maintenance or I&C office.

. Green copy - Shift Foreman.

. Yellow copy - Operations Engineer.

QC was required to review all MWO's prior to implementation to establish inspection hold points and to identify activities to witness. Record reviews and interviews revealed that QC had reviewed MWO's for these requirements.

A master MWO log was maintained in the maintenance office and reflected the current status of MWO's. In addition, the blue copies of outstanding MWO's were filed in the maintenance office by functional account numbers. These blue copies provided a ready reference to all outstanding MWO's of a given system. However, AD 1848.07, Section 6.2.1(4), specified the blue copies of MWO's be filed in the Station Central Files under Work Orders Outstanding. This procedure needs to be revised to reflect the current practice.

MWO's could be initiated by any of the following mechanisms.

. Work Request (WR).

. Action Item Record (AIR).

. Nonconformance Report (NCR).

. Deviation Report (DVR).

. Facility Change Request (FCR).

. Maintenance Work Order (MWO).

(9) An Open Flame, Welding, Grinding, and Cutting Permit was required whenever open flame, welding, grinding or cutting was performed in an area other than a designated area such as the welding shop. The permit was also required to establish a designated area. The Maintenance Engineer or Maintenance Foreman and Shift Foreman were required to review and approve all permits. The permit required the following information be addressed.

. MWO or Work Request number.

. Reason for permit.

. Location of work activity.

. Special precautions and limitations.

. Duration of activity.

(10) The Assistant Station Superintendent conducted daily meetings to schedule and coordinate the various onsite department activities. In addition, weekly planning meetings were conducted by the Station Superintendent. Representatives from the maintenance organization attended these meetings.

(11) Post maintenance functional testing was accomplished routinely by using surveillance or periodic test procedures to demonstrate the operability of safety related components and systems. Any testing of a component or system to satisfy operability requirements, ASME or other code requirements, surveillance or periodic tests required approval, upon completion, by the responsible Foreman or Shift Foreman.

(12) An October 24, 1980, computer printout identified approximately 1400 outstanding MWO's. This printout listed responsible persons and priorities. The printout did not reflect the current status of the MWO's. Many of the MWO's were over a year old; some were three years old. A licensee representative stated that many of these items had been completed during the recent outage but had not been closed out. This large backlog of MWO's was discussed with licensee management. (W)

(13) A program for trending of equipment failures had been established. The program consisted of analysis of information received from the Nuclear Plant Reliability Data System (NPRDS). The licensee was actively involved in submitting data into the NPRDS and evaluating NPRDS reports. A portion of the equipment failure trending program consisted of entering system and component failures onto either a system failure or component failure information data sheet. A data sheet was required for each individual system or component experiencing failures. This portion of the trending program, however, had not been fully implemented. (W)

(14) Interviews revealed that members of the maintenance organization were knowledgeable of their responsibilities and the established maintenance program. They met the qualification requirements of ANSI N18.1-1971.

c. Conclusions

The licensee had established a program to control safety related maintenance activities. Except for some minor instances, the program appeared to have been implemented, and most maintenance personnel were familiar with the program details.

One significant weakness was that routine safety related maintenance activities, beyond the skill of the crafts, were performed using detailed maintenance instructions not reviewed by the SRB. Also, procedures used by contractors doing safety related work activities were not reviewed by the SRB.

Another significant weakness was the large backlog of outstanding MWO's. A computer printout on October 24, 1980, listed approximately 1400 outstanding MWO's. The licensee stated that many of these items had been completed during the recent outage and had not been closed out. From the printout, it was determined that most of the outstanding MWO's were work items required to be done or highly desirable but not of high priority. Responsible individuals or organizations had been assigned for all items. The potential safety significance of these items and the desirability of reducing this large backlog were discussed with the licensee.

The overall management controls associated with the safety related maintenance program were considered to be average.

7. Review and Control of Licensed Activities (Operations)

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls over licensed activities.

a. Documents Reviewed

(1) Technical Specifications (TS), Section 6.0, Administrative Controls

(2) Final Safety Analysis Report (FSAR)

- Section 13.0, Conduct of Operations
- Section 17.0, Quality Assurance Program for Station Operators

(3) Nuclear Quality Assurance Program Policy Statement

(4) Nuclear Quality Assurance Procedures (QAP's)

- QAP 2021, Application of NRC Regulatory Guides and ANSI Standards, revision 3
- QAP 2050, Instructions, Procedures, and Drawings, revision 2
- QAP 2140, Inspection, Test, and Operating Status, revision 3
- QAP 5050, Surveillance Test, revision 1
- QAP 5060, Station Operations
- QAP 5190, Reports Management, revision 2
- QAP 5200, Station Records Management, revision 1

(5) Administrative Procedures (AD's)

- AD 1803.00, Safety Tagging Procedure, revision 8
- AD 1805.00, Procedure Preparation and Maintenance, revision 15
- AD 1805.01, Davis-Besse Manual Control and Revision, revision 2
- AD 1805.02, Periodic Review of Station Procedures, revision 3
- AD 1807.00, Control of Conditions Adverse to Quality, revision 5
- AD 1807.01, Action Item Record, revision 2

- AD 1823.00, Jumper and Lifted Wire Control Procedure, revision 8
- AD 1828.09, Senior Reactor Operator Training, revision 0
- AD 1828.10, Davis-Besse Operator Training Program, revision 1
- AD 1828.15, Requalification, revision 1
- AD 1838.00, Surveillance and Periodic Test Program, revision 5
- AD 1838.01, Surveillance and Periodic Test Scheduling, revision 5
- AD 1838.02, Performance of Periodic Tests, revision 7
- AD 1839.00, Station Operations, revision 6
- AD 1839.02, Operation and Control of Locked Valves, revision 2
- AD 1839.04, Shift Technical Advisor Administative Procedure, revision 0
- AD 1848.08, Control and Disposition of Records Generated by the DBNPS Operations Section, revision 0

(6) Administrative Memoranda 13-12, 37-18, 45-3, 51 and 55

(7) Standing Orders 1, 4, 6, and 17

(8) Special Orders 6, 14-10, 22-4, 26, 33, 35-2, 36, 70, and 84-4

(9) Jumper and Lifted Lead Log, September 16 to November 18, 1980

(10) Davis-Besse Tagging Log, October 20 to November 18, 1980

(11) Emergency Procedure (EP) 1202.06, Loss of Reactor Coolant and Reactor Coolant Pressure, revision 14

(12) Master Approved Procedures Index

(13) Test and Procedure Index (computer - printed)

(14) Deviation Reports (DVR's) 80-01 through 80-150

(15) Corporate and station organization charts and related definitions of responsibilities

(16) Nuclear Mission Objectives, August 15, 1980

(17) Davis-Besse Station Objectives, August 15, 1980

(18) Monthly LER Report, September, 1980

(19) Control Room Plant Status Board and Equipment Status Board, November 19, 1980

b. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements but will provide the basis for subsequent performance evaluations.

(1) The licensee had a current organization chart. Responsibilities, lines of authority, and communications were defined.

Corporate and site organizational structures did not agree with those contained in the TS. Organizational changes occurring during the previous year had been discussed by the licensee with Region III but had not been submitted to the NRC as a TS change request. Sections 6.1.1, 6.3.1 and 6.4.1 of the TS also required updating to reflect the specific position titles to which responsibilities were assigned. (W)

The licensee prepared job descriptions defining positions in the plant and corporate organizations.

(2) Corporate officers interviewed were found to be actively involved in reviewing operations related plant activities. The individuals stated that they routinely reviewed such documents as LER's, AFR's, CNRB and SRB committee minutes, IE Bulletins and Circulars, IE Inspection Reports, and monthly operating reports. Organizational changes during the previous year appeared to have strengthened management's involvement in plant activities.

(3) The licensee had implemented effective written procedures for the control of licensed activities. However, many of the licensee's procedures (Administrative Procedures, QA Procedures, Power Engineering Instructions) required updating to reflect recent organization changes. (W)

(4) Of the persons interviewed, no one was identified who did not satisfy the training and experience requirements specified in the TS.

(5) Control room observations and interviews with operating personnel resulted in the following findings related to shift activities and plant operation.

- Those interviewed had a responsible attitude toward nuclear safety and plant operation.

- Operating personnel were organized into five shift crews. The licensee was planning to establish a six-crew rotation, when staffing permits, to facilitate training. Stability of the operating staff was enhanced by a substantial bonus provided for licensed personnel. (S)

- Control room manning was observed to include two licensed operators at all times as specified in Special Order No. 26 and IE Bulletin 79-05C. The Shift Supervisor was aware of this requirement.

- The weakest staffing area was in non-licensed operators. The licensee was meeting an NRC commitment to provide two safety-qualified equipment operators per shift, but only by requiring those so qualified to continually work overtime. (W) Several others were working on this qualification.

- Shift crew size ranged from 11 to 13, with shift turnover for most individuals occurring in the control room. Nineteen individuals were observed to be in the control room during the 0800 shift change on November 19; this resulted in a crowded condition which could have adversely impacted on a response to an emergency situation. (W) This could have been alleviated by having some turbine and auxiliary building operators relieve on station.

- A number of "nuisance" alarms shown on control room annunciators could detract from the operator's attention to valid alarms. Examples (with red backlighting) were diesel generator trouble alarms and control room emergency vent system radiation monitor alarms, which would clear only when the associated equipment was operating. (W)

- All but one (an auxiliary operator) of those interviewed were familiar with the reasons for the existing plant status (CNRB limitation to 75% power), and felt that communications within the Operations Division were effective.

- The turbine building operator did not have a specified location within the turbine building from which to operate. (W)

- One Shift Supervisor stated that card-key locks to vital area doors fail in the locked condition upon loss of the computer, and that only one set of keys was available to shift personnel. This could present difficulties in the event of a plant emergency concurrent with loss of the security computer. (W)

(6) Examination of approximately 100 procedures in the control room procedures file disclosed the following discrepancies: (W)

. Three safety related procedures were missing.

SP-1104.15, Emergency Ventilation System

SP-1105.20, Power Operated and Safety Relief Valve Monitoring

EP-1202.59, Loss of Containment Integrity

. The correct revision of one safety related procedure (SP-1104.27, Gaseous Radioactive Waste System) was missing.

. Nineteen procedures had discrepancies involving temporary procedure changes ("T-Mods"); either effective T-Mods were not included or deleted T-Mods were still included.

. Sixteen procedures included T-Mods that had not been reviewed by the SRB and Station Superintendent.

. Some procedures had as many as 12 to 20 T-Mods in effect. The affected steps or portions of the basic procedure were in most cases not marked to indicate that they had been modified. In addition, some T-Mods revised or superseded earlier T-Mods that were still attached. Procedures containing more than a few T-Mods therefore became more difficult to understand and use.

These observations were discussed with the licensee and presented to the Senior NRC Resident Inspector as potential enforcement findings.

(7) Review of the licensee's control of approved procedures by the administrative section resulted in the following observations.

. The Master Approved Procedures Index (maintained in the central file) was compared with the computer printed Test and Procedures Index for approximately 175 procedures (plant, system, emergency, and abnormal procedures). Although the two listings differed by one revision for 5 of the 175 procedures, the correct revision for each of the five was included in the control room procedures file.

. Effective central control was being exercised over procedure distribution; documentation showed that superseded procedure revisions were being checked off as they were returned.

Each procedure had a specified distribution, as prescribed by division heads. One minor weakness noted was that,

when an addressee was dropped from the distribution for a procedure, return of previous revisions was not being requested. (W)

Some T-Mods found in the control room procedures file had not received SRB and Station Superintendent Review, as previously discussed. This apparently resulted from their not having been submitted to the SRB clerk for processing. Examination of records showed that T-Mods received by the SRB clerk were assigned a sequential number and tracked to assure review within the allowed 14-day time period.

(8) Conditions adverse to quality were documented on DVR's. The DVR provided for internal and NRC notification as required, investigation of the event or condition, description of corrective actions, and review by the SRB and Station Superintendent.

AD 1807.00, Section 6.8, stated that DVR's (except those resolved by a Facility Change Request) were not to be closed until corrective actions had been completed. Since the procedure also called for the SRB and Station Superintendent reviews to be conducted after the completion of corrective actions, these final reviews were delayed considerably in a number of cases. Nineteen of 149 DVR's written in 1980 before the end of August had still not been reviewed by the SRB and Station Superintendent. (W)

(9) AD 1807.01 defined the licensee's Action Item Record (AIR) system, which was designed for tracking the completion of corrective actions and commitments. Examination showed the listing of outstanding AIR's to include only two items originated in 1980. This observation was discussed with one licensee representative, who indicated that the AIR system was largely unused during the previous year. (W)

(10) The licensee was complying with the posting requirements of 10 CFR Part 19.

(11) The licensee had implemented a tracking program for monitoring LER's. This included an internal report which analyzed LER's occurring during the previous month, described their causes and corrective actions, and assigned severity points to permit more effective monitoring of trends. (S)

(12) Although surveillance procedures and test results were not inspected, interviews and examination of related documents showed the licensee to have an effective computer-based program for scheduling surveillance tests. (S) The program included a cross-reference that related each TS surveillance requirement to the appropriate surveillance test.

c. Conclusions

The licensee had a written program for controlling licensed activities. The program had been implemented, although several administrative procedures required revision to reflect recent organizational changes, and improvements in filing and maintenance of procedures and T-Mods were needed.

Operating personnel were found to have a responsible attitude toward plant operation and safety. The staff included adequate numbers of licensed operators and senior operators who were properly trained and actively participating in the approved retraining program. Shift manning needs for unlicensed operators were being met only through the use of overtime, although a number of new operators were in training. Several weaknesses were noted in control room operations such as tolerance of excessive numbers of alarm indications, which require management attention.

Persons interviewed were knowledgeable of the responsibilities stated in their job descriptions and in approved procedures. Recent changes to corporate and site organizations were providing improved corporate support to Davis-Besse activities.

Management controls in the area of licensed activities were considered average.

8. Corrective Action System

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls over the corrective action system.

a. Documents Reviewed

(1) Corporate and Station Organization charts and related definitions of responsibilities.

(2) Nuclear Mission Objectives, August 15, 1980

(3) Final Safety Analysis Report, Chapter 17, revision 26 and Chapter 13, revision 25

(4) Nuclear Quality Assurance Manual (NQAM), revision 22

(5) QC Instructions (QCI)

- QCI 3010, Stop Work, revision 2
- QCI 3021, QC Follow-up Action System, revision 2
- QCI 3073, Conditional Release, revision 1

- QCI 3150, Control of Nonconformance Reports, revision 3
- QCI 3160, Corrective Action Requests, revision 2

(6) QA Instructions (QAI)

- QAI 4010, Stop Work, revision 3
- QAI 4011, Monthly Letter, revision 3
- QAI 4030, Design/Technical/Procurement Specification Review, revision 3
- QAI 4040, QA Review of Purchase Requisitions and Orders, revision 2
- QAI 4150, QA Review of Nonconformance Reports, revision 5
- QAI 4151, NCR Trend Analysis, revision 2
- QAI 4160, Corrective Action Requests, revision 2
- QAI 4181, Audits, revision 2
- QAI 4183, AFR Log, revision 3

(7) QA Procedures (QAP)

- QAP 2150, Nonconformances, revision 9
- QAP 2180, Audits, revision 2

(8) Power Engineering Instructions (PEI)

- PEI DB1-320, Design Changes, Tests, and Experiments (FCR's), revision 7
- PEI S-002, Commitments to Toledo Edison Nuclear Quality Assurance Program, revision 4
- PEI S-013, Toledo Edison Nonconformance Reports (NCR's), revision 3
- PEI S-015, Corrective Action Requests (CAR's), revision 1
- PEI S-026, Specifications/Design Documents - Preparation and Control Standards, revision 5
- PEI S-030, Safety Analysis Report (SAR) Revisions, revision 0

(9) Administrative Procedures (AD)

- AD 1806.01, Equipment Failures Trend Detection Program, revision 1
- AD 1807.00, Control of Conditions Adverse to Quality, revision 5
- AD 1844.00, Maintenance, revision 2
- AD 1845.00, Changes, Tests and Experiments, revision 3

(10) Status of All Open TECo AFR's/CAR's for Davis-Besse Unit #1, November 1, 1980

(11) Memorandum Resolution of Open Quality Assurance Audit Finding Reports, from R. P. Crouse, November 4, 1980

(12) Facility Change Requests (FCRs), 79-006, 79-010, 79-243, 80-010, 80-042, 80-045, 80-178, and 80-237

(13) QA Department's NCR Trend Analysis Sheet, October 31, 1980

(14) Report M80-2449, Monthly LER Summary for September, 1980, November 14, 1980

(15) Report M80-2427, Monthly LER Summary for August, 1980, November 5, 1980

(16) Drawings M-269WS and M-269YS (pertaining to fire protection sprinkler system).

b. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) A diversity of methods existed for effecting corrective action to perceived deficiencies. These included the following:

- FCR's (facility change requests)
- DVR's (deviation reports)
- MWO's (maintenance work orders)
- CAR's (corrective action requests)
- AIR's (action item reports)

. AFR's (audit finding reports)

. NCR's (nonconformance reports)

. "Stop Work" orders

FCR's and DVR's were initiated by any TECo employee. MWO's were initiated by the Maintenance Department. CAR's, AFR's, and NCR's were initiated by the QA Department.

(2) The diversity of methods for effecting corrective action resulted in the failure to ensure that all deficiencies were properly prioritized, tracked, investigated, corrected, and documented. (W)

(3) A policy statement for control of corrective actions and nonconformances was contained in the NQAM. The NQAM also provided the QA Department with the authority to stop unsatisfactory work or control further processing of nonconforming material.

(4) The licensee tracked commitments to the NRC resulting from IE Bulletins and Circulars, IE inspection reports, orders, and license changes on a computer printout, using Form ED 7062, NRC Commitment Entry/Change Record. A member of the staff of the Superintendent of the Davis-Besse station was responsible for this printout. A procedure defining responsibility for this effort was in preparation.

(5) The most widely used method for effecting corrective action on the site was the FCR. The majority of the FCR's followed this path: (a) Originator, (b) Originator's Supervisor, (c) Station Management, (d) Nuclear Engineering (at the corporate office in Toledo), (e) Bechtel (the architect-engineer, in Gaithersburg, Maryland), (f) Nuclear Engineering, (g) Station Management, (h) Station Maintenance Department (for preparation of the MWO, to specify the corrective action), (i) QA Department (for QC surveillance), and (j) Station Maintenance (to perform the action).

A review of the log of FCR's in the station's Technical Section provided the identifiction numbers and originating dates of unresolved FCR's. Two FCR's, which had proposed completion dates during the 1980 station outage, were selected for further review.

. 80-045, pertaining to radiation levels in containment.

. 80-010, pertaining to modifications to pressurizer heater cables.

TECo personnel confirmed that neither FCR had been accomplished during the 1980 station outage. The Nuclear Engineering Department did not know the status of 80-045, which they had transmitted to Bechtel for analysis; the station's Technical Section did not know the status of 80-010, which they had transmitted to the Nuclear Engineering Department.

AD 1845.00, in paragraph 3.2, stated: "The D-B Technical Engineer will be responsible for ... maintaining a ... tracking system for ... FCR's. The FCR will be tracked to maintain traceability. The Technical Engineer will function as an expeditor as necessary to insure the timely processing and implementation of FCR's." However, as the Technical Engineer confirmed, he relinquished control of an FCR once it was transmitted to the Nuclear Engineering Department. He did not interface with Bechtel. He did not regain control of the FCR until it was returned to the station. He therefore could not track an FCR to maintain its traceability. (W)

This observation was discussed with the licensee and presented to the Senior RI as a potential enforcement finding.

(6) The Nuclear Engineering Department resulted from a recent management change in the TECo organization. Prior to the formation, of this department the work was performed by the Power Engineering Department. This department provided engineering services to all of the TECo power generating stations, fossil as well as nuclear. By providing an engineering department dedicated to the Davis-Besse station, TECo sought to eliminate conflicting priorities between fossil and nuclear stations for engineering services; better manage the review of FCR's; reduce the backlog of FCR's, and to improve the response time between their generation and implementation. (S)

(7) During the 1980 outage, the station experienced problems which significantly impacted the schedule for restart. A committee, led by the Reliability Manager, had conducted a performance appraisal of the outage efforts. The committee sought to focus management attention on the problems experienced so they could be avoided in the next outage. The committee also sought to critique the solutions that were implemented so that these solutions could be improved. In short, its emphasis was to provide an anticipatory corrective action program for future outages rather than a reactive one.

The Reliability Manager indicated, however: (a) there was no system for numbering or otherwise identifying the solutions to be improved, (b) no individuals had been charged with the responsibilities for implementing the outage performance appraisal critiques, and (c) no time limits had been established for the implementation.

(8) The Technical Section prepared a monthly summary of LER's which identified major weaknesses (and strengths). This summary included trend analysis of LER's graphically illustrating improving or deteriorating areas. These monthly summaries were distributed to certain corporate and station personnel, including the Vice-President, Nuclear. (S)

The QA Department prepared a monthly tabulation of NCR's in an effort to identify trends in quality. However, the QA Department had not used these tabulations to influence the areas or frequencies of their audits and thereby improve the effectiveness of their audits. The QA Department stated that they did not possess personnel trained or experienced in trend analysis. Furthermore, they did not receive copies of the "Monthly LER Summary". (W)

(9) The QA Department, issued CAR's and AFR's. There were numerous weaknesses associated with these documents, as discussed in Section 4 of this report.

c. Conclusions

The licensee's corrective action program did not ensure that all deficiencies were properly prioritized, tracked, investigated, corrected, and documented. The licensee did not promptly follow up on QA identified problems (AFR's and CAR's) nor did they coordinate the corrective action effort among the different departments reporting to the Vice-President, Nuclear. The licensee had taken certain actions to improve the situation (for example, formation of the Nuclear Engineering Department and starting trend analysis of LER's).

Therefore, based on the above considerations, management controls in the area of corrective action systems were considered average.

9. Training

The objective of this portion of the inspection was to determine the adequacy of management controls in the area of licensed and non-licensed training activities.

a. Documents Reviewed

(1) Technical Specification (TS), Section 6.0, Administrative Control

(2) Administrative Procedures (AD)

- AD 1828.00, Personnel Training Program, revision 2
- AD 1828.03, General Orientation Training, revision 2
- AD 1828.04, Personnel Training Records, revision 2

- AD 1828.06, Required Reading List Preparation, Retention, and Audits of, revision 2
- AD 1828.07, System Walk-throughs and Oral Examinations, revision 1
- AD 1828.08, Nuclear Instrument and Control Mechanics Training, revision 0
- AD 1828.09, Senior Reactor Operator Training, revision 0
- AD 1828.10, Davis-Besse Operator Training Program, revision 1
- AD 1828.11, Maintenance Section Training, revision 1
- AD 1828.12, Chemistry and Health Physics Training, revision 0
- AD 1828.13, Administrative, Storeroom, and Clerical Personnel Training, revision 0
- AD 1828.15, Requalification, revision 1
- AD 1828.16, Inspection Engineering Training, revision 0
- AD 1828.19, Designated Inspector Training, revision 0

(3) Quality Assurance Instruction (QAI) 4020, QA Training, revision 4

(4) Quality Assurance Procedure (QAP) 5160, Personnel Training, revision 1

(5) Procurement Division, QA Purchasing Instruction, PI 105, revision 1

(6) Power Engineering Instruction PEI-S-005, Training and Qualification of Personnel, revision 0

(7) FSAR, Section 13, Conduct of Operations, part 13.2, Training Program, revision 6

(8) Quality Assurance Audit 659, Nuclear Training, March 10-14, 1980

(9) Davis-Besse 1980 Training Schedule and Objectives

(10) Davis-Besse Engineer Training Program

(11) Davis-Besse Nuclear Apprentice Training Program

(12) Training records of selected licensed and non-licensed personnel

b. Observations

The following observations include general information items and perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements but will provide the basis for subsequent performance evaluations.

(1) The President of the Toledo Edison Company (TECo) issued a policy statement on April 24, 1979, and a supplemental statement on November 30, 1979, that established a Nuclear Quality Assurance Program and assigned the responsibilities for the program. The policy statement included commitments to regulatory requirements, codes, and standards addressing quality assurance requirements. Total organizational involvement in the quality program was required of all affected personnel.

In addition to the corporate policy statement, the Nuclear Training Department annually issued a Training Schedule and Objectives Manual that outlined the Davis-Besse Training Program and established the goals for the Training Department. The Manual also contained program development efforts, course descriptions, course content, and a training schedule for the year. The manual was considered the written directive for the Department and was made available to all station personnel.

(2) The Nuclear Services Director was the corporate manager assigned the principal responsibility for the Nuclear Training Department in conjunction with responsibility for three other areas: Nuclear Reliability, Nuclear Fuel, and Radiological Affairs. The Training Manager, located at the Davis-Besse site, was the individual solely responsible for administering nuclear training. The manager's responsibilities included developing, maintaining, and administering the onsite training programs.

The Nuclear Services Director reported directly to the Vice-President, Nuclear. The Director's involvement with the Nuclear Training Department was primarily administrative. He maintained communications with the Nuclear Training Manager, was in the approval chain for program developments, and approved all training related purchases. Corporate management appeared to provide full support to the Nuclear Training Department. Senior Reactor Operators and Reactor Operators were given a substantial annual bonus by TECo for obtaining and maintaining an operator's license.

(3) There was a current organization chart. The lines of authority were clearly defined with no duplication of functions. A

proper balance of workload, and coordination existed between key personnel. The individuals interviewed had job descriptions and appeared to understand their assigned responsibilities.

The Nuclear Training Department was expanding with new programs being developed and implemented. The training organization had grown from four members in January, 1979, to twelve members at the time of the inspection. Six additional people were expected to be added within six months. (S)

There was a need to update and revise the AD's related to the training function. Existing AD's did not reflect the current organization in regard to position titles, responsibilities, proper titles for training programs, the inclusion of new programs and the deletion of outdated programs. (W)

The Nuclear Training Department was in the process of reviewing and revising certain of the existing procedures and writing new procedures. Procedures and changes to the procedures received the same review and approval. Procedures were reviewed and recommended by the SRB Chairman, approved by the QA Director and the Station Superintendent.

(4) AD 1828.00 established an outline of the procedures, defined training programs, and delineated the responsibilities for implementation of the programs for the training of the personnel at the Davis-Besse Nuclear Power Station. Personnel working at the station were to be trained in accordance with job responsibilities and duties.

AD 1828.04 established a standard for the access, content, retention, review, and updating of personnel training records. The record's contained an individual's complete training history. Training records were required to be retained for the duration of the OL and to be reviewed and updated periodically. The Training Department was in the process of microfilming training records and placing the records in a Records Management System.

(5) AD 1828.03 defined the methods used in the presentation of General Orientation Training (GOT) and Radiological Controls Training (RCT). The GOT was required prior to allowing any individual unescorted access into the protected and vital areas. The RCT and GOT were required prior to allowing any individual unescorted access into the Radiation Access Control Area. Davis-Besse personnel were required to requalify on an annual basis on GOT and, when applicable, RCT.

GOT included training in the basics of: Radiation Safety, Industrial Safety, Station Security, QA, and the Station Emergency Plan. The presentation was performed utilizing a synchronous slide and lecture method. The Training Department was reviewing and modifying the GOT to accurately reflect

recent changes in the Station Emergency Plan and to correct discrepancies in other areas.

RCT included training in: occupational dose limits, ALARA, Davis-Besse action levels, protection methods, personnel monitoring; containment monitoring, AD's, Radiation Exposure Permit, protective clothing, personnel dosimetry, respirators, and entrance to and exit from RACA.

A written examination was administered at the conclusion of the training and retraining with the results documented in training records.

Training records revealed the training and retraining were conducted in a timely manner and properly documented in an individual's training record. Examinations of approximately 30 training records showed that all of the individuals had received the annual requalification within the required time. This was the result of the Training Manager maintaining an effective system for tracking the GOT and RCT requalification training. (S)

(6) Reactor Operators (RO) were trained in accordance with AD 1828.10. The program was designed to qualify a newly hired operator without any previous power station experience to receive an NRC Reactor Operator License in 2 1/2 years through an NRC examination.

The Station Superintendent had the overall responsibility for the training program. The Training Manager had the responsibility to administer all aspects of the program and to report its effectiveness to the Station Superintendent and the Operations Engineer.

The individuals assigned to the program had the responsibility to maintain their own qualification manuals.

The procedure required the Reactor License Review Board (RLRB) to convene quarterly. The RLRB consisted of four licensed members: the Operations Engineer, a Shift Supervisor, and two Reactor Operators. The purpose of the Board was to review a new operator's background, review an individual's recommended training program and submit it to the Station Superintendent for approval, routinely evaluate an Operator's progress, and make recommendations regarding the individuals training program. The Training Manager had recently submitted a revision to AD 1828.10 for review and approval. The revision to the procedure would eliminate the RLRB and permit station managers to select Reactor Operator training candidates from qualified Equipment Operators.

(7) The Operator Training Program for a new operator without previous power station experience consisted of the following areas:

- Approximately six months of job orientation while assigned to a Shift Supervisor on an operating shift.

- Basic Academic Training (BAT) for a period of 160 hours. BAT consisted of a review of mathematics and science, principles of reactor operation, radiation protection and controls, general operating characteristics, instrumentation and control, and an introduction to primary and secondary plant systems.

- An 80 hour Pressurized Water Reactor Technology (PWR) program was presented following BAT. Subjects included heat transfer, reactor vessel and internals, components, systems, auxiliary systems, chemistry, safety analysis, and TS.

- On-the-Job Training was performed until the individual received a Reactor Operator License. The training consisted of systems check-off, lectures, procedure reviews, required reading, and control manipulation.

- Specialized License Training (SLT) was presented after an operator successfully completed BAT and PWR. The SLT consisted of 40 hours classroom training in reactor theory, review of radiation protection, specific operating characteristics, integrated plant operation, and advanced PWR technology. SLT also included simulator, special evolution, and control room indoctrination.

- License Review was performed in the final month of training to review the past 28 months of work and training, to review weak areas and upgrade in those areas, and to prepare the operator for the NRC License Examination. At the conclusion of the one month study program the individual was given a simulated NRC examination.

The training was documented by the Training Manager. Results of classroom training examinations and the completed Qualification Manual were retained as part of the training files.

(8) Licensed personnel maintained their qualifications through a two year requalification program as described in AD 1828.15. The requalification program consisted of technical training and on-the-job training. The technical training included a minimum of six lectures per year and individual study through reading assignments. On-the-job training was performed in the areas of reactivity control manipulations, simulator training, review of emergency procedures, and procedure reviews. Training was

logged in an individual's Requalification Manual. Licensed personnel were given annual written examinations that were graded and placed in an individual's training record.

There were five operating shifts; each shift was assigned to training once every five weeks. During the training week, lectures were normally given by the Training Department on Wednesdays and Thursdays. Remaining days during the training week were devoted to surveillance and plant operations duties. Scheduling operators for lectures for the two year requalification period posed a problem because of time constraints. (W) The licensee was investigating the benefits of adding a sixth shift exclusively for training; this would alleviate the scheduling problem.

The Training Department was in the process of expanding training programs in the areas of heat transfer, fluid flow, and thermodynamics. Consideration was being given to contracting out portions of the training in those areas. The Training Manager expected implementation of the programs in January, 1981.

Operators were being sent to the B&W Simulator for annual training. The Nuclear Training Department recognized a need for a Davis-Besse simulator. The possibility of constructing a simulator at the site was under management consideration.

(9) AD 1828.11 delineated the requirements for training of personnel who performed maintenance functions. The Station Superintendent had the overall responsibility for the training of maintenance personnel. The Maintenance Engineer had the responsibility for ensuring that maintenance personnel were properly trained to maintain their required job skills. The Training Manager was responsible for coordinating the implementation of the training program. Maintenance personnel consisted of Apprentices, Journeymen (Repairmen and Electricians), and Station Servicemen. Maintenance personnel received GOT and RCT upon initial assignment and requalified in these areas on an annual basis.

Individuals assigned to the Maintenance Department as apprentices participated in either the Repairman or Electrician Apprentice Programs. The programs were for a duration of approximately 4 1/2 years. Apprentices were responsible for maintaining qualification manuals that documented the training received. The Apprentice Program appeared to contain extensive instructions for developing craft skills and was implemented and documented in an effective manner. (S)

Journeymen and servicemen received, in addition to GOT and RCT, training in Nuclear Power Plant Steam and Mechanical Fundamentals, which was replaced by a 120 hour course entitled Basic Nuclear Technology (BNT). AD 1828.11 did not reflect the change and required revision. Journeymen and servicemen were

also required to receive "continuing training". Continuing training was defined as at least 12 hours of formal training annually. Topics consisted of (a) new or changed procedures and requirements, (b) review of topics from other training programs, (c) explanation of specialized or new maintenance techniques, and (d) reviews of basic skills training.

AD 1828.11 also required a Serviceman Training Program where a serviceman (landscapers, janitors and utility personnel) was to receive training through lectures, demonstrations, and reading assignments to familiarize a serviceman with the specialized equipment and procedures used.

Training records reviewed of 12 out of 23 journeymen revealed that 9 did not receive the 12 hours of continuing training for the period of November 1, 1979 to November 1, 1980. In addition, all 15 servicemen's records were reviewed and 12 did not receive the required 12 hours training for the same period. The review of the servicemen's training records also revealed that 7 of the 15 servicemen did not receive the BNT training. (W)

The records also revealed that none of the servicemen had received any formal documented training as described in the Serviceman Training Program (Attachment 3 to AD 1828.11). The Program appeared to be non-existant. The Training Manager indicated that he had lost track of the program. This continuing training of 12 hours annually was not a sufficient amount of time alloted for training to maintain the skill of the craft. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

Journeymen had received all the required training except for the 9 who did not receive the entire 12 hours of continuing training. Maintenance Section personnel also received vendor training and BAT. Training received was well documented and included in an individual's training file.

(10) The Nuclear Training Department had the responsibility for coordinating and implementing the training programs for other areas as follows.

- Chemistry and Health Physics Training as described in AD 1828.12 included GOT, RCT, Job Orientation, General Qualitative and Quantitative Chemistry, BAT, Speciality Training, Emergency Plan, and Continuing Training. The Training Department had recently completed a draft revision to the procedure. The revised procedure eliminated the BAT and added courses in Health Physics Fundamentals, Selected PWR Technology, and BNT.

- The Nuclear Instrument and Control Mechanics Training program which was similar to the Maintenance Section Training.

- Senior Reactor Operator Training was an extension of the Operator Training Program.

- Administrative, Storeroom, and Clerical Personnel Training contained minimal training beyond GOT and RCT for storeroom personnel. (See observation 11)

- Inspection Engineering Training, Designated Inspector Training and Fire Brigade Training.

- Guard Force Training was performed by the Security Organization. The Nuclear Training Department was primarily responsible for the GOT and RCT, but expected to assume total responsibility for the training of security personnel in January, 1981.

(11) The Nuclear Training Department had minimal responsibility, other than GOT and RCT, for the training of Quality Assurance and Procurement personnel.

QAI 4020 provided periodic QA training of Toledo Edison QA and QC personnel and assigned the responsibility for implementation of the QAI to the QA Director. Procurement Instruction 105 provided periodic Nuclear Safety Related (NSR) training of personnel involved in performing purchasing NSR functions and assigned the implementing responsibility to the Procurement Director.

Both instructions required the Directors to evaluate the need for periodic training meetings at a frequency of no less than every six months and if the determination was made that there was no need for a training session, this was documented and placed into the respective Department's training files. There were no regularly scheduled courses pertaining to standards or guides. For example, training of Procurement personnel was virtually nonexistent, particularly in the area of ANSI Standard N45.2.13 and its related standards. (W)

(12) The Nuclear Training Department had recently developed and issued a Davis-Besse Engineer Training Program manual and expected implementation of the program to occur prior to the end of 1980. Previously there had been no formal training program devoted to engineers or supervisors although individuals had taken training in such areas as BNT, PWR, and segments of other training programs.

The Engineer Training Program was designed to be placed on the self-study computer system called PLATO (Program Logic for

Automatic Teaching Operation). PLATO was a computer based education system purchased from the Control Data Corporation. The licensee had developed, with Ohio State University and Control Data Corporation, various training programs for inclusion in the system.

Shift Technical Advisors (STA) received training in: PWR Technology (80 hours); heat transfer, fluid flow, and thermodynamics (120 hours, presented at the station by the Nuclear Engineering Department of Ohio State University); reactor physics for engineers (presented by the General Physics Corporation); TS training program (PLATO); and Simulator and transient analysis training (Babcock and Wilcox). In addition, two of the five STA's were taking the Licensed Operator Training.

The QA Department performed audits of the training activities at least annually. The Training Manager responded promptly to AFR's with either corrective action or a request for an extension which appeared appropriate.

(13) Nuclear Training Department personnel had job descriptions and were aware of their responsibilities defined in the job descriptions. In general, the training instructors had extensive practical experience in the areas they were teaching. The Qualification Instructor and the Requalification Instructor were licensed Senior Reactor Operators. The Training Manager often selected personnel as instructors from the operating organization. Instructors attended a five week training course presented by the National Technical Instructors Institute, an extension program of the University of Wisconsin. (S)

c. Conclusions

Corporate management was supportive of the nuclear training function for licensed and non-licensed personnel. The Nuclear Training Manager had the confidence and support of the corporate managers. Communications between corporate management and site management were open and informative. The growth of the Nuclear Training Department, including personnel, programs, and equipment, illustrated the Toledo Edison Company's commitment to the training function.

Administrative procedures required updating due to the expansion of the Department and reviews and revisions to the procedures were being performed. The majority of the training programs were included in the existing procedures. Presentation of training and documentation were performed in an efficient manner. The addition of a sixth operating shift specifically for training as planned by the licensee, would alleviate scheduling problems. With respect to the fact that maintenance personnel had not received the required twelve hours of continuing training it must be noted that the licensee had been subjected to an extended outage of approximately seven months. It

also appeared that this 12 hours of formal training, even if accomplished, was not adequate. Station servicemen are generally landscapers, janitors and utility people, yet as per AD 1828.11 they were required to receive more training than journeymen.

Responsibility for the training of QA auditors and Procurement personnel was assigned to the respective departments. This training had not been effectively implemented.

The Nuclear Training Manager and the personnel in the Department were aware of their responsibilities and carried out their duties in an efficient manner. They were developing many new programs and improving existing programs. Management controls over licensed and non-licensed training were considered good.

10. Procurement

The objective of this portion of the inspection was to determine the adequacy of management controls in the area of procurement.

a. Documents Reviewed

(1) Nuclear Quality Assurance Procedures (QAP)

- QAP 2020, Quality Assurance Program, revision 5
- QAP 1040, QA Auditor Qualification, revision 3
- QAP 1050. Qualification of Inspection, Examination and Testing Personnel, revision 0
- QAP 2040, Procurement Document Control, revision 6
- QAP 2051, Installation, Inspecting and Testing Procedures, revision 2
- QAP 2070, Control of Purchased Material, Equipment, and Services, revision 3
- QAP 2080, Identification and Control of Materials, Parts and Components, revision 4
- QAP 2100, Inspection, revision 2
- QAP 2130, Handling, Storage and Shipping, revision 2
- QAP 2131, On-Site Cleaning/Cleanness Control, revision 1
- QAP 2150, Nonconformances, revision 9

- QAP 2160, Corrective Action, revision 7
- QAP 2180, Audits, revision 5
- QAP 5170, Procurement, revision 1
- QAP 5180, Material Control, revision 1

(2) Quality Assurance Instructions (QAI)

- QAI 4030, Design/Technical/Procurement Specification Review, revision 3
- QAI 4040, QA Review of Purchase Requisitions and Orders, revision 2

(3) Quality Control Instructions (QCI)

- QCI 3070, Receipt Inspection, revision 2
- QCI 3071, Receiving Inspection of Materials Transferred from Design/Construction Phase to the Operations Phase, revision 0
- QCI 3073, Conditional Release, revision 1
- QCI 3073, Material Returned to Storeroom, revision 1

(4) Procurement Division, QA Purchasing Instructions (PI)

- PI 101, QA Purchasing Instructions, revision 4
- PI 102, Staff and Duties Chart, revision 3
- PI 105, Quality Assurance Program, revision 1
- PI 110, Document Control, revision 1
- PI 120, Procurement Document Control, revision 3
- PI 130, Quality Assurance Records, revision 3
- PI 135, Nonconformance Control, revision 1

(5) Power Engineering Instructions (PEI)

- PEI S-002, Commitment to Toledo Edison Nuclear Quality Assurance Program, revision 4
- PEI S-003, Delegation of Authority, revision 17

- PEI S-004, Power Engineering Staff and Duty Synopsis, revision 13
- PEI S-005, Training and Qualification of Personnel, revision 0
- PEI S-013, Toledo Edisons Nonconformance Report (NCR), revision 3
- PEI S-026, Specifications/Design Documents-Preparation and Control Standards, revision 5
- PEI S-042, Cognizant Engineer's Statement of Conformance, revision 2
- PEI S-241, Toledo Edison Procurement Document Control, revision 8
- PEI DB1-381, Procurement Document Control, revision 7
- PEI DB1-351, FCR Work Package, revision 3

(6) Davis-Besse Nuclear Power Station Administrative Procedures (AD)

- AD 1828.13, Administrative, Storeroom and Clerical Personnel Training, revision 0
- AD 1846.00, Procurement, revision 1
- AD 1847.00, Materials Control Procedure, revision 3
- AD 1847.01, Material Receiving, revision 4
- AD 1847.03, Materials Handling and Storage Requirements, revision 2
- AD 1847.04, Stock Material Issue, revision 3
- AD 1847.05, Materials Packaging and Shipping, revision 1

b. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) The President of the Toledo Edison Company had issued a policy statement (with one supplement) regarding the nuclear quality assurance program. The policy statement included a commitment to fully comply with the Code of Federal Regulations, 10 CFR 50,

Appendix B, and applicable codes, regulatory guides, and standards. This policy statement was included as part of the Quality Assurance Manual, and was applicable to all levels of, and functions performed by, licensee management.

The Administrative Services Department published a statement (revised January, 1979), available to prospective suppliers, which set forth the "Procurement Policies and Practices" for the company's procurement function. This statement did not contain any reference to the company's commitment to the approved Quality Assurance Program. (W) Specific objectives for the Procurement Division were established in writing and available to procurement staff members.

(2) Toledo Edison Nuclear QA Program documents were identified in QAP 2020, Exhibit A. Procedures identifying procurement functions were found in Engineering Instructions (EI), QC Instructions (QCI) Quality Assurance Procedures (QAP), QA Instructions (QAI) and Davis-Besse Station Administrative Procedures (AD). The Procurement Division had also issued a series of Purchasing Instructions (PI), which were made available to all required organizational levels. The Nuclear QA Manual included the procurement requirements given in the ANSI N45.2 and the related daughter standards. Purchasing procedures, warehouse procedures and QA/QC procurement related procedures were reviewed and approved by the Director, Quality Assurance.

The Procurement Director was required by QAP 2040, paragraph 7.4, to develop and issue written procedures which would assign organizational responsibilities to review and evaluate quotations from vendors; review procurement documents; and participate in the selection of suppliers/contractors in accordance with paragraph 7.1.7 of QAP 2040. These procedures had not been issued. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

As a result of the re-organization of the Toledo Edison staff, procurement activities were no longer a responsibility of the Station Superintendent. Thus, those Administrative Procedures which related to procurement activities were not current. They will however, remain effective until re issued by the Procurement Director. (W)

Procedures had been established to control the quality of supplier furnished materials and services. These controls included supplier quality assurance, identification and control of material, receiving and source inspections, handling, storage,

shipping, packaging, preservation, and identification of nonconforming materials including 10 CFR 50 Part 21 items (I). The overall content of the series of procurement procedures appeared to ensure compliance with the NRC approved quality assurance plan and ANSI N45.2.13. The QA program and implementing procedures were comprehensive and ensured that individuals were assigned responsibilities.

Some specific problems were identified with the series of procurement documents. These included the following. (W)

(a) AD 1847.03, paragraph 5.3.3, did not identify instrument cable as requiring storage level "C". This indicated to storeroom personnel that all cable, including instrumentation, should be given level "D" outside storage.

(b) Specification 12501-E-17Q for instrument cable specified Level "C". The General Material Inspection Checklist (GMIC) for P.O. Q51170 specified level "D" storage.

(c) The identification and handling of limited shelf life items appeared insufficient to ensure adequate control of those special items. While AD 1847.03 specified a requirement and assigned a responsibility, it did not give a specific procedure.

(d) QCI 3070 required an NCR to be issued when any item receipt inspected by QC was not acceptable. Specific inspection items, including a check of documentation, were required in the instruction. QAP 2150, paragraph 6.3.4, stated a nonconformance report was required for documentation not received within 10 days of receipt of the inspection item. These procedures did not appear sufficient, in that there were no provisions to identify when the 10 days had elapsed.

(e) QAP 2150 did not require routine distribution of NCR's to the Procurement Director or to the Vice President, Administrative Services.

(3) The Material Control Manager had issued a computerized Status Stock Report that listed stock in the warehouse. Safety related materials and components were identified in the report as "Q" material.

(4) Written job descriptions were available for most of the levels of personnel in the Procurement Division. These were reviewed annually. Some of the job descriptions were not current with the new organization. Of the 17 position descriptions reviewed, only 1 referenced the need to follow the Davis-Besse QA Program. (W)

The Director of Procurement had responsibility for safety related and non-safety related procurements as well as all the various company storerooms, both nuclear and non-nuclear. Approximately 40% of the Procurement Director's time was spent on Davis-Besse related activities. The Director visited the site one or two times per month.

(5) An organization chart (PI 102) for the Procurement Division was available and maintained current. The lines of authority were clearly defined with no overlap or duplication of responsibilities. The Toledo Edison organization specified that warehouse space and supporting equipment and services would be provided by the Station Superintendent. Personnel would be under the direction and supervision of the Procurement Director.

Coordination between procurement, engineering, and QA was accomplished through scheduled corporate staff meetings. During plant outages, weekly meetings on the site were conducted and attended by the Procurement Division. Unresolved QA problems in procurement were reported to the next level of management until resolved. The President of Toledo Edison was the final authority in resolving QA problems. Reports of NRC inspections, QA audits and surveillances were received by upper management but were not always distributed to lower levels of supervision. (W)

(6) A significant number of items were identified which did not meet the requirements of the QA procedures or the associated ANSI standards. These items included the following. (W)

(a) A lack of Class "A" storage facilities. The warehouse contained a large, plastic covered, wooden frame room intended to store Class "A" items. No positive control of the environment existed. The class "A" storage facility contained holes, did not have an adequately sized dehumidifier, or have controlled access to the area. The lack of adequate storage was identified to management in February, 1980, by QA, (Surveillance Audit 662-1).

(b) Packaging requirements were not maintained for alarm panel instrumentation (Level "B" required).

(c) Flammable materials were stored adjacent to safety related materials.

(d) Open bags of calcium chloride were stored within 10 feet of safety related stainless steel pipe.

(e) Facilities for preparation and consumption of food and drinks were present in the warehouse storage area.

(f) A reel of instrumentation cable (Level "C" storage marked on the reel) was found in the outside storage area.

(g) The ends of partially used reels of electrical cable were not sealed.

(h) Safety related cable reels, cable ends, and loops were in contact with the ground.

(i) The laydown areas outside the warehouse were not fenced or otherwise controlled. Access control to the main warehouse was not present.

(j) A newly acquired fork lift (Pettybone Serial No. 0731) had not been certified by the manufacturer for the maximum load to be handled. No "load plate" was found on the fork lift.

(k) No inspection program had been established for warehouse material handling equipment.

(l) Some stainless steel pipe was stored without plastic caps or other protective measures.

(m) Several QC "Accept" tags were weathered and deteriorated and were not able to be identified to the specific material stored in outdoor laydown yards.

(n) Trash and small scrap pieces of cable were scattered around the safety related cable storage area. Weeds were growing around the cable reels.

(o) Safety related materials and components were found on pallets in the warehouse, but in some cases were not clearly identified or packaged properly. This appeared to be the result of a recent movement of all "Q" items from a smaller storeroom inside the administrative services building to the new warehouse.

(p) Nuclear instrumentation components, requiring Level "A" storage, were found in the original shipping crates, but were not packaged and protected as required. No desiccant was found in two of the shipping crates, and the plastic wrapping was open. These items (received in April, 1980) were awaiting receipt inspection by the I&E shop. An MWO request had been issued.

(r) Flexitalic gasket materials, requiring Level "B" packaging and storage, were found exposed to dust and dirt. Some damaged gaskets were found.

(f) A reel of instrumentation cable (Level "C" storage marked on the reel) was found in the outside storage area.

(g) The ends of partially used reels of electrical cable were not sealed.

(h) Safety related cable reels, cable ends, and loops were in contact with the ground.

(i) The laydown areas outside the warehouse were not fenced or otherwise controlled. Access control to the main warehouse was not present.

(j) A newly acquired fork lift (Pettybone Serial No. 0731) had not been certified by the manufacturer for the maximum load to be handled. No "load plate" was found on the fork lift.

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(r) Flexitalic gasket materials, requiring Level "B" packaging and storage, were found exposed to dust and dirt. Some damaged gaskets were found.

(s) The floor of the warehouse was not sealed to minimize generation of concrete dust.

(t) The uncontrolled laydown area outside of the warehouse was not adequately drained. Standing water was observed.

These observations were discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(7) Procurement activities were reviewed periodically by the QA Department. Concurrent with the PAS inspection, QA conducted a formal audit of the procurement function (October 22 - November 13). Some of the items identified above were found during the audit and detailed in AER's. On November 20, 1980, as a result of discussions between the QA Director and PAS team members, a Stopwork Notice (80-01) was issued preventing issuance of any safety related material that had not been properly packaged and stored until the material had been inspected and the quality verified.

(8) QA reviewed all safety related purchase requisitions. QAI 4040, paragraph 7.5, stated that a supplier or contractor is considered acceptable for the issuance of a purchase order if they are listed in any of eight specific documents[1/]. This list included the USNRC publication "Licensee Contractor and Vendor Inspection Status Report," NUREG-0040. The preface, page 2, to NUREG-0040 (White Book) states that, "The White Book contains information normally used to establish a 'qualified suppliers' list; however, the information contained in this document is not adequate, nor is it intended to standby itself, as a source of information concerning qualified suppliers." In addition, ANSI N45.2.13 does not contain provisions for approving a procurement source based solely on a list of companies given in any NRC, ASME, CASE, or similar publication. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(9) Personnel assigned in the various levels of the procurement activity appeared to understand their assigned tasks that were considered "non-nuclear," and those tasks given in the Administrative Procedures. There was a universal lack of knowledge and understanding of the content of ANSI N45.2.13, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants". (W)

(10) Purchase Order Q54726(F) for the procurement of grout materials did not require a manufacturer's certificate of conformance

that identified batch and lot delivered to the site. This was not in accordance with ANSI N45.2.2 and the requirements of QAP 2080. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(11) Twenty-five bags of grouting material (identified as a "Consumable" in QCI 3073) were conditionally released (MIT No. 4415) by QC and the Station Superintendent for use in a safety related activity (MWO 80-2991). Nonconforming items could be conditionally released for installation provided identification, traceability, and retrievability were maintained and the nonconformance could be dispositioned after installation. Retrievability was considered to be maintained if the item was not installed with consumables for later removal and correction without damage to associated equipment or materials. QCI 3073 stated, "Consumables cannot be conditionally released." Examples of consumables which cannot be conditionally released included weld rod, weld inserts, cement, fly ash, reinforcing steel and electrical cable. Grout is thus considered a consumable material, and the release of the material was contrary to the restriction in QCI 3073. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident Inspector as a potential enforcement finding.

(12) QCI 3070, required storage levels of equipment be identified on a GMIC by the appropriate facility section head (mechanical or I&C) and that the designation be done in accordance with AD 1847.03, which required storage Level "A" for nuclear instrumentation. The purchase order for the instrumentation (PO Q44245) was examined and it was found that an unauthorized person signed the GMIC. In addition, storage level "B" had been assigned by this unauthorized person. (W)

This observation was discussed with the licensee and presented to the Senior NRC Resident inspector as a potential enforcement finding.

c. Conclusions

The licensee had written QA policies and procedures to provide management controls in the procurement area. The responsibilities listed in the QA Program were detailed. The content of existing procurement procedures met the requirements of regulatory guides, industry standards and commitments to the NRC. The need for a few specific procedure improvements was identified as well as a lack of some required procedures.

Individuals within the procurement organization generally understood their assigned job responsibilities as written in their position description. However, procurement personnel were not aware of information contained in the ANSI standards and had only general knowledge of the QA program. This was due to a lack of training and lack of QA requirements within the job descriptions.

Information flow between the levels of management needed improvement. In particular, information on results of QA audits, NCR's, and NRC Inspection reports needed to be provided to all levels of procurement management.

Significant exceptions to program implementation and failure to follow approved procedures were identified. When inspection findings regarding storage and packaging were shown to the QA Director, action was taken to stop issue of the affected repair parts and materials until they had been re-inspected. Instances were identified where consumables were conditionally released in opposition to an approved procedure.

The management controls associated with procurement were considered poor.

1/ List of publications include:

1. Bechtel monthly report of "Supplier Quality Program Audit Results and Corrective Action Status"
2. Bechtel monthly report of "Evaluated Supplier List"
3. Babcock & Wilcox monthly report of "Supplier Status List"
4. UE&C periodic report "Vendor Status List"
5. ASME publication, "Companies Holding Nuclear Certificates of Authorization"
6. "Manufacturers Directory" by the National Board of Boiler and Pressure Vessel Inspectors
7. Nuclear Regulatory Commission publication, "Licensee Contractor and Vendor Inspection Status Report"
8. Case Publication, "Register of Quality Control Evaluated Suppliers"

11. Physical Protection

The information in this section is exempt from public disclosure in accordance with 10 CFR 2.790(d). This section is included in Attachment A to this report.

12. Management Exit Interview

Exit meetings were conducted on October 31, November 7, and November 21, 1980, at the Davis-Besse Nuclear Power Sttion and the Toldeo Edison Company corporate office with licensee representatives (denoted in Paragraph 1). The method of handling the appraisal report and significant observations were discussed. The team leader indicated that the inspection was continuing with data review and analysis in the IE Regional Offices by the team members.