UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Operations Inspection

IE Inspection Report No. 050-346/76-23

Licensee: Toledo Edison Company
Edison Plaza
300 Madison Avenue
Toledo, Ohio 43652

Davis-Besse Nuclear Power Station
Unit 1
Oak Harbor, Ohio

License No. CPPR-80
Category: B

Type of Licensee: PWR (B&W) 906 MWe

Type of Inspection: Routine, Announced

Dates of Inspection: November 2-5, 26-27, 30 and December 1 and 2, 1976

Principal Inspector: R. D. Martin _____ (Date)

Accompanying Inspectors: W. D. Shafer (November 3-5, 1976 only) _____ (Date)

P. H. Johnson (November 3-5, 1976 only) _____ (Date)

T. L. Harpster (November 2-5, 1976 only) _____ (Date)

R. C. Knop (November 30 and December 1-2, 1976 only)

Other Accompanying Personnel: B. Clayton, NRR (November 26-27, 1976 only)
G. Sege, OPE (November 30, 1976 only)

Reviewed By: R. C. Knop, Chief
Reactor Projects
Section 1

12/24/76
(Date)

SUMMARY OF FINDINGS

Inspection Summary

Inspection on November 2-5, 26 and 27, 30 and December 1 and 2, 1976 (76-23): Review of operational preparedness in the area of facility procedures; the procurement, receipt, storage, handling, changes, tests, experiment, inspection and management elements of the licensee's QA Program for Station Operations; test witnessing of portions of the Hot Functional Testing activities including the expansion of the reactor coolant system during plant heat-up. No items of noncompliance identified during this inspection.

Enforcement Action

No items of noncompliance with NRC requirements were identified during this inspection.

Other Significant Findings

A. Systems and Components

1. Installation of a circulating lubrication system for one of the high pressure injection pump bearings is essentially completed. Flushing of system to begin soon.

2. Difficulties with certain control solenoid valves for the Main Steam Isolation Valves being resolved.

B. Facility Items (Plans and Procedures)

The inspection of the procedures of the licensee for overall operation of the facility as to scope and adequacy (based on a representative sample) has been concluded. No significant deficiencies were observed during this review.

c. Managerial Items

The Instrument and Control Engineer incumbent has terminated his employment with the licensee. The licensee has already designated a replacement and has taken steps to handle I&C activities until the new appointee can assume the full time responsibility for the position.

D. Deviations

None identified during this inspection.

E. Status of Previously Reported Unresolved Items

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This inspection report referred to the development by the licensee of the audit schedule to be utilized to assure audit responsibilities are concluded. During this inspection, the completed audit schedule was reviewed and compared against FSAR and the licensee's QA Program requirements. This matter is considered closed.

Management Interview

Due to the span of time covered by this inspection, Management Interviews were held on November 5, 1976 and December 2, 1976.

A. The following persons attended the management interview on November 5, 1976:

L. Roe, Vice President, Facilities Development
J. Evans, Station Superintendent
E. Novak, General Superintendent Power Engineering and Construction
J. Lenardson, Manager of Quality Assurance
R. Vick, Manager of Purchasing
R. Phillips, Stores Manager
J. Werner, Director of Purchasing
J. Buck, Operations Quality Assurance Engineer
P. Narducci, Quality Control Supervisor
C. Daft, Field Quality Assurance Engineer
B. Beyer, Maintenance Engineer
T. Murray, Operations Engineer
W. Green, Assistant to Station Superintendent

B. Matters discussed and comments were as follows:

1. The inspector informed the licensee that, based on further discussions with his management and representatives of NRR, no further testing of the Core Flood Tanks would be required beyond that in their present test procedure and the planned dimensional verification of the installed equipment and lines.

2. The inspector stated that a review had been conducted of the licensee's procedures and methods for controlling facility changes, tests and experiments. This review showed that an effective program had been established. Comments were presented regarding specific aspects of the program, as follows:

a. With regard to program scope, governing directives should (1) more clearly define the methods to be used for controlling non-nuclear safety related facility changes, and (2) establish that periodic tests done in accordance with approved procedures do not fall within the scope of the program for controlling facility changes, tests and experiments. The licensee stated that appropriate clarifications would be incorporated into the procedures. The inspector also noted that a change to AD 1805.00 was being planned which would provide for 10 CFR 50.59 safety evaluation of procedure changes where applicable. (Paragraph 1.a, Report Details)

b. With regard to implementation of approved facility changes, the inspector stated that (1) procedures, particularly AD 1845.00, should more clearly establish required actions when changes to approved work packages are needed, (2) the licensee should consider whether the Project Engineer or the Technical Engineer could more effectively assure revision of procedures as required by facility changes, and (3) Power Engineering Instructions should be revised in identified areas to recognize that some facility changes will be implemented by station personnel. The licensee acknowledged the inspector's comments. (Paragraph 1.c, Report Details)

c. The inspector noted that the licensee's procedures should provide additional coverage of (1) definition of design interfaces with outside organizations, (2) 10 CFR 50.59 requirements, including safety evaluation, and (3) performance of safety reviews by station supervisory personnel. (Paragraph 1.b, Report Details)

d. The inspector noted that additional instructions related to distribution of design documents were soon to be forthcoming as Revision 0 to PEI-323. (Paragraph 1.d, Report Details)

e. The inspector stated that responsibility for providing training related to facility changes, tests and experiments should be assigned, and methods established for keeping the responsible individual abreast of the progress of pending facility changes. The licensee stated that these considerations would be incorporated into pertinent procedures. (Paragraph 1.e, Report Details)

f. An effective program for controlling temporary bypasses, jumpers and lifted leads was noted to have been established, although one comment was presented regarding testing of equipment following jumper removal. The licensee stated that the comment would be incorporated into the jumper control procedure. (Paragraph 1.f, Report Details)

g. The inspector stated that the licensee's setpoint control program would be reviewed after issuance of the governing procedure. (Paragraph 1.g, Report Details)

The inspector stated that except for the specific items noted above, he has no further questions on the facility changes, tests and experiments program of the licensee's QA Program for Station Operations as outlined in Chapter 17.2 of the FSAR. The continued surveillance of the implementation of this program will be part of the routine inspection program.

3. The inspector stated that the procurement program appears adequate with the exception of controls over the procurement of safety related chemicals. (Paragraph 2, Report Details)

The inspector stated that except for the specific item noted above, he has no further questions on the procurement program of the licensee's QA Program for Station Operations as outlined in Chapter 17.2 of the FSAR. The continued surveillance of the implementation of this program will be part of the routine inspection program.

4. The inspector stated that the licensee's program for receipt, storage and handling appears adequate; however, a determination of actual implementation was not possible due to the insufficient amount of materials received since the programs update. (Paragraph 3, Report Details)

With regard to the storage of safety related components and materials, the inspector requested and obtained commitments from the licensee on the following matters:

a. Administrative Procedure AD 1847 will be revised to reflect the actual storage facilities available at the station.

b. Upon revision of this procedure and the establishing of appropriate storage and packaging requirements, the licensee will review the material on hand and repackage it to meet the revised requirements.

The inspector stated that except for the specific items noted above, he has no further questions on the receipt, storage and handling program of the licensee's QA Program for Station Operations as outlined in Chapter 17.2 of the FSAR. The continued surveillance of the implementation of this program will be part of the routine inspection program.

5. The inspector summarized his review of the controls over the turnover of equipment from the construction phase to the operations phase. (Paragraph 4, Report Details) The inspector requested and received a commitment from the licensee on the following matters:

   a. AD 1847.07 will be revised to reflect the duties of the Quality Control Engineer in place of the Inspection Engineer.

   b. Appropriate QAP modifications will be undertaken to reflect this activity.

6. The inspector summarized his findings with regard to his review of operating, maintenance and emergency procedures. The inspector stated that with the exception of certain outstanding items (items a(1) and a(2) in Paragraph 5, Report Details), this inspection completed the preoperational phase inspection of station procedures. (Paragraph 5, Report Details)

C. The following persons attended the management interview on December 2, 1976.

Toledo Edison Co.

L. Roe, Vice President, Facilities Development
E. Novak, General Superintendent, Power Engineering and Construction
J. Evans, Station Superintendent
J. Buck, Operations Quality Assurance Engineer
P. Narducci, Quality Control Engineer
J. Walizak, Associate Technician, PE&C
W. Green, Assistant to Station Superintendent

Babcock and Wilcox

E. Michaud, Test Program Manager

D. Matters discussed and comments were as follows:

1. The inspector stated that his review of QA Management, Program Review and Reportable Events indicated that comments from previous

inspections had been incorporated into the QA program with some exceptions. These exceptions are identified as items 7a, 7b and 7c in the Report Details of this report. Except for these three items, the inspector has no further questions on the Management, Review and Reportable Events aspects of the licensee's QA Program for Station Operations as outlined in Chapter 17.2 of the FSAR. The continued surveillance of the implementation of these programs will be part of the routine inspection program. (Paragraphs 6, 7 and 8, Report Details)

2. The need to develop a listing of safety related systems and components to define the scope of the QA Program was discussed. The licensee stated such a list would be developed. (Paragraph 9, Report Details)

3. The inspector stated that he had witnessed portions of the overall Hot Functional Testing activities as controlled by TP 600.01 and some specific aspects of the RC System Expansion and Restraint tests as controlled by TP 600.14 and the Power Conversion System Expansion and Restraint Tests controlled by TP 600.19. The inspector noted that operations and test personnel activities were observed to be in accord with procedural requirements. He also noted that there was no visibility of QC involvement with the RCS expansion tests in that no witness/hold points had been identified, and no QC Verification Sheet was attached to the Control Copy of the test procedure. The inspector noted that he recognized that the licensee's program permitted the selection of which tests QC will observe; however, due to the complexity and importance of this particular test, the inspector was surprised by the lack of documented involvement.

   The licensee representative stated that the documentation aspects had been overlooked, but that QC personnel were involved in tracking the overall HFT activities. The Quality Control Engineer indicated he would review this matter to see if additional QC activities were indicated. (Paragraph 10, Report Details)

4. The inspector summarized his review of the "Inspection" program of the licensee. The following items require further action or review by the licensee:

   a. QCI 3103 "Maintenance" does not address the involvement of QC Inspectors in maintenance activities classified as "Emergency" maintenance.

b. QCI 3170 "Filing, Storage and Maintenance of QC Records" must be reviewed to assure conformance to the recently issued Addendum on records management of QAP 2170.

c. The inspector requested and received a commitment that the QCE will review those special process procedures which were approved prior to the issuance of QAP 2090, in accordance with QAP 2090 prior to their use on safety related components or systems.

Except for the three items noted above, the inspector has no further questions on the inspection aspects of the licensee's QA Program for Station Operations as outlined in Chapter 17.2 of the FSAR. The continued surveillance of the implementation of this program will be part of the routine inspection program. (Paragraph 11, Report Details)

5. The inspector summarized his review of various test procedures. (Paragraph 12, Report Details)

6. The inspector indicated that he had provided the licensee with a listing of representative references to Technical Specifications (based on the Proof and Review Copy) which are satisfied by using installed measuring or indicating instruments. However, these instruments are not identified in the Technical Specifications as having specific surveillance requirements (calibration, etc.). The licensee was informed that the periodic calibration and testing of these instruments will have to be appropriately covered by some program of the licensee (such as the Preventative Maintenance program). The licensee acknowledged the inspector's statement. (Paragraph 13, Report Details)

7. The inspector requested a commitment from the licensee that the engineering evaluations called for in the Proof and Review Copy of the Technical Specifications would be considered during the preoperational phase in the event of exceeding the limits which require such evaluations.

The licensee agreed to such a commitment with the exception of Specification 4.3.3.3.2 which calls for an evaluation in the event of a seismic event. This exception was based on the fact that the seismic monitoring equipment is not installed, and, therefore, the evaluation could not be performed as described. (Paragraph 14, Report Details)

REPORT DETAILS

Persons Contacted

The following persons, in addition to those listed under the Management Interview sections of this report, were contacted during this inspection:

Toledo Edison Co.

K. Cantrell, Operations Quality Assurance Engineer
C. Greer, Quality Assurance Specialist
T. Hart, QC Technician
M. Nagy, QC Technician
G. Heckler, General Material Buyer
D. Rollins, Storekeeper
J. Boyer, Material Handler
R. Adney, Shift Foreman
E. Knight, Reactor Operator
J. Lingenfelter, Senior Assistant Engineer
J. Orkins, Instrument and Control Engineer (Former incumbent - resigned, November 30, 1976)
K. Aebie, Assistant Engineer
D. Hitchens, Assistant Engineer
K. Yarger, I&C Technician
W. Alton, Senior Assistant Engineer
R. Brown, Assistant Engineer
G. Hurrell, Senior Assistant Engineer
W. Schultz, Quality Specialist

Cleveland Electric Illuminating Co.

W. Simko, Test Engineer

Babcock and Wilcox Co.

A. Mercado, Test Scheduler
C. Endicott, Test Scheduler
D. Lee, Test Engineer (HFT Test Header)
G. Rambo, Engineer

1. Design Changes, Modifications, Tests and Experiments (P. Johnson)

A review was conducted of that portion of the licensee's quality assurance program which relates to the control of design changes, modifications, tests and experiments. The review included examination

of related procedures and, where possible, verification of implementation, to establish that provisions had been made for design review and verification; implementation of approved design changes, tests and experiments; conformance to the requirements of 10 CFR 50.59; interface with design groups outside the licensee's organization; control of temporary modifications and bypasses; and updating of design documents, procedures, and training programs to reflect approved changes. The review showed that the licensee had established a workable program for the control of design changes, modifications, tests and experiments, although comments were presented regarding specific aspects of the licensee's program, as follows:

a. Program Scope. The licensee had issued Quality Assurance Procedures QAP 2030, "Design Control," and QAP 2110, "Test Control," which establish requirements for the program included within the scope of this review. Implementation of the QAP's was provided by the station's Administrative Procedure AD 1845.00 and Power Engineering Instruction PEI-DBI-320, both titled "Design Changes, Tests and Experiments." Other PEI's had been issued to supplement PEI-320 in the implementation of QAP requirements. Scope of the program was considered adequate, with the following comments:

(1) Both AD 1845.00 and PEI-320 included introductory statements which stated that the respective documents applied to "Proposed changes in the design of facility structures, systems or components...and proposed tests or experiments." Although these words appeared to require all facility changes, both nuclear safety related (NSR) and non-NSR to be approved using a facility change request (FCR) form, this understanding was not shared by some station personnel, who felt that minor non-NSR facility changes could be documented by a maintenance work order (MWO). The inspector observed that a determination by a designated person should be made for each facility change to establish whether it was NSR, and that this could be documented by an FCR, an MWO or by formally defining specific portions or systems within the plant which were non-NSR. Whichever method is to be used, governing procedures should be modified to provide clearer understanding of the requirements by all parties concerned. The handling of an FCR once it has been established as NSR was clearly established in the governing documents and was understood by individuals interviewed during the inspection.

(2) Although the licensee's intent was to exempt from the "Design Changes, Tests and Experiments" procedures those tests and experiments which are periodically performed, such as surveillance tests, this was not reflected in AD 1845.00 and PEI-320. The inspector stated that an addition could be made to the governing procedures for FCR's which would not require an FCR to be completed for tests and experiments which (1) were conducted in accordance with approved procedures, and (2) did not represent new or revised tests or experiments from those described in the FSAR.

(3) Paragraph 2.7 of AD 1845.00 stated that its requirements did not apply to procedure changes, which are treated separately in AD 1805.00. The licensee was noted to have a revision to AD 1805.00 in progress which would discuss 10 CFR 50.59 safety evaluations for procedure changes. After further discussion, the licensee stated that the procedure would be further revised to (1) require a determination as to whether a safety evaluation is required, and (2) where applicable, include documentation of the safety evaluation (as required by 10 CFR 50.59) with procedure change records.

b. Design, Review and Design Verification. Examination of Power Engineering Instructions/and AD 1845.00 showed that the licensee had established methods to be used in performing design work and design verifications, and had established responsibilities for these activities and for final approval of design changes and modifications. The following comments relate to design activities associated with facility changes, tests and experiments:

(1) Paragraph 7.4.1 of QAP 2030 requires that interfaces with design groups outside the licensee's organization be defined, including responsibility, methods of communication, etc. This QAP requirements were consistent with 10 CFR 50, Appendix B, although implementation had not been provided in Power Engineering Instruction. While design activities related to plant construction were noted to be covered by written design interface documents, such documents had not been provided for design activities which will transpire after issuance of a facility license. The inspector noted that requirements for a written document defining design interface with outside organizations should be included in Power Engineering Instructions. This comment did not appear to be

applicable to the station's Administrative Procedures, since licensee representatives stated that company policy called for all contact with outside design organizations to be through Power Engineering and Construction.

(2) The inspector noted that QAP 2030 and QAP 2110 should be modified to require and assign responsibilities for activities described in 10 CFR 50.59, including safety review, safety evaluation and reporting to the NRC. Coverage of these requirements was noted to have been provided in AD 1845.00 and Power Engineering Instructions with the exception that PEI-320 did not assign responsibility for reporting facility changes, tests and experiments to the NRC (AD 1845.00 assigns this responsibility to the Project Engineer).

(3) Paragraph 2.1 of Enclosure 3 to AD 1845.00 states, in part, that the Station Superintendent will provide guidance or direction related to review of FCR's by qualified supervisory personnel. This guidance had not yet been issued.

c. Implementation of Approved Facility Changes. The licensee's directives assign overall responsibility for the implementation of approved facility changes, tests and experiments to the Project Engineer. The following comments relate to facility change implementation:

(1) Paragraph 5.8 of PEI-351 defines actions to be taken when changes to approved facility change packages are required. The inspector noted that the licensee might wish to reconsider whether the Project Engineer should be required to personally initial the "work package master" design documents to indicate approval of field changes to approved work packages, since this might be impractical for station-implemented facility changes.

The inspector also noted that AD 1845.00 should define required actions when changes are necessary and that governing directives should require that additional changes be approved by those who initially approved the facility change before the facility change is placed into service.

(2) Administrative Procedure AD 1845.00 and PEI-320 assign the Project Engineer responsibility for insuring that operating and surveillance procedures are updated

before a facility change is placed into service. It was noted after discussion with licensee representatives that this responsibility might be more effectively assigned to the plant's Technical Engineer. The inspector stated that the responsibility could be assigned to either individual, although the Technical Engineer appeared to be in a better position to provide effective implementation.

(3) The inspector noted that Power Engineer Instructions do not appear to recognize that many facility changes will be installed or implemented by the station's maintenance staff. For example, paragraph 5.6 through 5.9 of PEI-351 imply that all facility changes will be implemented by the Power Plant Construction Department. The inspector stated that related instructions should be modified to recognize that implementation may be provided by either the Power Plant Construction Department or station personnel. This comment also applies to Paragraph 5.8 of PEI-323.

d. Updating and Distribution of Design Documents. Related Power Engineering Instructions were noted to provide direction and assign responsibilities for the updating of design documents. PEI-323, "Document Distribution Control," had been issued in abstract form and Power Engineering Department representatives stated that a more detailed version of the instruction would soon be issued as Revision 0. The inspector stated that the revised instruction should provide for recall or destruction of superseded design documents, and that the final paragraph of PEI-322 should be reviewed for consistency with the proposed PEI-323.

e. Training Activities. Administrative Procedure AD 1845.00 and PEI-320 require that the Training Supervisor be provided an information copy of each facility change, test or experiment after initial approval. An information copy is also provided to the Training Supervisor after the facility change has been completed. The inspector noted that in some situations as much as two years could elapse between these two notifications, and that appropriate training for operating personnel, when needed, should be provided before the facility change is placed into service. The inspector stated that the responsibility for providing appropriate training on facility changes, tests, and experiments should be established, and that a means should be provided to assure that the Training Supervisor is kept informed on the progress of pending facility changes so that training can be provided in a timely manner.

f. Control of Temporary Modifications and Bypasses. Examination showed the licensee's Administrative Procedure AD 1823.00 to provide effective control of temporary modifications, jumpers and lifted leads. Review of the Jumper and Lifted Lead Log showed entries and approvals to be consistent with procedure requirements. Selected interviews showed personnel to be familiar with the jumper procedure, and examination of two jumpers and one lifted lead selected at random showed their status to be correctly indicated in the log. The inspector noted that an addition should be made to paragraph 12.2 of AD 1823.00 to require that a functional or surveillance test be performed to verify required operability following jumper removal or lead replacement associated with an in-service safety related system.

g. Setpoint Change Control. The licensee stated that AD 1823.01, "Setpoint Control," would soon be issued to provide control of setpoint changes. Paragraph 2.5 of AD 1845.00 states that a facility change request form will be used to provide control of setpoint changes when they consitute a design change to the facility.

h. Miscellaneous Comments. The following comments, principally editorial in nature, were presented to licensee representatives:

(1) Paragraph 7.0 of PEI-301 should read "issuance of an operating license" instead of "initial commercial operation."

(2) In paragraph 5.6 of PEI-334, "or Technical Specifications change" should be added after "unreviewed safety question."

2. Procurement (W. Shafer)

a. The licensee's Quality Assurance Program for procurement control was reviewed to determine whether the licensee's control of procurement activities are in conformance with regulatory requirements, commitments in the application, and industry guides and standards.

The following procedures were reviewed without comment. No significant concerns were identified.

1. QAP 2040, Procurement Document Control, dated October 20, 1976.

2. QAP 2070, Control of Purchased Material, Equipment and Services, dated August 11, 1976.

3. QAI 440, Review of Purchase Requisitions and Orders.

4. PI 120, Procurement Document Control.

5. PEI 105, Procurement Document Control.

6. DBI 341, Procurement.

7. PEI 124, Cognizant Engineers Statement of Conformance.

8. AD 1846.00, Procurement.

b. To determine the implementation of the above identified procedures, the inspector reviewed the following purchase document packages.

1. Q-92206, Incore Detector Assemblies
2. Q-92323, Goulds Pumps (Spare Parts)
3. Q-93735, Spare Parts for Decay Heat Coolers
4. Q-96373, Victoreen Instruments, (Spare Parts)
5. Q-11044, Packing Crane Packing Co.
6. Q-11045, Spare Parts, Foxbore
7. Q-11310, ITT Hammel Dahl, Valves
8. Q-11556, Fuses, H Poll Electric Co.
9. Q-11557, Valves, Fisher Controls Co.
10. Q-13546, Bostwick Braun Co. Antiseize Compound

The above identified items were traced to their location in the storeroom for positive identification. No concerns were identified.

c. The inspector discussed with the licensee the need for procurement control over the purchasing of chemicals that are used in or for the analysis of, primary systems. The licensee's control in this area is for the most part internal and informal. The inspector stated that a program for procurement control of safety related chemicals is required and will be reviewed in a subsequent inspection.

3. Receipt Storage and Handling (W. Shafer)

An inspection was made to determine if the licensee has developed and implemented a QA Program relating to the control of receipt, storage and handling of equipment and material, and to establish if this program is in conformance with regulatory requirements, commitments in the application and industry guides and standards.

a. The receiving storage and handling program as identified in the 1847 series of Administrative Document (ADs) appears adequate with the exception of the following minor concerns. These concerns will be re-reviewed in a subsequent inspection.

(1) The licensee is storing safety related spare parts in a storeroom that is not equivalent to the warehouse identified in AD 1847.03, paragraph 5.2.2. As a result of this no item requiring level B storage met humidity control requirements.

(2) Inspections, relating to housekeeping are not being documented as required by AD 1847.03, paragraph 4.2.

(3) Inspections of handling equipment and rigging are not being made as required by AD 1847.03, paragraph 6.5.1.

(4) No program exists for the receipt, storage and handling of safety related items with limited shelf life. The inspector noted that procurement documents do address shelf life requirements, however, no information was available to determine what happens to these items upon arrival.

(5) The storekeeper was not fully cognizant of the requirements in the AD 1847 series. A licensee representative stated that the storekeeper has functioned in that capacity for only the last three weeks. The licensee also stated that a familiarization program will be implemented for all personnel in need of such a program.

(6) Safety related chemicals relating to water chemistry are not formally controlled with respect to shelf life. The inspector informed the licensee that a program for control of safety related chemicals must be formulated.

b. An evaluation of the implementation of the receiving, storage and handling program as identified in the Administrative Document 1847 series, was not possible primarily due to the newness of these procedures. Insufficient materials have been received on site since these procedures were written. Program implementation will be reviewed in a subsequent inspection.

c. The inspector informed the licensee that all safety related material presently in storage must be re-reviewed to determine compliance with the licensee's present program.

4. Turnover of Spare Parts - Construction to Operation (R. Martin)

The inspector reviewed the program by which the licensee inspects safety related spare parts when they are turned over from the control of construction management to the operations group.

The activities are being conducted under the controls outlined in AD 1847.07 "Transfer of Material From the Design Construction Phase to the Operational Phase." The inspector utilized Revision 1, dated June 10, 1976, during his review.

The inspector noted that the inspection activities referred to in the procedure are being implemented by the Quality Control Engineer instead of the Inspection Engineer as called for in the procedure. This change of duties is in accord with a personnel reorganization during the summer of 1976 which eliminated the Inspection Engineer position.

The inspector, based on interviews and review of selected records of activities, concluded that the procedure is being implemented appropriately. He noted, however, that these activities are not addressed in the licensee's QA program. In view of the planned construction of Units 2 and 3, with the likelihood of utilizing replacement components from that project, the licensee was informed that appropriate controls should be added to the Quality Assurance Procedures.

5. Review of Operating, Maintenance and Emergency Procedures (T. Harpster)

a. The inspector reviewed a sample of five procedures for the startup, operation and shutdown of safety related systems to confirm that these procedures adequately control safety related operations within the applicable regulatory requirements. No items of nonconformance with regulatory requirements were identified; however, the inspector identified two items which require additional review by the licensee.

(1) The "Core Flood System" procedure, SP 1104.01, specifies a maximum pressure of 140 PSIG for core flood tank temperatures less than 70°F. There is no installed instrumentation to measure core flood tank temperature. The inspector requested that the licensee evaluate the pressurization of the core flood tank using the nitrogen system for the condition when there is a large vapor space to determine if the subsequent temperature reduction could cause the temperature-pressure limitation to be exceeded.

(2) The "Core Flood System" procedure, SP 1104.01, specifies a normal operating band for core flood tank level of 13 $\pm$ 0.3 ft. The technical specification limits on core flood tank level are 7555-8004 gallons. Using the December 28, 1974 calibration curve, the inspector

determined that the technical specification limits translate to 12.3 - 13.2 ft. Thus a normal operating level of 13.3 ft. would exceed the technical specification limits. The inspector requested that the licensee: (1) make new calibration data available for review of this item on a subsequent inspection, and (2) review any testing of the core flood tanks to determine if the use of this calibration curve had invalidated the results.

b. The inspector reviewed a sample of four maintenance procedures to confirm that these procedures adequately control maintenance of safety related systems within applicable regulatory requirements. No items of nonconformance with regulatory requirements were identified. The inspector provided comments regarding the maintenance procedures as follows.

(1) There should be a QA Review of certain nonroutine maintenance procedures for safety related equipment prior to their initial implementation. The licensee reaffirmed his commitment to perform this review.

(2) The use of a torch was specified in some maintenance procedures. The inspector reiterated the NRC's position with regard to the administrative controls required for fire prevention.

(3) A change had been made to the "Pressurizer Relief Valve Removal and Replacement" procedure, MP 1401.02, which deletes the requirement to torque the relief nuts and studs to specified values. This change was made because there is not adequate space to use a torque wrench. The licensee stated that a startup field report had been issued regarding the problem. The inspector stated that appropriate vendor backup information should be obtained if these reliefs were not torqued to specified values.

c. The inspector reviewed a sample of 17 plant alarm and 37 emergency procedures to ascertain whether these procedures adequately control safety related functions in the event of system or component malfunction indication. No items of nonconformance with regulatory requirements were identified.

6. Management (R. Knop)

The inspector reviewed revisions to the Quality Assurance Manual and held discussions with site personnel and determined that comments from previous inspection reports[1/] had been incorporated into the QA program.

1/ IE Inspection Reports No. 050-346/76-06 and No. 050-346/76-17.

7. Review (R. Knop)

The inspector reviewed the status of comments found during previous inspections[2/] of the licensee's program for review of facility activities.

All previous items were corrected with the following exception.

The charter for the Station Review Board is still deficient in the following areas:

a. Does not address SRB review of Reactor Trips, excursions as stated in FSAR 13.6.2.

b. Does not address SRB review of 30-day reportable events as stated in FSAR 13.4.1 and Administrative Procedure AD 1804.

c. FSAR 13.4.1 states that SRB minutes will be kept by a permanent secretary. The charter does not address this or state the time frame for distribution of meeting minutes.

8. Reportable Events (R. Knop)

The inspector determined that all comments discussed during previous inspections,[3/] regarding the licensee's program for review and reporting of reportable events, have been incorporated into the appropriate procedures.

9. QA Program (R. Knop)

a. QA Manual

The inspector made the following comments regarding the QA manual.

(1) Retrievability of components in section 7.1.5 of QAP 2150 needs to be defined.

(2) The Quality Control Instructions regarding nonconformances and corrective action need to be brought up to date to agree with the Quality Assurance manual.

b. Scope of Quality Assurance Program

The need to define the scope of the QA program relating to the equipment and systems which would require QA coverage was discussed. The inspector stated that all activities important to

2/ Ibid.
3/ Ibid.

safety on safety related equipment should be within the purview of the QA program. The inspector stated that the definition of safety related in Administrative Procedure AD 1845.00 section 4.2 appeared to be an acceptable criterion for developing a safety related listing of equipment and systems. These were:

(1) Involves structures, systems and components which are on the Q-list.

(2) Involves non-Q-list items which could have either a direct or indirect effect on the design bases and/or function of Q-list structures, systems or components.

The licensee acknowledged the need to develop a safety related list in the near future.

10. Test Witnessing Activities (R. Martin)

The inspector reviewed and witnessed selected aspects of the implementation of:

TP 600.01, "Hot Functional Testing Controlling Procedure"
TP 600.14, "Reactor Coolant System Expansion and Restraint"
TP 600.19, "Power Conversion System Expansion and Restraint"

The inspector verified that activities were being conducted at the 400°F temperature plateau in accordance with these procedures, and in accordance with the AD 1801 series of Administrative Procedures on test program controls.

The inspector conducted a tour of portions of the facility and verified that supporting surfaces were clean and appeared suitable to permit system movement during expansion, that blockages and hanger problems identified during the analysis of measured pipe movements were corrected and documented, and that plant systems were in operation in accordance with procedural requirements.

The inspector witnessed the collection of portions of the pipe movement data, and its subsequent analysis and interpretation by stress analysts. No significant deficiencies were noted in these activities when compared to the requirements of the governing procedures.

The inspector witnessed control room activities and verified that operations were being conducted in accordance with governing procedures.

During a review of the test documentation, the inspector expressed his concern to the licensee that there was no documentary evidence

of the involvement of QA/QC personnel in the above test procedure activities. These procedures did not have QC Verification Sheets attached to their control copy nor were any witness/hold points identified in those control copies. The licensee's system of identifying such QC involvement permits the above circumstances and thus is not contrary to their procedures. However, the inspector voiced his concern because of the importance and scope of the tests being performed at that time. (See Management Interview notes for December 2, 1976)

11. Inspection (R. Martin)

The inspector reviewed the QA Program of the licensee relating to inspections of outgoing activities for conformance to regulatory requirements, commitments in the application and industry guides and standards. This was a reinspection of areas treated during the inspection of April 26-29, 1976 (IE Inspection Report No. 050-346/76-06).

The inspector based this review upon the commitments contained in Revision 20 of Chapter 17.2 of the FSAR which reflected organization changes from the previous inspection period. His review included the following Quality Assurance Procedures:

QAP 2070, "Control of Purchased Material, Equipment and Services"
QAP 2090, "Control of Special Processes"
QAP 2100, "Inspection"
QAP 5130, "Maintenance"

Moreover, the following Quality Control Instructions were reviewed and discussed with licensee personnel:

QCI 3101, "QC Surveillance"
QCI 3103, "Maintenance"
QCI 3140, "QC Inspection"
QCI 3141, "QC Inspection Plans"
QCI 3142, "QC Checklists"

The following items are to be clarified by the licensee:

a. QCI 3103 should address the required involvement of QC inspection personnel during the conduct of "emergency" maintenance.

b. QCI 3170 should be reviewed to assure its conformance to the recently issued Addendum to QAP 2170 on records.

c. Special process procedures should be reviewed by the Quality Control Engineer as called for in QAP 2090 prior to their implementation on safety related systems and components.

Except for these items, the inspector has no further questions at this time on the "Inspection" programs of the licensee as described in Chapter 17.2 of the FSAR. Review of the continued implementa- of this program will be a part of the routine inspection program.

12. Test Procedure Reviews (R. Martin)

During this inspection, the inspector reviewed several Test Procedures:

a. The inspector indicated that he had reviewed the following approved test procedures against the licensee's commitments, and that no significant deficiencies were noted during that review:

TP 210.05.0, "Nuclear Chemical Sampling System"

TP 600.31.0, "Steam Generator Atmospheric Steam Vent Valves and Turbine Bypass Control Valves Pre-Operational Test"

TP 600.35.0, "Piping Dynamic Testing" (The inspector indicated that while this TP did cover all the licensee's testing commitments, the inspector planned to approach his management on the question of including the Auxiliary Feedwater Pump steam system within the scope of this test activity.)

TP 800.12, "Unit Load Steady State Test"

b. The inspector indicated that the items identified below will have to be resolved prior to conduct of the test or fuel loading, as appropriate:

(1) TP 261.02, "Freeze Protection and Electrical Heat Tracing Test"

This TP is not fully responsive to the FSAR Test Abstract (pg 14-44a) which indicates that functional performance testing will be done. The TP as written is primarily an electrical circuit load verification.

(2) TP 600.17, "Control Rod Drive System"

This TP does not conform to Regulatory Guide 1.68 with respect to rod trip time testing. The inspector indicated that NRR representatives had identified that the following tests should be performed (trip time measurements):

(a) Measure the trip times of all rods under maximum possible flow conditions at cold (200-250°F) and Hot conditions.

(b) Measure the trip times of a significant fraction (eg:1/2) of the rods under no-flow conditions at the same temperatures.

The licensee indicated they would consider the inspector's information and decide whether to conduct the tests as indicated above or resolve the matter with NRR.

The inspector also indicated that the test as written does not satisfy the most recent Technical Specification Draft in that the draft now calls for measurement of the trip time of the rod to the fully inserted position. The licensee indicated he believed the most recent draft to be in error and plans to resolve the matter with NRR.

(3) PP 1502.04, "Initial Fuel Load"

(a) The licensee should establish cleanliness control areas for the areas involved in the fuel loading operations. The inspector understands that the REP system will be used to limit the access control as observers.

(b) The procedure should include the observation of and precautions associated with water level changes during the loading to protect against inadvertent coolant dilutions.

(c) The licensee should provide the operating staff with improved guidance regarding the expected multiplication of neutron level during the fuel loading activities.

c. The inspector provided the licensee with comments on the draft test procedure TP 710.01, "Zero Power Physics Testing." The inspector understands the following issues will be treated in the approved version:

(1) The reactivity worth (total) of each of the safety groups will be verified.

(2) Appropriate steps will be taken to assure the maximum worth rod is used in the shutdown margin and ejected rod determinations.

(3) Additional evaluations will be conducted (eg: more 1/M data points during group 6/7 withdrawal) during the approach to criticality.

d. The inspector requested the licensee to look into what testing is to be performed on the watertightness of the enclosure being built around DH 11 and 12 in the basement of the containment building for his review during a subsequent inspection.

e. The inspector noted that Technical Specification 4.9.12.1 now contains specific acceptance criteria for the negative pressure to be established in the storage pool area by the Emergency Ventilation System. The appropriate Test Procedure results will be reviewed using this value as the acceptance criteria. The licensee noted the inspector's statement.

13. Safety Related Instrumentation (R. Martin)

A discussion was held between the inspector and representatives of the licensee regarding the calibration and testing of instrumentation which is used to satisfy Technical Specification requirements but for which there are not specific surveillance requirements indicated in the Technical Specifications. Possible examples of such instrumentation is as follows:

T.S.	General Description
4.1.1.2	DH Flowmeter calibrations
4.1.2.2	Heat Tracing pipe Temperature Instrumentation
4.1.2.8	Laboratory Equipment calibrations, Outside air temperature measuring equipment, tank volume or level measuring equipment
4.2.5.2	Reactor Coolant Flow Rate Instrumentation
4.4.4	Pressurizer Level Instrumentation
4.4.6.2	Flow instrumentation on controlled leakage from RCP seals
4.4.7	Laboratory Equipment calibrations
4.4.8	Laboratory Equipment calibrations
4.4.10.1	Force measuring device
4.5.1	CFT level and pressure instrumentation
4.6.1.2	Type B & C Test instrument calibrations
4.6.1.4	Differential pressure instrumentation calibrations
4.6.1.5	Temperature instrumentation
4.6.2.1	Pressure instrumentation
4.6.5.1.d	Pressure and flow instrumentation
4.7.1.2.a	Pressure instrumentation on AFWP
4.7.1.3.1	Condensate volume (level) instrumentation
4.7.2.1	Pressure/Temperature instrumentation
4.8.1.1.2.a	Fuel level and instrumentation and output power meter

(From Proof and Review Copy as of November 15, 1976)

The licensee was informed that he is expected to develop a program for periodic calibration and testing of these safety related instruments, and that this program will be reviewed during the review of the surveillance testing program.

In response to a question from the licensee, the inspector indicated that there is no regulatory requirement which would preclude conducting this activity through the licensee's preventive maintenance program.

14. Special Evaluations (R. Martin)

A discussion was held between the inspector and licensee representatives regarding the special evaluations which are referenced in Technical Specifications and are applicable after issuance of the O.L. These special evaluations are as follows:

T.S.	Related Area
4.3.3.3.2	Seismic Event
3.4.7	Reactor Coolant Chemistry Limits
3.4.9.1	RCS P-T Limits
3.4.9.2	Pressurizer P-T Limits
3.7.2.1	S/G Limits (P/T)

(From Proof and Review Copy as of November 15, 1975)

The inspector requested that the licensee make a commitment to consider conducting such evaluations during the preoperational period should the related conditions occur. The licensee's response is summarized in the December 2, 1976 Management Interview of this report.