RO Inspection Report No. 50-313/74-5

Licensee: Arkansas Power and Light Company
Sixth and Pine Streets
Pine Bluff, Arkansas 71601

Facility Name: Arkansas Nuclear One, Unit 1
Docket No.: 50-313
License No.: CPPR-57
Category: B1
Location: Russellville, Arkansas

Type of License: B&W, PWR, 2568 Mwt

Type of Inpsection: Routine, Announced

Dates of Inspection: March 4-8, 1974

Dates of Previous Inspection: February 26, 1974 to March 1, 1974, and March 6-[illegible], 1974

Principal Inspector: M. S. Kidd, Reactor Inspector
Facilities Test and Startup Branch

Accompanying Inspectors: C. E. Murphy, Chief
Facilities Test and Startup Branch

R. C. Parker, Reactor Inspector
Facilities Test and Startup Branch

K. W. Whitt, Reactor Inspector
Facilities Test and Startup Branch

Other Accompanying Personnel: None

Principal Inspector: R C Parker 4-2-74
for M. S. Kidd, Reactor Inspector Date
Facilities Test and Startup Branch

Reviewed By: R. C. Lewis 4/2/74
R. C. Lewis, Acting Branch Chief Date
Facilities Test and Startup Branch

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SUMMARY OF FINDINGS

I. Enforcement Action

None

II. Licensee Action on Previously Identified Enforcement Matters

Not inspected. This was not within the scope of this inspection.

III. New Unresolved Items

Deficiencies and weaknesses identified in the implementation of the ANO-1 operational QA program described in the FSAR are grouped as unresolved items relating to the criteria of Appendix B to 10 CFR 50 to facilitate resolution and closeout.

74-5/1 Organization (Details, paragraph 4.a)

74-5/2 Quality Assurance Program (Details, paragraph 4.b)

74-5/3 Design Control (Details, paragraph 4.c)

74-5/4 Procurement Document Control (Details, paragraph 4.d)

74-5/5 Instructions, Procedures, and Drawings (Details, paragraph 4.e)

74-5/6 Document Control (Details, paragraph 4.f)

74-5/7 Control of Purchased Material, Equipment, and Services (Details, paragraph 4.g)

74-5/8 Identification and Control of Materials, Parts, and Components (Details, paragraph 4.h)

74-5/9 Control of Special Processes (Details, paragraph 4.i)

74-5/10 Inspection (Details, paragraph 4.j)

74-5/11 Test Control (Details, paragraph 4.k)

74-5/12 Control of Measuring and Test Equipment (Details, paragraph 4.l)

74-5/13 Handling, Storage and Shipping (Details, paragraph 4.m)

74-5/14 Inspection, Test, and Operating Status (Details, paragraph 4.n)

74-5/15 Nonconforming Materials, Parts, or Components (Details, paragraph 4.o)

74-5/16 Corrective Action (Details, paragraph 4.p)

74-5/17 Quality Assurance Records (Details, paragraph 4.q)

74-5/18 Audits (Details, paragraph 4.r)

IV. Status of Previously Reported Unresolved Items

Not inspected. This was not within the scope of this inspection.

V. Unusual Occurrences

None

VI. Other Significant Findings

None

VII. Management Interview

On March 4, 1974, the inspection team met with Messrs. Anderson, Moore, and Orlicek to discuss the purpose and scope of the quality assurance inspection that was to be performed. (Details, paragraph 2)

On March 6 and 7, 1974, the inspection team met with Messrs. Anderson, Moore, and Orlicek to discuss specific deficiencies that had been identified and their implications with regard to the adequacy of implementation of ANO-1's operational QA program.

On March 8, 1974, a closeout management interview was conducted to discuss the inspection findings. The following licensee representatives attended:

Arkansas Power and Light Company (AP&L)

J. W. Anderson - Plant Superintendent
N. A. Moore - Manager of Quality Assurance
W. Cavanaugh, III - Production Project Manager
B. A. Terwilliger - Operations Supervisor
M. H. Shanbhag - Procedure Administrator
J. L. Orlicek - Quality Control Engineer

Specific deficiencies and weaknesses discussed during the March 6, 7 and 8, 1974, meetings are identifed and discussed in the report details. (Details, paragraph 4)

The inspectors summarized the inspection findings as follows:

A. Significant deficiencies and weaknesses in the implementation of the ANO-1 QA program for operations had been detected in areas related to all eighteen criteria of Appendix B to 10 CFR 50.

B. Prior to licensing AP&L will be required to satisfactorily implement their operational QA program. Regulatory Guides and national standards that provide guidance with regard to acceptable methods for implementation of an operational QA program were identified to AP&L.

C. Deficiencies identified during this inspection should not be considered to represent all the deficiencies in the QA program implementation. The inspection effort did not constitute a 100 percent review of the implementation of the ANO-1 operational QA program. AP&L should review and upgrade the implementation of their entire operational QA program.

AP&L stated that they would satisfactorily implement their operational QA program to conform to AEC requirements. Per a telephone conversation between Messrs. Murphy and Cavanaugh on March 13, 1974, AP&L stated their schedule for upgrading the implementation of their operational QA program is as follows:

A. April 1, 1974 - Most of the upgraded QA program implementing procedures will be ready for Region II review.

B. April 15, 1974 - AP&L's operational QA program will be satisfactorily implemented.

In addition, AP&L stated that some organization changes would be made to assure independence of onsite QC and QA activities.

DETAILS

Prepared By: _____ 4/1/74
C. E. Murphy, Branch Chief Date
Facilities Construction Branch

_____ 4-1-74
R. C. Parker Reactor Inspector Date
Facilities Test and Startup Branch

_____
K. W. Whitt, Reactor Inspector Date
Facilities Test and Startup Branch

Dates of Inspection: March 4-8, 1974

Reviewed By: _____ 4/2/74
R. C. Lewis, Acting Branch Chief Date
Facilities Test and Startup Branch

1. Individuals Contacted

Arkansas Power and Light Company (AP&L)

J. W. Anderson - Plant Superintendent
G. H. Miller - Assistant Plant Superintendent
B. A. Terwilliger - Operations Supervisor
T. M. Martin - Maintenance Supervisor
D. R. Sikes - Results Engineer
J. A. Orlicek - Quality Control Engineer
R. [illegible]. Culp - Test Administrator
N. A. Moore - Manager of Quality Assurance
T. Green - Operations Training Coordinator
H. Hollis - Administrative Assistant

2. Discussion

The purpose of this inspection was to verify implementation of the operational quality assurance (QA) program as described in the ANO-1 Final Safety Analysis Report (FSAR). Regulatory guides, and appropriate national standards were used as guidance for the evaluation of the QA program implementing instructions.

3. Licensee Documents Reviewed By Inspectors During the Inspection

Listed below are the licensee documents reviewed during the inspection along with a brief summary of the purpose or scope of each as stated in the individual documents.

a. ANO-1 Quality Assurance Manual - To insure that the nuclear power plant is designed, constructed, and operated without undue risk to the health and safety of the public.

b. Quality Control Procedure (QCP) 1004.01, "Design Control" - Provides direction for control of design measures for the modification of those plant systems and the plant equipment identified on the plant Q-List.

c. QCP 1004.02, "QC Audits" - To provide a plan for audits to verify conformance to 10 CFR 50, Appendix B, FSAR commitments, and license application commitments.

d. QCP 1004.04, "Turnover of QA Documents from Construction to AP&L" - To effect the turnover of quality assurance documentation to AP&L in a manner which will assure its safekeeping and availability to all parties concerned.

e. QCP 1004.05, "Q-List Spare Parts Quality Control" - To define the practices and procedures employed in the procurement, receiving, storage and use of spare parts for Q-List items and to define the areas of responsibility for the individuals or plant sections concerned with the control and utilization of these parts.

f. QCP 1004.06, "Control of Purchased Material and Services" - To provide direction toward assuring that purchased material, equipment, and services affecting those items identified as Q-List items, whether purchased directly or through contractors and subcontractors conform to the procurement documents.

g. QCP 1005.07, "Control of Special Processes" - To insure that special processes, including welding, heat treating and non-destructive testing are controlled and accomplished by qualified personnel using approved procedures in accordance with applicable codes, standards, specifications, criteria and other special requirements for those plant items and systems listed on the plant Q-List.

h. QCP 1004.08, "QC Inspections" - To provide direction for inspecting equipment and activities to verify conformance with the applicable approved procedures, instructions, and drawings.

i. QCP 1004.10, "ANO-1 Test Equipment Calibration" - To outline a program for calibration of test instruments, tools, and equipment used by plant personnel to inspect, test, and assemble Q-List components and to identify those individuals responsible for the implementation of this program.

j. QCP 1004.11, "Handling, Storage, and Shipping of Q-List Materials" - To provide direction for the control of handling, storage, and shipping of Q-List material, parts, components, and assemblies.

k. QCP 1004.12, "Operational Test Control" - Establishes a test control program which assures that all testing required to demonstrate that structures, systems, and components, which prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public, are identified and performed in accordance with written procedures.

l. QCP 1004.13, "Nonconforming Material, Parts, or Components" - To provide direction for the control of material, parts or components which do not conform to operating requirements and to insure that the repair of these items is appropriately reviewed and documented.

m. QCP 1004.15, "ANO-1 Quality Control Program" - Intended to satisfy the quality assurance criteria for operating nuclear power plants as set forth in 10 CFR 50, Appendix B. The AP&L Company policy statement on quality control for ANO-1 which is included as a part of the program states, in part, that the plant superintendent is the final management authority responsible for assuring that the policy statement and the quality control program is implemented.

n. Administrative Procedure (AP) 1005.01, "Administrative Controls Manual" - Delineates the written rules, orders, instructions, policies, practices, and designation of authorities and responsibilities by the AP&L management to obtain assurance of safety and reliability of operations, and effective maintenance of the ANO-1 station.

o. AP 1005.02, "Handling of Procedures" - Defines a standard method for developing, reviewing, filing, using, and revising ANO-1 operating procedures.

p. AP 1005.03, "Document Control" - Provides direction for control and distribution of documents such as procedures and technical specifications, including changes thereto, which prescribe activities affecting quality.

q. AP 1005.04, "Control and Use of Bypasses and Jumpers" - To delineate a means for controlling and documenting the installation and removal of electrical bypasses and jumpers.

r. AP 1005.03, "Drawing Control" - To establish responsibility of the [illegible] staff and method by which engineering drawings are controlled including receipt, filing, indexing, distribution, retention, and disposition of superseded drawings.

s. AP 1005.09, "Plant Records Management" - To establish the administrative controls and responsibilities for management of plant records by the ANO-1 staff.

4. Findings

Deficiencies and weaknesses identified in the implementation of the ANO-1 operational QA program were as outlined below. The identified deficiencies and weaknesses were categorized, separated and classified as unresolved items according to the eighteen criteria of Appendix B to 10 CFR 50. Deficiencies and weaknesses identified in this section are provided as examples only, and should not be interpreted as being all inclusive. AP&L should assure that implementation of the ANO-1 operational program described in the FSAR is equivalent to or better than guidance provided in regulatory guides and appropriate national standards.

a. Criterion I, "Organization"

The ANO-1 on-site Quality Control Engineer (QCE) is assigned responsibility for on-site QA in Paragraph 3.0 of ANO-1 Procedure 1004.02, "QC Audits," which states, in part:

> "The QCE, and/or his representative(s), shall conduct periodic audits to verify implementation and adherence to the Operational QC Program...."

The ANO-1 on-site QCE is also assigned direct responsibility for certain on-site QC activities. Examples of specific QC responsibilities delegated to the QCE are as follows:

(1) ANO-1 Procedure 1004.05, Paragraph 2.1.3, states:

> "Requisitions and specifications for Q-List spares will be reviewed by the QCE and will incorporate all applicable codes and standards."

(2) ANO-1 Procedure 1004.06, Paragraph 4.2, states, in part:

> "...The QCE or his representative shall visually inspect the items received and determine if the documentation requested by the procurement documents is available...."

(3) ANO-1 Procedure 1004.07, Paragraph 3.4, states, in part:

"The QCE shall monitor the work as required by the approved procedure specification or required code check-off forms, such as Form WA-1...."

(4) ANO-1 Procedure 1004.07, Paragraph 2.2, states:

"The QCE is responsible for ensuring that Q-List equipment or material received at the plant is handled, shipped, and preserved in accordance with the requirements listed in the manufacturer's technical manual or if such requirements do not exist in the manufacturer's technical manual, in accordance with the guidelines outlined below."

In effect, the QCE is charged with the responsibility to audit himself in areas where he has direct responsibility for QC activities. Deficiencies in the performance of these QC related activities are not likely to be identified by self-audit.

It appears that a major portion of the QCE's available time will be required to perform the QC activities for which he has direct responsibility. It is doubtful that the QCE would have adequate time to plan and conduct a meaningful periodic audit program to verify implementation and adherence to the overall operational QA program.

b. Criterion II, "Program"

Implementation of the ANO-1 employee training program does not conform to ANSI N18.1 in that:

(1) For employees other than operators and maintenance personnel a general employee training program for all persons regularly employed in the nuclear power plant has not been implemented that includes training in the following areas:

(a) Appropriate plans and procedures

(b) Radiological health and safety

(c) Industrial safety

(d) Plant controlled access areas and security procedures

(e) Use of protective clothing and equipment

An informal document, the subject of which was "Training Programs for Non-Operations Personnel" did specify an "Orientation Program for Administrative Personnel." Neither the source, date, author, or approval of this document was recorded. This Orientation Program for Administrative Personnel had not been implemented nor was it scheduled to be implemented.

(2) Individual records of qualifications, experience, training, and retraining of plant personnel other than licensed operators are not maintained.

(3) The plant training program is informal and lacks control. The only formally documented responsibilities for plant training are in ANO-1 procedure 1005.01, which basically states that each supervisor is responsible for the training of his subordinate personnel. Plant supervisors had not documented qualification or training requirements for personnel not requiring AEC licenses.

(4) Training has not been provided concerning the QA program at the site.

c. Criterion III, "Design Control"

The deficiencies listed below are examples of inadequacies which indicate that implementation of the ANO-1 program for design control does not conform to the provisions of ANSI N45.2.11.

(1) QCP 1004.01 only describes a mechanism for initiating a design change request. The mechanism for performing design changes has not been identified.

(2) QCP 1004.01 does not identify the organizations and responsibilities of each organization participating in the design control function.

(3) There does not appear to be any requirement for the following types of information:

(a) Design input requirements

(b) The design process

(c) Interface control

(d) Design verification

(e) Document Control

(f) Corrective Actions

(g) Records Requirements

(h) Auditing

(4) QCP 1004.01 assigns to the plant superintendent the responsibility for arranging for design changes without providing guidance or imposing limitations as to the required organizational responsibilities or for imposing other design control measures for actively effecting the design changes. The FSAR, Amendment 2[illegible], however, assigns the responsibility for the QA program, including design review, to the vice president and chief engineer.

(5) The AP&L QA manual assigns the responsibility for design QC to the architect engineer and the NSSS engineer, but it does not address the plant operating phase. The manual should be updated and expanded to cover the operating phase.

(6) QCP 1004.15 states in Section 1.4.1.1, in part, that the plant superintendent has the authority to make design changes and modifications to those items which are not Q-List items. The authority to make Q-List item design changes has not been specifically defined.

d. Criterion IV, "Procurement Document Control"

The implementating procedures for procurement document control at ANO-1 do not adequately conform to the provisions of AEC extracts from ANSI N45.2.13 and ANSI N45.2 as illustrated by the following deficiencies:

(1) The procurement document control section of QCP 1004.15 requires review and approval of the procurement documents by the cognizant supervisor, plant QCE and by either the plant superintendent or assistant superintendent, but it does not define the required documents nor the acceptance criteria necessary to determine document acceptability.

(2) Section 4.4 of QCP 1004.15 requires that specifications for Q-List replacement parts shall be at least equivalent to the specification under which the equipment was originally furnished. This section does not consider the cases where

the part is being replaced because it was inadequate for the service or because the operational requirements have been modified.

(3) Section 4.4.2 of QCP 1004.15 requires, in part, that Q-List specifications be reviewed by someone other than the originator to assure that applicable codes, standards and other design bases are included or referenced and that appropriate and sufficient requirements for QA documentation are incorporated therein. This section appears to be deficient as follows:

(a) It does not specify the qualifications of the persons performing the review and the originator is not required to have specific qualifications.

(b) The method of determining what constitutes "applicable" codes, standards, and design bases is not included nor is the criteria provided for determining appropriate and sufficient requirements for quality assurance documentation.

(4) Section 4.5.2 of QCP 1004.15 specifies that purchase orders will require vendors and their subvendors to have a QA program when applicable and will include provisions for source surveillance and inspection. This section is deficient in that it does not define or reference documents that define what constitutes a QA program, nor does it define source surveillance and inspection requirements.

(5) Section 4 of the ANO-1 QA manual does not appear to adequately address the provisions of ANSI N45.2.

(6) The procurement document control program as implemented does not provide for the following activities which are necessary for a viable program:

(a) Planning activities establishing a sequence of actions to be accomplished in the preparation of procurement documents and identifying interfacing organizations have not been delineated in writing.

(b) A process has not been developed for verifying compliance to procurement procedures and evaluating the effectiveness of the process.

(c) Measures to determine the status of documents, including changes, have not been established.

(d) Measures to assure that specific QA requirements are invoked directly into the procurement document have not been established.

(e) The procedures do not consider multiple procurement and sub-tier procurement.

e. Criterion V, "Instructions, Procedures, and Drawings"

The deficiencies listed below are examples of inadequacies which indicate that the ANO-1 program for assuring that activities affecting quality are prescribed by and performed in accordance with appropriate instructions, procedures, or drawings has not been implemented to conform to the provisions of ANSI N45.2 and ANSI N18.7.

(1) AP 1005.02 provides a format for preparing procedures. This format does not appear to adequately provide for the preparation of all the various procedures needed for plant operation such as operating procedures, surveillance procedures, maintenance procedures, and others. Further, a distinction between the different types of procedures has not been made in the discussion of procedure handling. AP 1005.02 should be expanded to address each type of procedure, or a new procedure to cover this aspect of procedure development should be prepared.

(2) Section 6.1.3 of AP 1005.01 provides a list of operator requirements. The following items are not included and should be added to this list:

(a) Responsibility to determine the circumstances, analyze the cause, and determine that operation can proceed safely before the reactor is returned to power after an unscheduled or unexplained power reduction.

(b) Responsibility for the senior reactor operator to provide direction for returning the reactor to power following an unscheduled or unexplained power reduction.

(3) The licensee documents reviewed did not appear to contain a requirement for detailed instructions, procedures, or drawing to include appropriate quantitative or qualitative acceptance criteria.

f. Criterion VI, "Document Control"

As implemented the ANO-1 QA program for operations does not require that documents required for performance of an activity be distributed to and used at the location where the activity is being performed.

g. Criterion VII, "Control of Purchased Material, Equipment, and Services"

Implementation of the ANO-1 program for control of purchased material, parts, and components does not appear to conform to the provisions of the AEC extracts from ANSI N45.2.13 based on the following examples of deficiencies:

(1) Section 3.1 of QCP 1004.06 specifies, in part, that new vendors may be added to the approved vendors list after approval of their qualification by the QCE. This section is deficient in that it does not define or reference the standards to which the vendor must qualify.

(2) Section 3.2 of QCP 1004.06 specifies that the chief QA coordinator (CQAC) periodically be furnished a list of all outstanding Q-List purchase orders for his use in planning QA audits. This section is deficient in that it does not require that the CQAC be furnished information on all Q-List purchase orders.

(3) Section 3.3 of QCP 1004.06 requires that the QCE inspect the manufacturer at each inspection holdpoint. This section is deficient in that it does not identify or reference the requirements for inspection holdpoints and standards for inspection.

(4) Section 4.2 of QCP 1004.06 provides instructions for the receipt of material. This section is deficient in that it does not specify, the actions to be completed for handling nonconforming materials or materials that have not received source inspection. There is no provision for the identification of the required documentation. No basis has been given, nor criterion referenced for making the determination to accept or reject discrepant material.

(5) Section 5.3 of QCP 1004.06 discusses identification of stored material. It does not identify actions to be taken if the identification tag becomes detached or is lost.

(6) Section 5.0 of QCP 1004.06 discusses storage requirements. Neither this procedure nor the procedure for handling and storage of Q-List materials specify that nonconforming materials are to be segregated.

(7) Section 6.0 of QCP 1004.06 specifies the steps to be taken to release material for installation. This section does not define nor reference the need to adequately identify the location and use of the material, i.e., system and service identification necessary for traceability.

(8) Section 7.0 of QCP 1004.06 discusses the control of purchased services. This section does not adequately define the requirement for the vendors QA program. This section references section 3.0 for audit requirements. Section 3.0 does not discuss the auditing of services. Section 7.2 does not define the level of approval for vendor procedures nor the need for the licensee to have an input to the procedures. The conduct of QA audits should not be permissive. Specific requirements should be defined or referenced.

(9) Section 7.2 of QCP 1004.15 specifies that contractors shall be selected on the basis of demonstrated capability without defining the acceptance criterion or referencing the source of the criterion against which the capability is determined.

(10) Section 7.3 of QCP 1004.15 specifies that the QCE shall inspect at the supplier facilities, but does not specify the inspection requirements or acceptance criterion or reference the source of this information.

(11) Section 7.4 of QCP 1004.15 specifies that the QCE review the vendor documentation without providing guidance as to what is to be reviewed or how the review is to be performed or the acceptance criteria to be used.

(12) Section 7.4.3 of QCP 1004.15 specifies that telephone confirmation of the existence of vendor documentation is acceptable. This is not sufficient. As a minimum, a written certification provided by the vendor is required at the plant prior to installation.

(13) Section 7.5.2 of QCP 1004.15 is not acceptable with the qualifying statement which is included. Q-List material must be segregated from non Q-List material.

h. Criterion VIII, "Identification and Control of Materials, Parts, and Components"

Implementation of the ANO-1 program for the identification and control of materials, parts and components does not appear to conform to the provisions of ANSI N45.2 based on the following examples of deficiencies:

(1) Section 8.2.1 of QCP 1004.15 states that the suppliers are responsible for marking materials, parts, and components. Purchase order documents available to the inspector did not impose this requirement on the vendors. There is no provision in QCP 1004.15 for the identification of material, such as piping, that would be subdivided at the plant site.

(2) Section 8.2.2 of QCP 1004.15 states, in essence, that marking requirements shall assure that identification shall be positive and shall allow traceability, but the method of fulfilling this requirement has not been defined.

(3) Section 8.2.4 of QCP 1004.15 permits marking bundles of material without imposing the requirement that identification be transferred when an item is used.

(4) Section 8.3 of QCP 1004.15 relates to tagging and storage. This section should be referenced to QCP 1004.06.

(5) Section 8.5 should properly be included in a procedure for nonconforming material.

i. Criterion IX, "Special Processes"

Implementation of the ANO-1 program for control of special processes does not appear to be in conformance with the provisions of ANSI N45.2 based on the following examples of deficiencies.

(1) QCP 1004.07 discusses only those items specifically included in the title, and only in general terms. Responsibilities are assigned only for maintenance and quality control. The procedure does not reference all applicable codes.

(2) Other special processes such as chemical analyses, radiological analyses, contamination control and documentation, maintenance activities, e.g., steam generator tube plugging, and special operations processes, e.g., defueling, are not addressed by QCP 1004.07.

(3) QCP 1004.07 should address requirements for procedure development and qualification of personnel in each area. Codes, standards, regulations, and similar items must be included. Training, qualification, and determination of proficiency must be included. This does not mean that all procedures that may be required in the future must be developed now, but the controls for developing these procedures must be addressed at this time.

j. Criterion X, "Inspection"

Implementation of the ANO-1 program for inspection of activities affecting quality does not appear to be in conformance with the provisions of ANSI N45.2 based on the following examples of deficiencies:

(1) Section 2.2 of QCP 1004.08 states that the QCE, or his representative, shall perform all required inspections, performed within the plant and at vendor's shops. Section 4.1 states that vendor inspections shall be performed by plant personnel or production department personnel, or other qualified personnel as required to provide assurance that items supplied meet the quality requirements. These two statements appear to conflict with each other.

(2) QCP 1004.08 was the only document available to the inspector that described the inspection program. If the entire program consists only of those aspects described in this document, it appears that the QCE is responsible for all inspections of activities affecting quality. The responsibilities for the inspection program should be clearly defined.

(3) Written instructions have not been provided to require that inspections must be performed by personnel other than those who perform the activity being inspected.

(4) The documents made available to the inspector do not indicate that an inservice inspection program has been completely developed and approved.

(5) Requirements for inspection of specific processes such as welding and heat treating have not been discussed in written procedures.

(6) Requirements for other inspections such as inspections of major modifications to the station and significant changes in operating procedures; major repair or replacement of equipment; receipt of Q-List materials, parts, or components; and operation of safety related systems have not been discussed in written procedures.

(7) The requirement for special equipment and tools needed for the inspection to be identified has not been defined.

(8) The requirement for written procedures or checklists to be used for inspections has not been defined.

(9) The requirement for inspection holdpoints to be identified in procedures covering the activity has not been defined.

(10) Rules and methods for indirect controls such as monitoring and sampling have not been discussed in written instructions or procedures.

(11) A frequency and trend analysis of vital negative factors such as equipment failure and malfunctions, unscheduled systems outages for repairs, nonconforming material and condition reports, and similar items has not been discussed in written procedures.

(12) The activities subject to inspection and the inspection frequency have not been identified.

k. Criterion XI, "Test Control"

The test control program implementing procedure QCP 1004.12, is undergoing major revision and therefore has not been approved. This procedure will identify responsibilities and general procedures for implementing the surveillance test program described in the plant technical specifications.

A planned program for computerized scheduling and control of surveillance testing has not been documented.

l. Criterion XII, "Control of Measuring and Test Equipment"

Implementation of the ANO-1 program for control of measuring and test equipment does not conform to ANSI N45.2 in that it does not:

(1) Establish and document measures to ensure that tools, gages, instruments, and other inspection, measuring, and testing equipment and devices used in activities affecting quality are of the proper range, type, and accuracy to verify conformance to the established requirements,

(2) Establish the criteria or assign the responsibility for determining the method and interval of calibration for measuring and test equipment, or

(3) Require that when inspection, measuring, and test equipment are found to be out of calibration, an evaluation should be made and documented of the validity of previous inspection or test results and of the acceptability of items previously inspected or tested.

m. Criterion XIII, "Handling, Storage, and Shipping"

Implementation of the ANO-1 program to control the handling, storage, and shipping of material and equipment does not appear to be in conformance with the provisions of ANSI N45.2.2 based on the following examples of deficiencies:

(1) QCP 1004.13 does not contain a discussion of the methods used for determining specific storage requirements that would assure proper storage.

(2) Other deficient areas of QCP 1004.13 are as follows:

(a) The responsibility for establishing the level of protection has not been identified.

(b) Packaging design and methods have not been discussed.

(c) Shipping requirements and methods have not been established.

(d) While several handling precautions have been listed, the method for determining specific storage requirements has not been addressed.

(e) Records requirements are referenced to QCP 1004.04, but this document does not provide for proper accomplishment of handling, storage or shipping.

(f) Several methods of preservation have been described, but the method of determining specific requirements has not been identified.

(g) Specific shipping requirements have not been given. Some could be critical, e.g., radioactive materials.

(h) The requirements for specific records, such as procedures, reports, personnel qualifications, and inspection and examination records are either not included or inadequate.

n. Criterion XIV, "Inspection, Test and Operating Status"

ANO-1 QCP 1005.04 does not conform to ANSI N18.7 in that:

(1) Formal control of jumpers, bypasses, and lifted leads is not required when work is performed on systems or components which are "Hold Carded,"

(2) Jumpers and bypasses required during trouble shooting which will be restored prior to leaving the job are not controlled, and

(3) There is no requirement for inspection or verification of jumpers, bypasses, and lifted leads which are installed on or removed from safety related equipment or systems.

ANO-1 Office Procedure No. 11, "Use of Hold Cards," does not conform to ANSI N18.7 in that:

It does not require inspection or verification of hold card installations or removals on safety related equipment or systems.

o. Criterion XV "Nonconforming Materials, Parts, or Components"

Implementation of the ANO-1 program for control of nonconforming materials, parts, and components does not appear to conform to the provisions of ANSI N45.2 based on the following examples of deficiencies:

(1) The scope of QCP 1004.13 is too restrictive. Conformance to all requirements, not just operating requirements, must be addressed. Not only repair, but also additional alternatives (acceptance as is, reject, and rework) must be considered.

(2) Section 7.0 of QCP 1004.13 does not include a statement of responsibility for nonconforming material received from a vendor.

(3) Section 3.1 of QCP 1004.13 does not require that the operating people be notified when nonoperating personnel find nonconforming items. The operating supervisor should be notified immediately of any nonconformance in order that a determination of safety significance might be made.

(4) Section 3.0 of QCP 1004.13 should be revised to establish a level of urgency for notifications, together with a time frame for modification. The emphasis in this section is improperly placed on generating capability; It must be on safety. Safety related features could be completely missing, e.g., all ECCS systems could be out of service without directly affecting generating capability. Paragraph 3.2 and the supporting flow chart should be modified to reflect the importance of safety. The flow chart should also be modified to show shift supervisor reviewing initial notification of all nonconformances in the operating plant.

(5) AP 1005.01 which is referenced by QCP 1004.13 requires written procedures for Q-List systems and nuclear safety systems, but nuclear safety systems have not been defined. QCP 1004.13 needs to be revised to reflect the safety related aspect of nonconformances.

(6) Section 3.0 of 1004.13 does not require that equipment design be reviewed and that repair or rework be accomplished so as to restore the equipment to the original design requirements.

(7) The disposition of nonconforming material that is removed from service is not described in QCP 1004.13.

(8) Section 3.3 of QCP 1004.13 does not clearly specify that equipment which is returned to service must be tested if it is safety related. - Such tests are mandatory.

p. Criterion XVI, "Corrective Action"

QCP 1004.13, which was the only operational QA program implementing procedure made available to the inspector that covered any aspect of corrective action, was reviewed. This procedure discussed some

[illegible] control [illegible] for non-conforming material, parts, and components only. The description even in this area is weak in that it does not specify measures to be taken to determine the cause of an event occurring and action taken to prevent repetitive occurrences. It is concluded that a program for corrective action to assure that conditions adverse to quality are promptly identified and corrected has not been implemented for ANO-1 in accordance with provisions of ANSI N18.7.

q. Criterion XVII, "Quality Assurance Records"

Implementation of the ANO-1 program for the collection, storage, and maintenance of quality assurance records does not appear to be in conformance with the provision of ANSI N45.2.9 based on the examples of deficiencies listed below:

AP 1005.9 was reviewed and found to be deficient in the following areas:

(1) "Lifetime" and "nonpermanent" records were not defined.

(2) The method of handling quality records that are to be retained for a period of time less than six years was not discussed.

(3) Temporary storage of records was not discussed.

(4) A pre-established records checklist was not described or referenced.

(5) The method for verifying that the records received are in agreement with the transmittal document and that the records are in good conditions was not discussed.

(6) Rules governing access to and control of files were not described.

(7) The method for maintaining control of accountability for records removed from the storage facility was not discussed.

(8) The method for filing supplemental information and disposing of superseded records was not described.

(9) The requirement to separate current records from historical records was not defined.

(10) The method of protection of records against condensation was not described.

(11) The method of storing loose documents was not described.

(12) The requirement to store special processed records in accordance with the records material manufacturer's recommendation was not defined.

(13) A description of the permanent and temporary storage areas was provided.

(14) The requirement for records to be authenticated and dated by authorized personnel was not defined.

(15) The design and construction requirements for the permanent storage facility were not defined.

r. Criterion XVIII, "Audits"

Implementing procedures for the ANO-1 system of planned and periodic audits does not appear to conform completely to the provisions of ANSI N18.7 and ANSI N45.2.12 based on the following examples of deficiencies:

(1) The requirement for all safety related activities to be audited each year has not been defined in the documents that were made available to the inspectors.

(2) A master plan outlining the audit frequency of each activity to assure that all activities are audited annually does not appear to have been developed.

(3) The requirement for an audit to assure that the QA records storage facility is in good condition and that the temperature and humidity controls and protective devices are functioning properly should be added to checklist ANO-14-17 of QA procedure ANO-14, "Operating Plant General Audit."

(4) The requirement for a written plan to identify the audit scope and selection and orientation of personnel has not been identified.

(5) The discussion of the audit team leader responsibilities presented in ANO-14 should be expanded to include such things as coordination of audit process, coordination of communications, and establishment of the pace of the audit.