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MURLEY,T.E. Office of Nuclear Reactor Regulation, Director (Post 870411

SUBJECT: Transmits Rev 12 of QA program description for plant,per 10CFR50.71(e).Changes to plant position on Reg Guide 1.64 & revised Section 17.2.3.6 of updated FSAR re performance of design verifications by supervisors of designers.

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Iowa Electric Light and Power Company

NUCLEAR GENERATION DIVISION

June 28, 1991
NG-91-1422

RICHARD W. McGAUGHY
VICE PRESIDENT, PRODUCTION

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: Duane Arnold Energy Center
Docket NO. 50-331
Operating License DPR-49
Reporting of Changes to the Quality Assurance Program Description, UFSAR 17.2

Reference: 1) Letter from Thomas M. Burdick (NRC) to Lee Liu (Iowa Electric) dated December 21, 1990
2) Letter from R.W. McGaughy (Iowa Electric) to A. Bert Davis (NRC Region III) of February 11, 1991 (NG-91-0230)

File: A-116, A-365, Q-98

Dear Mr. Murley:

This letter transmits the latest revision (12) of the Quality Assurance Program Description (QAPD) for the Duane Arnold Energy Center in accordance with 10 CFR 50.54(a)(3) and 10 CFR 50.71(e).

Changes to the Iowa Electric position on Regulatory Guide 1.64 and a revised section 17.2.3.6 of the UFSAR relative to the performance of design verifications by supervisors of the designers are included in this submittal (as was indicated in Reference 1). This revision also incorporates a Quality Assurance Department reorganization which was communicated in Reference 2.

Attachment 1 to this submittal is UFSAR 17.2 revision 12.

Add: NRR/DLPQ/LPEB 1 Ltr Encl
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Attachment 2 is Appendix A to UFSAR 17.2 which records the commitments to NRC Regulatory Guides and ANSI standards which are part of the Iowa Electric Quality Assurance Program.

Attachment 3 discusses the changes in the Quality Assurance Program Description which are shown in UFSAR 17.2, Revision 12, explains the reasons for the changes, and states the basis for concluding that the program continues to satisfy the criteria of 10 CFR Part 50, Appendix B, and QAPD commitments previously accepted by the NRC.

Very truly yours,

R. W. McDaughy

Richard W. McGaughy

RWM/KEP/dkb

Attachments:

1) UFSAR/DAEC-1, Chapter 17.2, Revision 12, Date to be Determined
2) Appendix A to UFSAR/DAEC-1, Chapter 17.2, Revision 12, Date to be Determined
3) Discussion of Changes in the Quality Assurance Program Description

cc: K. Peveler
L. Root
L. Liu
D. Mineck
A. Bert Davis (NRC - Region III)
C. Shiraki (NRC - NRR)
NRC Resident Office

17.2 QUALITY ASSURANCE DURING THE OPERATIONS PHASE

17.2.0 INTRODUCTION

17.2.0.1 Scope

To maintain the high quality of plant systems and equipment during operation, maintenance, repair, modification, and refueling of the Duane Arnold Energy Center (DAEC), a comprehensive quality assurance program has been implemented. The objective of this program is to maintain managerial and administrative control over the operations of and activities relative to safety-related structures, systems, equipment, and components during the operating life of the DAEC. This program is designed to meet the intent of Appendix B to 10 CFR Part 50.

17.2.0.2 Corporate Policy

Iowa Electric considers the operation of the DAEC to be an extension of the basic policies established and documented for design, construction, and startup.

The policies and procedures identified within this report regarding "operating phase" will form the basis for plant-life operation of the DAEC.

Where contractors and suppliers are used during the life of the operating DAEC, their function will be controlled by the Operational Quality Assurance Program.

It is the objective of Iowa Electric that the DAEC shall be operated effectively, efficiently, and in such a manner as not to jeopardize the health or safety of the public.

17.2.1 ORGANIZATION

17.2.1.1 Scope

Iowa Electric has established an operating organization that is structured to support DAEC operating requirements as well as meet corporate needs in other areas. This overall organization is described in UFSAR Chapter 13, Conduct of Operations, Section 13.1, Organizational Structure for Iowa Electric. The organization chart, which identifies both the "on-site" and "off-site" organizational elements that function under the cognizance of the quality assurance program, appears as Figure 13.1-1, Iowa Electric Corporate Organization. Chapter 13 describes the quality assurance responsibilities of each of the organizational elements noted on the organization chart.

Additional detail concerning the Quality Assurance Department is presented in Chapter 17.2, Section 17.2.1.2.

The responsibility and authority for the establishment and execution of the Operational Quality Assurance Program for the operation of the DAEC will be retained by Iowa Electric.

17.2.1.2 **Manager, Corporate Quality Assurance**

The Manager, Corporate Quality Assurance reports to the Vice President - Production and is assigned the primary responsibility for ensuring that quality requirements relative to the safe operation of the DAEC are identified and met.

Fulfilling the responsibilities of the Corporate Quality Assurance Department requires significant communication with the DAEC, the Outage Manager, the Nuclear Licensing Department, the Emergency Planning Department, the Nuclear Fuels Group, the Design Engineering Department, the Training Department, and the Purchasing Department.

The Manager, Corporate Quality Assurance is responsible for preparing and maintaining the Operational Quality Assurance Program.

The Manager, Corporate Quality Assurance is also responsible for evaluating the effectiveness of the Operational Quality Assurance Program and issuing periodic reports to the appropriate levels of management.

The organizations reporting to the Manager, Corporate Quality Assurance are responsible for performing surveillances and audits of suppliers, evaluating suppliers and maintaining an approved vendors list, reviewing procurement documents, reviewing technical documents and procedures, performing receiving, in-process, and final inspections, performing nondestructive examinations, performing quality assurance trending, providing quality assurance training, and supporting the Safety Committee and the Operations Committee.

17.2.1.2.1 **Quality Assurance Supervisor**

The Quality Assurance Supervisor reports to the Manager, Corporate Quality Assurance and is responsible for assisting the Manager in verifying that the Operational Quality Assurance Program is being implemented effectively at the DAEC and other locations in support of the DAEC. The Quality Assurance Supervisor is assisted in verifying implementation of the Operational Quality Assurance Program by the Quality Control Supervisor, and the Group Leader, Internal Audits. The Quality Assurance Supervisor is responsible for a comprehensive program of surveillances of activities at the DAEC and provides quality assurance support for the procurement of materials and equipment. Procurement activities include audits and evaluations of suppliers and contractors for quality capabilities and performance, and maintaining the list of approved suppliers for nuclear procurements. Additionally, the Quality Assurance Supervisor is responsible for review of the procedures and technical documents for inclusion of quality requirements, and administers the corrective action and trending program.

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The Quality Assurance Supervisor is assisted in the implementation of these responsibilities by the Group Leader, Material and Supplier Quality, and the Group Leader, Quality Support.

17.2.1.2.2 Group Leader, Internal Audits

The Group Leader, Internal Audits reports to the Manager, Corporate Quality Assurance and is responsible for evaluating the effectiveness of the Operational Quality Assurance Program through the implementation of the internal audit program.

17.2.1.2.3 Quality Control Supervisor

The Quality Control Supervisor reports to the Manager, Corporate Quality Assurance and, along with the Quality Assurance Supervisor and the Group Leader, Internal Audits, is responsible for verifying that the Operational Quality Assurance Program is being implemented effectively at the DAEC. Quality Control prepares inspection instructions and provides the inspection and testing necessary to support plant operation, maintenance, modification, and testing.

Responsibilities relative to the Ten Year Inspection Program include performance of the required examinations and evaluation of indications of defects.

17.2.1.2.3.1 Corporate Level III NDE

The Corporate Level III NDE reports to the Quality Control Supervisor and is responsible for developing and implementing the NDE program.

17.2.1.2.4 Quality Assurance Training Coordinator

The Corporate Quality Assurance Department Training Coordinator reports to the Manager, Corporate Quality Assurance and provides training for the Quality Assurance Department. In addition, training relative to the Operational Quality Assurance Program is provided to the Nuclear Generation Division.

17.2.1.2.5 Quality Assurance Programs Engineer

The Quality Assurance Program Engineer reports to the Manager, Corporate Quality Assurance and is responsible for assisting the Manager, Corporate Quality Assurance in preparing and maintaining the Operational Quality Assurance Program and implementing procedures.

17.2.1.2.6 Stop Work Authority

The Manager, Corporate Quality Assurance has the authority to issue a stop work instruction to the organization that has direct responsibility for the work. Only the Vice President - Production has the authority to override the stop-work instruction.

17.2.2 OPERATIONAL QUALITY ASSURANCE PROGRAM

17.2.2.1 Scope

Iowa Electric has established an Operational Quality Assurance Program that applies to those structures, systems, and components, that are safety-related and those activities that affect those structures, systems, and components that are safety-related. Safety-related structures, systems, and components are those that ensure the integrity of the reactor coolant pressure boundary, shut down the reactor, and maintain the reactor in a safe shut down condition, or prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public.

17.2.2.2 Basis

10 CFR Part 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants, and certain regulatory guides, form the basis for the Operational Quality Assurance Program. Appendix A to UFSAR Chapter 17.2 identifies the particular regulatory guides to which Iowa Electric is committed and which are included in the basis for the Operational Quality Assurance Program.

17.2.2.3 Identification of Safety-Related Structures, Systems, Components and Items

The pertinent requirements of the Operational Quality Assurance Program apply to all activities affecting the safety-related functions of those structures, systems, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. A current list of safety-related structures, systems and components is contained in Section 3.2 of the DAEC Updated Final Safety Analysis Report. This list includes structures, systems, and components identified during the design and construction phase and may be modified as required during operations consistent with their importance to safety. 12

The list of safety-related structures, systems and components from Section 3.2 of the DAEC Updated Final Safety Analysis Report is further defined in data bases through the assignment of plant specific unique identifiers. These data bases include items in addition to safety-related structures, systems and components and are maintained by the Manager, Design Engineering.

17.2.2.4 Operational Quality Assurance Program Implementation

The implementation of the Operational Quality Assurance Program by Iowa Electric is directed toward the assurance that operating phase activities and maintenance activities are conducted under controlled conditions and in compliance with applicable regulatory requirements, including 10 CFR Part 50, Appendix B. Management personnel responsible for the conduct of safety related activities are responsible for providing approved procedures before initiating the activity.

The Iowa Electric Operational Quality Assurance Program is implemented via four levels of documents:

- Quality Assurance Manual
- Nuclear Generation Division Manual
- Departmental Procedures
- Departmental Instructions.

17.2.2.4.1 **Quality Assurance Manual**

The Quality Assurance Manual is the highest level internal quality program document that implements UFSAR/DAEC-1 Chapter 17.2, Quality Assurance During the Operations Phase. It is directed to those Iowa Electric organizations responsible for safety-related activities. The Quality Assurance Manual presents upper management philosophy and concepts to the middle management level, defines organizational responsibilities, and identifies organizational interfaces.

17.2.2.4.2 **Nuclear Generation Division Manual**

The Nuclear Generation Division Manual contains procedures that are applicable to more than one department within the division. These divisional procedures provide mechanisms which facilitate the flow of information and documents across departmental lines, and also eliminate the need for separate departmental procedures which address the same subject.

17.2.2.4.3 **Departmental Procedures**

The Departmental Procedures are organizationally unique documents that describe the activities of each department within Iowa Electric that has responsibilities for the operation, maintenance, or modification of the DAEC. The Departmental Procedures specify how to accomplish a specific activity.

17.2.2.4.4 **Departmental Instructions**

The Departmental Instructions are unique to the department and activity for which they have been prepared. Departmental Instructions provide the specific, detailed information necessary to perform an activity. Departmental Instructions are issued at the discretion of the responsible manager and are not required for all activities.

17.2.2.5 **Control Of Iowa Electric Suppliers**

Iowa Electric may employ the services of architect-engineers, NSSS suppliers, fuel fabricators, constructors, and consultants to augment Iowa Electric capabilities. These organizations are required to work under a quality assurance program to provide the control of quality activities consistent with the scope of their assigned work. The quality assurance programs of such organizations are subject to review, evaluation, and acceptance by the Iowa Electric Corporate Quality Assurance Department before the initiation of activities affected by the program.

17.2.2.6 Indoctrination and Training

The indoctrination, training, and retraining of personnel who participate in safety-related activities are provided in five broad areas: operator training, quality assurance indoctrination, technical training, radiation safety indoctrination and training, and emergency preparedness training.

The Operator training provided to senior reactor operators and reactor operators is under the cognizance of the Manager, Nuclear Training.

The quality assurance indoctrination provided to Iowa Electric personnel is under the cognizance of the Manager, Corporate Quality Assurance and the Manager, Nuclear Training.

The technical training provided to Iowa Electric engineering personnel is under the cognizance of the responsible managers and the Manager, Nuclear Training. The training may be provided in a number of ways, from self-study courses to formalized courses at the DAEC Training Department and educational institutions.

Indoctrination and training provided to Iowa Electric personnel and contract personnel relative to performing work in areas that are potentially hazardous because of radioactivity are under the cognizance of the Manager, Nuclear Training.

The indoctrination and training provided to Iowa Electric personnel and contract personnel relative to emergency preparedness is under the cognizance of the Manager, Emergency Planning and the Manager, Nuclear Training.

17.2.2.7 Management Review and Audit

The status of the Iowa Electric Operational Quality Assurance Program is periodically made known to management. A periodic report is prepared by the Manager, Corporate Quality Assurance and submitted to the Vice President - Production.

An annual audit of the Operational Quality Assurance Program is conducted to evaluate the effectiveness of the overall program. Direction for these audits alternates between the Vice President - Production and the Safety Committee. The Safety Committee audit is in accordance with the Technical Specifications requirement for a biennial audit of the quality assurance program. These alternating audits complement each other and provide an annual evaluation.

17.2.3 DESIGN CONTROL

17.2.3.1 Scope

The design, modification, addition, and replacement of safety-related structures, systems, and components at the DAEC is controlled to ensure that appropriate measures are implemented and to ensure that "as-built" quality is not degraded. The plant design is defined by

Iowa Electric, the NSSS supplier, architect/engineer, and selected suppliers. Design drawings and specifications illustrate the general arrangement and details of safety-related structures, systems, and components and define the requirements for ensuring their continuing capability to perform their intended operational or safety design function.

Design activities include the correct translation of regulatory requirements and design bases into specifications, drawings, written procedures, and instructions that define the design. Design analyses regarding reactor physics, stress, seismic, thermal, hydraulic, radiation, and accident analyses used to produce design output documents are performed when appropriate. Design verification is performed.

Procedures establish requirements, assign responsibilities, and provide control of design activities to ensure performance in a planned, controlled, and orderly manner.

17.2.3.2 Design Responsibility

The design and engineering effort is the responsibility of the Design Engineering Department within the Nuclear Generation Division. Assistance may be provided by other engineering organizations; individuals providing that assistance are required to perform their activities in compliance with the Iowa Electric Operational Quality Assurance Program. The design of nuclear fuel reloads is the responsibility of the Nuclear Fuels Group.

17.2.3.3 Design Criteria

Design requirements and changes thereto are identified, documented, reviewed, and approved to ensure the incorporation of appropriate quality standards in design documents. Design requirements and quality standards are described to an appropriate level of detail in design criteria. Any exception to quality standards will be listed. Criteria for modifications to structures, systems, and components will consider, as a minimum, the design bases described in the UFSAR. All design criteria will be satisfied in the design.

17.2.3.4 Design Process Controls

The organization performing design will have the responsibility for design control unless specified otherwise. The control of design will be specified in procedures. These procedures will include instructions for defining typical design requirements; communicating needed design information across internal and external interfaces; preparing, reviewing, approving, releasing, distributing, revising, and maintaining design documents; performing design reviews; and controlling field changes.

Design control involves measures that include a definition of design requirements; a design process that includes design analysis and the delineation of requirements through the issuing of drawings, specifications, and other design documents (design outputs); and design verification.

The design process establishes controls for releasing technically adequate and accurate design documents in a controlled manner with a timely distribution to responsible individuals and groups. Documents and revisions are controlled through the use of written procedures that apply to the issuer, distributor, and user to prevent inadvertent use of superseded documents. Document control procedures govern the collection, storage, and maintenance of design documents, results of design document reviews, and changes thereto. Design documents subject to procedural control include, but are not limited to, specifications, calculations, computer programs, the UFSAR when used as a design document, and drawings, including flow diagrams, piping and instrument diagrams, control logic diagrams, electrical single-line diagrams, structural systems for major facilities, site arrangements, and equipment locations.

17.2.3.5 Design Interface Control

Design interfaces with external and internal organizations participating in the design are controlled. The design interface measures ensure that the required design information is available in a timely fashion to the organization(s) responsible for the design.

17.2.3.6 Design Verification

The applicability of previously proven designs, with respect to meeting pertinent design inputs, including environmental conditions, will be verified for each application. Where the design of a particular structure, system, or component for a specific application has been subjected to a previous verification process, the verification process need not be duplicated for subsequent identical applications. However, the original design and verification will be documented and referenced for the subsequent application.

When changes to previously verified designs have been made, design verification will be required for the changes, including an evaluation of the effects of those changes on the overall design.

Design verification will be performed by competent individuals who:

- have not participated in the original design but may be from the same organizational entity.
- do not have immediate supervisory responsibility for the individual performing the design, 12
- have not specified a singular design approach,
- have not ruled out certain design considerations, and

- have not established the inputs for the particular design aspect being verified.

Under exceptional circumstances, the design verification may be performed by the originator's supervisor provided:

- the supervisor is the only technically qualified individual in the organization competent to perform the verification,
- the need is individually documented and approved in advance by the supervisor's management, and
- QA audits cover the frequency of occurrence and effectiveness of the supervisor as design verifier to guard against abuse.

Cursory supervisory reviews do not satisfy the intent of providing a design verification.

If errors and deficiencies in the design process are detected during the design verification cycle and/or during the performance of Quality Assurance audits, resolution of errors and deficiencies will be the responsibility of the design engineer, who must provide documented evidence of resolution to the appropriate levels of management.

Acceptable verification methods include, but are not limited to, any one or a combination of the following:

1. Design reviews
2. Alternative or simplified calculational methods
3. Performance of suitable qualification testing.

The method selected will consider the item's complexity, previous operational experience, and importance to safety.

The results of the design verification efforts will be clearly documented, with the identification of the verifier clearly indicated and filed. The documentation of results will be auditable against the verification methods identified by the responsible design organization.

17.2.3.6.1 **Design Reviews**

Design reviews will be sufficient to verify the appropriateness of the design input, including assumptions, design bases and applicable regulations, codes and standards, and that the design is adequate for the intended application of the design.

Design reviews can range from multi-organization reviews to single-person reviews. The depth of review can range from a detailed check of the complete design to a limited check of the design approach, calculations, and results obtained.

17.2.3.6.2 Calculations

Alternative, simplified calculations can be made, or a check of the original calculations may be performed, to verify the correctness of the original calculation. Where computer programs are used, the program verification will be documented and the inputs shall be considered in the design review.

17.2.3.6.3 Qualification Testing

Design verification for some designs or specific design features may be achieved by suitable qualification testing of a prototype or initial production unit.

In those cases where the adequacy of a design is to be verified by a qualification test, the testing will be identified and documented. Testing will demonstrate the adequacy of performance under conditions that simulate the most adverse design conditions.

17.2.3.7 Design Changes

Changes to design documents receive a review and approval process as equivalent to original design documents. Design documents issued by the original architect-engineer, NSSS supplier, and other organizations may be changed and revised by the responsible design organizations within Iowa Electric or contracted by Iowa Electric.

17.2.3.8 Design Review Committees

Independent of the responsibilities of the design organization, the requirements of the Operations Committee and the Safety Committee, as specified in the Technical Specifications, will be satisfied. Design changes require a safety evaluation and concurrence by the Operations Committee. The Operations Committee shall bring to the attention of the Safety Committee those design changes that are deemed to involve an unreviewed safety question, or are deemed to be inconsistent with the Technical Specifications.

17.2.4 PROCUREMENT DOCUMENT CONTROL

17.2.4.1 Scope

Procurement document control applies to documents employed to procure safety related materials, parts, components, and services required to modify, maintain, repair, test, inspect, or operate the DAEC. Iowa Electric controls procurement documents by written procedures that establish requirements and assign responsibility for measures to ensure that applicable regulatory requirements, design bases, and other requirements necessary to ensure quality are included in documents employed for the procurement of safety related materials, parts, components, and services.

17.2.4.2 Procurement Responsibility

The responsibility for the initiation of a purchase requisition is that of the organization that ultimately has the responsibility for the procurement.

17.2.4.3 Quality Classification

Each item or service to be procured is evaluated by Design Engineering to determine whether or not it performs a safety-related function or involves activities that affect the function of safety-related materials, parts, or components and to appraise the importance of this function to plant or public safety. For those cases where it is unclear if an individual piece (that is, part of a safety-related structure, system, component, or service) is governed by the Operational Quality Assurance Program, an engineering evaluation will be conducted. The evaluation will classify the safety relationship of the service or questionable component parts or items of safety-related structures, systems, or components. 12

17.2.4.4 Quality Requirements in Procurement Documents

Procurement document control measures will ensure that appropriate regulatory requirements, design bases, and other requirements are included in the procurement process. Originating and reviewing organizations shall require that the following be included or invoked by reference in procurement documents, as appropriate:

1. Requirements that the supplier provide a description of his quality assurance program that implements the applicable criteria of 10 CFR Part 50, Appendix B, and that is appropriate for the particular type of item or service to be supplied. Certain items or services will require extensive controls throughout all stages of manufacture or performance, while others may require only a limited control effort in selected phases.

2. Basic administrative and technical requirements, including drawings, specifications, regulations, special instructions, applicable codes and industrial standards, and procedural requirements identified by titles and revision levels; special process instructions; test and examination requirements with corresponding acceptance criteria; and special requirements for activities such as designing, identifying, fabricating, cleaning, erecting, packaging, handling, shipping, and storing.

3. Requirements for supplier surveillance, audit, and inspection, including provisions for Iowa Electric access to facilities and records and for the identification of witness and hold points.

4. Requirements for extending applicable requirements to lower-tier suppliers and subcontractors. These requirements will include right-of access by Iowa Electric to sub-supplier facilities and records.

5. Requirements for the supplier to report certain nonconformances to procurement document requirements and conditions of their disposition.

6. Documentation requirements, including records to be prepared, maintained, submitted, or made available for review, such as drawings, specifications, procedures, procurement documents, inspection and test records, personnel and procedural qualifications, chemical and physical test results, and instructions for the retention and disposition of records.

7. Requirements for supplier-furnished records.

8. Applicability of the provisions of 10 CFR Part 21 for safety-related items, to the extent that a loss of their function may cause potential substantial safety hazards. Certain items, as off-the-shelf items, will be exempt from this requirement.

9. Requirements for packaging and transportation as necessary to prevent degradation during transit.

17.2.5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

17.2.5.1 Scope

Instructions, procedures, and drawings will be generated to provide direction and guidance to ensure that safety-related activities are performed correctly. The need for, content of, and depth of detail of the instructions, procedures, and drawings will be consistent with the importance and complexity of that activity.

17.2.5.2 Content

The content of the instructions, procedures, and drawings will be appropriate to the activities being performed.

Instructions and procedures will include, as appropriate, scope or purpose, responsibilities of individuals performing the work, the information needed, and required output and acceptance criteria.

Drawings will be prepared using industrially accepted standards.

17.2.5.3 Issuance

The organization responsible for the activity being described is responsible for the issuance of the instructions, procedures, and drawings.

The instructions, procedures, and drawings will be issued before the commencement of the activity to be controlled by that instruction, procedure, and drawing.

Once instructions, procedures, and drawings have been approved and issued for use, the activities will be performed in accordance with the documents. If the activity cannot be accomplished, the document will be formally revised to reflect the manner in which the activity is to be performed.

Revised instructions, procedures, and drawings will be reviewed and approved by the same organizations and individuals (or equivalent positions) that reviewed and approved the original document.

17.2.6 DOCUMENT CONTROL

17.2.6.1 Scope

The organization responsible for the documents will establish measures to ensure that the documents, including changes, are reviewed for adequacy, are approved for release by authorized personnel, are distributed to and used at the location where the prescribed activity is performed, and are controlled.

17.2.6.2 Preparation

The organization responsible for the initiation of the document is responsible for the issuance of the document. The organization that issues controlled documents will establish administrative techniques that define the documents to be controlled, identify the current revision or issue of the document, and identify the individuals who are to receive the document.

The types of documents that are controlled by Iowa Electric include the following:

1. Specifications
2. Drawings
3. Procurement documents
4. Quality Assurance Manual
5. Nuclear Generation Division Manual
6. Departmental Procedures
7. Safety analysis reports and related design criteria documents
8. Welding Manual
9. Computer codes.

17.2.6.3 Review and Approval

Documents that are specified as being controlled documents are reviewed to ensure that regulatory, technical, quality assurance, and contractual requirements have been appropriately addressed; that review comments have been considered and resolved; and that the document is approved before issuance and use.

Divisional and departmental procedures that are responsive to the requirements of the Operational Quality Assurance Program shall be reviewed and evaluated for concurrence by the Corporate Quality Assurance Department. The review shall be documented indicating that the procedure is consistent with the quality assurance program and corporate policies.

Revisions will require review and approval by the same organizations (or equivalent) that performed the original review, before the issuance or implementation of the change.

Documents that have been approved by the original designers of the DAEC will be revised by the Iowa Electric Design Engineering Department.

17.2.6.4 Distribution and Use

The mechanism for distribution will provide assurance that the controlled document arrives at the point of use; the user will provide assurance that the document to be used is the proper document and revision.

When formal distribution lists are used to prescribe an established distribution, they will be maintained current to reflect changes in assigned responsibilities.

Document transmittals will be reviewed for accuracy and dated and made suitable for transmittal. The recipient is informed of what is being transmitted and of the status of the documents being transmitted.

An acknowledgment of the receipt of controlled documents by recipients may be required if the organization responsible for the document deems such controls necessary.

The organization responsible for the use of the document will establish administrative controls to provide for positive identification and prevent the loss of such documents. The administrative controls will have provisions to remove obsolete documents, thereby precluding the possibility that the wrong documents or revisions will be used.

17.2.6.5 Changes to Documents

Changes to documents previously released will be reviewed, approved, dated, and distributed in the same manner as the original document.

Personnel who review changed documents will have access to the original documents, to any written basis or input information, and to any written reason or justification for the change. When the document that is being changed has been issued by the original designers of the DAEC, then the access to the original documents will depend on the reasonable availability of those documents.

Revised instructions and procedures will reflect the new revision and date and clearly identify the scope or portion of the instruction and procedure being changed.

17.2.7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

17.2.7.1 Scope

Purchased material, equipment, and services are controlled to ensure that the specified technical and quality requirements are obtained. The responsibility for the control of purchased material, equipment, and services is that of the Corporate Quality Assurance Department in close cooperation with the Design Engineering Department, DAEC, and the Purchasing Department. The technique used for the control of purchased material, equipment and services includes, as appropriate, source evaluation and selection, objective evidence of quality furnished, inspection at the source, supplier's history of providing a satisfactory product, and examination of the product on delivery.

17.2.7.2 Source Evaluation and Selection

Potential vendors are evaluated. These evaluations are performed by qualified personnel to determine the capability of the vendor to provide the items or services.

Vendors are evaluated on the basis of one or more of the following:

1. Capability to comply with the requirements of 10 CFR 50, Appendix B, applicable to the type of material, equipment, or service being procured.

2. Past records and performance for similar procurements to ascertain the capability of supplying a manufactured product or services under an acceptable quality assurance system.

3. Audits or surveys of vendor's facilities and quality assurance program to determine the capability to supply a product that satisfies the design, manufacturing, and quality requirements.

4. The certification of the supplier by the ASME.

5. The results of audits performed by other utilities and consultants.

The vendor's bid proposal is reviewed and evaluated to ensure that the bid is responsive to the procurement documents.

Depending on the importance of the item or service and its importance to safety, a post-award meeting may be held to discuss the requirements of the procurement document.

17.2.7.3 Inspection or Surveillance at the Source

Subsequent to the award of a purchase order, a surveillance/inspection plan may be prepared. The extent of the plan will consider the complexity and importance of the item or service, vendor's past performance, and those aspects of the manufacturing process that may not be verified at receipt inspection.

The plan will establish, as appropriate, the frequency of surveillance/ inspection; processes to be witnessed, inspected, or verified; the method of surveillance/inspection; and documentation requirements.

Activities specified in the plan will be conducted at the vendor's facilities by qualified personnel using approved procedures that provide for the following as applicable:

1. Reviewing material acceptability

2. Witnessing in-process inspections, tests, and nondestructive examination

3. Reviewing the qualification of procedures, equipment, and personnel

4. Verifying that fabrication or construction procedures and processes have been approved and are properly applied

5. Verifying quality assurance/quality control systems, to the extent necessary

6. Reviewing document packages for compliance to procurement document requirements, including qualifications, process records, and inspection and test records

7. Reviewing Certificates of Compliance for adequacy.

8. Verifying that nonconformances have been properly controlled.

Hold points specified in the procurement document will be complied with and Iowa Electric will be notified in a timely manner when hold points are reached.

A method will be established to provide information relative to the characteristics that have been inspected at the source and the characteristics that are to be inspected on receipt.

17.2.7.4 Receipt Inspection

Items purchased by Iowa Electric are controlled at the final destination by the performance of a receipt inspection. The extent of the receipt inspection depends on the importance to safety, the complexity, the quantity of the product or service, and the extent of source inspection, source surveillance or audit that was performed.

Receipt inspection is performed by trained and qualified personnel in accordance with approved procedures and acceptance criteria before the installation or use of the item(s) to preclude the placement or use of nonconforming item(s).

Documentary evidence will demonstrate that materials and equipment conform to the procurement requirements.

If receipt inspection indicates that the item is unacceptable, the item is treated as nonconforming.

17.2.7.5 Post-installation Testing

Acceptance by post-installation test may be used following one of the preceding verification methods. Post-installation testing is used as the prime means of acceptance verification when it is difficult to verify item quality characteristics, the item requires an integrated system checkout or test, or the item cannot demonstrate its ability to perform when not in use. Post-installation test requirements and acceptance documentation are established by Iowa Electric.

17.2.8 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

17.2.8.1 Scope

Materials, parts, and components will be identified and controlled to ensure that the correct materials, parts, and components are used during fabrication, manufacture, modification, repair, and replacement.

It is the responsibility of the organization responsible for the engineering design and procurement to include the requirements for proper identification and control in the procurement documents.

It is the responsibility of the vendor for maintaining the traceability of materials, parts, and components throughout fabrication and shipment.

It is the responsibility of the DAEC for maintaining the traceability of materials, parts, and components throughout repair, replacement, modification, and installation.

17.2.8.2 Identification

Identification will be applied in locations and by methods that will not affect the fit, function, or quality of the item.

The identification of the item will be maintained by a unique method such as heat number, part number, serial number, batch number, or other appropriate means in a form that is durable and legible.

The identification may be on the item or on records traceable to the item. Where feasible, direct placement of the identification on the item will be by stamping, marking, tags, labels, or other similar methods.

Where direct placement of identification on the item is not feasible, proper controls will be established that ensure direct positive identification of the item. Where physical identification is either impractical or insufficient, physical separation, procedural control, or other approved means will be employed.

Receipt inspection will verify that identification for received items is complete and accompanied by appropriate documentation.

When an item is subdivided, the identification will be immediately transferred to the sub-parts so that all sub-parts contain the appropriate identification label.

Any identification that will be obliterated or hidden by surface coatings or surface treatments will be reestablished or will be traceable by administrative means.

Standard catalog items or off-the-shelf items may be identified by catalog number or other appropriate designation.

17.2.8.3 Verification and Control

The items will be controlled and the identity of the item verified.

Inventory and storage controls will be established at the DAEC to ensure proper traceability of items.

The correctness of the item will be verified on withdrawal from storage and before the initiation of the repair, replacement, and modification.

17.2.9 CONTROL OF SPECIAL PROCESSES

17.2.9.1 Scope

Special processes are those controlled fabrications, tests, and final preparation processes that require the qualification of procedure, technique, and personnel and that are performed in accordance with applicable codes and standards. Certain special processes require interim in-process controls in addition to final inspection to ensure quality.

The control of special processes is the joint responsibility of the Design Engineering Department, the DAEC, and the Corporate Quality Assurance Department.

The Design Engineering Department is responsible for providing technical expertise relative to materials, metallurgy, welding, brazing, and for providing the related special process procedures.

The Corporate Quality Assurance Department is responsible for providing required nondestructive examinations (NDE) and the associated procedures.

17.2.9.2 General Requirements

Measures will be established to ensure that special processes are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

Written procedures will be reviewed or prepared before use to ensure that special processes are controlled and accomplished.

These procedures will describe the operations to be performed, the sequence of operations, the characteristics involved, the limits of these characteristics, measuring and test equipment to be used, acceptance criteria, and documentation requirements.

Special processes will be accomplished in accordance with written procedures and process sheets, or their equivalent.

Personnel will be trained and qualified in accordance with applicable codes and standards.

Equipment used to perform special processes or measure or test the product will be qualified, before use, in accordance with applicable codes, standards, specifications, or procedures.

The extent and period of training, qualification, and testing of personnel and equipment will be in accordance with applicable codes, standards, specifications, or procedures.

17.2.9.3 Personnel Qualification

The personnel who perform nondestructive examinations will be certified to the precise technique to be used and for the proper level of expertise.

A Level III Examiner will be responsible for qualifying and certifying, in accordance with the 1owa Electric Light and Power written practice, the Iowa Electric personnel who perform nondestructive examinations.

17.2.9.4 Verification and Control

The procedures, process sheets, personnel, and equipment will be verified as appropriate, before the initiation of work at the DAEC.

The Corporate Quality Assurance Department will determine that vendors performing special processes at the DAEC have sufficient controls before the initiation of the work.

The Corporate Quality Assurance Department will determine that DAEC personnel performing special processes have current qualifications.

17.2.9.5 Special Protective Coatings (Paint)

The application of a special protective coating shall be controlled as a special process when the failure (i.e. peeling or spalling) of the coating to adhere to the substrate can cause the malfunction of a Quality Level I structure, system or component. Special process coatings shall be applied by qualified personnel using qualified materials and equipment, and approved procedures. Documentation shall include identification of the following:

- o person applying the coating (and qualification)
- o material used
- o procedure used (and qualifying procedure if different)
- o tests performed and results
- o date of application of coating
- o traceability of coating location.

17.2.10 INSPECTION

17.2.10.1 Scope

A program for the inspection of safety-related activities at the DAEC will be established and executed to verify conformance with applicable documented instructions, procedures, drawings, and specifications.

The responsibility for the inspection of materials, parts, and components affecting quality is that of the Corporate Quality Assurance Department. The inspection program will include the following, which will be performed at the DAEC:

1. Receipt inspection
2. In-process inspections
3. Final inspections.
4. Nondestructive examinations

17.2.10.2 General Requirements

A program for the inspection of activities affecting quality will be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity.

Inspection will be performed by individuals other than those who performed the activity being inspected. Inspections will be performed by personnel using appropriate equipment in accordance with applicable codes, standards, and procedures.

Procedures, instructions, or checklists will be established and used that identify the characteristics to be inspected, inspection methods, special devices, acceptance and rejection criteria, methods for recording inspection results, and groups responsible for the inspection. Special preparation, cleaning, and the use of measuring devices will be included.

Inspections will be planned to identify where in the sequence of work each inspection activity will be performed, to what extent, procedures to be used, and mandatory hold or witness points.

Repairs, modifications, or replacements will be inspected in accordance with the original inspection requirements or acceptable alternatives.

Sampling methods and process monitoring will be used when inspection is impossible or disadvantageous.

17.2.10.3 Process Monitoring

Process monitoring of work activities, equipment, and personnel will be used as a control if inspection of processed items is impossible or disadvantageous. Both inspection and process monitoring will be provided when control is inadequate without both. As an alternative, a suitable level of confidence in structures, systems, or components on which maintenance or modifications have been performed will be attained by inspection. As appropriate, an augmented inspection program will be implemented until such time as a suitable level of performance has been demonstrated.

The monitoring of processes will be performed to verify that activities affecting quality are being performed in accordance with documented instructions, procedures, drawings, and specifications.

17.2.10.4 In-Service Inspection

Required in-service inspection, including nondestructive examination, pressure tests, and in-service tests of pumps and valves, will be planned and executed. The results of these examinations and tests shall be documented, including corrective actions required and the actions taken.

The basis for the in-service inspection program is the ASME Boiler and Pressure Vessel Code, Section XI, 1980 Edition with Addenda through Winter 1981. The specific issue and addendum of requirements beyond the base commitment is as specified in 10 CFR Part 50, Section 50.55a(g), except where specific exemptions have been granted by the NRC.

The Design Engineering Department has the overall responsibility for developing the inspection program, for ensuring compliance with the ASME Code Section XI rules, and for evaluating the inspection results. The inspection plans shall be updated as required to accommodate the as-built condition of the DAEC.

17.2.10.4.1 Ten Year Inspection Program

The Ten-Year Inspection Program includes inspections and tests of those pressure boundary welds and materials as defined in ASME Boiler and Pressure Vessel Code, Section XI. Also included are the pressure boundary welds and materials that are defined as "Augmented" in-service inspections. The Ten-Year Inspection Program identifies the welds and items to be examined, the frequency of such examinations, the methods, and confirms the continuing acceptability of the selected welds and items.
The Quality Assurance Department has the responsibility for conducting the planned nondestructive examinations (NDE) and providing the services of the Corporate NDE Level III Examiner as required by Code.

17.2.10.4.2 In-service Testing Program

The DAEC has the responsibility for conducting the ASME Boiler and Pressure Vessel Code, Section XI, Pump and Valve Tests, System Pressure Tests, and Snubber Tests. These performance tests to verify operational readiness are part of the plant performance program.

17.2.10.5 Personnel Qualification

Personnel performing inspections and examinations, or accepting the results of inspections and examinations, will be trained and qualified in accordance with governing codes, standards, and regulations. The personnel will be competent and cognizant of the technical requirements of the work activity. Qualification records will be maintained by the organization responsible for the individual(s) performing the inspections.

17.2.10.6 Documentation and Records

Inspection and examination activities will be reported on a form that indicates the date of the activity, identification of inspector or examiner, and rejection or acceptance of the item(s).

17.2.11 TEST CONTROL

17.2.11.1 Scope

Testing will be performed at the DAEC to demonstrate that safety-related structures, systems, and components perform satisfactorily in service. The testing program will include the following, as appropriate:

1. Qualification tests for design verification
2. Proof tests before installation

3. Pre-Operational tests
4. Operational tests.

17.2.11.2 General Requirements

The tests will be performed in accordance with approved written test procedures that incorporate the requirements and acceptance limits. The test procedure will identify the item to be tested and the purpose of the test.

Test procedures will include provisions for ensuring that all prerequisites for the given test have been met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions. The test procedure will incorporate directly, or by reference, the following requirements:

1. Performance of tests by trained personnel who are qualified in accordance with applicable codes and standards

2. Verification of test prerequisites

3. Identification and description of acceptance or rejection criteria

4. Instructions for performing the test.

17.2.11.3 Surveillance Testing

Provisions will be established for the performance of surveillance testing to ensure that the necessary quality of systems and components is maintained, that facility operations are within the safety limits, and that limiting conditions of operation can be met. The testing frequency will be at least as frequent as prescribed in the Technical Specifications. The provisions for surveillance testing will include the preparation of schedules that reflect the status of planned surveillance tests. Qualified plant staff will perform surveillance tests.

17.2.11.4 Personnel Qualification

Personnel performing testing will be trained and qualified. The personnel will be competent and cognizant of the technical requirements of the work activity.

17.2.11.5 Documentation and Records

Test procedures and results will be documented and approved by qualified personnel.

Test results shall be documented and indicate that the prerequisites and other test requirements have been met.

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

17.2.12.1 Scope

The responsibility for the control of measuring and test equipment and permanently installed plant instrumentation, is that of the DAEC. The control measures will include the identification and calibration of the equipment to the activity. The requirements contained within this section do not apply to devices for which normal industry practice provides adequate control, that is, tape measures, rulers, and measuring glasses.

17.2.12.2 General Requirements

Measures will be established for the control, calibration, and adjustment of measuring and testing devices.

Calibration intervals will be based on required accuracy, the use of equipment, stability characteristics, or other factors affecting the measurement.

The following requirements will be specified in written procedures that are used to control measuring and test equipment:

1. Identification of equipment and traceability to calibration data

2. Calibration methods, frequency, maintenance, and control

3. Labeling and marking of portable equipment to indicate due date for next calibration. Due dates for permanently installed plant equipment are controlled by means of a central record system.

4. Provisions for determining the validity of previous measurements when equipment is determined to be out of calibration.

5. Traceability of reference and transfer standards to nationally recognized standards. When national standards do not exist, the basis for calibration shall be documented.

Calibration may be performed at the DAEC or by qualified laboratories using competent personnel.

Equipment that is consistently found to be out of calibration shall be repaired or replaced.

When the accuracy of the measuring or test device can be adversely affected by environmental conditions, special controls will be prescribed to minimize such effects.

17.2.12.3 Traceability

The measuring and test equipment will be traceable to the item on which the equipment has been used.

When calibration, testing, or other measuring devices are found to be out of calibration, an evaluation shall be made and documented concerning the validity of previous tests and the acceptability of devices previously tested from the time of the previous calibration.

17.2.13 HANDLING, STORAGE, AND SHIPPING

17.2.13.1 Scope

The handling, storage, shipping, cleaning, and preservation of material and equipment will be controlled to prevent damage, deterioration, and loss.

It is the responsibility of the organization initiating procurement to specify any special instructions and requirements for packaging and handling, shipping, and extended storage.

It is the responsibility of the DAEC to provide for the proper handling and storage of material and equipment upon receipt and throughout repair, replacement, and modification.

17.2.13.2 General Requirements

Measures will be established to control the handling, storage, shipping, cleaning, and preservation of material and equipment in accordance with work and inspection instructions to prevent damage or deterioration.

When necessary for particular products, special protective environments such as inert gas atmosphere, temperature levels, and specific moisture-content levels will be specified and provided.

Consistent with the need for preservation, material and equipment will be suitably cleaned to prevent contamination and degradation. The cleaning method selected will in itself not damage or contaminate the material or equipment.

17.2.13.3 Shipping

When required to prevent contamination or to prevent damage during shipment, special packaging methods will be specified and implemented.

Special-handling requirements, if required, will be specified in the shipping instructions. The package should be appropriately marked to indicate that special handling or storage requirements are necessary.

Markings of packages will conform to applicable Federal and state regulations.

17.2.13.4 Radioactive Materials

Measures will also be established to control the shipping of licensed radioactive materials in accordance with 10 CFR 71.

17.2.13.5 Handling

The requirements for special handling will be considered when the item is moved from the receipt point to the storage area and from the storage area to the point of use. Special-handling equipment will be periodically tested and inspected.

17.2.13.6 Storage

Materials and equipment will be stored to minimize the possibility of damage or lowering of quality from the time an item is stored on receipt until the time the item is removed from storage.

The manufacturers' recommendations are considered; however, the relaxation of manufacturers' storage requirements may be implemented if the storage recommendations are not reasonably necessary to preclude equipment degradation. Material and equipment will be stored at locations that have a designated storage level. The various storage levels will be defined and will have prescribed environmental conditions. The storage conditions will be in accordance with design and procurement requirements to preclude damage, loss or deterioration due to harsh environmental conditions. Items having limited shelf life will be identified and controlled to preclude the use of items whose shelf life has expired.

17.2.14 INSPECTION, TEST, AND OPERATING STATUS

17.2.14.1 Scope

Measures will be established to ensure that necessary inspections of items have not been inadvertently bypassed or that systems or components are not inadvertently operated.

17.2.14.2 General Requirements

Measures will be established to indicate, by the use of marking such as stamps, tags, labels, routing cards, log books, or other suitable means, the status of inspection, test and operating status of individual structures, systems, or components.

Procedures will provide for controls to preclude the inadvertent use of nonconforming, inoperative, or malfunctioning structures, systems, or components.

The procedures will include the following:

1. Identification of authority for application and removal of status indicators

2. The use of specific status indicators

3. Provisions for maintaining the status of the structures, systems, or components until removed by an appropriate authority.

17.2.14.3 Inspection and Test Status

Measures will be established to provide for the identification of items that have satisfactorily passed required inspections and tests.

Only items that have passed inspection or testing will be used in the manufacture or installation of an item.

Documented procedure requirements will include the following:

1. Maintenance of the status of the item throughout fabrication and installation

2. Use of status indicators such as stamps, tags, markings, or labels either on the items or on documents traceable to the items

3. Provisions for controlling the bypassing of required inspections, tests, and other critical operations.

Items at the DAEC will be identified by status indicators to indicate whether they are awaiting inspection, acceptable for use, unacceptable, or in a hold status pending further evaluation.

17.2.14.4. Operating Status

Procedures relating to the operational status of safety-related structures, systems, and components, including temporary modifications, will include the following:

1. Authorization for requesting that equipment be removed from service

2. Checks that must be made before approving the request

3. Approval of the action to remove the equipment from service

4. The actions necessary to isolate the equipment and responsibility for performing these actions

5. The actions necessary to return the equipment to its operating status and responsibility for these actions.

Equipment and systems in a controlled status will be identified. Plant procedures will establish controls to identify the status of inspection and test activities associated with maintenance, instrumentation, and control system calibration and testing. The status of nonconforming, inoperative, or malfunctioning structures, systems, and components will be documented and identified to prevent inadvertent use.

The Technical Specifications establish the status required for safe plant operation, including provisions for periodic and non-periodic tests and inspections, of various structures, systems, and components. Periodic tests may be operational tests or tests following

maintenance, and non-periodic tests may be made following repairs or modifications.

17.2.14.5 Sequence Change Control

Procedures will include the control of the sequence of required tests, inspections, and other operations when important to safety. To change these controls, the individual procedure must be changed, which requires the same review and approval cycle as that which authorized the original procedure.

17.2.15 NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

17.2.15.1 Scope

The nonconformance reporting system is established to control materials, parts or components which do not conform to requirements in order to prevent their inadvertent use or installation.
The responsibility for identification, documentation and segregation of nonconforming materials, parts, or components and notification to affected organizations, is that of the Corporate Quality Assurance Department. The responsibility for the disposition of the nonconforming materials, parts, or components is that of the Design Engineering Department, DAEC, and the Corporate Quality Assurance Department.

17.2.15.2 Identification and Segregation

The identification and segregation will be sufficient to prevent inadvertent use or installation of the nonconforming item.
Material, parts, or components for which nonconformances have been identified will be immediately segregated, when practical, in areas that are reserved for nonconforming items. When segregation is impractical, administrative measures will be used, such as tagging, roping off the area, etc.

17.2.15.3 Reporting and Disposition

The reporting mechanism will provide the means to disposition the nonconforming material, part, or component.

The nonconformance report will identify the item, describe the nonconformance, and contain sufficient information to evaluate the nonconformance. The nonconformance report will be transmitted to the proper organization(s) for evaluation and disposition.

17.2.15.4 Disposition

The disposition will be limited to one of the following: use-as-is, rework to original requirements, repair to an acceptable condition, or reject.

For disposition of use-as-is and repair, a technical justification will provide assurance that the item will function as originally intended.

Items that are to be repaired or reworked will be required to be reinspected or retested to determine that the original or new acceptance criteria have been satisfied.

17.2.16 CORRECTIVE ACTION

17.2.16.1 Scope

Corrective action control measures will be established to ensure that conditions adverse to quality are promptly identified, reported, and corrected. Corrective action is necessary to correct omissions and problems in the Operational Quality Assurance Program.

17.2.16.2 Conditions Adverse to Quality

Conditions adverse to quality will be identified promptly and corrected as soon as practical.

Conditions adverse to quality may be identified by a number of techniques such as:

1. Audits of Iowa Electric by regulatory agencies
2. Internal audits
3. Audits of vendors by Iowa Electric
4. Quality Assurance surveillance activities
5. Management reviews
6. Nonconformance reports.

Each of the above techniques has a mechanism to effect the correction of the condition adverse to quality.

17.2.16.3 Significant Conditions Adverse to Quality

A significant condition adverse to quality is any adverse condition of significance which may be attributable to the quality assurance program not providing the required degree of control, or a failure of personnel to follow established procedures. Single event failures of hardware or equipment are not necessarily significant. Conditions adverse to quality will be analyzed to determine if a significant condition adverse to quality exists. This analysis will be performed by the Corporate Quality Assurance Department.

The Corporate Quality Assurance Department will perform an analysis to determine if there are any broad programmatic problem areas or if any negative trends are detectable. This analysis will be performed at least annually and will be reported to the appropriate levels of management. The analysis will be documented and retained as a quality assurance record.

Significant conditions adverse to quality that impede the implementation or reduce the effectiveness of the program will be controlled. These conditions will be reported to appropriate management and evaluated. The cause of a significant condition adverse to quality shall be determined, and corrective action will be taken to preclude repetition. Significant adverse conditions may include a recurring condition for which past corrective action has been ineffective, significant trends adverse to quality, or significant Operational Quality Assurance Program deficiencies.

17.2.16.4 Reporting of 10 CFR 21 Defects and Non-compliances

A 10 CFR 21 defect and noncompliance is defined as one which could reasonably indicate a potential substantial safety hazard.

A procedure has been established and posted so that Iowa Electric employees will be aware of the methods by which 10 CFR 21 defects and non-compliances are reported to the NRC.

The President and Chief Operating Officer and the Vice President - Production, are designated as the Iowa Electric officers responsible for reporting defects and non-compliances, as appropriate, to the NRC.

17.2.17 QUALITY ASSURANCE RECORDS

17.2.17.1 Scope

Quality Assurance records will be prepared, identified, collected, and protected so that adequate evidence of activities affecting quality is available.

17.2.17.2 Preparation and Identification of Quality Assurance Records

The organization responsible for the activity will also be responsible for the preparation and identification of the quality assurance records that attest to the quality of that activity.

As a general criterion, those documents that reflect the as-built condition of an item, component, system, or plant, and those documents that attest to the quality of an activity, item, structure, or system will be treated as quality assurance records. Also, the qualification records of inspection, examination and testing personnel, and quality assurance audit personnel, are classified as quality assurance records.

Quality assurance records will be legible, accurate, and complete.

17.2.17.3 Collection and Protection of Quality Assurance Records

The quality assurance records will be collected, indexed, classified, and protected.

The organization that generates the quality assurance record will be responsible for collecting the records. The collected quality assurance records will be classified as either lifetime or nonpermanent quality assurance records. The lack of a classification will mean that the quality assurance record is a lifetime record.

The quality assurance records that have been identified and collected will be suitably protected against fire, theft, and damage. The manner in which the records are protected will be consistent with the retention period.

17.2.17.4 Transfer or Destruction of Records

The organization responsible for the quality assurance record will be responsible for the transfer of that quality assurance record for the purposes of microfilming and/or lifetime storage.

The transfer of quality assurance records from one organization to another organization will be accomplished by a formal mechanism that provides for the acceptance of the quality assurance record.

The destruction of quality assurance records will be accomplished only with the approval of the concerned organizations.

17.2.18 AUDITS

17.2.18.1 Scope

A comprehensive audit program will be established and implemented.

The audit program will be sufficient to verify compliance with the Operational Quality Assurance Program and to determine the effectiveness of the Operational Quality Assurance Program.

The responsibility for the audit system will be that of the Corporate Quality Assurance Department, the Safety Committee, and the Vice President - Production.

17.2.18.2 Audit System

The audit system will be applied to those organizations, both external and internal to Iowa Electric, that are involved in safety-related activities.

17.2.18.2.1 External Organizations

The audit program for vendors is the responsibility of the Corporate Quality Assurance Department. Audits will be scheduled at a frequency commensurate with the status and importance of the activity.

In general, the audit schedule will be responsive to the performance of audits before the initiation of an activity to ensure that the proper controls are in place, during the early stages of the activity to determine that the proper controls are being implemented, and near the end of the activity to determine that all specified requirements have been met.

In general, the audit schedule will also include the performance of audits during the activity, assuming that the activity occurs over a sufficient length of time, to determine that the proper controls are being applied and no problems are occurring.

17.2.18.2.2 Internal Organizations

The audit program for the internal Iowa Electric organizations is the responsibility of the following:

1. The Corporate Quality Assurance Department, to determine the compliance of the other organizations to the Operational Quality Assurance Program and to evaluate performance.

2. The Safety Committee, to determine the compliance of the DAEC to the Technical Specification requirements and license provisions and to evaluate performance.

3. The Vice President - Production, to determine the overall effectiveness of the Operational Quality Assurance Program.

The audit schedule will cover the total Iowa Electric audit activities over a period of time not exceeding two years.

17.2.18.3 Personnel Training and Qualification

The personnel who participate in audits will have sufficient experience and/or training to fulfill their role in the audit.

Personnel who perform as Lead Auditors will be trained, qualified, and certified.

A Lead Auditor will review the experience of each potential team member, determine their acceptability to perform the audit, determine if any additional training is required, and ensure that the additional training is performed if required.

17.2.18.4 Performance of Audit

The selected audit team shall collectively have experience or training commensurate with the total scope of the audit.

Audit checklists will be developed for the total scope of the audit. The audit should be initiated by a pre-audit conference to introduce the audit team and to confirm the scope and plan of the audit and be concluded with a post-audit conference. During the post-audit

conference, the Audit Team will discuss the audit findings and clarify misunderstandings.

17.2.18.5 Report and Closeout of Audit Findings

The audit will be documented by an audit report signed by a Lead Auditor.

The audit report shall be sent to the responsible management of the audited organization.

The audit findings will be tracked to ensure that corrective action has occurred.

The Corporate Quality Assurance Department will evaluate the responses to the audit findings. The evaluation will include the necessity for re-audits, submittal of documentation, or any other means of verifying the corrective action. Statements by the audited organization that define the corrective action may be accepted.

The corrective actions will be tracked to ensure that proper and timely corrective actions have occurred and that the audit report can be closed.

Inadequate or unresponsive corrective action will be brought to the attention of appropriate levels of management.

Iowa Electric Light and Power Company

Appendix A to UFSAR/DAEC-1
Chapter 17.2
QUALITY ASSURANCE DURING THE OPERATIONS PHASE
Quality Assurance Program Description (QAPD)

INTRODUCTION

This Appendix describes the manner by which the Iowa Electric Operational Quality Assurance Program for the Duane Arnold Energy Center (DAEC), as set forth in the Quality Assurance Program Description (QAPD), UFSAR Chapter 17.2, conforms to NRC Regulatory Guides listed in the June 6, 1990, letter from Region III (Miller) to Iowa Electric (Liu) and certain other commitments previously contained in Table 2-1 of the Quality Assurance Manual. Comments and clarifications to these specific commitments are identified in this Appendix.

Iowa Electric's position on each ANSI standard which is endorsed by a Regulatory Guide to which Iowa Electric is committed is stated in either the UFSAR or the QAPD. Other ANSI standards are not requirements for Iowa Electric even if they are listed as references in a standard endorsed by a Regulatory Guide to which Iowa Electric is committed. (Such standards may, of course, be used as guidance.) However, a section of a standard which is specifically referred to in a standard endorsed by a Regulatory Guide to which Iowa Electric is committed is a requirement for Iowa Electric unless an exception is stated.

Iowa Electric is not committed to ANSI N45.2 for the operational phase. Regulatory Guide 1.33, Revision 2, Section B, "Discussion" states ANSI N18.7-1972, along with ANSI N45.2-1971, "Quality Assurance Program Requirements for Nuclear Power Plants", was endorsed by Regulatory Guide 1.33. The dual endorsement was necessary in order for the guidance contained in the regulatory guide to be consistent with the requirements of Appendix B to 10 CFR Part 50; however, this dual endorsement caused some confusion among users. To clarify this situation, ANSI N18.7-1972 was revised so that a single standard would define the general quality assurance program "requirements" for the operation phase. This revised standard was approved by the American National Standards Committee N18, Nuclear Design Criteria. It was subsequently approved and designated N18.7-1976/ANS-3.2, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants", by the American National Standards Institute on February 19, 1976. Therefore,

for the operations phase, where a standard endorsed by a Regulatory Guide refers to the use of ANSI N45.2 in conjunction with that Standard, Iowa Electric inserts the ANSI Standard N18.7-1976.

1.0 REGULATORY GUIDE 1.8, "Personnel Selection and Training"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

1.1 Iowa Electric's commitment is to Regulatory Guide 1.8, Revision 1-R, September 1975 (reissued May 1977), which endorses ANSI N18.1-1971. However, the Iowa Electric commitment is to ANSI/ANS 3.1-1978, which is a revision of N18.1-1971.

1.2 With respect to selection and training of security personnel, Iowa Electric does not commit to the standard [ANSI N18.17-1973 (ANS 3.3)] referred to in ANSI/ANS 3.1-1978, Sections 1 (Scope) and 6 (References). The Iowa Electric training and qualification plan for security personnel complies with 10 CFR Part 73, Appendix B.

2.0 REGULATORY GUIDE 1.26, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants"

COMMENTS AND CLARIFICATIONS:

The Iowa Electric commitment to Safety Guide 26 (3/23/72), Quality Group Classifications and Standards, is stated in UFSAR Chapter 1.8, Conformance to NRC Regulatory Guides.

3.0 REGULATORY GUIDE 1.28, "Quality Assurance Program Requirements (Design and Construction)"

COMMENTS AND CLARIFICATIONS:

This Regulatory Guide (Safety Guide 28, dated June 7, 1972) endorses ANSI N45.2 and is not applicable to the operating phase. DAEC's operational QA program is based on Regulatory Guide 1.33, Rev. 2, as stated in UFSAR Section 1.8.

4.0 REGULATORY GUIDE 1.29, "Seismic Design Classification"

COMMENTS AND CLARIFICATIONS:

The Iowa Electric commitment to Safety Guide 29 (6/7/72), Seismic Design Classification, is stated in UFSAR Section 1.8, Conformance to NRC Regulatory Guides.

5.0 REGULATORY GUIDE 1.30, "Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

5.1 The Iowa Electric commitment is to Safety Guide 30, dated August 11, 1972 and therefore by reference to ANSI N45.2.4-1972 which it endorses.

5.2 For maintenance and modification activities, Iowa Electric shall comply with the Regulatory Position established by this Regulatory Guide in that the quality assurance program requirements included therein (subject to the clarifications below) shall apply. Technical requirements associated with maintenance and modification activities shall be equal to or better than the original requirements (e.g., Code requirements, design and construction specification requirements, and inspection requirements).

5.3 Regulatory Position C.1 states that ANSI N45.2.4-1972 should be used in conjunction with ANSI N45.2-1971. In lieu of this, Iowa Electric uses ANSI N45.2.4-1972 in conjunction with ANSI N18.7-1976.

5.4 Section 2.2(5)(d) of ANSI N45.2.4-1972 requires evidence of compliance by manufacturer with purchase requirements, including quality assurance requirements, before the requirements of ANSI N45.2.4-1972 are implemented. In lieu of this, Iowa Electric may proceed with installation, inspection, and testing activities for equipment lacking its quality documentation provided that this equipment

has been identified and controlled in accordance with Iowa Electric's nonconformance reporting system.

5.5 With respect to Section 2.5.2 of ANSI N45.2.4-1972, calibration and control covers two classes of instrumentation used by Iowa Electric: (1) portable equipment and (2) permanently-installed equipment. With respect to permanently-installed instrumentation, in lieu of marking the equipment to indicate the date of the next required calibration, a computer-based preventative maintenance program is used. Once a permanently-installed instrument is identified as needing control, a calibration frequency is assigned, and the information is entered into the data base. The calibration task is then automatically tracked and tasked by the data base. A "DO NOT USE Until Tested and Calibrated" or equivalent sticker is applied to instruments not calibrated before their due date and to instruments unacceptable for use. The provisions of ANSI N45.2.4-1972, Section 2.5.2, are applied to portable equipment.

5.6 Section 3 of ANSI N45.2.4-1972 regarding "Preconstruction Verification" states it is necessary to verify that the quality of an item has not suffered during the interim period and it is not intended to duplicate inspections but rather verify that items are in a satisfactory condition for installation. Verifications and checks are then required. In lieu of these verifications and checks, Iowa Electric considers the provisions of QAPD Sections 17.2.8 (Identification and Control of Materials, Parts, and Components) and 17.2.13 (Handling, Storage and Shipping) to be equivalent.

5.7 The last paragraph of Section 6.2.1 of ANSI N45.2.4-1972 requires that items requiring calibration be tagged or labeled on completion, indicating date of calibration and identity of person who performed the calibration. In lieu of this, for permanently-installed instrumentation, the calibration status is reflected in a computerized preventive maintenance program as described in Section 5.5 above.

6.0 REGULATORY GUIDE 1.33, "Quality Assurance Program Requirements (Operation)"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with Regulatory Position of this Regulatory Guide with the following clarifications:

6.1 The commitment is to Regulatory Guide 1.33, Rev. 2, February 1978, and to ANSI N18.7-1976/ANS-3.2 which it endorses.

6.2 Regulatory Guide 1.33 Regulatory Position, Section C.2, also lists fifteen Regulatory Guides and ANSI standards that are referenced in ANSI N18.7-1976/ANS-3.2. The Iowa Electric position with respect to each of these standards is stated elsewhere in this Appendix A.

6.3 With respect to Section 4.3.4 (1), Subjects Requiring Independent Review, of ANSI N18.7-1976/ANS-3.2, the DAEC Safety Committee is not required to review safety evaluations of changes in the facility which are completed under 10 CFR Part 50.59.

6.4 Section 5.1 (Program Description) of ANSI N18.7-1976/ANS-3.2 requires a "summary document" for the Quality Assurance Program. The QAPD and Appendix A thereto fulfill this requirement for Iowa Electric.

6.5 Section 5.2.7 (Maintenance and Modifications) of ANSI N18.7-1976/ANS-3.2 lists six standards that are to be applied to activities occurring during the operational phase that are comparable to related activities during design and construction. Five of these standards are addressed elsewhere in this Appendix A.

Iowa Electric does not follow one of those listed, ANSI N101.4-1972, Quality Assurance for Protective Coatings Applied to Nuclear Facilities. See UFSAR Section 17.2.9.5 for Iowa Electric's controls relative to "Special Protective Coatings".

6.6 With respect to Section 5.2.9 (Plant Security and Visitor Control) of ANSI N18.7-1976/ANS-3.2, the DAEC Security Plan meets the stated requirements.

However, the Standard references ANSI N18.17 for guidance. Iowa Electric is not committed to ANSI N18.17. The DAEC Security Plan complies with 10 CFR Part 73.

6.7 Section 5.2.16 (Measuring and Test Equipment) of ANSI N18.7-1976/ANS-3.2 requires that equipment be suitably marked to indicate calibration status. Section 5.2.16 refers to ANSI N45.2.4-1972, which requires (Section 2.5.2, Calibration and Control) that equipment be suitably marked to indicate date of next required calibration and (Section 6.2.1, Equipment Tests) that items requiring calibration be tagged or labeled on completion, indicating date of calibration and identify of person who performed the calibration. See the discussion provided in Section 5.5 of this document for Iowa Electric's commitment.

6.8 Instead of the format specified in Section 5.3.9.1, (Emergency Procedure Format and Content) of ANSI N18.7-1976/ANS-3.2, Iowa Electric's DAEC Emergency Operating Procedures (EOPs) are in the format specified by the BWR Owner's Group (BWROG) Emergency Procedure Guidelines, as reviewed and approved in the NRC Safety Evaluation Report, BWROG EPG, Revision 4, September 1988.

7.0 <u>REGULATORY GUIDE 1.37, "Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants"</u>

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

7.1 The commitment is to Regulatory Guide 1.37, Revision 0, 3/16/73, and to ANSI N45.2.1-1973 which it endorses.

7.2 Iowa Electric shall comply with the Regulatory Position established in this Regulatory Guide for maintenance and modification activities in that the quality assurance program requirements included therein shall apply. Technical requirements associated with maintenance and modification activities shall be equal to or better than the

original requirements (e.g., Code requirements, design and construction specification requirements, and inspection requirements).

8.0 REGULATORY GUIDE 1.38, "Quality Assurance Requirements for packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

8.1 The Iowa Electric commitment is to Regulatory Guide 1.38, Revision 2, May 1977, which endorses ANSI N45.2.2-1972. However, the Iowa Electric commitment is to the later version of this Standard, ANSI/ASME N45.2.2-1978.

8.2 The applicability of the requirements of Section 3 and 4 and the Appendix of ANSI N45.2.2, and the paragraphs of the Regulatory Guide relating to these Sections (C.1.c, C.1.e, and C.2), is limited to the procurement of major plant equipment replacements; they are not applied to procurement of operating plant spares and modifications.

8.3 The shipping damage inspections required by Section 5.2.1 of ANSI N45.2.2 will be performed by Storekeepers prior to unloading in lieu of ANSI N45.2.6 certified inspectors. A shipping damage inspection is performed by ANSI N45.2.6 certified inspectors at a later point in the receiving process for applicable items.

9.0 REGULATORY GUIDE 1.39, "Housekeeping Requirements for Water-Cooled Nuclear Power Plants"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarification:

9.1 The Iowa Electric commitment is to Regulatory Guide 1.39, Revision 2, September 1977, and to ANSI N45.2.3-1973 which it endorses.

10.0 REGULATORY GUIDE 1.54, "Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants"

COMMENTS AND CLARIFICATIONS:

Iowa Electric is not committed to Regulatory Guide 1.54, June 1973. Iowa Electric's controls relative to protective coatings are contained in UFSAR Section 17.2.9.5.

11.0 REGULATORY GUIDE 1.58, "Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

11.1 The Iowa Electric commitment is to Regulatory Guide 1.58, Revision 1, September 1980, and to ANSI N45.2.6-1978 which it endorses.

11.2 ANSI N45.2.6-1978 Section 1.0, "Applicability", first paragraph, states that this standard applies to personnel who perform inspections, examinations, and tests during fabrication prior to and during receipt of items at the construction site, during construction, during preoperational and startup testing, and during operational phases of nuclear power plants.

At Iowa Electric, the qualification of Quality Control personnel (Iowa Electric or contractor employees) performing inspection or examination work at the plant shall be in accordance with Regulatory Guide 1.58 (ANSI N45.2.6-1978). Personnel performing testing activities shall have appropriate experience and training to assure competence in accordance with Regulatory Guide 1.8 (ANS 3.1-1978).

11.3 Regulatory Position C.1 of Regulatory Guide 1.58 states that "for qualification of personnel (1) who approve preoperations, startup, and operation test procedures and test results and (2) who direct or supervise the conduct of individual preoperational, startup, and operational tests, the guidelines contained in Regulatory Guide 1.8, "Personnel

Selection should be followed in lieu of the guidelines of ANSI N45.2.6-1978". Iowa Electric complies with this Regulatory Position and, furthermore, test procedures are reviewed and approved by a committee consisting of members representing a broad range of experience in engineering, operation and quality assurance; the tests shall be performed by qualified personnel and monitored by quality assurance personnel, to ensure compliance with the test procedure requirements.

11.4 ANSI N45.2.6 Section 1.2, "Applicability", third paragraph, requires that this standard be used in conjunction with ANSI N45.2. Iowa Electric is not committed to ANSI N45.2.

11.5 ANSI N45.2.6 Section 1.2, "Applicability", fourth paragraph, requires that this standard be applied to organizations other than Iowa Electric. The specific applicability of this standard to other organizations is specified on a case-by-case basis in the procurement documents issued to those suppliers of materials and services.

11.6 Regulatory Guide 1.58 Revision 1, in Section B, "Discussion", endorses ASNT Recommended Practice No. SNT-TC-1A-1975 for the qualification of nondestructive testing personnel. In accordance with the Iowa Electric ASME Section XI program the 1980 Edition with addenda through Winter 1981 govern. Section IWA-2300 of this Code requires nondestructive personnel to be qualified to SNT-TC-1A-1980.

12.0 <u>REGULATORY GUIDE 1.64, "Quality Assurance Requirements for the Design of Nuclear Power Plants"</u>

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide. The Iowa Electric commitment is to Regulatory Guide 1.64, Revision 2, June 1976, and to ANSI N45.2-11-1974 which it endorses.

13.0 REGULATORY GUIDE 1.74, "Quality Assurance Terms and Definitions"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

13.1 The Iowa Electric commitment is to Regulatory Guide 1.74, February 1974, and to ANSI N45.2.10-1973, which it endorses.

13.2 Iowa Electric has adopted the definition of "Audit" which appears in ANSI/ASME N45.2.12-1977, Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants, in lieu of the definition in ANSI N45.2.10-1973.

14.0 REGULATORY GUIDE 1.88, "Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

14.1 The Iowa Electric commitment is to Regulatory Guide 1.88, Revision 2, October 1976, and to ANSI N45.2.9-1974 which it endorses.

14.2 Section 3.2.2 of ANSI N45.2.9-1974 specifies establishment of an "index". As we understand this term, it can include a collection of documents or indices (some of which may be computer-based) which, when taken together, supply the information attributed to an "index" in the Standard. Record retention requirements for records are specified. The specific retention times for records are indicated when the records are transmitted for permanent storage. Iowa electric utilizes computer-aided retrieval systems to index and locate records.

14.3 Section 5 of ANSI N45.2.9-1974, "Storage, Preservation and Safekeeping", provides no distinction between temporary and permanent facilities. To address temporary storage, the

following position is established: Active records (those completed but not yet duplicated or placed on microfilm) may be temporarily stored in one-hour fire rated file cabinets until such time as they are duplicated or microfilmed. Open-ended documents--those revised or updated on a more-or-less continuing basis over an extended period of time (e.g. personnel qualification and training documents) and those which are cumulative in nature (e.g. nonconforming item logs and control room log books)--are not considered as QA records since they are not "complete". These types of documents shall become QA records when they are issued as a specific revision, when they are filled-up or discontinued, or on a periodic basis when the completed portion of the on-going document shall be transferred to permanent storage as a "record".

14.4 The requirements of Section 4.3 (Receipt Control) of ANSI N45.2.9-1974 are implemented only for the permanent record files and not for temporary record files.

14.5 The requirements of Section 5.3 (Storage) of ANSI N45.2.9-1974 are implemented only for the permanent record files and not for temporary record files.

15.0 REGULATORY GUIDE 1.94, "Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

15.1 The Iowa Electric commitment is to Regulatory Guide 1.94, Revision 1, April 1976, and to ANSI N45.2.5-1974 which it endorses.

15.2 For modification activities Iowa Electric shall comply with the Regulatory Position established by this Regulatory Guide in that the quality assurance program requirements included therein shall apply. Technical requirements associated with modification activities shall be equal to or better than the

original requirements (e.g., Code requirements, design and construction specification requirements, and inspection requirements).

16.0 REGULATORY GUIDE 1.116, "Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

16.1 The Iowa Electric commitment is to Regulatory Guide 1.116, Revision 0-R, June 1976, with first page revision May 1977, and to ANSI N45.2.8-1975 which it endorses.

16.2 Iowa Electric's commitment to this Regulatory Guide is applicable to maintenance and modification activities in that the quality assurance program requirements included therein shall apply. Technical requirements associated with maintenance and modification activities shall be equal to or better than the original requirements (e.g., Code requirements, design and construction specification requirements, and inspection requirements).

17.0 REGULATORY GUIDE 1.123, "Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

17.1 The Iowa Electric commitment is to Regulatory Guide 1.123, Revision 1, July 1977, and to ANSI N45.2.13-1976 which it endorses.

18.0 REGULATORY GUIDE 1.144, "Auditing of Quality Assurance Programs for Nuclear Power Plants"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

18.1 The Iowa Electric commitment is to Regulatory Guide 1.144, Revision 1, September 1980, and to ANSI N45.2.12-1977 which it endorses.

18.2 Section 1.1, "Scope", and Section 1.2, "Applicability", of ANSI N45.2.12-1977 reference ANSI N45.2. Iowa Electric is committed to ANSI N18.7-1976 for the operational phase, consistent with its commitment to Regulatory Guide 1.33.

18.3 Regulatory Position C.3.b(1) states that external audits, after the award of a contract, are not necessary for procurement actions where acceptance of the product is in accordance with Section 10.3.2, "Acceptance by Reviewing Inspection", of ANSI N45.2.13-1976. The suppliers of products that meet this requirement are included on the Iowa Electric external audit schedule and are audited on a triennial basis.

19.0 REGULATORY GUIDE 1.146, "Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position of this Regulatory Guide with the following clarifications:

19.1 The Iowa Electric commitment is to Regulatory Guide 1.146, August 1980, and to ANSI N45.2.23-1978 which it endorses.

19.2 ANSI N45.2.23 Section 1.2 references ANSI N45.2. For Iowa Electric, the entities subject to audit are defined in 10 CFR 50 Appendix B and ANSI N18.7-1976. This is consistent with Iowa Electric's commitment to Regulatory Guide 1.33 which endorses ANSI N18.7-1976, in lieu of ANSI N45.2.

20.0 REGULATORY GUIDE 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment"

COMMENTS AND CLARIFICATIONS:

Iowa Electric complies with the Regulatory Position in Regulatory Guide 4.15, Revision 1, February 1979.

21.0 ASME B&PV Code, Section XI, 1980 Edition with Addenda through Winter 1981

COMMENTS AND CLARIFICATIONS:

The Iowa Electric commitments relative to the Ten-Year Inspection Program and the Pump and Valve Test Program are established separately in formal correspondence with the Nuclear Regulatory Commission and incorporated into appropriate Iowa Electric documents.

DISCUSSION OF CHANGES IN THE
QUALITY ASSURANCE PROGRAM DESCRIPTION

17.2.1.2.1 Quality Assurance Supervisor

Identification of the Change:

The position of Quality Engineering Supervisor has been renamed Quality Assurance Supervisor. In addition, the vendor related duties previously assigned to the Group Leader, Audits, are now assigned to the Quality Assurance Supervisor. The Quality Assurance Supervisor will also be assisted with the implementation of these responsibilities by a Group Leader, Material and Supplier Quality.

Reason for the Change:

The title previously held by the supervisor in Quality Assurance was Quality Engineering Supervisor. Since there is only one supervisor in Quality Assurance, it is more appropriate for this supervisor's title to be Quality Assurance Supervisor. This title is also more reflective of the duties of the Quality Assurance Supervisor. The reorganization has resulted in this supervisor being responsible for vendor related activities, performance of internal program surveillances, and corrective actions program trending and monitoring, and other duties which are not necessarily reflective of the title, Quality Engineering Supervisor.

The reorganization has resulted in the Quality Assurance Supervisor being responsible for vendor related activities which were previously that of the Group Leader, Audits. The duties of Group Leader, Audits has been split between the Group Leader, Internal Audits and the Group Leader, Material and Supplier Quality. The latter reports to the Quality Assurance Supervisor.

Basis for Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

Reassignment of responsibilities for vendor related activities from the Group Leader, Audits to the Quality Assurance Supervisor is entirely internal to the Quality Assurance organization. It does not impact, in any way, the implementation of the quality assurance commitments as previously reviewed and accepted by the NRC. These responsibilities are clearly defined and comply with 10 CFR Part 50 Appendix B.

17.2.1.2.2 Group Leader, Internal Audits

Identification of the Change:

The duties formerly assigned to the "Group Leader, Audits", have been divided between two new positions, "Group Leader, Internal Audits" and "Group Leader, Material and Supplier Quality". The latter reports to the Quality Assurance Supervisor and the Group Leader, Internal Audits reports directly to the Manager, Corporate Quality Assurance.

Reason for the Change:

The responsibilities of the Group Leader, Audits previously included both the internal audit program and the evaluation of vendors. A split of these responsibilities into two positions was made to provide a better focus for each of these two broad areas.

Basis for Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

The responsibilities previously assigned to the "Group Leader, Audits" have been split between two positions, "Group Leader, Internal Audits" and Group Leader, Material and Supplier Quality". This split in responsibilities does not affect the commitments for implementation of the Iowa Electric quality assurance program. This change does not transfer any responsibilities outside of the Quality Assurance organization. The responsibility for implementation of the quality assurance program requirements relative to the internal audit program and the evaluation of suppliers has been divided into two positions within the Quality Assurance organization. This continues to comply with the requirements of 10 CFR Part 50 Appendix B and the commitments previously reviewed and accepted by the NRC.

17.2.1.2.3 Quality Control Supervisor

Identification of the Change:

The Quality Control Supervisor has been made responsible for preparing inspection instructions. This section is also revised to reflect the new titles for other positions described above.

Reason for the Change:

The responsibility for preparing inspection instructions was previously under the Quality Engineering Supervisor. The Quality Control Supervisor is responsible for performing the inspections and can be more effective in the implementation of the inspection program if he is also responsible for preparing the inspection instructions. The changes in titles for the interfaces of the Quality Control Supervisor were necessitated by the reorganization described above.

Basis for Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

The transfer of responsibility for preparing inspection instructions is internal to the Quality Assurance organization. It does not affect any previous commitments which have been reviewed and accepted by the NRC. The change in titles for the positions which the Quality Control Supervisor must interface are simply conforming. These responsibilities are clearly defined and comply with 10 CFR Part 50, Appendix B.

17.2.1.2.3.1 Corporate Level III NDE

Identification of the Change:

The Corporate Level III NDE was not previously described in the Quality Assurance Program Description.

Reason for the Change:

The Corporate Level III NDE position is necessary for the proper implementation of the inspection and examination program at Iowa Electric. This position has existed but not been described in the Quality Assurance Program Description. The addition clearly describes the responsibilities for implementation of the inspection and examination program relative to non-destructive examination.

Basis for Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

The addition of a position and associated responsibilities to the Quality Assurance Program Description does not reduce any commitments previously reviewed and accepted by the NRC. This addition to the QAPD is consistent with 10 CFR Part 50 Appendix B.

17.2.1.2.5 Quality Assurance Program Engineer

Identification of the Change:

The Quality Assurance Program Engineer is a newly established position. This position is responsible for assisting the Manager, Corporate Quality Assurance in preparing and maintaining the Operational Quality Assurance Program and implementing procedures.

Reason for the Change:

The addition of the Quality Assurance Program Engineer is the result of a reorganization. Quality assurance program maintenance is a necessary and important element for the proper implementation of the program.

Basis for Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

The addition of a position and associated responsibilities to the Quality Assurance Program Description does not reduce any commitments previously reviewed and accepted by the NRC. This addition to the QAPD is consistent with 10 CFR 50 Appendix B.

17.2.2.3 Identification of Safety-Related Structures, Systems, Components, and Items

Identification of the Change:

Changes to section 17.2.2.3 include:

a) deletion of reference to the historical list of structures, systems and components contained in the Updated Final Safety Analysis Report Section 17.1,

b) incorporation of the historical list of safety-related structures, systems and components into the current listing of safety-related structures, systems and components, and

c) a better description of the differences between the safety-related list of structures, systems and components in the Updated Safety Analysis Report and the listing maintained by Design Engineering in a data base for the list of safety-related structures, systems, components, and items.

Reason for the Change:

Reference to the historical safety-related list of structures, systems and components is not relevant to the implementation of the current operational quality assurance program except to the extent safety-related structures, systems and components on the historical list are included on the current list. The current list of safety-related structures, systems and components is inclusive of the historical list. Clarification is also provided regarding the list contained in the Updated Final Safety Analysis Report versus the data bases maintained by Design Engineering. This change in 17.2.2.3 also better recognizes the content of the revised section 3.2, submitted as part of the annual submittal of the Updated Final Safety Analysis Report in accordance with 10 CFR Part 50.71(e).

Basis For Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

The current list of safety-related structures, systems, and components for which the Operational Quality Assurance Program is applied is provided in this section, by reference to Updated Final Safety Analysis Report Section 3.2. This listing of safety-related structures, systems and components in the new 3.2 is much more comprehensive then the previous 3.2 and include the historical list of structures, systems, and components contained in Section 17.1 of the Updated Final Safety Analysis Report.

The other change in this section involves clarification regarding the list of safety-related structures, systems, components and items which is maintained by Design Engineering in data bases. These data bases clearly define the list of safety-related structures, systems, components and items to which the Operational Quality Assurance Program applies by listing the DAEC unique identifiers consistent with the content of Updated Safety Analysis Report Section 3.2. No items have been removed from the listing previously provided to, reviewed, and accepted by the NRC. The scope of the Operational Quality Assurance Program has not been reduced and is consistent with 10 CFR Part 50, Appendix B, and the program which has previously been reviewed and accepted by the NRC.

17.2.3.6 Design Verification

Identification of the Change:

The design verification process has been expanded to more clearly state the limitations regarding design verifications performed by supervisors. This section was also rearranged to read clearly.

The title of section 17.2.3.6 was also revised to remove the term "the".

Reason for the Change:

The NRC letter of December 21, 1990 (Thomas M. Burdick of the NRC to Lee Liu of Iowa Electric), recorded the request that the exceptional circumstances under which a designer's immediate supervisor can perform design verification be identified.

Section 17.2.3.6 was also rearranged to place the details regarding design verification together.

The term "the" was unnecessary in the title.

Basis for Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

The description of the exceptional circumstances under which a designer's supervisor may perform design verifications is consistent with the guidance provided by the NRC in Regulatory Guide 1.64 revision 2 and the NRC letter of December 21, 1990.

The change in the title is editorial.

The change in arrangement of this section is also editorial.

17.2.4.3 Quality Classification

Identification of the Change

The performance of quality classification evaluations has been changed from the requisitioning organization to the Design Engineering organization.

Reason for Change

The requisitioning organization identifies their needs and makes a preliminary determination of the quality classification for that procurement. However, the Design Engineering organization reviews the requisitions for the final determination of the proper quality classification. This change is consistent with the Comprehensive Procurement Initiative.

Basis for Concluding That The Change Is Acceptable Under 10 CFR 50.54(a)(3)

The requisitioning organization identifies the need to requisition items and services and makes an initial determination of the quality classification. The final determination of quality classification is determined by Design Engineering consistent with Section 17.2.2.3, "Identification of Safety-Related Structures, Systems, Components and Items". The determination of quality classification by Design Engineering is also consistent with the Comprehensive Procurement Initiative. This change is editorial in nature in that Section 17.2.2.3 previously required the involvement of Design Engineering. This change is consistent with 10 CFR Part 50, Appendix B and the commitments previously reviewed and accepted by the NRC.

17.2.7.4 Receipt Inspection

Identification of the Change:

Source surveillances and audits were added to the list of activities which may influence the level of receipt inspection which is performed.

Reason for the Change:

Source inspections are not the only source activities which may influence the level of receipt inspection that is performed. Performance-Based-Audits and source surveillances may also influence the level of confidence in the supplier. Source surveillances and performance-based-audits, or in-process audits, may also provide relevant data to the receiving inspection process.

Basis For Concluding That the Change is Acceptable Under 10 CFR 50.54(a)(3)

Source surveillances and supplier audits are recognized verification activities in ANSI N45.2.13-1976 which is endorsed by Regulatory Guide 1.123. The inclusion of source surveillance and audits as activities which may influence the procurement receiving process is consistent with 10 CFR 50 Appendix B.

17.2 Appendix A, Section 11.0, Regulatory Guide 1.58, "Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel"

Identification of the Change:

A new paragraph 11.6 is inserted regarding the specific edition of ASNT Recommended Practice SNT-TC-1A which governs the qualification of NDE personnel.

Reason for the Change:

In accordance with the Iowa Electric ISI/IST program, the ISI program is based on the ASME Section XI Code, 1980 Edition with addenda through the Winter of 1981. Regulatory Guide 1.58 Revision 1 requires qualification of NDE personnel to the 1975 edition of ASNT Recommended Practice SNT-TC-1A. Section IWA-2300 of ASME Section XI, 1980 Edition with Addenda through Winter 1981 requires qualification in accordance with the 1980 edition of Recommended Practice SNT-TC-1A.

Basis for Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

The 1980 through Winter 1981 Addenda of the ASME, Section XI, Code has been endorsed by the NRC through the Code of Federal Regulations and through the review and approval of the DAEC ISI program. These NRC reviews and approvals have endorsed SNT-TC-1A-1980 as the basis for the qualification of the examination personnel. This change was originally submitted on May 1, 1985 under Iowa Electric correspondence NG-85-1911, which was subsequently approved on 7/7/87. However, this discrepancy was overlooked when the October 31, 1990 submittal was prepared. This change only corrected the error.

17.2 Appendix A, Section 12.0, Regulatory Guide 1.64, "Quality Assurance Requirements for the Design of Nuclear Power Plants

Identification of the Change:

The Iowa Electric commitment to Regulatory Guide 1.64 is revised to correspond to revised UFSAR section 17.2.3.6 regarding design verifications by a designer's immediate supervisor.

Reason for the Change:

Refer to section 17.2.3.6 above.

Basis for Concluding That The Change Is Acceptable Under Section 50.54(a)(3)

Refer to section 17.2.3.6 above.