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 "onsite" and "offsite" 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. 11

17.2.1.2.1 **Quality Engineering Supervisor**

The Quality Engineering Supervisor reports to the Manager, Corporate Quality Assurance and assists 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. Implementation at the DAEC is a joint responsibility with the Quality Control Supervisor and the Audit Group Leader. Quality Engineering 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. Additionally, Quality Engineering reviews procedures and technical documents for inclusion of quality requirements, prepares Quality Control inspection instructions, and administers the corrective action and trending program.

17.2.1.2.2 **Audit Group Leader**

The Audit Group Leader reports to the Manager, Corporate Quality Assurance and is responsible for the audit program which includes Iowa Electric internal organizations, suppliers, and contractors. The Audit Group evaluates suppliers for quality capabilities and performance and maintains a list of approved suppliers for nuclear procurements. The Audit Group also assists the Manager, Corporate Quality Assurance in maintaining the Operational Quality Assurance Program and its associated documents.

17.2.1.2.3 **Quality Control Supervisor**

The Quality Control Supervisor reports to the Manager, Corporate Quality Assurance and, along with the Quality Engineering Supervisor and the Audit Group Leader, is responsible for verifying that the Operational Quality Assurance Program is being implemented effectively at the DAEC. Quality Control 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.

17.2.1.2.4 **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 **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. 11

17.2.2.3 **Identification of Safety-Related Items**

Table 17.1-3, Chapter 17.1, contains a historical list of structures, systems, and components identified as safety-related during the design and construction phase. The Manager, Design Engineering is responsible for maintaining a current listing of safety-related structures, systems, and components, relative to the operational phase. The current listing of safety-related items can be found in a computer data base maintained by 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: 11

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

17.2.2.4.1 **Quality Assurance Manual** 11

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. 11

17.2.2.4.2 **Nuclear Generation Division Manual** 11

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** 11

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** 11

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** 11

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** 11

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. 11

The quality assurance indoctrination provided to Iowa Electric personnel is under the cognizance of the Manager, Corporate Quality Assurance and the Manager, Nuclear Training. 11

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. 11

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. 11

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. 11

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 **The 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; however, they may be from the same organizational entity. 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. The design verification may be performed by the originator's supervisor provided the supervisor did not specify a singular design approach or rule out certain design considerations and did not establish the design inputs used in the design, or if the supervisor is the only individual in the organization competent to perform the verification.

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.

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** 11

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 the requisitioning organization 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.

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 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 Iowa 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: 11

- 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 **Inservice Inspection**

Required inservice inspection, including nondestructive examination, pressure tests, and inservice 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 inservice 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" inservice 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 **Inservice 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. Preoperational 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 nonperiodic tests and inspections, of various structures, systems, and components. Periodic tests may be operational tests or tests following maintenance, and nonperiodic 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 Noncompliances**

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 noncompliances 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 noncompliances, 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 reaudits, 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. 11

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. 11

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. 11

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 preventive 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. 11

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 identity of person who performed the calibration. See the discussion provided in Section 5.5 of this document for Iowa Electric's commitment. 11

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

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: 11

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 Sections 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

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 preoperational, startup, and operational 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 and Training," 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.

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 with the following clarifications:

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12.1 The Iowa Electric commitment is to Regulatory Guide 1.64, Revision 2, June 1976, and to ANSI N45.2.11-1974 which it endorses.

12.2 Regulatory Position C.2(1) of Regulatory Guide 1.64 addresses the use of the designer's immediate supervisor to perform design verification. In lieu of these requirements, Iowa Electric complies with the requirements of ANSI N45.2.11-1974, Section 6.1.

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:

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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. 11

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 O-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 clarification:

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: 11

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 clarification:

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. 11

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 MADE TO
UFSAR CHAPTER 17.2, QUALITY ASSURANCE
DURING THE OPERATIONS PHASE, BY
REVISION 11

Paragraph 17.2.1.2 Manager, Corporate Quality Assurance

Identification of the Change:

The word "performing" is inserted prior to the phrase "quality assurance trending."

Reason for the Change:

The insertion of "performing" is an editorial change only.

Basis for Concluding That the Change is Acceptable Under Section 50.54(a)(3):

The insertion of "performing" is an editorial change to reflect the performance of quality assurance trending. This change does not impact the QAPD commitments previously accepted by the NRC and continues to satisfy 10 CFR 50 Appendix B.

17.2.2.2 Basis

Identification of the Change:

This paragraph has been revised to state that the basis of the Quality Assurance Program is 10 CFR 50, Appendix B, and the particular regulatory guides now identified in Appendix A to Chapter 17.2.

Reason for the Change:

Revision 11 of the QAPD adds Appendix A which identifies Iowa Electric's commitments (and exceptions) to specific Regulatory Guides in its Quality Assurance Program. These commitments have previously been listed in Table 2-1 of our Quality Assurance Manual. In response to the NRC's comment on Revision 9 of the QAPD (letter of June 6, 1990, from H.J. Miller), they will now be incorporated into the QAPD.

Basis for Concluding that the Change is Acceptable Under Section 50.54(a)(3):

The change to this paragraph is editorial and has no effect on Iowa Electric's commitments. The change simply describes the basis of the Quality Assurance Program by referring to Appendix A which has been added in accordance with the NRC's earlier comment and Iowa Electric's response (letter of July 13, 1990, from R. W. McGaughy). The QAPD, Section 17.2.2.5.1, "Quality Assurance Manual," had previously stated that Iowa Electric's specific commitments were contained in the Quality Assurance Manual. The bases for the acceptability of the individual commitments stated in Appendix A are described in Attachment 4 of this submittal.

<u>17.2.2.4 Operational Quality Assurance Program Implementation</u>

Identification of the Change:

The title of Section 17.2.2.5, "The Iowa Electric Operational Quality Assurance Program Documentation," is deleted in Revision 11 of the QAPD. The sentence "the Iowa Electric Operational Quality Assurance Program is documented by four levels of documents:" was revised to "the Iowa Electric Operational Quality Assurance Program is implemented via four levels of documents:." The remainder of Section 17.2.2.5 from Revision 10 is unchanged and is contained in Section 17.2.2.4 of Revision 11 of the QAPD. The remaining subsections of 17.2.2 are renumbered accordingly.

Reason for the Change:

To provide more clarity and consistency regarding the implementation description.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

The change in wording is editorial and does not affect Iowa Electric's Operational Quality Assurance Program implementation.

17.2.2.4.1 Quality Assurance Manual (previously 17.2.2.5.1)

Identification of the Change:

The final sentence of paragraph 17.2.2.4.1 previously stated: "The Quality Assurance Manual presents upper management philosophy and concepts to the middle management level, defines specific commitments and requirements, defines organizational responsibilities, and identifies organizational interfaces." The phrase "defines specific commitments and requirements" has been deleted from this sentence.

Reason for the Change:

The Quality Assurance Manual (Chapter 2, Table 2-1) previously contained the commitments and requirements for the Quality Assurance Program. This submittal removes them from the Quality Assurance Manual and places them in the new Appendix A of Chapter 17.2.

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

The change to this paragraph is editorial, reflecting relocation of certain statements, and has no effect on Iowa Electric's commitments. The specific commitments and requirements of the Quality Assurance Program are now stated in Appendix A of Chapter 17.2 rather than QA Manual Chapter 2. The bases for the acceptability of the individual commitments stated in Appendix A are described in Attachment 4 of this submittal.

17.2.2.6 Indoctrination and Training (Previously 17.2.2.7)

Identification of the Change:

Emergency Preparedness has been added as a fifth area of training. Also, the title of the "Manager, Training", has been changed to "Manager, Nuclear Training."

Reason for the Change:

The addition of "emergency preparedness" training recognizes this additional area as part of the DAEC indoctrination and training program. The insertion of "Nuclear" in the title "Manager, Nuclear Training" is an editorial change to reflect the current title.

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

Section 17.2.2.6 now recognizes that training is also provided in the subject of emergency preparedness. This addition does not affect Iowa Electric's prior commitments and the revised program incorporating this change continues to satisfy the criteria of 10 CFR 50 Appendix B and the commitments previously accepted by the NRC. The title change (to "Manager, Nuclear Training") is editorial.

17.2.3.8 Quality Assurance Review (deleted)

Identification of the Change:

Paragraph 17.2.3.8, "Quality Assurance Review," has been deleted.

Reason for the Change:

Iowa Electric desires to terminate the mandatory in-line review of design changes by the Quality Assurance Department. Iowa Electric believes that the Quality Assurance Department can be equally effective in an independent assessment role with respect to design changes as in its present mandatory in-line review of such changes.

Justification for Approval by the NRC:

The elimination of this section from the QAPD can be viewed as a "reduction in commitment." However, Iowa Electric believes that a gradual transition from mandatory in-line review of design changes by the QA Department to independent, selective assessments via the internal audit and internal surveillance programs will maintain the overall effectiveness of the design control program. The elimination of the requirement for in-line review from UFSAR Section 17.2 is a necessary step to begin this transition. No reduction in Quality Assurance Department staffing will occur as a result of this change; rather the resources now devoted to in-line reviews will be gradually re-allocated to the internal audit and surveillance programs during the transition period. This change meets the requirements of 10 CFR 50, Appendix B and is consistent with ANSI N45.2.11-1974.

17.2.3.8 Design Review Committees (Previously 17.2.3.9)

Identification of the Change:

This section has been renumbered from 17.2.3.9 to 17.2.3.8.

Reason for the Change:

Former Paragraph 17.2.3.8, "Quality Assurance Review," has been deleted, necessitating redesignation of this paragraph.

Basis for Concluding That Change is Acceptable Under Section 50.54(a)(3):

This change is one of renumbering paragraph 17.2.3.9 to 17.2.3.8. This is an editorial change.

17.2.9.5 Special Protective Coatings (Paint)

Identification of the Change:

Paragraph 17.2.9.5, "Special Protective Coatings (Paint)," is added to the QAPD.

Reason for the Change:

This paragraph defines the Iowa Electric program for special protective coatings. (The same language has previously been included in the QAM, Paragraph 9.6.6.5).

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

Previously, Iowa Electric's commitment with respect to special protective coatings has been through the DAEC plant design bases and 10 CFR 50 Appendix B, Criterion IX, Control of Special Processes. Paragraph 17.2.9.5 is a more specific commitment than that previously provided. Iowa Electric continues to implement the requirements of 10 CFR 50 Appendix B and the QAPD as previously approved by the NRC.

17.2.15.4 Disposition

Identification of the Change:

The final sentence of this paragraph, "Items that have been placed on nonconformance due to documentation problems will be accepted for use after the documentation problems have been resolved," has been deleted.

Reason for the Change:

The deleted sentence is unnecessary. Nonconforming materials, parts, and components can be dispositioned through any of the four means listed in the first sentence of the paragraph: use-as-is, rework, repair or reject. A nonconformance may arise from many types of problems (i.e., hardware or documentation) and, in each case, the item must be identified, segregated, and controlled to prevent inadvertent use.

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

The QAPD, as previously accepted by the NRC, includes a nonconformance reporting system. This system includes identification and reporting, segregation and dispositioning. Items which have been identified as nonconforming due to documentation problems are treated no differently than those with hardware problems. All nonconformances must be dispositioned. For example, a "Use-As-Is" disposition may be applied equally to documentation or hardware problems.

The implementation of the nonconformance reporting system continues to comply with 10 CFR 50 Appendix B and Iowa Electric's previous commitments as stated in the Chapter 17.2 and approved by the NRC. This is an editorial change.

Discussion of Changes in the Quality Assurance Program Description Reflected in Appendix A of UFSAR Chapter 17.2, Quality Assurance During the Operations Phase (Revision 11)

INTRODUCTION

This attachment describes the changes that occurred as a result of the incorporation of the specific commitments from Table 2-1 of the Quality Assurance Manual into Appendix A to UFSAR Section 17.2. In those instances where the wording of a commitment has not changed relative to Table 2-1 of the Quality Assurance Manual, the commitment is included in Appendix A (Attachment 2), however, since the commitment has not changed, a discussion of that addition to Appendix A is not included in this Attachment 4. For example, Appendix A (Attachment 2), contains Section 1.1 which is a direct inclusion of Iowa Electric's commitment from Table 2-1 of the Quality Assurance Manual. There is not a corresponding discussion for Section 1.1 in this Attachment 4 since the commitment was not changed. Conversely, Section 1.2 of Appendix A (Attachment 2) is a change relative to Table 2-1 of the Quality Assurance Manual, and as such, has a corresponding Section 1.2 in this Attachment 4.

1.0 Regulatory Guide 1.8, "Personnel Selection and Training"

1.2 Identification of the Change:

Iowa Electric does not follow ANSI N18.17-1973, "American National Standard Industrial Security for Nuclear Power Plants," which is referred to in sections 1 (Scope) and 6 (References) of ANSI/ANS 3.1-1978.

Reason for the Change:

ANSI N18.17-1973 has been superseded by NRC regulation, 10 CFR 73, Appendix B, "General Criteria for Security Personnel."

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

The training and qualification requirements for security force personnel are addressed in the DAEC Security Plan. This Plan was developed utilizing the later requirements of 10 CFR Part 73, Appendix B and has been reviewed and approved by the NRC.

2.0 Regulatory Guide 1.26, "Quality Group Classifications and Standards"

Identification of the Change:

Iowa Electric's commitment to Safety Guide 26 (Regulatory Guide 1.26) is identified. Table 2-1 of the Quality Assurance Manual does not refer to Regulatory Guide 1.26.

Reason for the Change:

Table 2-1 of the Quality Assurance Manual does not refer to Safety Guide 26 (Regulatory Guide 1.26). In accordance with the NRC letter of June 6, 1990 (H. J. Miller to L. Liu), Section 2.0 of Appendix A to UFSAR Chapter 17.2 records that Iowa Electric's commitment to Safety Guide 26 is located in UFSAR Section 1.8.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

Safety Guide 26 was originally evaluated by the NRC as part of the FSAR, Appendix G, Safety Guide 26. Iowa Electric's current commitment is described in the UFSAR Section 1.8.26. Appendix A to the QAPD does not change the commitment, it only references UFSAR Section 1.8.26. This is an editorial change.

3.0 Regulatory Guide 1.28, "Quality Assurance Program Requirements (Design and Construction)"

Identification of the Change:

Iowa Electric's commitment to Safety Guide 28 (Regulatory Guide 1.28) is identified. Table 2-1 of the Quality Assurance Manual does not refer to Regulatory Guide 1.28.

Reason for the Change:

Table 2-1 of the Quality Assurance Manual does not refer to Safety Guide 28 (Regulatory Guide 1.28). In accordance with the NRC letter of June 6, 1990 (H. Miller to L. Liu), Section 3.0 of Appendix A to UFSAR Section 17.2 records that Iowa Electric's commitment to Safety Guide 1.28 is located in UFSAR Section 1.8.

Basis for Concluding that the Change is Acceptable Under Section 50.54(a)(3):

Safety Guide 28 was originally evaluated by the NRC as part of the FSAR, Appendix G. Iowa Electric's current commitment, for the operations phase, is to Regulatory Guide 1.33, Rev. 2 as stated in UFSAR Section 1.8.28. Appendix A to the QAPD does not change the commitment. This is an editorial change.

4.0 <u>Regulatory Guide 1.29, "Seismic Design Classification"</u>

Identification of the Change:

Iowa Electric's commitment to Safety Guide 29 (Regulatory Guide 1.29) is identified. Table 2-1 of the Quality Assurance Manual does not refer to Regulatory Guide 1.29.

Reason for the Change:

Table 2-1 of the Quality Assurance Manual does not refer to Safety Guide 29 (Regulatory Guide 1.29). In accordance with the NRC letter of June 6, 1990 (H. J. Miller to L. Liu), Section 4.0 of Appendix A to UFSAR Chapter 17.2 records that Iowa Electric's commitment to Safety Guide 29 is located in UFSAR Section 1.8.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

Safety Guide 29 was originally evaluated by the NRC as part of the FSAR, Appendix G, Safety Guide 29. Iowa Electric's current commitment is described in the UFSAR Section 1.8.29. Appendix A to UFSAR Section 17.2 does not change the commitment, it only references UFSAR Section 1.8.29. This is an editorial addition to UFSAR Section 17.2.

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

5.2 **Identification of the Change:**

Table 2-1 of the Quality Assurance Manual stated the applicability of Regulatory Guide 1.30 and ANSI N45.2.4 was "to modification activities, and only to the extent to which these requirements were applicable to the original plant design and construction." This statement has been revised to state that Iowa Electric shall comply with the Regulatory Position established by this Regulatory Guide for maintenance and modification activities in that the quality assurance program requirements included therein (subject to the clarifications stated in Appendix A to UFSAR Section 17.2) 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).

Reason for the Change:

The change clarifies Iowa Electric's commitment.

Basis for Concluding that the Change is Acceptable Under Section 50.54(a)(3):

This clarification removes ambiguity relative to applicability of the Regulatory Guide and ANSI Standard. It does not reduce Iowa Electric's commitment.

5.3 **Identification of the Change:**

Regulatory Position C.1 states that ANSI N45.2.4-1972 should be used in conjunction with ANSI N45.2-1971. The reference to ANSI N45.2 is changed to ANSI N18.7-1976.

Reason for the Change:

Iowa Electric is committed to ANSI N18.7-1976 for the operational phase, consistent with its position on Regulatory Guide 1.33.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

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 Standard ANSI N18.7-1976.

5.4 **Identification of the Change:**

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 set forth in N45.2.4 are implemented. In lieu of this requirement, Iowa Electric may proceed with installation, inspection, and testing activities for equipment lacking quality documentation provided that this equipment has been identified and controlled in accordance with Iowa Electric's nonconformance reporting system.

Reason for the Change:

To recognize that the nonconformance reporting system is an available and adequate mechanism for controlling equipment that meets the above criteria.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

Iowa Electric's nonconformance reporting system, which is described in the QAPD, meets the requirements of 10 CFR Part 50, Appendix B and has previously been approved by the NRC. The use of the nonconformance reporting system to control equipment that meets the criteria discussed above meets the intent of the standard in that the equipment is adequately controlled to prevent inadvertent use.

5.5 and 5.7 Identification of the Change:

Section 2.5.2, "Calibration and Control," of ANSI N45.2.4 states that equipment shall be marked to indicate date of next required calibration. Section 6.2.1, "Equipment Tests" also states that the marking shall identify the person that performed the calibration. In lieu of these requirements, for permanently-installed instrumentation, a computer-based preventive maintenance program is used.

Reason for the Change:

To include the commitment regarding control of permanently-installed instrumentation in Appendix A to UFSAR Section 17.2. This commitment had previously been approved by the NRC as stated in letter dated 09/14/90 from H. Miller (NRC) to L. Liu (IE) regarding Revisions 9 and 10 to the QAPD.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

The inclusion of this commitment to Appendix A to UFSAR Section 17.2 is an editorial addition. The Iowa Electric position was previously approved and remains unchanged.

5.6 Identification of the Change:

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 to 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.

Reason for the Change:

To clarify Iowa Electric's position relative to "Preconstruction Verification" and to state that QAPD Sections 17.2.8 and 17.2.13 provide an equivalent level of control.

Basis for Concluding that the Change is Acceptable Under Section 50.54(a)(3):

Sections 17.2.8 and 17.2.13 of the QAPD address the issues of material identification, traceability, handling, storage, and verification upon withdrawal from storage. These requirements provide an equivalent level of control to ensure that the quality of an item has not deteriorated during the interim period between receipt and issuance for maintenance or modification. Sections 17.2.8 and 17.2.14 of the QAPD meet the requirements of 10 CFR 50, Appendix B and have been previously reviewed and approved by the NRC.

6.0 <u>REGULATORY GUIDE 1.33, "Quality Assurance Program Requirements (Operation)"</u>

6.2 Identification of the Change:

A statement of Iowa Electric's position relative to Regulatory Position C.2 is added to Appendix A to UFSAR Section 17.2.

Reason for the Change:

Regulatory Position C.2 lists 15 Regulatory Guides and ANSI Standards. This addition simply records that the Iowa Electric position on each is stated elsewhere in UFSAR 17.2 Appendix A.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

The addition of this statement is editorial. Iowa Electric's evaluation of each of these Regulatory Guides is performed separately in UFSAR 17.2 Appendix A.

6.4 **Identification of the Change:**

This provision explains how Iowa Electric satisfies the requirement in Section 5.1, "Program Description," of ANSI N18.7-1976 for a "summary document." At Iowa Electric, the QAPD and associated Appendix A constitute the "summary document."

Reason for the Change:

The change provides detail concerning a point which was not addressed in Table 2-1 of the Quality Assurance Manual.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

ANSI N18.7-1976 Section 5.1, "Program Description" requires a "summary document." Iowa Electric's QAPD is organized in accordance with the eighteen criteria of 10 CFR 50 Appendix B. Appendix A of the QAPD states Iowa Electric's positions with respect to applicable Regulatory Guides. We have concluded that the QAPD and Appendix A fulfill the requirement for a "summary document". Section 6.4 of Appendix A is a clarification of how Iowa Electric implements the requirements of Section 5.1 of ANSI N18.7-1976.

6.5 **Identification of the Change:**

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. In lieu of ANSI N101.4-1972, Iowa Electric applies the requirements of QAPD Section 17.2.9.5, "Special Protective Coatings (Paint)." This position is consistent with the fact that Iowa Electric is not committed to Regulatory Guide 1.54 which endorses N101.4.

Reason for the Change:

To clarify Iowa Electric's position concerning the Standards listed in Section 5.2.7 of ANSI N18.7, consistent with the fact that Iowa Electric is not committed to Regulatory Guide 1.54.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

There has been no previous commitment by Iowa Electric to Regulatory Guide 1.54 and ANSI N101.4-1972. This change documents that fact. Iowa Electric implements the requirements of 10 CFR 50, Appendix B, Criterion IX, "Control of Special Processes" for coatings. QAPD Section 17.2.9.5 further describes the QA program applied to "special protective coatings (paint)."

6.6 Identification of the Change:

Iowa Electric is not committed to ANSI N18.17 referred to in Section 5.2.9 of ANSI N18.7.

Reason for the Change:

The requirements of ANSI N18.17 have been superseded by the requirements of 10 CFR Part 73, Appendix B.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

The DAEC Security Plan is an NRC reviewed and approved document which implements the requirements of 10 CFR Part 73, Appendix B. Iowa Electric's position has been approved by the NRC and the addition of this exception to the QAPD Appendix A is an editorial change only.

6.8 **Identification of the Change:**

Iowa Electric does not follow Section 5.3.9.1, "Emergency Procedure Format and Content," of ANSI N18.7. The DAEC Emergency Operating Procedures (EOP's) are in the format specified by the BWR Owner's Group, Emergency Procedure Guidelines, as reviewed and approved by the NRC.

Reason for the Change:

The content of Section 5.3.9.1 of ANSI N18.7-1976 has been superseded by the BWR Owners Group Emergency Operating Procedures Guidelines.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

Iowa Electric's DAEC Emergency Operating Procedures (EOPs) are in the format specified by the BWR Owners Group (BWROG) Emergency Procedure Guidelines, Revision 4, which was reviewed and approved by the NRC in the NRC Safety Evaluation Report, BWROG EPG, Revision 4, September 1988.

6.9 **Identification of the Change:**

Table 2-1 of the Quality Assurance Manual previously noted two exceptions to paragraph 4.5 of ANSI N18.7-1976. These two exceptions are no longer needed and have not been incorporated in UFSAR 17.2 Appendix A.

Reason for the Changes (2):

Table 2-1, paragraph 3.b, previously stated: "Paragraph 4.5 of ANSI N18.7-1976; an annual review will be specified rather than the stated semiannual review." This exception is not included in this UFSAR 17.2 Appendix A.

Secondly, Table 2-1 previously stated "Paragraph 4.5 of ANSI N18.7-1976; an annual management audit of the Operational Quality Assurance Program will be performed to evaluate the effectiveness of the overall program. If the annual management audit is performed under the auspices of the Safety Committee, it can also serve to satisfy the Technical Specifications requirement for the biennial audit by the Safety Committee." We have concluded that the Iowa Electric practice is consistent with Section 4.5 of ANSI N18.7-1976 and therefore no exception is needed.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

The frequency of independent reviews of Quality Assurance audits by the independent review body was previously submitted under NG-90-1733 of July 13, 1990 (R. W. McGaughy to A. B. Davis, Attachment 1, item 1). This change was approved by the NRC letter of September 14, 1990 (H. Miller to L. Liu).

When the annual management audit is done under the auspices of the Safety Committee, it meets the requirements of the Duane Arnold Energy Center Technical Specifications. Therefore, no exception to Section 4.5 of ANSI N18.7 is needed. The deletion is an editorial change only. There is no change to any commitment previously reviewed and approved by the NRC.

7.0 Regulatory Guide 1.37, "Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants."

7.2 Identification of the Change

Table 2-1 of the Quality Assurance Manual stated that the applicability of Regulatory Guide 1.37 and ANSI N45.2.1-1973 was "applicable to maintenance and modifications activities, and only to the extent to which these requirements were

applicable to the original plant design and construction." This statement has been revised to state that Iowa Electric shall comply with the Regulatory Position established by 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).

Reason for the Change:

The change clarifies Iowa Electric's commitment.

Basis for Concluding that the Change is Acceptable Under Section 50.54(a)(3):

This clarification removes ambiguity relative to applicability of the Regulatory Guide and ANSI Standard. It does not reduce Iowa Electric's level of commitment.

8.0 <u>REGULATORY GUIDE 1.38, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants."</u>

8.3 Identification of the Change:

A statement is added to identify the fact that a shipping damage inspection is performed by ANSI N45.2.6 certified inspectors at a later point in the receiving process for applicable items.

Reason for the Change:

To include additional information identifying that shipping damage inspections are performed, for applicable items, by ANSI N45.2.6 certified inspectors after unloading.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

The editorial changes do not alter the commitment as previously stated in Table 2-1 of the Quality Assurance Manual.

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

10.1 **Identification of the Change:**

A statement of the Iowa Electric position on Regulatory Guide 1.54 is added to Appendix A to UFSAR Section 17.2.

Reason for the Change:

Table 2-1 does not refer to Regulatory Guide 1.54. In accordance with the NRC letter of June 6, 1990 (H.J. Miller to L. Liu), Section 10 of Appendix A to UFSAR Chapter 17.2 records that Iowa Electric is not committed to Regulatory Guide 1.54.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3).

Iowa Electric's position (which is unchanged) is explained in Section 6.5 above.

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

11.2 **Identification of the Change:**

The statement in Table 2-1 of the Quality Assurance Manual regarding Iowa Electric's position relative to Section 1.0, "Applicability," of ANSI N45.2.6-1978 has been revised and is now included in Appendix A to UFSAR Section 17.2. At Iowa Electric, the qualification of QC personnel (Iowa Electric or contractor employees) performing inspection or examination work at DAEC 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).

Reason for the Change:

To clarify Iowa Electric's position concerning qualification requirements applicable to personnel performing inspections, examinations, and tests.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

Quality Assurance Manual Table 2-1 stated that Regulatory Position C.1 of Regulatory Guide 1.8 would be followed for personnel who perform preoperational, startup and operating tests in lieu of ANSI N45.2.6-1978. This position has been edited and incorporated into the QAPD Appendix A, making it clear that ANS 3.1-1978 is applied to testing. This does not change any previous commitments to the NRC and continues to comply with 10 CFR 50 Appendix B for testing and qualification of personnel performing the testing.

11.4 **Identification of the Change:**

A clarification regarding Section 1.2, "Applicability" of ANSI N45.2.6 is included in Appendix A to UFSAR 17.2 regarding the use of ANSI N45.2.6 with ANSI N45.2.

Reason for the Change:

Iowa Electric is not committed to ANSI N45.2. Reference Appendix A discussions on Regulatory Guides 1.33 and 1.28.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

Refer to Section 5.3 of this attachment.

11.5 **Identification of the Change:**

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

Reason for the Change:

The application of ANSI N45.2.6-1978 to organizations other than Iowa Electric is unnecessarily broad and its applicability needs to be limited.

Basis for Concluding that the Change Is Acceptable Under 10 CFR 50.54(a)(3):

Application of the requirements of ANSI N45.2.6-1978 to organizations other than Iowa Electric is controlled through the procurement process. In accordance with ANSI N45.2.13 Section 3.2, "Content of Procurement Documents", the technical and quality requirements are specified to the suppliers. In addition, the suppliers are selected in accordance with ANSI N45.2.13 Section 4.2, "Selection Measures." The applicability of this Standard to suppliers is specified when appropriate and documented in the procurement documents for suppliers.

13.0 <u>Regulatory Guide 1.74, "Quality Assurance Terms and Definitions"</u>

13.2 **Identification of the Change:**

Table 2-1 of the Quality Assurance Manual, item 10, Quality Assurance Terms and Definitions, stated, "If a term is defined differently in ANSI N45.2.10-1973 and the Glossary of Terms of this Manual, then the definition contained within the Glossary of Terms shall take precedence." Appendix A to UFSAR 17.2 specifically identifies the only exception to the definitions in ANSI N45.2.10-1973 (i.e., the term "Audit").

Reason for the Change:

In those instances where the Glossary of Terms in the Quality Assurance Manual differs from ANSI N45.2.10-1973, the differences are not significant, and the Glossary will be amended to agree with N45.2.10-1973. The one exception is the term "Audit." Iowa Electric chooses to use the more recent definition appearing in ANSI N45.2.12-1977, "Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants," which is endorsed by Regulatory Guide 1.144, January 1979.

Basis for Concluding that the Change is Acceptable Under Section 50.54(a)(3):

The change from Table 2-1 of the Quality Assurance Manual eliminates exceptions previously taken to the ANSI standard. The remaining difference (the term "Audit") is not considered to be an exception because the more recent Regulatory Guide 1.144 is followed. This is an editorial change under 10 CFR 50.54(a)(3).

14.0 Regulatory Guide 1.88,"Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records"

14.2 Identification of the Change:

The exception stated in the Quality Assurance Manual Table 2-1 regarding Section 3.2.2, "Index," of ANSI N45.2.9-1974 has been revised to state Iowa Electric's position more clearly.

Reason for the Change:

To clarify Iowa Electric's position relative to what constitutes an "index".

Basis for Concluding that the Change Is Acceptable Under Section 50.54a)(3):

The Iowa Electric commitment as previously stated in the QAM Table 2-1 is only rewritten for clarity. The phrase "index" is clarified to mean a collection of documents or indices which, when taken together, supply the information attributed to "an index." This commitment remains as was previously stated in Table 2-1.

14.3 Identification of the Change:

A new clarification is provided in Appendix A regarding Section 5 of ANSI N45.2.9-1974, "Storage, Preservation, and Safekeeping" relative to temporary and permanent storage of records. This change further clarifies the storage of active records.

Reason for the Change:

A distinction/clarification is needed regarding open-ended documents and active records and their storage.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

The intent of these requirements are to retain and protect records from destruction and deterioration. Different kinds of records must be treated differently. For active records (those completed but not yet duplicated or placed on microfilm) and completed records, these are required to be stored in one hour rated fire cabinets until such time as they are duplicated or microfilmed. Permanent record storage is a duplicate record system or a 4 hour rated vault. This storage records system continues to comply with the provisions of 10 CFR 50 Appendix B and our previous commitments as reviewed and approved by the NRC for storage, preservation and safekeeping of records.

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"

15.2 **Identification of the Change:**

Table 2-1 of the Quality Assurance Manual stated the applicability of Regulatory Guide 1.94 and ANSI N45.2.5 was "to modification activities, and only to the extent to which these requirements were applicable to the original plant design and construction." This statement has been revised to state that Iowa Electric shall comply with the Regulatory Position established by this Regulatory Guide for modification activities 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).

Reason for the Change:

The change clarifies Iowa Electric's commitment.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

This clarification removes ambiguity relative to applicability of the Regulatory Guide and ANSI Standard. It does not reduce Iowa Electric's commitment. The technical and quality requirements for the installation, inspection and testing of structural concrete and steel continue to be based on the original design and construction requirements.

The DAEC UFSAR Section 3.8, "Design of Seismic Category I Structures," further describes the design and construction requirements for the DAEC. ANSI N45.2.5-1974 was written and issued after the construction of DAEC and as such the original design and construction specifications govern. The administrative/programmatic controls are applicable for present and future activities involving structural steel and structural concrete activities. This change is not a reduction in commitment. Iowa Electric continues to implement the requirements of 10 CFR 50 Appendix B and the previous QAPD commitments.

16.0 <u>Regulatory Guide 1.116, "Quality Assurance Requirements for Installation, Inspection and Testing of Mechanical Equipment and Systems."</u>

16.2 Identification of the Change:

Table 2-1 of the Quality Assurance Manual previously stated that the applicability of Regulatory Guide 1.116 and ANSI N45.2.8-1975 was to modification activities, and only to the extent to which these requirements were applicable to the original plant design and construction. This statement has been revised to state that Iowa Electric shall comply with the Regulatory Position established by this Regulatory Guide for maintenance and modification activities in that the quality assurance program requirements included therein (subject to the clarifications stated in Appendix A to UFSAR Section 17.2) shall apply. Technical requirements associated with maintenance and modification activities shall be equal or better than the original requirements (<u>e.g.</u>, Code requirements, design and construction specification requirements, and inspection requirements).

Reason for the Change:

To clarify Iowa Electric's commitment.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

This clarification removes ambiguity relative to applicability of the Regulatory Guide and ANSI Standard. It does not reduce Iowa Electric's commitment.

18.0 Regulatory Guide 1.144, "Auditing of Quality Assurance Programs for Nuclear Power Plants"

18.1 **Identification of the Change:**

Iowa Electric now commits to Regulatory Guide 1.144, Rev. 1, in lieu of Rev. 0.

Reason for the Change:

Regulatory Guide 1.144 Revision 1 is the latest NRC issuance on this topic and continues to endorse ANSI N45.2.12-1977.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

Regulatory Guide 1.144 Revisions 0 and 1 endorse ANSI N45.2.12-1977. Although the previous Iowa Electric commitment in QAM Table 2-1 was to Regulatory Guide 1.144 Rev. 0, Iowa Electric finds the Regulatory Position of Regulatory Guide 1.144 Rev. 1 acceptable and is upgrading to this revision.

18.2 **Identification of the Change:**

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

Reason for the Change:

Iowa Electric is committed to ANSI N18.7-1976 for the operational phase, consistent with its position on Regulatory Guide 1.33.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

Refer to Section 5.3 of this attachment.

18.3 **Identification of the Change:**

The commitment previously stated in the Quality Assurance Manual, Table 2-1 is clarified regarding the applicability for the performance of audits on suppliers whose products are accepted solely on the basis of receiving inspection.

Reason for the Change:

The previous statement contained in the Quality Assurance Manual, Table 2-1 was ambiguous regarding the inclusion of suppliers in the audit schedules if their products were accepted solely on the basis of receiving inspection.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

The Iowa Electric commitment is, and has been, beyond the guidance provided by Regulatory Guide 1.144 Revision 1, in that Iowa Electric performs audits of all safety related suppliers, even those whose products are accepted solely by receiving inspection. These suppliers are audited triennially per Regulatory Position C.3.b.(2) and included in the annual audit schedule (for triennial audit). Iowa Electric continues to implement the requirements of 10 CFR 50 Appendix B and the QAPD commitments previously reviewed and approved by the NRC.

19.0 <u>Regulatory Guide 1.146, "Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants"</u>

19.2 **Identification of the Change:**

A clarification was made substituting 10 CFR 50, Appendix B and ANSI N18.7-1976 for ANSI N45.2 as referenced in section 1.2, "Applicability" of ANSI N45.2.23.

Reason for the Change:

The clarification with regards to the references to ANSI N45.2 in the Applicability section of ANSI N45.2.23 was made to be consistent with Iowa Electric's commitment to Regulatory Guide 1.33 for operational phase activities.

Basis for Concluding that the Change is Acceptable Under Section 50.54(a)(3):

Refer to Section 5.3 of this attachment.

22.0 Regulatory Guide 1.61, "Damping Values for Seismic Design of Nuclear Power Plants."

Identification of the Change:

The statement of Iowa Electric's commitment to Regulatory Guide 1.61 is being moved from Table 2-1 of the Quality Assurance Manual to Section 1.8 of the UFSAR. The commitment is limited to the design of spent fuel storage racks only.

Reason for the Change:

The commitment to Regulatory Guide 1.61 is limited to a specific design application and, therefore, in our view, is not appropriate for inclusion in the QAPD. It will be listed in UFSAR Section 1.8 as a design requirement for spent fuel storage racks.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

The removal of the statement of Iowa Electric's commitment to Regulatory Guide 1.61 from Table 2-1 of the Quality Assurance Manual to UFSAR Section 1.8 is an editorial change. Iowa Electric's commitment has not changed from that previously stated in Table 2-1 of the Quality Assurance Manual.

23.0 Regulatory Guide 1.143, "Design Guidance For Radioactive Waste Management System, Structures, and Components Installed in Light-Water-Cooled Nuclear Power Plants"

Identification of the Change:

The statement of Iowa Electric's commitment to Regulatory Guide 1.143 is being moved from Table 2-1 of the Quality Assurance Manual to the UFSAR.

Reason for the Change:

The commitment to Regulatory Guide 1.143, as reflected by its title, is more of a design standard than a Quality Assurance Program standard, and therefore in our view is not appropriate for inclusion in the QAPD.

Basis for Concluding that the Change Is Acceptable Under Section 50.54(a)(3):

The commitment to Regulatory Guide 1.143 is presently provided in UFSAR Table 3.2-5 relative to liquid radioactive waste. This position in Table 3.2-5 addresses QAM Table 2-1 positions C.1.1.3, C.4.3, and C.6. The exceptions noted in QAM Table 2-1, C.2.1.3 and C.3.1.3 are also to be retained and inserted into the UFSAR as part of our next annual update to the UFSAR. No change in commitment from that previously noted in the QAM Table 2-1 is taken. Only the location of the commitment is changed. Iowa electric continues to comply with 10 CFR 50 Appendix B and the commitments previously contained in Table 2-1 of the QAM.