U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants

Section No. 17.3
Revision No. 0

Appendix No. _____
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FILING INSTRUCTIONS

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U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

17.3 QUALITY ASSURANCE PROGRAM DESCRIPTION

REVIEW RESPONSIBILITIES

Primary - Performance and Quality Evaluation Branch (LPEB)

Secondary - None

I. AREAS OF REVIEW

LPEB reviews and evaluates new quality assurance program descriptions (QAPDs) as submitted by the applicant. LPEB or appropriate Regional personnel review and evaluate proposed QAPD changes. A QAPD may be a quality assurance topical report or part of a safety analysis report. The reviews address the quality assurance controls for the activities encompassed by the submittal that may affect the quality of items important to safety.

The QAPD is a top-level policy document in which a facility's management sets the tone and establishes the manner in which quality is to be achieved. It is a product of senior-level management, and it represents an organization's overall philosophy regarding quality.

The individual performing the work determines the level of quality that is achieved. Therefore, the applicant must develop and maintain a philosophy whereby each individual, properly trained and motivated, achieves the highest quality of performance of which he or she is capable. This emphasis on individual performance reinforces the importance of the self-assessment process, the object of which is to independently review and evaluate overall performance. It also underscores management's role to provide integration, discipline, and the required support to ensure success.

This section of the Standard Review Plan (SRP) is organized into the three discrete areas of activity: management, performance/verification, and self-assessment. Encompassed within the three areas are the 18 quality assurance (QA) criteria of 10 CFR Part 50, Appendix B. The SRP outlines a standardized QA program for construction permit holders, their principal contractors, and operating facility licensees. The QA program applies to all phases of a facility's life, including design, construction, operation, modification, and decommissioning.

A. MANAGEMENT

1. Methodology
2. Organization
3. Responsibility
4. Authority
5. Personnel Training and Qualification
6. Corrective Action
7. Regulatory Commitments

B. PERFORMANCE/VERIFICATION

1. Methodology
2. Design Control
3. Design Verification
4. Procurement Control
5. Procurement Verification
6. Identification and Control of Items
7. Handling, Storage, and Shipping
8. Test Control
9. Measuring and Test Equipment Control
10. Inspection, Test, and Operating Status
11. Special Process Control
12. Inspection
13. Corrective Action
14. Document Control
15. Records

C. SELF-ASSESSMENT

1. Methodology
2. Assessment

II. ACCEPTANCE CRITERIA

This section outlines and specifies the NRC's acceptance criteria for QAPDs. Criterion 1 of 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," requires that a QA program be established and implemented. Appendix B of 10 CFR Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," specifies 18 quality criteria which must be addressed in a QAPD. Except when acceptable alternatives are provided, the acceptance criteria that follow provide attributes to be addressed for

a QAPD to be found acceptable. The QAPD should describe how each of the acceptance criteria will be met.

A. MANAGEMENT

1. Methodology

a. At the most senior management level, the applicant (that is, the organization applying to have its QAPD reviewed and accepted by the NRC) is to issue a written QAPD that establishes the quality policy and commits the organization to implement it.

b. The QAPD is to be binding on all personnel, including management personnel having responsibility for costs and schedules.

c. The QAPD is to include the criteria used to identify the items and activities to which the QA program applies. A list of items under the control of the quality assurance program is to be established and maintained at the applicant's facility.

d. The QAPD is to provide measures to ensure the quality of items and activities to an extent consistent with their importance to safety.

2. Organization

a. The QAPD is to contain an organizational description that addresses the organizational structure, functional responsibilities, levels of authority, and interfaces. The organizational description is to include the onsite and offsite organizational elements that function under the cognizance of the QA program. Functional responsibilities include activities such as preparing, reviewing, approving, and verifying designs; qualifying suppliers; preparing, reviewing, approving, and issuing instructions, procedures, schedules, and procurement documents; purchasing; verifying supplier activities; identifying and controlling acceptable and nonconforming hardware and software; manufacturing; calibrating and controlling measuring and test equipment; qualifying and controlling special processes; constructing; inspecting; testing; startup; operating; performing maintenance; performing the self-assessment function; decommissioning; and controlling records.

b. There is to be independence between persons and organizations executing performance activities and those executing verification and self-assessment activities. The degree of independence may be commensurate with the activity's relative importance to safety.

c. The person filling the most senior-level management position is responsible for implementing the QA policy and program.

d. A management position, in which the responsibility for carrying out the self-assessment function, including independent review-group activities, audits, and other independent assessments resides, is to be established. The person filling this position is to:

(1) Have sufficient authority and organizational freedom to implement assigned responsibilities.

(2) Report at a management level sufficiently high to ensure that cost and schedule considerations do not unduly influence decision making.

(3) Have effective lines of communication with persons in other senior management positions.

(4) Have no unrelated duties or responsibilities that would preclude full attention to assigned responsibilities.

When site activities warrant, an onsite management position is to be established for which the above characteristics and responsibilities for the onsite activities apply.

e. Major delegation of work to participants outside the applicant's organization is to be identified and described as follows:

(1) The organizational elements responsible for delegated work are to be identified.

(2) Management controls and lines of communication between the applicant and the delegated organization are to be established.

(3) Responsibility for the QA program and the extent of management oversight by the applicant are to be established.

(4) The performance of delegated work is to be formally evaluated by the applicant.

3. Responsibility

a. The applicant is to retain and exercise the responsibility for the scope and implementation of an effective overall QA program.

b. The applicant may delegate part or all of the activities of planning, establishing, and implementing the overall QA program to others, but is to retain the responsibility for the program's effectiveness.

c. Senior-level management is to assess annually the adequacy of the QA program's implementation.

d. The applicant is responsible for ensuring that the applicable portion of the QA program is properly documented, approved, and implemented (people are trained and resources are available) before an activity within the scope of the QA program is undertaken by the applicant or by others.

e. Individual managers are to ensure that personnel working under their management cognizance are provided the necessary training and resources to accomplish their assigned tasks.

f. The manager responsible for their implementation is to approve the procedures that implement the QA program. These procedures are to reflect the QA policy, and work is to be accomplished in accordance with them.

4. Authority

a. When the applicant delegates responsibility for planning, establishing, or implementing any part of the overall QA program, sufficient authority to accomplish the assigned responsibilities also is to be delegated.

b. Responsibility and authority to stop unsatisfactory work and control further processing, delivery, installation, or use of nonconforming items (such as structures, systems, components, parts, materials, equipment, consumable materials, and software) is to be assigned by the applicant such that cost and schedule considerations do not override safety considerations.

5. Personnel Training and Qualification

a. Personnel assigned to implement elements of the QA program are to be capable of performing their assigned tasks.

b. Training programs to ensure that personnel achieve and maintain suitable proficiency are to be established and implemented.

c. Personnel training and qualification records are to be maintained.

6. Corrective Action

   a. Plant management, at all levels, is to foster a "no-fault" attitude toward the identification of conditions that are adverse to quality, such as failures, malfunctions, nonconformances, and out-of-control processes including the failure to follow procedures.

   b. A corrective action program is to be established and implemented that includes prompt identification, documentation, classification, cause analysis, correction of the conditions, elimination of the cause of significant conditions, and followup of conditions that are adverse to quality. The program is to include provisions that ensure that corrective actions are not inadvertently nullified by subsequent actions.

   c. Specific responsibilities within the corrective action program may be delegated, but the applicant is to maintain responsibility for the program's effectiveness.

   d. Nonconforming items (those that do not meet quality requirements) are to be properly controlled to prevent their inadvertent test, installation, or use. They are to be reviewed and either accepted, rejected, repaired, or reworked.

   e. Reports of conditions that are adverse to quality are to be analyzed to identify trends in quality performance. Significant conditions adverse to quality and significant trends are to be reported to the appropriate level of management.

7. Regulatory Commitments

   a. The applicant is to comply with 10 CFR Part 21, Criterion 1 of Appendix A to 10 CFR Part 50, Appendix B to 10 CFR Part 50, 10 CFR 50.55a, and 10 CFR 50.55(e) as part of the overall QA program.

   b. Except where acceptable alternatives are provided, the applicant is to comply with the regulatory positions in the appropriate revisions of the regulatory guides listed in Section VI.A of this chapter. Section VI.A lists regulatory guides issued in response to Appendix B to 10 CFR Part 50. (Regulatory Guides 1.26 and 1.29 are included to ensure that acceptable QA requirements are specified for items that they address.)

   c. Except where acceptable alternatives are provided, the applicant is to comply with the QA guidance in the appropriate revisions of the applicable documents listed in Section VI.B of this chapter. Section VI.B lists documents that contain programmatic QA guidance for

specific items and activities that are important to safety.

d. For Class 1, 2, and 3 items covered by Section III of the ASME Boiler and Pressure Vessel Code, the code QA requirements are to be supplemented by the guidance of the regulatory guides in Section VI.A.

e. The NRC is to be notified of QAPD changes in accordance with 10 CFR 50.54(a)(3) and 50.55(f)(3).

B. PERFORMANCE/VERIFICATION

1. Methodology

a. Personnel performing work activities such as design, engineering, procurement, manufacturing, construction, installation, startup, maintenance, modification, operation, and decommissioning are responsible for achieving acceptable quality.

b. Personnel performing verification activities are responsible for verifying the achievement of acceptable quality.

c. Work is to be accomplished and verified using instructions, procedures, or other appropriate means that are of a detail commensurate with the activity's complexity and importance to safety.

d. Criteria that define acceptable quality are to be specified, and verification is to be against these criteria.

2. Design Control

a. A program is to be established and implemented for the design of items that are important to safety.

b. The program is to include provisions to control design inputs, processes, outputs, changes, interfaces, records, and organizational interfaces.

c. Design inputs (such as the design bases and the performance, regulatory, quality, and quality verification requirements) are to be correctly translated into design outputs (such as specifications, drawings, procedures, and instructions).

d. The final design output is to relate to the design input in sufficient detail to permit verification.

e. The design process is to ensure that items and activities that are important to safety are selected and

independently verified consistent with their importance to safety to ensure they are suitable for their intended application.

f. Changes to final designs (including field changes and modifications) and dispositions of nonconforming items to use as is or repair are to be subjected to design control measures commensurate with those applied to the original design and approved by the organization that performed the original design or a qualified designate.

g. Interface controls (internal and external between participating design organizations and across technical disciplines) for the purpose of developing, reviewing, approving, releasing, distributing, and revising design inputs and outputs are to be defined.

h. Design records, maintained to provide evidence that the design was properly accomplished, are to include not only the final design output and revisions to the final output, but also the important design steps (calculations, analyses, and computer programs, for example) and the sources of input that support the final output.

3. Design Verification

a. A program is to be established and implemented to verify the acceptability of design activities and documents. Design inputs, processes, outputs, and changes are to be verified.

b. Verification methods include, but are not limited to, design reviews, alternative calculations, and qualification testing.

c. When a test program is used to verify the acceptability of a specific design feature, the test program is to demonstrate acceptable performance under conditions that simulate the most adverse design conditions that are expected to be encountered.

d. Independent design verification is to be completed before design outputs are used by other organizations for design work and before they are used to support other activities such as procurement, manufacture, or construction. When this timing cannot be achieved, the unverified portion of the design is to be identified and controlled. In all cases, the design verification is to be completed before relying on the item to perform its function and before its installation becomes irreversible (requiring extensive demolition or rework).

e. In exceptional circumstances, the designer's immediate supervisor can perform the design verification, provided

(a) the supervisor is the only technically qualified individual capable of performing the verification, (b) the need is individually documented and approved in advance by the supervisor's management, and (c) the frequency and effectiveness of the supervisor's use as a design verifier are independently verified to guard against abuse.

f. Design verification procedures are to be established and implemented to ensure that an appropriate verification method is used, the appropriate design parameters to be verified are chosen, the acceptance criteria are identified, the verification is satisfactorily accomplished, and the results are properly recorded.

4. Procurement Control

a. A program is to be established and implemented to ensure that purchased items and services are of acceptable quality.

b. The program is to include provisions for evaluating prospective suppliers and selecting only qualified suppliers.

c. The program is to include provisions for ensuring that qualified suppliers continue to provide acceptable products and services.

d. The program is to include provisions (such as source verification, receipt inspection, pre-installation and post-installation tests, and certificates of conformance) for accepting purchased items and services.

e. Applicable technical, regulatory, administrative, and reporting requirements (such as specifications, codes, standards, tests, inspections, special processes, and 10 CFR Part 21) are to be invoked for procurement of items and services.

f. The program is to include provisions for ensuring that documentary evidence that an item conforms to procurement requirements is on site before the item is placed in service or used.

g. The program is to include provisions for ensuring that procurement, inspection, and test requirements have been satisfied before an item is placed in service or used.

h. The procurement of components, including spare and replacement parts, is to be subject to quality and technical requirements suitable for their intended service and to the purchaser's current QA program requirements.

i. Appropriate controls for the selection, determination of suitability for intended use (critical characteristics), evaluation, receipt, and quality evaluation of commercial-grade items are to be imposed to ensure that they will perform satisfactorily in service.

5. Procurement Verification

a. A program is to be established and implemented to verify the quality of purchased items and services at intervals and to a depth consistent with the item's or service's importance to safety, complexity, and quantity and the frequency of procurement .

b. The program is to be executed in all phases of procurement. As necessary, this may require verification of activities of suppliers below the first tier.

6. Identification and Control of Items

a. A program is to be established and implemented to identify and control items (including consumable materials and items with limited shelf life) to prevent the use of incorrect or defective items.

b. Identification of each item is to be maintained throughout fabrication, erection, installation, and use so that the item can be traced to its documentation. Traceability is to be maintained to an extent consistent with the item's importance to safety.

7. Handling, Storage, and Shipping

a. A program is to be established and implemented to control the handling, storage, shipping, cleaning, and preserving of items to prevent their damage, loss, and deterioration.

b. Special protective measures (such as containers, shock absorbers, accelerometers, inert gas atmospheres, specific moisture content levels, and temperature levels) are to be specified and provided when required to maintain acceptable quality.

c. Specific procedures are to be developed and used for cleaning, handling, storage, packaging, shipping, and preserving items when required to maintain acceptable quality.

d. Items are to be marked and labeled during packaging, shipping, handling, and storage to identify, maintain, and preserve the items' integrity and indicate the need for special controls.

8. Test Control

   a. A test control program is to be established and implemented to demonstrate that items will perform satisfactorily in service.

   b. Criteria are to be defined that specify when testing is required.

   c. The test control program is to include, as appropriate, proof tests before installation, pre-operational tests, post-maintenance tests, post-modification tests, and operational tests.

   d. Test procedures are to be developed that include (a) instructions and prerequisites to perform the test, (b) use of proper test equipment, (c) acceptance criteria, and (d) mandatory inspection hold points as required.

   e. Test results are to be documented and reviewed by the management of the testing organization and the management having responsibility for the item being tested.

   f. When acceptance criteria are not met, corrected areas are to be retested.

9. Measuring and Test Equipment Control

   a. A program is to be established and implemented to control the calibration, maintenance, and use of measuring and test equipment.

   b. The types of equipment covered by the program (such as instruments, tools, gages, reference and transfer standards, and nondestructive examination equipment) are to be defined.

   c. Measuring and test equipment is to be calibrated at specified intervals (or immediately before and after use) on the basis of the item's required accuracy, intended use, frequency of use, and stability characteristics and other conditions affecting its performance.

   d. Measuring and test equipment is to be labeled, tagged, or otherwise controlled to indicate its calibration status and to ensure its traceability to calibration test data.

   e. Measuring and test equipment is to be calibrated against standards that have an accuracy of at least four times the required accuracy of the equipment being calibrated or, when this is not possible, have an accuracy that ensures the equipment being calibrated will be within the required tolerance.

f. If nationally recognized standards exist, calibration standards are to be traceable to them. Except where calibration standards with the same accuracy as the instruments being calibrated are shown to be adequate for the requirements, calibration standards are to have a greater accuracy than the standards being calibrated.

g. Measuring and test equipment found out of calibration is to be tagged or segregated and not used until it is recalibrated. The acceptability of items measured, inspected, or tested with an out-of-calibration device is to be determined.

10. Inspection, Test, and Operating Status

a. As applicable, inspection, test, and operating status of items is to be verified before their release, fabrication, receipt, installation, test, and use to preclude inadvertent bypassing of inspections and tests and to prevent inadvertent operation.

b. The application and removal of status indicators and other labels are to be controlled.

11. Special Process Control

a. A program is to be established and implemented to ensure that special processes, such as welding, heat treating, and nondestructive examination are properly controlled.

b. The criteria that establish which processes are special are to be described.

c. Special processes are to be accomplished by qualified personnel using qualified procedures and equipment in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

12. Inspection

a. A program is to be established and implemented for inspections (source, in-process, final, receipt, maintenance, modification, in-service, operations, and decommissioning). The inspection program may be implemented by or for the organization performing the activity to be inspected.

b. Provisions to ensure inspection planning is properly accomplished are to be established. Planning activities are to identify the characteristics and activities to be inspected, the inspection techniques, the acceptance criteria, and the organization responsible for performing the inspection.

c. Provisions to identify inspection hold points, beyond which work is not to proceed without the consent of the inspection organization, are to be defined.

d. Inspection results are to be documented by the inspector and reviewed by management.

e. When acceptance criteria are not met, corrected areas are to be reinspected.

13. Corrective Action

a. Performance and verification personnel are to (a) identify conditions that are adverse to quality, (b) suggest, recommend, or provide solutions to the problems, and (c) verify resolution of the issue.

b. Reworked, repaired, and replacement items are to be inspected and tested in accordance with the original inspection and test requirements or specified alternatives.

14. Document Control

a. A program is to be established and implemented to control the development, review, approval, issue, use, and revision of documents.

b. The scope of the document control program is to be defined. Examples of documents to be controlled include design drawings, as-built drawings, engineering calculations, design specifications, computer codes, purchase orders and related documents, vendor-supplied documents, audit and surveillance procedures, operating procedures, emergency operating procedures, technical specifications, nonconformance reports, corrective action reports, work instructions and procedures, calibration procedures, quality verification procedures, and inspection and test reports.

c. Revisions of controlled documents are to be reviewed for adequacy and approved for release by the same organization that originally reviewed and approved the documents or by a designated organization that is qualified and knowledgeable.

d. Controlled copies of instructions and procedural documents are to be distributed to and used by the person performing the activity.

e. The distribution of new and revised controlled documents is to be in accordance with established timeliness guidelines. Superseded documents are to be controlled.

15. Records

a. A program is to be established and implemented to ensure that sufficient records of items and activities (such as design, engineering, procurement, manufacturing, construction, inspection and test [such as manufacturer's, proof, receipt, pre-operational, and post-installation], installation, pre-operation, startup, operations, maintenance, modification, decommissioning, and audits) are generated and maintained to reflect completed work.

b. The program is to provide provisions for the administration, receipt, storage, preservation, safekeeping, retrieval, and disposition of records.

C. SELF-ASSESSMENT

1. Methodology

a. Personnel responsible for carrying out the self-assessment function, including safety committee activities, audits, and other independent assessments, are to be cognizant of day-to-day activities so that they can act in a management advisory function. For example, during the operations phase of a nuclear power plant, this would involve monitoring the overall performance of the plant, identifying anomalous performance and precursors of potential problems, reporting findings in an understandable form and in a timely fashion to a level of line management having the authority to effect corrective action, reporting results back to line management, and verifying satisfactory resolution of problems.

b. Organizations performing self-assessment activities are to be technically and performance oriented, with their primary focus on the quality of the end product and a secondary focus on procedures and processes.

c. Personnel performing self-assessment activities are not to have direct responsibilities in the area they are assessing.

d. Self-assessments are to be accomplished using instructions, procedures, or other appropriate means that are of a detail commensurate with the activity's complexity and importance to safety.

2. Assessment

a. A program of planned and periodic assessments is to be established and implemented to confirm that activities affecting quality comply with the QA program and that the QA program has been implemented effectively.

b. Assessments are to provide comprehensive independent evaluation of activities and procedures.

c. Planning activities are to identify the characteristics and activities to be assessed and the acceptance criteria.

d. Scheduling and resource allocation are to be based on the status and safety importance of the activity or process being assessed.

e. Scheduling is to be dynamic and resources are to be supplemented when QA program effectiveness is in doubt.

f. Assessment results are to be documented and reviewed by the assessor's management and by management having responsibility in the area assessed. Follow-up action, including a re-look at deficient areas, is to be initiated as necessary.

g. When any work carried out under the requirements of the QA program is delegated to others, implementation of that part of the work is to be assessed by the applicant.

h. Assessments are to be conducted using predetermined acceptance criteria.

III. REVIEW PROCEDURES

New QAPDs will be reviewed against the acceptance criteria described in Section II, including the applicant's commitment to the applicable references listed in Section VI. Any exceptions or alternatives to this SRP section, including the applicable references in Section VI, will be reviewed to ensure that they are defined and that an adequate basis exists for their acceptance. When required, the Performance and Quality Evaluation Branch will prepare a request for additional information for the applicant and review the response for acceptability.

Changes to a QAPD previously accepted by the NRC will be reviewed to determine their acceptability. The changed QAPD will be compared against the previously accepted QAPD, its controls, and the appropriate controls in Chapter 17 of the Standard Review Plan to determine the acceptability of the changes. When required, the reviewing organization will prepare a request for additional information for the applicant and review the response for acceptability.

Upon concluding that the QAPD describes an acceptable quality assurance program, the reviewing organization may request that an inspection be performed by NRR or Regional personnel as appropriate. The inspection will assess the applicant's interpretation and translation of the QAPD commitments into its procedures, processes, and organizational staffing. The inspection will focus on the effectiveness of the QAPD implementation.

Through review of the information provided by the applicant and, as required, meetings with the applicant, review of applicable NRC inspection reports, and discussion with involved NRC inspectors, a judgment is made of the applicant's capability to carry out its quality assurance responsibilities. The reviewer's satisfaction with the quality assurance program commitments, the description of how the commitments will be met, the organizational arrangements, and the capabilities to fulfill the QAPD should lead to the conclusion of acceptability as described in Section IV.

IV. EVALUATION FINDINGS

The reviewer will verify that sufficient information has been provided and that the review is sufficiently complete to support conclusions of the following type in either the staff's safety evaluation report (SER) or a letter to the applicant:

On the basis of the staff's detailed review and evaluation of the quality assurance program description (QAPD) in the (topical report or safety analysis report) for (nuclear facility), we conclude the following:

1. The QAPD acceptably describes the authority and responsibility of management and supervisory personnel, performance/verification personnel, and self-assessment personnel.

2. The organizations and persons responsible for performing the verification and self-assessment functions have the authority and independence to conduct their activities without undue influence from those directly responsible for costs and schedules.

3. The QAPD describes a philosophy and controls that, when properly implemented, comply with the requirements of Appendix B and Criterion 1 of Appendix A to 10 CFR Part 50, 10 CFR Part 21, 10 CFR 50.55a, and 10 CFR 50.55(e), with the criteria contained in SRP Section 17.3, and with the regulatory positions in the following regulatory guides:

Regulatory Guide	Title	Revision or Date

4. The QA program applies to activities and items that are important to safety.

5. Accordingly, the staff concludes that the applicant's QAPD complies with the applicable NRC regulations and industry standards and can be implemented for the (Specify the application).

A brief description of the applicant's QA program that highlights the more important aspects of the program is to be provided in the SER.

V. IMPLEMENTATION

To evaluate conformance with Commission regulations, the staff will use SRP Section 17.3 to review new QAPDs received 6 months or more after SRP Section 17.3 has been noticed in the Federal Register. The staff will review applicant proposals of alternative methods for complying with the specified portions of the Commission's regulations and guidance on a case-by-case basis. An applicant for a CP/OL that references a standard design developed under a Section 17.1 QA program will not be required to adopt SRP Section 17.3 for the standard plant designer's QA program.

The staff will continue to review licensee-proposed revisions of quality assurance program descriptions that have been accepted by the staff in accordance with SRP Sections 17.1 or 17.2 against their original acceptance criteria. However, current licensees may adopt Section 17.3 if they choose to do so.

VI. REFERENCES

A. Regulatory guidance issued in response to Appendix B of 10 CFR Part 50:

1. Regulatory Guide 1.8, "Personnel Selection and Training."

2. Regulatory Guide 1.26, "Quality Group Classification, and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants."

3. Regulatory Guide 1.28, "Quality Assurance Program Requirements (Design and Construction)," using NQA-1 and NQA-2.

4. Regulatory Guide 1.29, "Seismic Design Classification."

5. Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operations)," with appropriate substitution of NQA-1 and NQA-2 for N-45.2 and its daughter standards.

6. Regulatory Guide 1.152, "Criteria for Programmable Digital Computer System Software in Safety-Related Systems of Nuclear Power Plants."

7. Generic Letter 89-02 and its endorsement of EPRI NP-5652, "Guideline for the Utilization of Commercial-Grade Items in Nuclear Safety-Related Applications (NCIG-07)."

B. Other Programmatic QA Guidance:

1. Fire protection QA controls are to be in accordance with Regulatory Positions 2 and 4 of Branch Technical Position CMEB 9.5-1 as given in SRP Section 9.5.1.

2. Radioactive waste QA controls are to be in accordance with Regulatory Position 6 of Regulatory Guide 1.143, "Design

Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in Light Water-Cooled Nuclear Power Plants."

3. QA controls are required by a commitment to Regulatory Guide 1.36, "Nonmetallic Thermal Insulation for Austenitic Stainless Steel."

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

5. Regulatory Guide 2.5, "Quality Assurance Program Requirements for Research Reactors."

6. Regulatory Guide 3.3, "Quality Assurance Program Requirements for Fuel Reprocessing Plants and for Plutonium Processing and Fuel Fabrication Plants."

7. Regulatory Guide 3.21, "Quality Assurance Requirements for Protective Coatings Applied to Fuel Reprocessing and to Plutonium Processing and Fuel Fabrication Plants."

8. Regulatory Guide 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment."

9. Regulatory Guide 7.10, "Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material."