



Nebraska Public Power District

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NLS2004138
November 5, 2004

50.54(a)

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Cooper Nuclear Station Quality Assurance Program Revision 15
NRC Docket No. 50-298, DPR-46

- Reference:**
- 1) NRC Letter and Accompanying Safety Evaluation Report to Entergy Operations, Inc., dated November 6, 1998, "Consolidation of Quality Assurance (QA) Programs into One Quality Assurance Program Manual for All Entergy Sites - Arkansas Nuclear One, Grand Gulf Nuclear Station, River Bend Station and Waterford Steam Electric Station (TAC No. M97893)"
 - 2) Nebraska Public Power District Letter NLS2003100 from Clay C. Warren to U. S. Nuclear Regulatory Commission, dated September 29, 2003, "Cooper Nuclear Station Quality Assurance Program Changes"

The purpose of this submittal is for Nebraska Public Power District (NPPD) to provide Revision 15 to the Cooper Nuclear Station (CNS) Quality Assurance Program for Operation Policy Document (QAPD), in accordance with the requirements of 10CFR50.54(a)(3). The QAPD was rewritten in its entirety to model the Quality Assurance Program Manual (QAPM) used by Entergy. The resulting revision became effective on October 15, 2004. In accordance with the provisions of 10CFR50.54(a)(3) and through utilization of the U. S. Nuclear Regulatory Commission (NRC) Safety Evaluation Report for the Entergy QAPM (Reference 1), none of the changes were determined to require prior NRC approval. Attachment 1 provides a discussion of the process followed by NPPD to evaluate the Quality Assurance Program changes. Enclosure 1 contains QAPD Revision 15. Due to the fact that this revision constitutes a total rewrite, it does not contain revision bars. Each page of the manual is appropriately marked to indicate the new revision number and date.

Subsequent to the last report of Quality Assurance Program changes (Reference 2) and prior to the complete rewrite, the QAPD was subject to various other changes that were not reductions in commitment and have not yet been reported to the NRC pursuant to 10CFR50.54(a)(3). Therefore, these changes are being reported at this time. These changes are summarized in

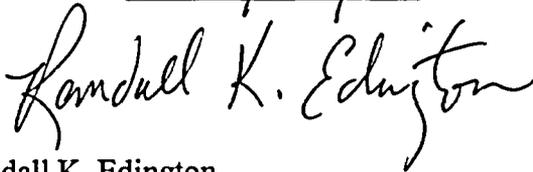
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Attachment 2. Copies of the revised pages are included in Enclosure 2. These pages have since been superseded by Revision 15 discussed above.

If you have any questions regarding this submittal, please contact Mr. Paul Fleming at 402-825-2774.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 11/05/04



Randall K. Edington
Vice-President Nuclear and
Chief Nuclear Officer

/lb

Attachments and Enclosures

Attachment 1 - Quality Assurance Program Change Evaluation - Revision 15

Attachment 2 - Summary of Quality Assurance Program for Operation Policy Document Changes
Prior to Revision 15

Enclosure 1 - CNS Quality Assurance Program for Operation Policy Document, Revision 15

Enclosure 2 - Revised Pages of CNS Quality Assurance Program for Operation Policy Document
Prior to Revision 15

cc: Regional Administrator, w/attachments and enclosures
USNRC - Region IV

Senior Project Manager, w/attachments and enclosures
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector, w/attachments and enclosures
USNRC

NPG Distribution, w/o attachments and enclosures

Records, w/attachments and enclosures

QUALITY ASSURANCE PROGRAM CHANGE EVALUATION - REVISION 15

DISCUSSION

The implementation of a Quality Assurance (QA) Program similar to Entergy through utilization of the Entergy Safety Evaluation Report (SER), TAC No. M97893, represents a total rewrite and reformatting of the Cooper Nuclear Station (CNS) Quality Assurance Program for Operation Policy Document (QAPD). The revised program is significantly different than the previous CNS QAPD which was written to U.S. Nuclear Regulatory Commission (NRC) Standard Review Plan (SRP) 17.2 format. SRP 17.2 addresses the criteria for an acceptable QA program document using the 18 criteria format of 10CFR50, Appendix B. Revision 15 of the QAPD is written in conformance to the format of NRC SRP 17.3. SRP 17.3 presents an entirely different format, addressing the criteria of 10CFR50, Appendix B within three primary program elements identified as Management, Performance/Verification, and Self-Assessment [the Self-Assessment section has been identified as "Audit" in the Entergy Quality Assurance Program Manual (QAPM)]. The resulting revision is a QAPD that fully responds to 10CFR50, Appendix B criteria without unnecessary descriptive and/or implementing detail or text reiterative of criteria contained in Regulatory Guides and associated ANSI Standards.

EVALUATION

A comprehensive line-by-line review of the previous CNS QAPD as compared to the Entergy QAPM was performed. This review identified changes to the previous QA Program requirements and commitments that are realized by implementation of a QA Program similar to Entergy. Each change was evaluated to determine:

- Sustained adequacy of the program relative to the criteria of 10CFR50, Appendix B.
- Impact of text modifications and/or deletions on previously established program scope and requirements, as well as the need to disposition changes in a manner that precludes reduction in QA program commitments.
- Impact of revised commitments or new alternatives to regulatory guidance realized by the utilization of the Entergy SER.
- Acceptability of less restrictive changes to existing requirements, as well as the adoption of less restrictive Entergy QA program allowances under 10CFR50.54(a)(3).
- Need for process and procedure controls to administer the QA program changes.

The CNS QAPD evaluation was performed in two phases. Phase I identified and evaluated changes to the existing QAPD text. Phase II evaluated the impact of the changes and identified required implementing actions.

Phase I Review

The Phase I review is documented in QAPD Text Evaluation Matrices and Detailed Change Evaluation Forms contained in the CNS QAPD Project Evaluation Package. This documentation is not included in this transmittal but is available for inspection. The QAPD Text Evaluation Matrices provide results of a line-by-line evaluation of the QA Program. These matrices identify the changes made, their classification as “administrative,” “less restrictive,” or “more restrictive” and document the disposition of changes relative to 10CFR50.54(a)(3) criteria.

Overall, the majority of changes have been made to eliminate descriptive and implementing detail not necessary under an SRP 17.3 format and to delete requirements that are reiterative of criteria within Regulatory Guides and ANSI Standards already committed to by the CNS QAPD. As indicated in the QAPD Text Evaluation Matrices by assignment of Text Change Codes and their corresponding descriptions, none of the changes impact program responsiveness to 10CFR50, Appendix B. While a number of changes are classified as “less restrictive,” they do not reduce program adequacy relative to 10CFR50, Appendix B criteria.

The QAPD Text Evaluation Matrices, via the assignment of 10CFR50.54(a) Disposition Codes and their corresponding descriptions, also identify where each change falls within the criteria of 10CFR50.54(a)(3). 10CFR50.54(a)(3) allows a licensee to make QA program changes without prior NRC approval, provided the changes do not reduce the commitments in the program description as accepted by the NRC. 10CFR50.54(a)(3)(i) through (vi) identify certain types of changes not considered to be reductions in commitments that may be made without prior NRC approval. Changes specifically made under 10CFR50.54(a)(3)(ii) may be made without prior NRC approval provided a previous NRC SER is evaluated, determined applicable to the change being made, and found acceptable for use under the criteria of the regulation. Changes made using the 10CFR50.54(a)(3)(ii) Disposition Code have been determined to be acceptable for CNS based on the evaluated application of the NRC approved SER associated with the Entergy QA program (reference TAC M97893).

Certain changes were identified that warranted additional evaluation beyond the descriptions associated with the Text Change Codes and 10CFR50.54(a) Disposition Codes. These evaluations are documented in Detailed Change Evaluation Forms and are contained in the QAPD Project Evaluation Package. These changes continue to satisfy 10CFR50, Appendix B and the criteria of 10CFR50.54(a)(3) relative to changes that can be made without prior NRC approval.

There are a limited number of differences between the CNS QAPD and the Entergy QAPM. They include items such as the allowance to implement either an exception or implement the Standard as endorsed by the NRC Regulatory Guide, and remaining with the personnel qualification standard currently specified in CNS Technical Specifications. None of the differences deviate from the acceptance criteria of SRP 17.3.

Phase II

The Phase II review identified changes to existing regulatory guidance commitments due to implementation of a QA Program similar to Entergy. Changes identified during Phase II included:

- The elimination of referenced commitments to Regulatory Guide 1.28 and ANSI Standard N45.2.

The remaining QAPD requirements are adequate to implement 10CFR50, Appendix B. ANSI N18.7-1976 currently addresses the requirements of ANSI N45.2. Removing this requirement is consistent with the NRC SER issued for Entergy.

- Revised commitment to a later edition of Regulatory Guide 1.33 (Rev. 2) and ANSI Standard N18.7 (1976).

Review of revised commitments to the later edition of Regulatory Guide 1.33 and ANSI Standard N18.7 concluded that the subject changes are acceptable under 10CFR50.54(a)(3), with some revisions to established process and procedure controls required. Required procedure changes were made effective concurrent with issuance of the revised QAPD.

- The introduction of new alternatives (exceptions and clarifications) to regulatory guidance as detailed in the Entergy QAPM.

The new alternatives to regulatory guidance commitments contained in the revised QAPD were determined to be acceptable for CNS. These changes have been evaluated as having no adverse program effect based on the NRC's previous approval of subject alternatives in the SER for Entergy. As such, these changes are allowed to be applied at CNS without prior NRC approval under the allowance of 10CFR50.54(a)(3).

The Phase II review also identified procedure revisions required to implement several alternatives. These procedure revisions were made effective concurrent with issuance of the QAPD revision. Other alternatives that are presented as options will be evaluated by the line organization and appropriate procedure/process changes made prior to implementing the alternatives.

CONCLUSION

The revised CNS QAPD continues to satisfy 10CFR50, Appendix B. The subject revision of the QAPD encompasses NRC SRP 17.3 acceptance criteria for quality assurance program descriptions. The changes satisfy the criteria within 10CFR50.54(a)(3) relative to QA Program changes that can be made without prior NRC approval.

**SUMMARY OF QUALITY ASSURANCE PROGRAM FOR OPERATION
POLICY DOCUMENT CHANGES PRIOR TO REVISION 15**

QA Program Section	Description/Justification	QA Program Impact
<p>Corporate Policy Statement</p> <p>Section 1.3, Definition of Terms</p> <p>Section 2.1, 10CFR50, Appendix B, Criterion I: Organization</p> <p>Section 2.7, 10CFR50, Appendix B, Criterion VII: Control of Purchased Material, Equipment, and Services</p> <p>Section 2.16, 10CFR50, Appendix B, Criterion XVI: Corrective Action</p> <p>Section 4.2, Nuclear Quality Procedures</p> <p>Section 4.3, Quality Assurance Plans</p>	<p>Numerous changes were made to reflect organizational changes and title changes made at CNS. The revised organizational structure aligns more closely with the Entergy organizational structure.</p> <p>Plant specific management position titles and descriptions were replaced with functional titles and descriptions. The relationship of the QAPD functional position descriptions and plant specific position titles is contained in station procedures.</p>	<p>The changes do not reduce QA Program commitments. 10CFR50.54(a)(3)(iii) allows the use of generic organizational position titles that clearly denote position function, supplemented as necessary by descriptive text rather than specific titles. As revised, the CNS QAPD continues to satisfy 10CFR50, Appendix B.</p>
<p>New Section 2.1.3, On-site/Off-site Safety Review Committees</p>	<p>Added text relative to QA program overview functions by the on-site and off-site safety review committees.</p>	<p>The additional text is in relation to the safety overview committees required by ANSI N18.7. There is no change in their function and no impact on the QA Program.</p>

QA Program Section	Description/Justification	QA Program Impact
<p>Section 2.1.5.2, Senior Level Managers</p> <p>(This section was deleted by a subsequent change.)</p>	<p>The business services function was removed from the discussion of responsibilities of Senior Level Managers as this function was realigned to report at the corporate level.</p>	<p>The reorganization at the corporate level provides more focused control and oversight of financial functions. This change has no impact on the effectiveness of the QA Program.</p>
<p>Section 2.1.8.1, SORC Membership</p>	<p>Changed the Station Operations Review Committee (SORC) Chairman from Plant Manager or alternate to “the SORC chairman and alternate SORC chairmen shall be designated in writing by the Plant Manager.”</p> <p>Added statement that SORC chairman and alternate SORC chairmen shall meet the qualifications of Plant Manager as delineated in ANSI N18.1-1971.</p> <p>Added provision for a written summary of disagreements between SORC and the Chairman to be provided to the Plant Manager, in addition to the other designated individuals.</p>	<p>This revision continues to satisfy 10CFR50, Appendix B. The function of SORC is not compromised or changed. SORC will continue to be advisory to the Plant Manager. The Plant Manager will continue to be responsible for the overall safe operation of the plant and controls over those onsite activities necessary for safe operation and maintenance of the plant. These changes do not conflict with ANSI Standard or Regulatory Guide requirements. The Standard does not specify a position requirement for serving as SORC Chairman.</p>
<p>Section 2.1.8.2, SORC Responsibilities</p> <p>(This is a correction to a change previously reported in the September 29, 2003 report.)</p>	<p>Added responsibility to review Generic Letter 86-10 Evaluations and associated proposed changes or modifications to SSCs or facilities.</p>	<p>This is an additional SORC responsibility not discussed in an ANSI Standard or Regulatory Guide. This addition does not affect compliance with 10CFR50, Appendix B.</p>

QA Program Section	Description/Justification	QA Program Impact
Table 2, Three Level Quality Assurance Program	Corrected reference number to another section of QAPD.	Editorial change - no impact on QA Program.

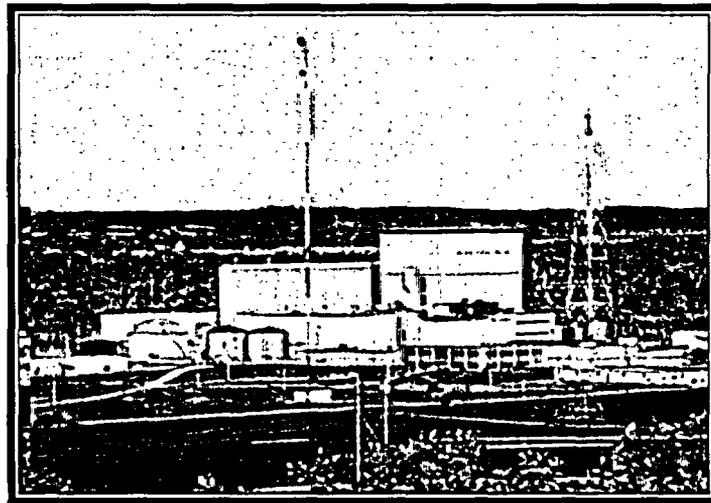
NLS2004138
ENCLOSURE 1

CNS QUALITY ASSURANCE PROGRAM
FOR OPERATION POLICY DOCUMENT

REVISION 15

COOPER NUCLEAR STATION QUALITY ASSURANCE PROGRAM FOR OPERATION - POLICY DOCUMENT

REVISION 15



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COOPER NUCLEAR STATION
 QUALITY ASSURANCE PROGRAM FOR
 OPERATION - POLICY DOCUMENT
 LIST OF EFFECTIVE PAGES

<u>Page No.</u>	<u>Revision/Date</u>	<u>Page No.</u>	<u>Revision/Date</u>	<u>Page No.</u>	<u>Revision/Date</u>
i	15, 10/15/04	21	15, 10/15/04	44	15, 10/15/04
ii	15, 10/15/04	22	15, 10/15/04	45	15, 10/15/04
iii	15, 10/15/04	23	15, 10/15/04	46	15, 10/15/04
1	15, 10/15/04	24	15, 10/15/04	47	15, 10/15/04
2	15, 10/15/04	25	15, 10/15/04	48	15, 10/15/04
3	15, 10/15/04	26	15, 10/15/04	49	15, 10/15/04
4	15, 10/15/04	27	15, 10/15/04		
5	15, 10/15/04	28	15, 10/15/04		
6	15, 10/15/04	29	15, 10/15/04		
7	15, 10/15/04	30	15, 10/15/04		
8	15, 10/15/04	31	15, 10/15/04		
9	15, 10/15/04	32	15, 10/15/04		
10	15, 10/15/04	33	15, 10/15/04		
11	15, 10/15/04	34	15, 10/15/04		
12	15, 10/15/04	35	15, 10/15/04		
13	15, 10/15/04	36	15, 10/15/04		
14	15, 10/15/04	37	15, 10/15/04		
15	15, 10/15/04	38	15, 10/15/04		
16	15, 10/15/04	39	15, 10/15/04		
17	15, 10/15/04	40	15, 10/15/04		
18	15, 10/15/04	41	15, 10/15/04		
19	15, 10/15/04	42	15, 10/15/04		
20	15, 10/15/04	43	15, 10/15/04		

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
A. MANAGEMENT	1
1. Methodology	1
2. Organization	1
3. Responsibility	4
4. Authority	5
5. Personnel Training and Qualification	5
6. Corrective Action	5
7. Regulatory Commitments	6
B. PERFORMANCE/VERIFICATION	8
1. Methodology	8
2. Design Control	8
3. Design Verification	9
4. Procurement Control	10
5. Procurement Verification	11
6. Identification and Control of Items	12
7. Handling, Storage, and Shipping	12
8. Test Control	12
9. Measuring and Test Equipment Control	13
10. Inspection, Test, and Operating Status	14
11. Special Process Control	14
12. Inspection	15
13. Corrective Action	16

14. Document Control	16
15. Records	17
C. AUDIT	18
1. Methodology	18
2. Performance	18
Table 1 - Regulatory Commitments	21
A. Regulatory Guide 1.8, Personnel Selection and Training, Revision 1, dated September 1975	21
B. Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment, dated August 1972	22
C. Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), Revision 2, dated February 1978	23
D. Regulatory Guide 1.37, Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants, dated March 1973	27
E. Regulatory Guide 1.38, Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants, Revision 2, dated May 1977	28
F. Regulatory Guide 1.39, Housekeeping Requirements for Water-Cooled Nuclear Power Plants, Revision 2, dated September 1977	33
G. Regulatory Guide 1.58, Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel, Revision 1, dated September 1980	34
H. Regulatory Guide 1.64, Quality Assurance Requirements for the Design of Nuclear Power Plants, Revision 2, dated June 1976	35
I. Regulatory Guide 1.74, Quality Assurance Terms and Definitions, dated February 1974	36

J. Regulatory Guide 1.88, Collection, Storage, and Maintenance of Nuclear Power Plants Quality Assurance Records, Revision 2, dated October 1976	37
K. 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, Revision 1, dated April 1976	39
L. Regulatory Guide 1.116, Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems, Revision 0-R, dated June 1976	44
M. Regulatory Guide 1.123, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Plants, Revision 1, dated July 1977	45
N. Regulatory Guide 1.144, Auditing of Quality Assurance Programs for Nuclear Power Plants, Revision 1, dated September 1980	47
O. Regulatory Guide 1.146, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants, Revision 0, dated August 1980	49

A. MANAGEMENT

1. Methodology

- a. The Quality Assurance Program for Operation-Policy Document hereafter referred to as (QAPD) provides a consolidated overview of the quality program controls which govern the operation and maintenance of Nebraska Public Power District's Cooper Nuclear Station here after referred to as NPPD; quality related items and activities. The QAPD describes the quality assurance organizational structure, functional responsibilities, levels of authority, and interfaces.
- b. The requirements and commitments contained in the QAPD are mandatory and must be implemented, enforced, and adhered to by all individuals and organizations. Employees are encouraged to actively participate in the continued development of the QAPD as well as its implementation. Changes should be promptly communicated when identified.
- c. The QAPD applies to all activities associated with structures, systems, and components which are safety related or controlled by 10 CFR 72. The QAPD also applies to transportation packages controlled by 10 CFR 71. The methods of implementation of the requirements of the QAPD are commensurate with the item's or activity's importance to safety. The applicability of the requirements of the QAPD to other items and activities is determined on a case-by-case basis. The QAPD implements 10 CFR 50 Appendix B, 10 CFR 71 Subpart H, and 10 CFR 72 Subpart G.
- d. The QAPD is implemented through the use of approved procedures (i.e., policies, directives, procedures, instructions, or other documents) which provide written guidance for the control of quality related activities and provide for the development of documentation to provide objective evidence of compliance.

2. Organization

The organizational structure responsible for implementation of the QAPD is described below. The specific organization titles for the quality assurance functions described are identified in procedures. The authority to accomplish the quality assurance functions described is delegated to the incumbent's staff as necessary to fulfill the identified responsibility.

A.2 (continued)

- a. The President/CEO represents the highest level of management responsible for establishment of QA policies, goals and objectives. The responsibility and authority as the Chief Nuclear Officer (CNO) has been delegated to the Vice President-Nuclear from the President/CEO. This authority includes the right to direct, enforce, and perform any action required to ensure activities conducted at CNS are in compliance with 10CFR50, Appendix B.
- b. The VP-Nuclear/CNO, reporting to the NPPD President/CEO, is the responsible executive officer for all CNS QA related activities. The VP-Nuclear/CNO is responsible for establishment of QA policies, goals and objectives. Responsibility includes the implementation of QA program activities governing those Systems/Structures/Components (SSCs) that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. The VP-Nuclear/CNO reserves the authority to conduct, or order the auditing or monitoring of any operations activity, at any time, to ascertain the effectiveness of the overall QA Program and to determine compliance with all aspects of the QA Program. The offsite safety review committee reports to the VP-Nuclear/CNO.
- c. The following executives report to the Vice President-Nuclear/CNO:
 1. The executive responsible for overall plant operations assures the safe, reliable, and efficient operation of the plant within the constraints of applicable regulatory requirements and the operating license, and is responsible for implementing the quality assurance program. The onsite safety review committee is advisory to the executive responsible for overall plant operations.
 2. The executive responsible for support is responsible for supporting the CNO in establishing policies, goals, and objectives of the QA program, maintaining the QAPD in accordance with regulatory requirements, and implementing the quality assurance program. The executive responsible for quality assurance is afforded a direct line of communication with the President/CEO.
 3. The executive responsible for engineering is responsible for providing engineering services and implementing the quality assurance program.
 4. The executive responsible for nuclear assurance is responsible for administration of the corrective action program, on and off-site emergency planning, licensing activities, and implementing the quality assurance program.

A.2 (continued)

- d. The individuals fulfilling the following management functions report to the executives identified above. These individuals may report through an additional layer of management but shall maintain sufficient authority and organizational freedom to implement the assigned responsibilities. These individuals may fulfill more than one function described below:
1. The manager responsible for quality assurance has overall authority and responsibility for establishing, controlling, and verifying the implementation and adequacy of the quality assurance program as described in this QAPD including activities related to vendor quality. The manager responsible for quality assurance has the authority to escalate matters directly to the chief executive officer when needed.
 2. The manager responsible for plant operations is responsible for the safe, reliable, and efficient operation of CNS. The manager responsible for plant operations has overall responsibility for startup, shutdown, refueling operations, and day-to-day operation of the plant.
 3. The manager responsible for plant modification provides direction, control, and overall supervision of the implementation of plant modifications and assigned maintenance. Separate managers may be responsible for different modification activities.
 4. The manager responsible for training provides direction, control, and overall supervision of all training of personnel required by regulations.
 5. The manager responsible for records management provides direction, control, and overall supervision of the records management program and associated activities.
 6. The manager responsible for document control provides direction, control, and overall supervision of the document control program and associated activities.
 7. The manager responsible for the corrective action program provides direction, control, and overall supervision of the corrective action program and associated activities.

A.2.d (continued)

8. The manager responsible for engineering is responsible for the development and maintenance of engineering programs, policies, and procedures and for providing engineering services. Different aspects of these responsibilities (e.g., fuel design) may be fulfilled by separate managers.
9. The manager responsible for materials, purchasing, and contracts is responsible for procurement, services, receipt, storage, and issue of materials, parts, and components. Different aspects of these responsibilities may be fulfilled by separate managers.
- e. The on-site and off-site safety review committees independently review activities to provide additional assurance that the unit is operated and maintained in accordance with the Operating License and applicable regulations, which address nuclear safety.

3. Responsibility

- a. NPPD has the responsibility for the scope and implementation of an effective quality assurance program.
- b. NPPD may delegate all or part of the activities of planning, establishing, and implementing the quality assurance program to others, but retains the responsibility for the program's effectiveness.
- c. The adequacy of the QAPD's implementation is assessed annually by the manager(s) responsible for quality assurance and reported to the chief nuclear officer and the associated executive for overall plant nuclear safety.
- d. NPPD is responsible for ensuring that the applicable portion(s) of the quality assurance program is properly documented, approved, and implemented (people are trained and resources are available) before an activity within the scope of the QAPD is undertaken by NPPD 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 within the scope of the QAPD.
- f. Procedures that implement the QAPD are approved by the management responsible for the applicable quality function. These procedures are to reflect the QAPD and work is to be accomplished in accordance with them.

A. (continued)

4. Authority

- a. When NPPD delegates responsibility for planning, establishing, or implementing any part of the overall QA program, sufficient authority to accomplish the assigned responsibilities is delegated.
- b. The manager responsible for quality assurance has the responsibility and the authority to stop unsatisfactory work and control further processing, delivery, installation, or use of non-conforming items or services. Cost and schedule considerations will not override safety considerations.

5. Personnel Training and Qualification

- a. Personnel assigned to implement elements of the quality assurance program are capable of performing their assigned tasks.
- b. Training programs are established and implemented to ensure that personnel achieve and maintain suitable proficiency.
- c. Personnel training and qualification records are maintained in accordance with procedures.
- d. Additional details concerning Personnel Training and Qualification may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guides 1.8, 1.58, and 1.146).

6. Corrective Action

- a. It is the responsibility of each individual to promptly identify and report conditions adverse to quality. Management at all levels encourages the identification of conditions that are adverse to quality.
- b. A corrective action program is established and implemented that includes prompt identification, documentation, and correction of conditions adverse to quality. The corrective action program for significant conditions adverse to quality shall require cause determination and a corrective action plan that precludes repetition.
- c. Specific responsibilities within the corrective action program may be delegated, but NPPD maintains responsibility for the program's effectiveness.

A.6 (continued)

- d. Non-conforming items are properly controlled to prevent their inadvertent test, installation, or use. They are reviewed and either accepted, rejected, repaired, or reworked.
- e. Reports of conditions that are adverse to quality are analyzed to identify trends in quality performance. Significant conditions adverse to quality and significant trends are reported to the appropriate level of management.
- f. Additional details concerning corrective action activities may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.33).

7. Regulatory Commitments

- a. Except where alternatives are identified, NPPD complies with the QA guidance documents listed on Table 1. If the guidance in one of these documents is in conflict with the QAPD, the guidance provided in the QAPD is the controlling guidance. Additionally, the following clarifications apply to all guidance documents listed in Table 1:
 - 1. For modifications and nonroutine maintenance, guidance applicable to construction-like activities is applicable to comparable plant activities. Except that the inspection of modifications, repairs, rework, and replacements shall be in accordance with the original design and inspection requirements or a documented approved alternative.
 - 2. The definitions provided by Regulatory Guide 1.74 and associated clarifications as described in Table 1 apply wherever the defined term is used in the QAPD and associated guidance documents.
 - 3. Clarification to a guidance document applies wherever the guidance document is invoked.
 - 4. In each of the ANSI standards, other documents (e.g., other standards, codes, regulations, tables, or appendices) are referenced or described. These other documents are only quality assurance program requirements if explicitly committed to in the QAPD. If not explicitly committed to, these documents are not considered as quality assurance program requirements, although they may be used as guidance.

A.7 (continued)

5. Guidance applicable to safety related items and activities is applicable to comparable items and activities controlled by 10 CFR 72 and transportation packages controlled by 10 CFR 71.
- b. The NRC is to be notified of QAPD changes in accordance with 10 CFR 50.54(a)(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 and are different personnel than those who performed the work.
- c. Work is 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 specified, and quality is verified against these criteria.

2. Design Control

- a. The design control program is established and implemented to assure that the activities associated with the design of systems, components, structures, and equipment and modifications thereto, are executed in a planned, controlled, and orderly manner.
- b. The program includes provisions to control design inputs, processes, outputs, changes, interfaces, records, and organizational interfaces.
- c. Design inputs (e.g., performance, regulatory, quality, and quality verification requirements) are to be correctly translated into design outputs (e.g., 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 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 non-conforming items to either 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 designee.

B.2 (continued)

- 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 defined in procedures.
- h. Design documentation and records, which provide evidence that the design and design verification process was performed in accordance with this program, shall be collected, stored, and maintained in accordance with documented procedures. This documentation includes final design documents, such as drawings and specifications, and revisions thereto and documentation, which identifies the important steps, including sources of design inputs that support the final design.
- i. Additional details concerning design control activities may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.64).

3. Design Verification

- a. A program is established and implemented to verify the acceptability of design activities and documents for the design of items. The selection and incorporation of design inputs and design processes, outputs, and changes are verified.
- b. Verification methods include, but are not limited to, design reviews, alternative calculations, and qualification testing. The extent of this verification will be a function of the importance to safety of the item, the complexity of the design, the degree of standardization, the state of the art, and the similarity with previously proven designs. *Standardized or previously proven designs will be reviewed for applicability prior to use.*
- 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.

B.3 (continued)

- e. Individuals or groups responsible for design reviews or other verification activities shall be identified in procedures and their authority and responsibility shall be defined and controlled. Design verification shall be performed by any competent individuals or groups other than those who performed the original design but who may be from the same organization. The designer's immediate supervisor may perform the design verification provided:
 - 1. the supervisor is the only technically qualified individual capable of performing the verification,
 - 2. the need is individually documented and approved in advance by the supervisor's management, and
 - 3. 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.
- g. Additional details concerning design verification activities may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.64).

4. Procurement Control

- a. A program is established and implemented to ensure that purchased items and services are of acceptable quality.
- b. The program includes provisions for evaluating prospective suppliers and selecting only qualified suppliers.
- c. The program includes provisions for ensuring that qualified suppliers continue to provide acceptable products and services.
- d. The program includes provisions (e.g., source verification, receipt inspection, pre-installation and post-installation tests, and certificates of conformance) for accepting purchased items and services.

B.4 (continued)

- e. Applicable technical, regulatory, administrative, and reporting requirements (e.g., specifications, codes, standards, tests, inspections, special processes, and 10 CFR Part 21) are invoked for procurement of items and services.
- f. The program includes provisions for ensuring that documented evidence of an item's conformance to procurement requirements is available at the site before the item is placed in service or used unless otherwise specified in procedures.
- g. The program includes provisions for ensuring that procurement, inspection, and test requirements have been satisfied before an item is placed in service or used unless otherwise specified in procedures.
- h. The procurement of components, including spare and replacement parts, is subject to quality and technical requirements suitable for their intended service.
- 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 the items will perform satisfactorily in service.
- j. Additional details concerning procurement control may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guides 1.33 and 1.123).

5. Procurement Verification

- a. A program is 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 executed in all phases of procurement. As necessary, this may require verification of activities of suppliers below the first tier.
- c. Additional details concerning procurement verification may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guides 1.123 and 1.144).

B. (continued)

6. Identification and Control of Items

- a. A program is established and implemented to identify and control items to prevent the use of incorrect or defective items.
- b. Identification of each item is maintained throughout fabrication, erection, installation, and use so that the item can be traced to its documentation. Traceability is maintained to an extent consistent with the item's importance to safety.
- c. Additional details concerning identification and control of items may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.33).

7. Handling, Storage, and Shipping

- a. A program is established and implemented to control the handling, storage, shipping, cleaning, and preserving of items to ensure the items maintain acceptable quality.
- b. Special protective measures (e.g., containers, shock absorbers, accelerometers, inert gas atmospheres, specific moisture content levels, and temperature levels) are specified and provided when required to maintain acceptable quality.
- c. Specific procedures are developed and used for cleaning, handling, storage, packaging, shipping, and preserving items when required to maintain acceptable quality.
- d. Items are marked and labeled during packaging, shipping, handling, and storage to identify, maintain, and preserve the items' integrity and indicate the need for special controls.
- e. Additional details concerning handling, storage, and shipping activities may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.38).

8. Test Control

- a. A test control program is established and implemented to demonstrate that items will perform satisfactorily in service.
- b. Criteria are defined that specify when testing is required.

B.8 (continued)

- c. The test control program includes, as appropriate, proof tests before installation, pre-operational tests, post-maintenance tests, post-modification tests, and operational tests.
- d. Test procedures are developed that include:
 - 1. instructions and prerequisites to perform the test,
 - 2. use of proper test equipment,
 - 3. acceptance criteria, and
 - 4. mandatory inspections as required.
- e. Test results are evaluated to assure that test objectives and inspection requirements have been satisfied.
- f. Unacceptable test results shall be evaluated.
- g. Additional details concerning test control may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.33).

9. Measuring and Test Equipment Control

- a. A program is established and implemented to control the calibration, maintenance, and use of measuring and test equipment. Measuring and test equipment does not include permanently installed operating equipment or test equipment used for preliminary checks where data obtained will not be used to determine acceptability or be the basis for design or engineering evaluation. Additionally, calibration and control measures are not required for rulers, tape measures, levels and other such devices if normal commercial manufacturing practices provide adequate accuracy.
- b. The types of equipment covered by the program (e.g., instruments, tools, gages, and reference and transfer standards) are defined in procedures.
- c. Measuring and test equipment is calibrated at specified intervals or immediately before use on the basis of the item's required accuracy, intended use, frequency of use, and stability characteristics and other conditions affecting its performance.

B.9 (continued)

- d. Measuring and test equipment is 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 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 tagged or segregated. The acceptability shall be determined of items measured, inspected, or tested with an out-of-calibration device.
- h. Additional details concerning measuring and test equipment control may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guides 1.30, 1.33, 1.94, 1.116, and 1.123).

10. Inspection, Test, and Operating Status

- a. The status of required inspections and tests and the operating status of items is verified before release, fabrication, receipt, installation, test, and use, as applicable. This verification is to preclude inadvertent bypassing of inspections and tests and to prevent inadvertent operation of controlled equipment.
- b. The application and removal of inspection, test, and operating status indicators are controlled in accordance with procedures.
- c. Additional details concerning inspection, test, and operating status control may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.33).

11. Special Process Control

- a. A program is established and implemented to ensure that special processes are properly controlled.

B.11 (continued)

- b. The criteria that establish which processes are special are described in procedures. The following are special processes:
 - 1. welding,
 - 2. heat-treating,
 - 3. NDE (Non-Destructive Examination),
 - 4. chemical cleaning, and
 - 5. unique fabricating or testing processes that require in-process controls.
- c. Special processes are accomplished by qualified personnel, using appropriate equipment, and procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.
- d. Additional details concerning special process control may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.33).

12. Inspection

- a. A program is established and implemented for inspections of activities in order to verify conformance to the documented instructions, procedures and drawings for accomplishing the activity. 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 qualified personnel.
- e. Unacceptable inspection results shall be evaluated and resolved in accordance with procedures.

B.12 (continued)

- f. Inspections are performed by qualified personnel other than those who performed or directly supervised the work being inspected. While performing the inspection activity, the inspectors functionally report to the manager responsible for quality assurance.
- g. Additional details concerning inspections may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guides 1.33 and 1.58).

13. Corrective Action

- a. Procedures shall provide for identification, evaluation, and resolution of conditions adverse to quality.
- b. Reworked, repaired, and replacement items are to be inspected and tested in accordance with the original inspection and test requirements or specified alternatives.
- c. Additional details concerning corrective action activities may be found in Section A.6 and the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.33).

14. Document Control

- a. A program is established and implemented to control the development, review, approval, issue, use, and revision of documents.
- b. The scope of the document control program includes:
 - 1. safety analysis report,
 - 2. design documents,
 - 3. procurement documents,
 - 4. Technical Specifications,
 - 5. procedures, manuals, and plans,
 - 6. corrective action documents, and
 - 7. other documents as defined in procedures.

B.14 (continued)

- c. Revisions of controlled documents are 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. Copies of controlled documents are distributed to and used by the person performing the activity.
- e. The distribution of new and revised controlled documents is in accordance with procedures. Superseded documents are controlled.
- f. Additional details concerning document control may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.33).

15. Records

- a. A program is established and implemented to ensure that sufficient records of items and activities (e.g., design, engineering, procurement, manufacturing, construction, inspection and test, installation, pre-operation, startup, operations, maintenance, modification, decommissioning, and audits) are generated and maintained to reflect completed work.
- b. The program provides provisions for the administration, receipt, storage, preservation, safekeeping, retrieval, and disposition of records.
- c. The program includes provisions for the use of various record storage media to maintain QA records. Procedures are developed to implement the regulatory guidance associated with the media used. The NRC Generic Letter 88-18 "Plant Record Storage on Optical Disk" is implemented for optical disk media. The Regulatory Issue Summary 2000-18 "Guidance on Managing QA Records in Electronic Media" is implemented for electronic media.
- d. Additional details concerning record requirements may be found in the Regulatory Guides and associated Standards as committed to in Section A.7 and Table 1 (e.g., Regulatory Guide 1.88).

C. AUDIT

1. Methodology

- a. Personnel responsible for carrying out audits are maintained cognizant of day-to-day activities by the ongoing involvement in the quality assurance program requirements so that they can act in a management advisory function.
- b. Organizations performing audits are to be technically and performance oriented commensurate with the activity being reviewed.
- c. Personnel performing audits have no direct responsibilities in the area they are assessing.
- d. Audits are accomplished using instructions, procedures, or other appropriate means that are of a detail commensurate with the activity's complexity and importance to safety.

2. Performance

- a. A program of planned and periodic audits is established and implemented to confirm that activities affecting quality comply with the QAPD and that the QAPD has been implemented effectively. Audit frequencies will be implemented as required by the applicable Code of Federal Regulations, safety analysis report, and commitments by various correspondence to the NRC. Audits will be conducted at a frequency in accordance with either Section C.2.a.1 or Section C.2.a.2 below.
 1. Audit frequencies will be determined in accordance with a performance based audit scheduling program. The scheduling program, through an expert panel, uses assessment indicators to identify and schedule audits based on performance results and importance of the activity relative to safety. Potential audit subject areas are periodically assessed against appropriate performance criteria. From these reviews a determination is made in regard to the depth, scope, and scheduling of specific audits. Functional areas important to safety are assessed annually ($\pm 25\%$) to identify strengths and weaknesses (if applicable) to determine the level and focus of independent oversight activities for the upcoming year. The basis for the assessment shall include the results of audits and surveillance, NRC inspections, LERs, self-assessments, and applicable conditions reports (e.g., non-conformance and corrective action reports). Personnel changes, change/increase in functional area responsibilities, industry operating experience, and INPO evaluations

C.2.a. (continued)

will also be considered. Each area will be assigned a rating with a comparison to previous years. This assessment will be documented, reviewed, and approved by quality assurance management.

This document is considered a quality assurance record and will be available for NRC review. Audit subject areas of Section C.2.a.2 shall continue to be audited on the frequencies designated unless expert panel judgment, based on performance results, determines such an audit to be unnecessary. In such cases the expert panel basis shall be documented.

2. Audit schedules assure that the following areas are audited at the indicated frequencies, or more frequently as performance dictates.
 - a. The conformance of each unit's operation to provisions contained within the Technical Specifications and applicable license conditions is audited at least once every 24 months.
 - b. The performance, training, and qualifications of the entire staff is audited at least once every 24 months.
 - c. The results of actions taken to correct deficiencies occurring in unit equipment, structure, systems, or method of operation that affect nuclear safety is audited at least once every 24 months.
 - d. The performance of activities required by the QAPD to meet the criteria of 10 CFR 50, Appendix B is audited at least once every 24 months.
 - e. The Offsite Dose Assessment Manual and Process Control Program and implementing procedures is audited at least once every 24 months.
 - f. The radiological environmental monitoring program and the results thereof is audited at least once every 24 months.
 - g. A fire protection and loss prevention program inspection and audit shall be performed using either off-site licensee personnel or an outside fire protection firm at least once every 12 months.

Table 1
Regulatory Commitments

A. Regulatory Guide 1.8, Personnel Selection and Training, Revision 1, dated September 1975

ANSI N18.1- 1971, Selection and Training of Nuclear Power Plant Personnel

Clarification/Exception

1. General

Qualification requirements for personnel will meet ANSI N18.1-1971, and as identified in the Technical Specifications.

Regarding the qualifications of the specific positions of shift manager, senior operator, licensed operator, shift technical advisor, and radiation protection manager, CNS shall comply with the provisions of Regulatory Guide 1.8, Revision 2, "Qualification and Training of Personnel for Nuclear Power Plants."

2. General

The following qualifications may be considered equivalent to a bachelor's degree:

- a. 4 years of post secondary schooling in science or engineering,
- b. 4 years of applied experience at a nuclear facility in the area for which qualification is sought,
- c. 4 years of operational or technical experience/training in nuclear power, or
- d. any combination of the above totaling 4 years.

Years of experience used to meet the education requirements as allowed by this exception shall not be used to also meet the experience requirements.

**Table 1
Regulatory Commitments**

B. Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment, dated August 1972

ANSI N45.2.4-1972, Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment during the Construction of Nuclear Power Generating Stations

Clarification/Exception

- | | | |
|----|-------------------------------|--|
| 1. | ANSI N45.2.4
General | ANSI N45.2.4 identifies various tests to be performed. The applicability of these tests will be determined as discussed in QAPD Section B.8 and based upon the significance of change or modification. |
| 2. | ANSI N45.2.4
Section 1.4 | The definition of Class I and Class IE electrical equipment set forth by this standard does not conform to the equipment categories of CNS. Electrical items upon which the QA program is based are included in station procedure and the CNS "Q" List (a safety classification method and information list). The scope and applicability of this standard shall necessarily be limited to these defined areas. |
| 3. | ANSI N45.2.4
Section 3 | Documented routine inspections and audits of the storage area may be performed instead of the requirements of this Section. |
| 4. | ANSI N45.2.4
Section 5.2 | In some cases, testing requirements may be met by post-installation surveillance testing in lieu of a special post-installation test. |
| 5. | ANSI N45.2.4
Section 6.2.1 | The last sentence of this section states: "Items requiring calibration shall be tagged or labeled on completion indicating date of calibration and identity of the person that performed the calibration." Instead of requiring the tagging or labeling of equipment this statement is changed to require the equipment to be suitably marked to indicate the date of the next required calibration and the identity of the person that performed the calibration. |

**Table 1
Regulatory Commitments**

**C. Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation),
Revision 2, dated February 1978**

**ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational
Phase of Nuclear Power Plants**

Clarification/Exception

- | | | |
|----|-------------------------------|--|
| 1. | Section C.1 | NPPD will provide procedures for the guide's Appendix A activities as discussed. However, NPPD does not consider all activities listed to be "safety-related" (e.g., activities in 7.e). |
| 2. | Section C.4 | This section establishes minimum 2-year audit frequency for all safety related functions and recommends audit frequencies specific to Corrective Action, Facility Operation, and Staff Performance, Training, and Qualifications. NPPD will perform audits at frequencies as discussed in QAPD Section C.2.a instead of this section. |
| 3. | ANSI N18.7
Section 1 | Sentences 4 and 5 state, "However, applicable sections of this standard should be used as they apply to related activities. Activities included are: Design Changes, Purchasing, Fabricating..." With regard to radioactive material transportation activities, NPPD will only implement the requirements associated with those activities conducted in accordance with the applicable NRC Quality Assurance Program Approval for Radioactive Material Packages. |
| 4. | ANSI N18.7
Section 4.3.1 | The specific areas of experience described in this section is not applicable to the on-site safety review committee but the committee must be comprised of site operating or engineering supervisory personnel. Additionally, the off-site safety review committee need contain experience in only a majority of the areas. |
| 5. | ANSI N18.7
Section 4.3.2.3 | The statement that "no more than a minority of the quorum shall have line responsibility for the operation of the plant" is not applicable to the on-site safety review committee. |

**Table 1
Regulatory Commitments**

C. Regulatory Guide 1.33 (continued)

Clarification/Exception

- | | | |
|-----|--|---|
| 6. | ANSI N18.7
Section
4.3.4.(1) & (2) | 10 CFR 50.59 was revised through Federal Register Notice 19991001 R1N3150-AF94 eliminating the terms "safety evaluation" and "unreviewed safety question." The term "safety evaluation" has been replaced with 10 CFR 50.59 "evaluation." The term "unreviewed safety question," as defined in the previous version of 10 CFR 50.59 (a)(2), was replaced by criteria provided in 50.59(c)(2) to determine if a license amendment pursuant to 50.90 is required prior to implementing the change, test, or experiment. |
| 7. | ANSI N18.7
Section 4.3.4(2) | Reviews associated with changes to the technical specifications may be performed in accordance with Section 4.3.4(3) instead of this section. |
| 8. | ANSI N18.7
Section 4.3.4(3) | Revision to proposed Technical Specification changes only require review in accordance with this section when the revision involves a significant change to the technical basis for the proposed change. |
| 9. | ANSI N18.7
Section 4.3.4(4) | In place of the requirements of this section, the on-site and off-site safety review committees may review facility operations to detect potential nuclear safety hazards and all reports made in accordance with 10 CFR 50.73. |
| 10. | ANSI N18.7
Section 4.5 | This section establishes minimum 2-year audit frequency for all safety related functions. NPPD will perform audits at frequencies as discussed in QAPD Section C.2.a instead of this section. |
| 11. | ANSI N18.7
Section 4.5 | The independent review body discussed in this section is the off-site safety review committee. |
| 12. | ANSI N18.7
Section 5.1 | Instead of the requirements of this section to have a summary document, a method of cross-referencing these requirements to the implementing procedures may be maintained. |

Table 1
Regulatory Commitments

C. Regulatory Guide 1.33 (continued)

	Clarification/Exception
13. ANSI N18.7 Section 5.2.2	The person who holds a senior reactor operators license for the affected unit and approves a temporary change to a procedure is not required to be in charge of the shift.
14. ANSI N18.7 Section 5.2.2	In addition to the temporary procedure change process described for changes which clearly do not change the intent of a procedure, temporary procedure changes which may change the intent of a procedure may be made following the process described in this section. Except that the person normally responsible for approving revisions to the procedure is the approval authority for the change.
15. ANSI N18.7 Section 5.2.6	Instead of the requirements of this section concerning non-conforming conditions, non-conforming conditions will be evaluated and controlled in accordance with the corrective action program.
16. ANSI N18.7 Section 5.2.6	The requirement of the fifth paragraph of this section to have a log of the status of temporary modifications is not applicable to temporary modifications for routine tasks installed in accordance with procedures. These procedures shall provide assurance that approvals are obtained, temporary modification activities are independently verified by an individual cognizant of the purpose and the effect of the temporary modification, and that activities are adequately documented to indicate the status of the temporary modification.
17. ANSI N18.7 Section 5.2.7.1	This section may be implemented by adding the words "Where practical" in front of the first and fourth sentences of the fifth paragraph. For modifications where the requirements of the fourth sentence are not considered practical, a review in accordance with the provisions of 10 CFR 50.59 will be conducted.
18. ANSI N18.7 Section 5.2.8	In lieu of a "master surveillance schedule," a surveillance testing schedule(s) may be established and utilized reflecting the status of all in-plant surveillance tests and inspections."

**Table 1
Regulatory Commitments**

C. Regulatory Guide 1.33 (continued)

		Clarification/Exception
19.	ANSI N18.7 Section 5.2.9	The requirements of the Physical Security Plan shall be implemented in place of these general requirements.
20.	ANSI N18.7 Section 5.2.13.1	Consistent with ANSI N45.2.11 Section 7.2, minor changes to documents, such as inconsequential editorial corrections, or changes to commercial terms and conditions may not require that the revised document receive the same review and approval as the original documents.
21.	ANSI N18.7 Section 5.2.14	Where marking, tagging, or physical separation of the non-conforming item is not feasible; the non-conforming item may be controlled by the use of appropriate documentation.
22.	ANSI N18.7 Section 5.2.15	Required procedure reviews following the occurrences discussed in Section 5.2.15, paragraph 3, sentence 3, may be determined and controlled in accordance with the QAPD Section A.6 instead of this section.
23.	ANSI N18.7 Section 5.2.15	<i>This section requires plant procedure review by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary or desirable. Instead of this review, controls are in effect to ensure that procedures are reviewed for possible revision upon identification of new or revised source material potentially affecting the intent of procedures.</i>
24.	ANSI N18.7 Section 5.3.9	Instead of the requirements of this section, the format and content of the emergency operating procedures follow the applicable NRC approved format for CNS.
25.	ANSI N18.7 Section 5.3.9.3	NPPD's NRC accepted Emergency Plan will be implemented in lieu of the requirements in this section.

**Table 1
Regulatory Commitments**

D. Regulatory Guide 1.37, Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants, dated March 1973

ANSI N45.2.1-1973, Cleaning of Fluid Systems and Associated Components During Construction Phase of Nuclear Power Plants

Clarification/Exception

- | | |
|---------------------------|--|
| 1. General | Instead of using the cleanliness level classification system of ANSI N45.2.1, the required cleanliness for specific items and activities is addressed on a case-by-case basis. Cleanliness is maintained, consistent with the work being performed to prevent introduction of foreign material. As a minimum, cleanliness inspections are performed prior to system closure and such inspections are documented. |
| 2. Section C.3 | The water quality for final flushes of fluid systems and associated components is at least equivalent to the quality of the operating system water, except for the oxygen and nitrogen content. |
| 3. Section C.4 | As an alternate to the requirements of this section, contamination levels in expendable products may be based upon safe practices and industrial availability with documented engineering evaluations. Contaminant levels are controlled such that subsequent removal by standard cleaning methods results in the achievement of final acceptable levels which are not detrimental to the materials. |
| 4. ANSI N45.2.1 Section 5 | Any nonhalogenated material may be used which is compatible with the parent material not just plastic film. |

Table 1
Regulatory Commitments

E. Regulatory Guide 1.38, Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants, Revision 2, dated May 1977

ANSI N45.2.2-1972, Packaging, Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants

Clarification/Exception

- | | | |
|----|-------------------------------|--|
| 1. | ANSI N45.2.2
Section 3.2 | Storage of an item in a higher-level storage area meets the lower level storage requirements. |
| 2. | ANSI N45.2.2
Section 3.2 | As an alternate to the requirements in Section 3.2.1 items (4), (5), and (7), Section 3.2.2, Section 3.2.3 item (1), and Section 3.2.4 item (2), the storage atmosphere may be controlled such that it is free of harmful contaminants in concentration that could produce damage to the stored item and protecting weld end preparations and threads by controlling the manner in which the item is stored. |
| 3. | ANSI N45.2.2
Section 3.7.1 | Cleated, sheathed boxes may be used up to 1000 lb. rather than 500 lb. as specified in 3.7.1(1). Special qualification testing may be required for loads over 1000 lb. |
| 4. | ANSI N45.2.2
Section 3.7.2 | Skids and runners will normally be fabricated from a minimum 2 X 4 inch nominal lumber size and laid flat except where this is impractical because of the small dimensions of the container. If forklift handling is required, minimum floor clearance for forklift tines will be provided. |
| 5. | ANSI N45.2.2
Section 4.3.4 | Inspections of packages and/or preservative coatings may be made immediately prior to loading rather than after loading. |

Table 1
Regulatory Commitments

E. Regulatory Guide 1.38 (continued)

Clarification/Exception

- | | | |
|----|-------------------------------|--|
| 6. | ANSI N45.2.2
Section 5.2.1 | Warehouse personnel will normally visually scrutinize incoming shipments for damage of the types listed in this section; this activity is not necessarily performed prior to unloading. Separate documentation of the shipping damage inspection is not necessary. Release of the transport agent after unloading and the signing for receipt of the shipment provides adequate documentation of completion of the shipping damage inspection. Any non-conformances noted will be documented and dispositioned. Persons performing the visual scrutiny during unloading are not considered to be performing an inspection function as defined under Reg. Guide 1.74; therefore, while they will be trained to perform this function, they may not be certified (N45.2.6) as an inspector. |
| 7. | ANSI N45.2.2
Section 5.2.2 | <p>The second division of this subsection requires six additional inspection activities if an item was not inspected or examined at the source. NPPD will consider that a source inspection has been conducted if the supplier of the item is required to comply with ANSI N45.2.2 for the purchased item and if the supplier's program has been audited and found acceptable in the area (i.e., the supplier performs a source inspection of his supplier or conducts a receipt inspection that includes, as applicable, the six additional items listed).</p> <p>Instead of the requirement that receiving inspections be performed in an area equivalent to the level of storage required for the item, receiving inspections may be performed in a manner and in an environment which does not endanger the requisite quality of an item. The receiving inspection's location environmental controls may be less stringent than storage environmental requirements for that item; however, the short time spent in the less stringent receiving inspection area shall be of such duration that it will not adversely affect the item being received.</p> |
| 8. | ANSI N45.2.2
Section 5.2.3 | The "Special Inspection" procedure is not required to be attached to the item or container but shall be readily available to inspection personnel. |

**Table 1
Regulatory Commitments**

E. Regulatory Guide 1.38 (continued)

	Clarification/Exception
9. ANSI N45.2.2 Section 6.2.1	Items which fall within the Level D classification of the standard will be stored in an area which may be posted to limit access, but other positive controls such as fencing or guards may not be provided.
10. ANSI N45.2.2 Section 6.2.4	The sentence is replaced with the following: "The use or storage of food, drinks, and salt tablet dispensers in any storage area shall be controlled and shall be limited to designated areas where such use or storage is not deleterious to stored items."
11. ANSI N45.2.2 Section 6.2.5	The sentence is replaced with the following: " Exterminators or other appropriate measures shall be used to control animals to minimize possible contamination and mechanical damage to stored material. If evidence of animal activity is detected, a survey or inspection will be utilized to determine the extent of the damage."
12. ANSI N45.2.2 Section 6.3.3	An alternate to the stated requirement is the following: "Hazardous chemicals, paints, solvents, and other materials of a like nature shall be stored in approved cabinets or containers which are not in close proximity to installed systems required for safe shutdown."
13. ANSI N45.2.2 Section 6.4.2	Care of items in storage shall be exercised in accordance with the following: "Types of components that could require maintenance while in storage shall be identified and evaluated for specific maintenance requirements. Maintenance activities 6.4.2 (6) through 6.4.2 (8) listed in this requirement shall be considered during this evaluation and any deviations shall be justified and documented."
14. ANSI N45.2.2 Section 6.5	The last sentence of this section is not applicable to the operations phase.
15. ANSI N45.2.2 Section 6.6	NPPD will comply with this section's requirements with the clarification that, for record purposes, only the access of personnel without key cards into indoor storage areas shall be recorded. Unloading or pickup of material shall not be considered "access," nor shall inspection by NRC or other regulatory agents, nor shall tours by nonlicensee employees who are accompanied by licensee employees.

**Table 1
Regulatory Commitments**

E. Regulatory Guide 1.38 (continued)

Clarification/Exception

- | | | |
|-----|---|--|
| 16. | ANSI N45.2.2
Section 7.3 | Re-rating hoisting equipment will be considered only when necessary. Prior to performing any lift above the load rating, the equipment manufacturer must be contacted for his approval and direction. The manufacturer must be requested to supply a document granting approval for a limited number of lifts at the new rating and any restrictions involved, such as modifications to be made to the equipment and the test lift load. At all times, the codes governing re-rating of hoisting equipment must be observed. |
| 17. | ANSI N45.2.2
Appendix (A-3)
Section A.3.4.1 | During printing of the standard, a transposition occurred between the last sentence of A3.4.1(4) and A3.4.1(5). The correct requirements are: (4) "However, preservatives for inaccessible inside surfaces of pumps, valves and pipe systems containing reactor coolant water shall be the water flushable type." (5) "The name of the preservative used shall be indicated to facilitate touch up." |
| 18. | ANSI N45.2.2
Appendix (A-3)
Section A.3.4.2 | There may be cases involving large or complex shaped items for which an inert or dry air purge is provided, rather than a static gas blanket, in order to provide adequate protection due to difficulty of providing a leak proof barrier. In these cases, a positive pressure purge flow may be utilized as an alternate to a leakproof barrier. |
| 19. | ANSI N45.2.2
Appendix (A-3)
Section A.3.5.1 | Instead of the requirement for non-metallic plugs and caps to be brightly colored, non-metallic plugs and caps may be an appropriately visible color. |
| 20. | ANSI N45.2.2
Appendix (A-3)
Section A.3.5.2 | This paragraph limits halogen and sulfur content of tape. The use of tapes containing greater amounts of halogens than those identified will be allowed after appropriate evaluation; however, the quantities shall not be such that harmful concentrations could be leached or released by breakdown of the compounds under expected environmental conditions. |

**Table 1
Regulatory Commitments**

E. Regulatory Guide 1.38 (continued)

Clarification/Exception

- | | |
|--|---|
| <p>21. ANSI N45.2.2
Appendix (A-3)
Section A.3.7.1</p> | <p>In lieu of A3.7.1 (3) and (4), NPPD may comply with the following: Fiberboard boxes shall be securely closed either with a water resistant adhesive applied to the entire area of contact between the flaps, or all seams and joints shall be sealed with not less than 2-inch wide, water resistant tape.</p> |
| <p>22. ANSI N45.2.2
Appendix (A-3)
Section A.3.9</p> | <p>Instead of the requirement that container markings appear on a minimum of two sides of the container, preferably on one side and one end, NPPD may comply with the following: Containers are adequately marked for storage, identification, and retrieval. Multiple marking requirements are imposed, where necessary.</p> |
| <p>23. ANSI N45.2.2,
Appendix (A-3)
Section A.3.9</p> | <p>Instead of the requirement that container markings be no less than 3/4" high, NPPD may comply with the following: Container markings are of a size which permits easy recognition.</p> |
| <p>24. ANSI N45.2.2,
Appendix (A-3)
Section A.3.9</p> | <p>Instead of the specific container marking requirements, NPPD may comply with the following: The information required in container marking is evaluated on a case-by-case basis.</p> |
| <p>25. ANSI N45.2.2
Appendix (A-3)
Section A.3.9</p> | <p>The last paragraph of A.3.9 could be interpreted as prohibiting any direct marking on bare austenitic stainless steel and nickel alloy metal surfaces. As a alternate, paragraphs A.3.9.(1) and (2) may be used to control marking on the surface of austenitic stainless steels and nickel base alloys based on documented engineering evaluations. Contamination levels are controlled such that the material used for marking is not detrimental to the materials marked.</p> |

**Table 1
Regulatory Commitments**

F. Regulatory Guide 1.39, Housekeeping Requirements for Water-Cooled Nuclear Power Plants, Revision 2, dated September 1977

ANSI N45.2.3-1973, Housekeeping During the Construction Phase of Nuclear Power Plants

Clarification/Exception

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|----|-------------------------------|---|
| 1. | ANSI N45.2.3
General | The ANSI five level zone designation system may not be utilized, but the intent of the standard will be met for the areas of housekeeping, plant and personnel safety, and fire protection. |
| 2. | ANSI N45.2.3
Section 3.1 | This section is not applicable. |
| 3. | ANSI N45.2.3
Section 3.2.3 | The Fire Protection Program shall be used in lieu of the general requirements in this section. |
| 4. | ANSI N45.2.3
Section 3.3 | The first paragraph is not applicable to the operations phase. |
| 5. | ANSI N45.2.3
Section 3.4 | This section is not applicable. |
| 6. | ANSI N45.2.3
Section 3.5 | Subparagraph (1) is not applicable to the operations phase; (2), (3), and (4) will be implemented. |

**Table 1
Regulatory Commitments**

G. Regulatory Guide 1.58, Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel, Revision 1, dated September 1980

ANSI N45.2.6-1978, Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants

Clarification/Exception

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|----|-----------------------------|---|
| 1. | General | NPPD may choose not to apply the requirements of this guide to those personnel who are involved in day-to-day operations, surveillance, maintenance, and certain technical and support services whose qualifications are controlled by the Technical Specifications or other QAPD commitment requirements. |
| 2. | General | Certification of inspectors in accordance with this guide is approved by a manager responsible for quality assurance. |
| 3. | ANSI N45.2.6
Section 1.2 | Paragraph 4 requires that the standard be imposed on personnel other than licensee employees; the applicability of this standard to suppliers will be documented and applied, as appropriate, in procurement documents for such suppliers. |
| 4. | ANSI N45.2.6
Section 1.2 | The requirements of this standard do not apply to personnel using later editions of ASNT contained within 10CFR50.55a approved ASME editions or addenda. |
| 5. | ANSI N45.2.6
Section 2.3 | This section requires, in part, that any person who has not performed inspection, examination, or testing activities in his qualified area for a period of one year shall be re-evaluated. A 90-day grace period may be applied to this activity. For activities deferred in accordance with the 90-day grace period, the next performance due date will be based on their originally scheduled date. |
| 6. | ANSI N45.2.6
Section 2.5 | This section's requirements are clarified with the stipulation that, where no special physical characteristics are required, none will be specified. The converse is also true: if no special physical requirements are stipulated, none are considered necessary. |
| 7. | ANSI N45.2.6
Section 3.5 | NPPD reserves the right to use personnel who do not meet these experience requirements but have shown capability through training and testing or capability demonstration. |

Table 1
Regulatory Commitments

- H. **Regulatory Guide 1.64, Quality Assurance Requirements for the Design of Nuclear Power Plants, Revision 2, dated June 1976**

ANSI N45.2.11-1974, Quality Assurance Requirements for the Design of Nuclear Power Plants

Clarification/Exception

1. **ANSI N45.2.11 Section 5.2.4** For the documentation of inter-disciplinary design reviews, there must be documented evidence of the acceptability of design documents, or portions thereof, prior to release (material, stress, physics, mechanical, electrical, concrete, etc.). Indication of the positive concurrence of those who determine the design acceptability relative to their respective disciplinary area of concern should be on the document or on a separate form traceable to the document. A document that indicates the reviewer's comments need not be retained.

Table 1
Regulatory Commitments

- I. **Regulatory Guide 1.74, Quality Assurance Terms and Definitions**, dated February 1974
ANSI N45.2.10-1973, Quality Assurance Terms and Definitions

Clarification/Exception

1. ANSI N45.2.10, Section 2 Definitions for "Certificate of Conformance" and "Certificate of Compliance" may be exchanged based upon the guidance in ANSI N45.2.13 Section 10.2.

**Table 1
Regulatory Commitments**

J. Regulatory Guide 1.88, Collection, Storage, and Maintenance of Nuclear Power Plants Quality Assurance Records, Revision 2, dated October 1976

ANSI N45.2.9-1974, Requirements for Collection, Storage and Maintenance of Quality Assurance Records for Nuclear Power Plants

Clarification/Exception

- | | | |
|----|-------------------------------|---|
| 1. | RG 1.88
Section C | <p>NPPD may meet the requirements of ANSI/ASME NQA-1-1983, Supplement 17S-1 Section 4.4 in lieu of N45.2.9 Section 5.6 or the discussions in this section for Records Storage Facilities with the clarification that penetrations providing fire protection, lighting, temperature/humidity control, or communications are acceptable as long as the penetration maintains the required fire resistance.</p> <p>Except that as an alternate to these requirements non-permanent records (e.g., 3 years retention records) may be stored and maintained by the originating organization in one-hour minimum fire rated file cabinets located in environmentally controlled facilities that have suitable fire protection. Suitable fire protection is provided by either an automatic sprinkler system or a combination of two or more of the following: 1) automatic fire alarms, 2) hose stations, or 3) portable extinguishers.</p> |
| 2. | ANSI N45.2.9
Section 1.4 | <p>Documents may be considered completed when they are "completely filled out" (i.e., when sufficient information is recorded to fulfill the record's intended purpose) and the adequacy of the document (e.g., legibility) has been accepted by the document control or records management organizations or designees.</p> |
| 3. | ANSI N45.2.9
Section 3.2.2 | <p>The requirements for an index discussed in this section are considered to only require that a method of retrieving the record and controlling the identified information be established.</p> |

**Table 1
Regulatory Commitments**

J. Regulatory Guide 1.88 (continued)

Clarification/Exception

- | | | |
|----|-------------------------------|---|
| 4. | ANSI N45.2.9
Section 5.4.2 | Instead of the requirements of this section, NPPD will comply with the following: Records shall not be stored loosely. They shall be secured for storage in file cabinets or on shelving in containers. Methods other than binders, folders, or envelopes (e.g., dividers or boxes) may be used to organize records for storage. This section is not applicable to special processed records controlled in accordance with Section 5.4.3 when the requirements of this section are not appropriate for the record type. |
| 5. | ANSI N45.2.9
Section 5.4.3 | Instead of the requirements of this section, NPPD may comply with the following: Provisions shall be made for special processed records such as radiographs, photographs, negatives, microfilm, and magnetic media to prevent damage from excessive light, stacking, electromagnetic fields, temperature, and humidity as appropriate to the record type with appropriate consideration of packaging and storing recommendations as provided by the manufacturer of these materials. |
| 6. | ANSI N45.2.9
Section 5.5 | Routine general office and nuclear site security systems and access controls are provided; no special security systems are required to be established for record storage areas. |
| 7. | ANSI N45.2.9
Section 5.6 | NPPD may meet the requirements of ANSI/ASME NQA-1-1983, Supplement 17S-1 Section 4.4 in lieu of this section or the discussions in this section for Records Storage Facilities with the clarification that penetrations providing fire protection, lighting, temperature/humidity control, or communications are acceptable as long as the penetration maintains the required fire resistance. |

Except that as an alternate to these requirements non-permanent records (e.g., 3 years retention records) may be stored and maintained by the originating organization in one-hour minimum fire rated file cabinets located in environmentally controlled facilities that have suitable fire protection. Suitable fire protection is provided by either an automatic sprinkler system or a combination of two or more of the following: 1) automatic fire alarms, 2) hose stations, or 3) portable extinguishers.

**Table 1
Regulatory Commitments**

K. 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, Revision 1, dated April 1976

ANSI N45.2.5-1974, Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants

Clarification/Exception

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|----|-------------------------------|--|
| 1. | ANSI N45.2.5
Section 2.2 | Appropriate requirements for installation, inspection, and tests will be set forth by job specifications and work instructions developed as a part of the modification work package. It is not intended that separate procedures be established which specifically address the various areas of ANSI N45.2.5-1974. However, in the development of the work package, consideration will be given to the areas outlined in Section 2.2 of the ANSI standard, as appropriate. |
| 2. | ANSI N45.2.5
Section 2.3 | With respect to structural concrete, acceptability shall be documented in accordance with NPPD's Dedication Procedures. |
| 3. | ANSI N45.2.5
Section 2.5 | The requirements of control and calibration of measuring and test equipment set forth by this ANSI standard shall be applied to all measuring and test equipment used by NPPD or their agents, test laboratories, and contractors. Such requirements, however, will not be imposed on commercial batch plant facilities. Instrumentation at commercial batch plant facilities will be evaluated by appropriate NPPD personnel to determine that sufficient accuracy can be obtained. |
| 4. | ANSI N45.2.5
Section 2.5.2 | The last sentence requires that all items inspected with maintenance and test equipment which is found to be out of calibration shall be considered unacceptable. CNS will comply with QAPD Section B.9.g as an alternate. QAPD Section B.9.g requires an evaluation to determine the validity of previous measurements. |
| 5. | ANSI N45.2.5
Section 3.3 | Design mixes consistent with, or equivalent to, original requirements will be specified and the results of the cylinder tests will be evaluated by NPPD based on the acceptance criteria associated with the original design mix requirements. |

Table 1
Regulatory Commitments

K. Regulatory Guide 1.94 (continued)

Clarification/Exception

- | | | |
|----|-----------------------------|---|
| 6. | ANSI N45.2.5
Table A | For small quantities of concrete involved in modification work, all concrete must be purchased from commercial concrete batch plants. For these small quantities of concrete, it is unreasonable to expect commercial facilities to shut down normal operations to provide certified aggregate, cement, admixtures, fly ash, water, etc. In this respect the qualification tests required by Table A of the ANSI Standard for aggregate; cement, admixtures, fly ash, and pozzolans; water and ice will not be required. Appropriate evaluations will be made to determine that good quality and generally-acceptable materials are used. NPPD evaluation, coupled with slump tests, air entrainment tests, and concrete cylinder strengths, will provide adequate control and qualification of the concrete. |
| 7. | ANSI N45.2.5
Section 4.2 | The inspection requirements of Section 4.2 of the ANSI standard will not generally be performed as the small quantities of concrete involved in modification work will no doubt be mixed using materials already in the batch plant bins. Control of storage of materials would not be practicable. |
| 8. | ANSI N45.2.5
Section 4.3 | If available, appropriate certifications shall be obtained from the concrete supplier which verify the adequacy of truck mixers per the requirements of American Concrete Institute (ACI) -304, American Society for Testing and Materials (ASTM) C-94. Where certifications are not available, two concrete test cylinders representing the first and last one-third of truck mixer contents shall be taken for evaluation of the mixer truck, over and above the normal concrete cylinders taken to evaluate the in-place concrete. The concrete batch plant facility shall be inspected by NPPD and the CNS QA Staff to assure that reasonable controls are being exercised with reference to the inspection guidelines set forth by Section 4.3 (1) and (2) of this standard. |
| 9. | ANSI N45.2.5
Section 4.4 | Inspection of fills and earthwork will meet the general requirements set forth. The extent to which individual inspection requirements are met will depend upon the nature and scope of the work to be performed. |

**Table 1
Regulatory Commitments**

K. Regulatory Guide 1.94 (continued)

Clarification/Exception

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|-----|-----------------------------|--|
| 10. | ANSI N45.2.5
Section 4.5 | <p>When using ACI-305-72 and ACI-306-66, NPPD may apply the following requirements:</p> <p>During hot weather concreting, placing temperatures of concrete will be limited to the following: 1) Concrete members less than 3 feet in least dimension will not exceed 90°F; 2) Concrete members from 3 feet to 6 feet in least dimension will not exceed 70°F; and 3) Concrete members more than 6 feet in least dimension will have placing temperature as near 50°F as can be obtained by use of ice as necessary up to 100 percent of adding mixing water; and by shading aggregate and sprinkling the coarse aggregate the day it is to be used. Care will be taken so that no unmelted ice remains in the concrete at the end of the mixing period.</p> <p>During cold weather concreting: In heating the water and aggregate, live steam to heat the fine and coarse aggregate shall not be used. The permissible range for concrete temperature shall be as follows: 1) Sections less than 3 feet in least dimensions 55°F to 75°F; and 2) Mass concrete 3 feet or more in least dimension 45°F to 65°F. The mixing water and aggregate will be purchased as required. The materials will be free of ice, snow and frozen lumps before they enter the mixer.</p> |
| 11. | ANSI N45.2.5
Table B | <p>As an alternate to daily testing grout for compressive strength, for prepackaged shelf item, non-shrink grout, the grout's compressive strength tests may be performed once on each batch of non-shrink grout received, rather than each day grout is placed.</p> |
| 12. | ANSI N45.2.5
Table B | <p>Except for normal batch qualification tests (slump, air content, temperature, and compressive strength) and initial reinforcing steel certifications, the in-process tests required by Table B of ANSI N45.2.5-1974 are generally applicable to the periodic control which must be exercised with reference to long-term construction type programs. The in-process test requirement of Table B of the ANSI Standard are not considered applicable to short-term modification work as would be required by QA Program at CNS.</p> |

Table 1
Regulatory Commitments

K. Regulatory Guide 1.94 (continued)

Clarification/Exception

**13. ANSI N45.2.5
Section 4.8**

For the performance of correlation tests, the requirements of this standard may be modified as discussed below:

Table B, "Reinforcing Steel:" In-process testing of reinforcing steel will include the mechanical properties of yield strength, tensile strength and percent elongation on full size specimens for each bar size for each 50 tons or fraction thereof from each mill heat. Bend tests are performed during material qualification testing only, except as noted below for bar sizes #14 through #18.

Table A, "Required Qualification Tests" as applied to reinforcing steel will include bend tests as required by ASTM A615 and summarized in the following: a) For bar sizes #3 through #11, one full size specimen from largest bar size rolled from each mill heat, unless material from one heat differs by three or more designation numbers. When this occurs, one bend test shall be made from both the highest and lowest designation number of the deformed bars rolled; b) For bar sizes #14 through #18, Supplementary Requirements S1 of ASTM A615 will be applied, i.e., one fullsize specimen for each bar size for each mill heat. If supplementary requirements are not followed for mill tests, they will be applied as in-process tests.

In-process test specimens may be selected at the rebar fabrication shop, prior to start of fabrication of the rebar from the heat or fraction thereof represented by the test specimen.

Acceptance criteria for any failed test (qualifications as well as in-process) may be the same as that for tensile tests specified in Subarticle CC-2331.2 of ASME Section III, Div. 2 Code (1975). This states that if a test specimen fails to meet the specified strength requirements, two (2) additional specimens from the same heat and of the same bar size would be tested, and if either of the two additional specimens fails to meet the specified strength requirements, the material represented by the tests would be rejected for the specified use. Alternative use of rejected material under strict control may be subject to evaluation by engineering.

Table 1
Regulatory Commitments

K. Regulatory Guide 1.94 (continued)

Clarification/Exception

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| <p>14. ANSI N45.2.5
Section 4.9</p> | <p>NPPD may interpret the terms "horizontal, vertical and diagonal bars" to apply respectively to the following types of splice positions: a. Horizontal, including 10° to horizontal; b. Vertical, including 10° to vertical; and c. 45° angle, including 10° to 80° angle. The words "splicing crew" are interpreted to refer to all project members that are actively engaged in preparing and assembling cadweld mechanical splices at the final splice location. Separate test cycles will be established for each bar size and each splice position.</p> |
| <p>15. ANSI N45.2.5
Section 5.5</p> | <p>NPPD will comply with inspection requirements of the applicable welding codes and any exceptions instead of this section.</p> |

Table 1
Regulatory Commitments

- L. Regulatory Guide 1.116, Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems, Revision 0-R, dated June 1976

ANSI N45.2.8-1975, Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants

Clarification/Exception

1. ANSI N45.2.8 Section 3 Documented routine inspections and audits of the storage area may be performed instead of the requirements of this section.

**Table 1
Regulatory Commitments**

M. Regulatory Guide 1.123, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Plants, Revision 1, dated July 1977

ANSI N45.2.13-1976, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants

Clarification/Exception

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|----|--------------------------------|--|
| 1. | RG 1.123
Paragraph C.6.e | This paragraph shall be implemented as originally written in N45.2.13 (i.e., with the verb "should" instead of the verb "shall"). NPPD retains the ultimate responsibility for performance of purchased equipment. The appropriate engineering discipline will exercise this management/engineering prerogative with respect to the final decision on post installation test requirements. |
| 2. | ANSI N45.2.13
Section 1.2.2 | Item c is an option which may be used to assure quality; however, any option given in 10 CFR 50 Appendix B, Criterion VII as implemented by the QAPD may also be used. |
| 3. | ANSI N45.2.13
Section 1.3 | Instead of the definition provided for QA Program Requirements, NPPD will comply with the following: "Those individual requirements of the QAPD which, when invoked in total or in part, establish quality assurance program requirements for the activity being controlled. Although not specifically used in the QAPD, ANSI N45.2 may be imposed upon suppliers." |
| 4. | ANSI N45.2.13
Section 3.1 | The "same degree of control" is stipulated to mean "equivalent level of review and approval." The changed document may not always be reviewed by the originator; however, at least an equivalent level of management/supervision shall review and approve any changes. |
| 5. | ANSI N45.2.13
Section 3.1 | Changes to procurement documents which are changes in quantity, estimated price, cost codes, taxes, format or editorial changes that do not affect the quality of the item or service do not require an equivalent level of review and approval as the original document. |

**Table 1
Regulatory Commitments**

M. Regulatory Guide 1.123 (continued)

		Clarification/Exception
6.	ANSI N45.2.13 Section 3.4	The requirements of the QAPD will be implemented instead of this section.
7.	ANSI N45.2.13 Section 4.2	Supplier evaluations may be performed any time prior to placing the purchased item in service.
8.	ANSI N45.2.13 Section 8.2 Item b	Non-conformance notices for conditions described in this section are only required to be submitted to NPPD when the non-conformance could adversely affect the end use of an item relative to safety, interchangeability, operability, reliability, integrity or maintainability.
9.	ANSI N45.2.13 Section 10.2 Item d	The section states that the certificate should be attested to by a person who is responsible for this QA function whose function and position are described in the Purchaser's/Supplier's QA program. As an alternate to this requirement, NPPD may use the following: "The person attesting to a certificate shall be an authorized and responsible employee of the supplier, and shall be identified by the supplier."

**Table 1
Regulatory Commitments**

N. Regulatory Guide 1.144, Auditing of Quality Assurance Programs for Nuclear Power Plants, Revision 1, dated September 1980

ANSI N45.2.12-1977, Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants

Clarification/Exception

- | | | |
|----|--------------------------------|---|
| 1. | RG 1.144
Section C.3.a.(2) | This section is not applicable. |
| 2. | RG 1.144
Section C.3.b.(2) | In addition to the requirements of this section, previously evaluated and approved active suppliers for which auditing is not the selected method of source verification should be evaluated concurrent with the award of a contract. Regardless of the evaluation results, active suppliers (except those excluded under C.3.b(1)) are source verified (audit, surveillance or inspection) within two years prior to award of a contract or have source verification performed. Inactive suppliers are evaluated prior to supplying items or services. An audit shall be conducted if required to determine the acceptability of procured items or services (i.e. acceptability cannot be determined by receipt inspection or another method allowable under 10 CFR 50 Appendix B, Criterion VII). |
| 3. | RG 1.144
Section C.3.b.(2) | This section requires that supplier audits be performed on a triennial basis. A 90-day grace period may be applied to this activity. For activities deferred in accordance with the 90-day grace period, the next performance date will be based on their originally scheduled date. |
| 4. | RG 1.144
Section C.3.b.(2) | Instead of the annual documented evaluation of suppliers discussed in this section, an ongoing evaluation of supplier performance is conducted which takes into account, where applicable, the other considerations of this section and paragraph of the Regulatory Guide. |
| 5. | ANSI N45.2.12
Section 4.3.1 | Pre-audit and post-audit conferences may be fulfilled by a variety of communications, such as telephone conversation. |
| 6. | ANSI N45.2.12
Section 4.3.1 | Pre-audit and post-audit conferences are only held when deemed necessary by quality assurance or when requested by the audited organization. |

**Table 1
Regulatory Commitments**

N. Regulatory Guide 1.144 (continued)

Clarification/Exception

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|-----|----------------------------------|--|
| 7. | ANSI N45.2.12
Section 4.3.2.2 | This subsection could be interpreted to limit auditors to the review of only objective evidence; sometimes and for some program elements, no objective evidence may be available. NPPD will comply with an alternate sentence which reads: "When available, objective evidence shall be examined for compliance with QAPD requirements. If subjective evidence is used (e.g., personnel interviews) then the audit report must indicate how the evidence was obtained." |
| 8. | ANSI N45.2.12
Section 4.3.3 | Pre-audit and post-audit conferences are only held when deemed necessary by quality assurance or when requested by the audited organization. |
| 9. | ANSI N45.2.12
Section 4.3.3 | Pre-audit and post-audit conferences may be fulfilled by a variety of communications, such as telephone conversation. |
| 10. | ANSI N45.2.12
Section 4.4 | Instead of the last sentence of the last paragraph of the section, NPPD will comply with the following: The audit report shall be issued within thirty working days after the last day of the audit. The last day of an audit shall be considered to be the day of the post-audit conference. If a post-audit conference is not held because it was deemed unnecessary, the last day of the audit shall be considered to be the date the post-audit conference was deemed unnecessary as documented in the audit report. |
| 11. | ANSI N45.2.12
Section 4.5.1 | The QAPD Section A.6 corrective action program may be used instead of these requirements as long as the appropriate time limits are applied to significant conditions adverse to quality. Also, no additional documentation is necessary if needed corrective actions are taken and verified prior to audit report issuance. |

**Table 1
Regulatory Commitments**

O. Regulatory Guide 1.146, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants, Revision 0, dated August 1980

ANSI N45.2.23-1978, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants

Clarification/Exception

- | | | |
|----|--|--|
| 1. | ANSI N45.2.23
Section 2.3.1.3 | Holders of NRC-issued Reactor Operator/Senior Reactor Operator Licenses comply with the requirements of this section and may be awarded two credits. |
| 2. | ANSI N45.2.23
Section 2.3.4 | Prospective lead auditors shall demonstrate their ability to effectively implement the audit process and lead an audit team. They shall have participated in at least one audit within the year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively lead audits, licensee management may designate a prospective lead auditor as a "lead auditor". |
| 3. | ANSI N45.2.23
Sections 3.2 and
5.3 | These sections require that an annual assessment be performed of each lead auditor's qualification and that each lead auditor's records be updated annually. A 90-day grace period may be applied to these activities. For activities deferred in accordance with the 90-day grace period, the next performance due date will be based on their originally scheduled date. |

NLS2004138
ENCLOSURE 2

REVISED PAGES OF
CNS QUALITY ASSURANCE PROGRAM
FOR OPERATION POLICY DOCUMENT

PRIOR TO REVISION 15

**CNS QA PROGRAM FOR OPERATION POLICY DOCUMENT
LIST OF EFFECTIVE PAGES**

<u>Page No.</u>	<u>Date</u>	<u>Page No.</u>	<u>Date</u>
Title Page	11/01/02	2-30	04/30/04
List of Effective Pages		2-31	04/30/04
Page 1	04/30/04	2-32	04/30/04
i	04/30/04	2-33	04/30/04
ii	04/30/04	2-34	04/30/04
iii	04/30/04	2-35	04/30/04
iv	11/01/02	3-1	11/01/02
v	04/30/04	3-2	11/01/02
1-1	11/01/02	4-1	04/30/04
1-2	11/01/02	5-1	07/24/03
1-3	11/01/02	5-2	07/24/03
1-4	11/01/02	6-1	07/09/03
1-5	11/01/02	6-2	11/01/02
1-6	04/30/04	6-3	11/01/02
1-7	11/01/02	6-4	04/30/04
1-8	04/30/04		
1-9	11/01/02		
1-10	11/01/02		
1-11	11/01/02		
2-1	04/30/04		
2-2	04/30/04		
2-3	04/30/04		
2-4	04/30/04		
2-5	04/30/04		
2-6	04/30/04		
2-7	04/30/04		
2-8	04/30/04		
2-9	04/30/04		
2-10	04/30/04		
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2-25	04/30/04		
2-26	04/30/04		
2-27	04/30/04		
2-28	04/30/04		
2-29	04/30/04		

NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
QUALITY ASSURANCE PROGRAM FOR OPERATION POLICY DOCUMENT

TABLE OF CONTENTS

Table of Contents i

List of Acronyms. iv

Corporate Policy Statement v

1.0 PROGRAM OVERVIEW 1-1

 1.1 Policy..... 1-1

 1.2 Scope..... 1-2

 1.3 Definition of Terms 1-3

2.0 SUMMARY DESCRIPTION 2-1

 2.1 10CFR50, Appendix B, Criterion I: Organization..... 2-1

 2.1.1 President and Chief Executive Officer 2-2

 2.1.2 Vice President - Nuclear 2-2

 2.1.2.1 Executive Management 2-2

 2.1.2.2 Management functions 2-2

 2.1.3 On-site and Off-site Safety Review Committees 2-3

 2.1.4 QA Division 2-4

 2.1.4.1 General Manager of Support 2-4

 2.1.4.2 QA Management 2-5

 2.1.4.3 QA Division Staff 2-6

 2.1.5 Management 2-6

 2.1.6 CNS Personnel 2-6

 2.1.7 Safety Review and Audit Board (SRAB)..... 2-7

 2.1.7.1 SRAB Membership 2-7

 2.1.7.2 SRAB Responsibilities 2-8

 2.1.8 Station Operations Review Committee (SORC) 2-9

	2.1.8.1 SORC Membership	2-9
	2.1.8.2 SORC Responsibilities	2-10
	2.1.9 Outside Contractors	2-11
	2.1.10 Independent Qualified Reviewer/Independent Qualified Approver	2-12
2.2	10CFR50, Appendix B, Criterion II: Quality Assurance Program	2-14
2.3	10CFR50, Appendix B, Criterion III: Design Control	2-16
2.4	10CFR50, Appendix B, Criterion IV: Procurement Document Control	2-19
2.5	10CFR50, Appendix B, Criterion V: Instructions, Procedures & Drawings	2-20
2.6	10CFR50, Appendix B, Criterion VI: Document Control	2-22
2.7	10CFR50, Appendix B, Criterion VII: Control of Purchased Material, Equipment, and Services	2-22
2.8	10CFR50, Appendix B, Criterion VIII: Identification and Control of Parts, Materials, and Components	2-23
2.9	10CFR50, Appendix B, Criterion IX: Control of Special Processes	2-24
2.10	10CFR50, Appendix B, Criterion X: Inspection	2-24
2.11	10CFR50, Appendix B, Criterion XI: Test Control	2-25
2.12	10CFR50, Appendix B, Criterion XII: Control of Measuring and Test Equipment	2-25
2.13	10CFR50, Appendix B, Criterion XIII: Handling, Storage, and Shipping	2-26
2.14	10CFR50, Appendix B, Criterion XIV: Inspection, Testing, and Operating Status	2-27
2.15	10CFR50, Appendix B, Criterion XV: Nonconforming Materials, Parts, or Components	2-27
2.16	10CFR50, Appendix B, Criterion XVI: Corrective Action	2-28

2.17	10CFR50, Appendix B, Criterion XVII: Quality Assurance	
	Records...	2-29
	2.17.1 Records Authentication	2-29
	2.17.2 Records Retention and Disposition	2-30
	2.18 10CFR50, Appendix B, Criterion XVIII: Audits	2-32
	2.19 Additional ANSI Standards	2-33
3.0	CONTROL OF COMPUTER SOFTWARE AND DATA	3-1
	3.1 Program Requirements	3-1
	3.2 Applicability...	3-1
4.0	QUALITY ASSURANCE DOCUMENTS	4-1
	4.1 Station Procedures	4-1
	4.2 Nuclear Quality Procedures (NQPs)	4-1
	4.3 Quality Assurance Plans (QAPs)	4-1
5.0	REFERENCES...	5-1
6.0	TABLES	6-1
6.1	Table 1: Systems and Components Within Scope of the Quality Assurance Program	6-1
6.2	Table 2: Three Level Quality Assurance Program, Explanation of First, Second, and Third Level QA Responsibilities	6-4

CORPORATE POLICY STATEMENT

This document establishes and describes the policies and practices of the Quality Assurance Program applicable to the operation of the Cooper Nuclear Station and the support activities of all Nebraska Public Power District (NPPD) Nuclear Divisions. NPPD's policy with respect to nuclear safety and quality assurance is detailed in this document.

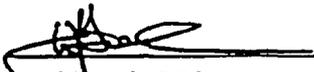
Each Nuclear Division is responsible for the development of policies and procedures which implement this Quality Assurance Program. Other divisions and departments at NPPD may also have responsibilities under this program and shall comply as described in appropriate implementing procedures.

The Safety Review and Audit Board, Station Operations Review Committee, and the Quality Assurance Division shall monitor NPPD's nuclear program and provide management with evaluations and assessments regarding the effectiveness of implementation of the program. When evaluations and assessments identify a concern, management shall take expeditious action to correct any undesirable condition(s) including, when appropriate, action to preclude repetition of such condition(s).

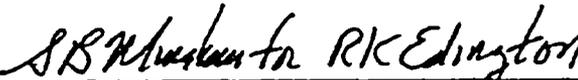
NPPD personnel shall have the organizational freedom to identify concerns and propose corrective and preventive action necessary to enhance NPPD's nuclear program.

The assurance of safe and reliable operation of Cooper Nuclear Station is everyone's duty. Quality shall be everyone's responsibility.

APPROVED:



President & CEO



| Vice President - Nuclear



General Manager of Support

1.3.16 Lower Tier Procurement

Procurement by a supplier from a sub-supplier of items or services.

1.3.17 Maintenance Procedures

Written instructions which define a preplanned maintenance program and prescribe the methods, materials, and processes to be used to assure continuing quality and continuing operation of equipment within required performance characteristics.

1.3.18 Management

The Cooper Nuclear Station management comprised of the Vice President - Nuclear (VP - Nuclear), Senior Level Managers, and all other Managers and Supervisors at Cooper Nuclear Station.

1.3.19 Maintenance, Repair, or Modification

Those maintenance, repair, or modification activities performed on nuclear safety-related structures, systems, or components which involve:

- (a) Special craft or procedure qualifications to meet Code, Standard, or Regulatory requirements;
- (b) Alterations which affect overall structural integrity, essential performance characteristics, or margins of safety in design for nuclear safety-related structures, systems, or components;
- (c) Any permanent change to the facility that requires a Technical Specification change or NRC approval pursuant to 10CFR50.59(c)(2).

1.3.20 Minor Maintenance, Repair, or Modification

Those maintenance or repair activities which are within a journeyman craftsman's capability, and which:

- (a) Are prescribed in the equipment manufacturer's instruction books as necessary or desirable for most effective operation;
- (b) Are prescribed as part of a preplanned and approved routine or preventative maintenance program;
- (c) Any permanent change to the facility judged significant enough to warrant documentation that does not require a change in Technical Specification or require NRC approval pursuant to 10CFR50.59(c)(2).

- (c) Appropriate documentation is maintained to show compliance with (a) and (b) above.

1.3.28 Quality Assurance Management

The Quality Assurance Division Management at CNS comprised of the VP - Nuclear, the General Manager of Support, the QA Manager and all supervisors within the QA Division.

1.3.29 Quality Assurance Plans (QAPs)

QAPs provide guidance for QA oversight through the audit function by describing specific requirements associated with the scope and frequency of audits. QAPs define the specific work which is to be subjected to QA review, surveillance, and audit, and the manner in which such review, surveillance, and audit is to be implemented.

1.3.30 QA Program Procedures

Those documents inclusive of the QA Program Policy Document, QA Program Procedure, NQPs, QAPs, and station procedures (and associated data sheets), logs, etc., prepared and approved in accordance with the applicable regulatory requirements, including 10CFR50 Appendix B. These documents provide detailed requirements for a given functional area through application of the 18 criteria of 10CFR50 Appendix B except for QAPs which apply only to the audit function requirements and scope.

1.3.31 Quality Assurance Records

Those records which have been completed and furnish documentary evidence of the quality of items and/or activities affecting quality. (Refer to ANSI N45.2.9 - 1974, Appendix A) Control provisions shall be established for in-process records at the point at which they attest to completion of quality related activities.

1.3.32 Quality Commercial Grade

Procurement classification of a Commercial Grade Item (CGI) which meets the 10CFR21 definition of CGI and is intended for safety-related use, is procured from a QA approved source and is dedicated in accordance with approved station procedures.

1.3.33 Quality Control

Those activities which deal directly with the measurement, observation, or verification of physical characteristics of materials, components, or systems which provide a basis for controlling quality to within predetermined limits, or requirements, including adequate quantitative and/or qualitative acceptance criteria.

2.0 SUMMARY DESCRIPTION

This section defines the NPPD commitments for compliance to the 18 criteria of 10CFR50 Appendix B as applied to safety-related SSCs associated with CNS. Portions of these criteria are selectively applied to non safety-related SSCs as determined by risk significance or conditions of the license. This section also contains provisions identifying NPPD commitments to selected ANSI standards, associated NRC Regulatory Guides, and other pertinent codes, standards, requirements, and practices. The organizational structure applicable to the QA Program is defined including a description of functional responsibilities.

2.1 10CFR50, Appendix B, Criterion I: Organization

NPPD is solely responsible for the operation of CNS and will fulfill the objectives set forth in the QA Program through its own organization and by contract with qualified contractors and consultants.

The overall QA Program shall be implemented in accordance with three levels of responsibility:

First Level - Work Performance and Quality Control,

Second Level - Management/Supervision Oversight,

Third Level - Quality Assurance Audit/Surveillance.

Table 2 defines these three levels of QA as they are to be implemented for station operation. The three level concept is applicable to all safety-related activities conducted at CNS and select risk significant activities or those activities performed to meet conditions of the license.

It is intended that clearly separate lines of responsibility be maintained between those responsible for the operation of CNS and those responsible for QA oversight to verify that all quality and licensing requirements are consistently being met. QA responsibilities will vary depending upon the type of activity involved.

The following discussion highlights key management positions and/or functions applicable to the QA Program. A more detailed functional organization chart of CNS Managers is located in the CNS USAR.

| The organizational structure responsible for implementation of the QAPD is described
| below. The specific organization titles for the quality assurance functions described are
| identified in procedures. The authority to accomplish the quality assurance functions
| described is delegated to the incumbent's staff as necessary to fulfill the identified
| responsibility.

2.1.1 President and Chief Executive Officer (CEO)

The President and Chief Executive Officer (CEO) represents the highest level of management responsible for establishment of QA policies, goals, and objectives. The responsibility and authority as the Chief Nuclear Officer has been delegated to the VP-Nuclear from the President /CEO. This authority includes the right to direct, enforce, and perform any action required to ensure all activities conducted at CNS are in compliance with 10CFR50, Appendix B.

2.1.2 Vice President - Nuclear (VP - Nuclear)

The VP - Nuclear, reporting to the President/CEO, is the responsible executive officer for all CNS QA related activities. Responsibility includes the implementation of QA activities governing those SSCs that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. The VP - Nuclear reserves the authority to conduct, or order the auditing or monitoring of any operations activity, at any time, to ascertain the effectiveness of the overall QA Program and to determine compliance with all aspects of the QA Program.

2.1.2.1 Executive Management

The following executives report to the VP-Nuclear.

- a) The executive responsible for overall plant operations assures the safe, reliable, and efficient operation of the plant within the constraints of applicable regulatory requirements and the operating license, and is responsible for implementing the quality assurance program. The onsite safety review committee reports to the executive responsible for plant operations.
- b) The executive responsible for support is responsible for establishing the policies, goals, and objectives of the QA program, maintaining the QAPD in accordance with regulatory requirements, and implementing the quality assurance program. The executive responsible for quality assurance is afforded a direct line of communication with the President/CEO.
- c) The executive responsible for engineering is responsible for providing engineering services and implementing the quality assurance program.
- d) The executive responsible for nuclear assurance is responsible for administration of the corrective action program, on and off-site emergency planning, licensing activities, and implementing the quality assurance program.

2.1.2.2 Management Functions

The individuals fulfilling the following management functions report to the executives identified above. These individuals may report through an additional layer of management but shall maintain sufficient authority and organizational freedom to implement the assigned responsibilities. These individuals may fulfill more than one function described below:

- a) The manager responsible for quality assurance has overall authority and responsibility for establishing, controlling, and verifying the implementation and adequacy of the quality assurance program as described in this QAPD including activities related to vendor quality. The manager responsible for quality assurance has the authority to escalate matters directly to the chief executive officer when needed.
- b) The manager responsible for plant operations is responsible for the safe, reliable, and efficient operation of CNS. The manager responsible for plant operations has overall responsibility for startup, shutdown, refueling operations, and day-to-day operation of the plant.
- c) The manager responsible for plant modification provides direction, control, and overall supervision of the implementation of plant modifications and assigned maintenance. Separate managers may be responsible for different modification activities.
- d) The manager responsible for training provides direction, control, and overall supervision of all training of personnel required by regulations.
- e) The manager responsible for records management provides direction, control, and overall supervision of the records management program and associated activities.
- f) The manager responsible for document control provides direction, control, and overall supervision of the document control program and associated activities.
- g) The manager responsible for the corrective action program provides direction, control, and overall supervision of the corrective action program and associated activities.
- h) The manager responsible for engineering is responsible for the development and maintenance of engineering programs, policies, and procedures and for providing engineering services. Different aspects of these responsibilities (e.g., fuel design) may be fulfilled by separate managers.
- i) The manager responsible for materials, purchasing, and contracts is responsible for procurement, services, receipt, storage, and issue of materials, parts, and components. Different aspects of these responsibilities may be fulfilled by separate managers.

2.1.3 On-site/Off-site Safety Review Committees

The on-site and off-site safety review committees independently review activities to provide additional assurance that the units are operated and maintained in accordance with the Operating License and applicable regulations which address nuclear safety.

2.1.4 QA Division

The QA Division, reporting to the VP - Nuclear, shall have complete organizational and functional independence to perform all QA oversight functions.

The QA Division shall periodically, randomly, and situationally review and comment on the CNS Operations Manual procedures to assure that necessary quality requirements are included. Differences of opinion on QA comments shall be resolved as indicated in Section 2.1.4.2 of this QA Program.

Written reports of all QA activities shall be appropriately included in the station records storage facility. Corrective action on deficiencies shall include resolution of the specific deficiency and verification that corrective action has been implemented to prevent occurrence of similar deficiencies in the future. A report of QA activities shall annually be submitted by the General Manager of Support to the VP - Nuclear.

2.1.4.1 General Manager of Support

The General Manager of Support, reporting to the VP-Nuclear, shall have the responsibility and authority for administrating and maintaining the QA Program in accordance with 10CFR50, Appendix B. Inherent in this responsibility is the authority to accept or reject any or all work, materials, or equipment associated with CNS. The General Manager of Support shall direct the preparation of plans and procedures for defining the QA functions associated with CNS to ensure that such functions are conducted in accordance with the CNS Operating License, including the Technical Specifications. The General Manager of Support shall also approve all plans and procedures for defining and auditing the safety-related activities at CNS and NPPD's General Office. The actual audit functions to be performed are defined more completely by the body of NQPs and QAPs described in Section 4.0 of this Policy Document. The General Manager of Support shall also have administrative responsibility for the ongoing development and implementation of the supplier evaluation program, which includes the appropriate reviews of procurement documents and audit/surveillance evaluations of suppliers of nuclear safety-related equipment, materials, spare parts and services.

The General Manager of Support and QA staff shall have the requisite organizational freedom and access within the NPPD organizations that support and operate CNS, in order to institute the necessary QA requirements, identify problems, and pursue timely corrective action.

The General Manager of Support is responsible for oversight of CNS QA activities to the extent necessary for assuring compliance with the QA Program. The effectiveness of the QA Program shall be reviewed periodically with the VP - Nuclear. The General Manager of Support is also afforded a direct line of communication with the President/CEO. The General Manager of Support shall serve as a member of the SRAB and provide additional QA personnel to participate in SRAB activities when requested.

As described in Table 2, the General Manager of Support shall have responsibility for accomplishment of third level QA audits and surveillances and shall seek assistance or expertise when necessary to effectively complete such audits.

The QA Manager shall function as the General Manager of Support during his absence, unless provided otherwise in writing.

2.1.4.2 Quality Assurance Management

QA Management, under the direction of the General Manager of Support, shall have the responsibility and authority for implementing and maintaining the QA Program, as described herein. They shall routinely monitor open QA issues.

They shall have the responsibility and authority to perform, direct, implement, or coordinate Audit and Surveillance Functions for activities and programs within NPPD's nuclear power organizations. QA review of the nuclear design and engineering functions, including configuration management, shall be included in such programs. These activities and programs shall determine if conformance with the CNS QA Program, and applicable federal regulations defined therein, are being maintained.

QA Management shall advise and assist Senior Level Management and their staff in all matters which affect QA and Quality Control (QC) at CNS.

QA Management shall ensure that training programs are provided for QA Division personnel to enable them to effectively execute and monitor the QA Program.

A member of QA Management, or designee, shall serve as a non-voting member of the Station Operations Review Committee (SORC).

QA Management and staff will observe operations, maintenance, in-service inspection, special processes, repair, or modifications, and other safety-related activities covered by the QA Program, and recommend that work stop when such activities, in their opinion, do not comply with approved controlling documents. The cognizant manager is responsible to act on that recommendation and actually stop work unless it is determined such stoppage would result in a violation of Technical Specifications or other approved documents governing station operation, or in cases of overriding considerations regarding personnel or nuclear safety.

QA Management will provide for a coordination function for QC activities at CNS. This includes development and maintenance of program procedures, reviews of inspector certifications and performance, review and acceptance of control methods, and the establishment of a training program. The function will also provide the communication path for the resolution of QC Inspector concerns.

QA Management has authority for establishing, implementing and maintaining the program for evaluating suppliers for safety-related equipment, materials, spare parts, and services, and for auditing the QA/QC activities of such suppliers.

QA Management shall have the responsibility and authority for the control, administration, distribution, maintenance, and coordination of revisions to the QA Program, including implementing documents.

(a) Resolution of Disagreements

Disagreements or differences of opinion on QA matters are expected to be documented and jointly resolved by QA and line personnel. Where such resolution is not achieved within a reasonable period of time, unresolved differences shall be promptly reported to the appropriate level of QA Management for joint resolution with line management, including the General Manager of Support and Senior Level Management personnel, as appropriate.

2.1.4.3 QA Division Staff

QA personnel, as well as personnel from other divisions who may be requested to assist in performing QA activities under the direction of the General Manager of Support, shall have sufficient authority and organizational freedom to:

- (a) Identify quality problems;
- (b) Initiate and recommend solutions for conditions adverse to quality;
- (c) Verify implementation of solutions.

The QA Division, under the direction of the General Manager of Support, shall have the responsibility and authority for implementation and ongoing development of the QA Program. It shall also be the responsibility of the QA Division to monitor the interface between the various NPPD and CNS Divisions in order to evaluate the effectiveness of management in implementing inter-divisional activities affecting quality.

2.1.5 Management

CNS Management is responsible for assessment of the effectiveness of implementation of program elements within their assigned areas, and for timely and effective resolution of conditions adverse to quality. Management shall assure that activities under their control are conducted in accordance with the CNS QA Program. This includes, but is not limited to, timely response to QA Division Audit and Surveillance findings and implementation of appropriate corrective or preventive actions. For those aspects of fuel management covered by the QA Program, Management responsible for the fuel and reactor engineering function shall be responsible to furnish technical assistance as required to the General Manager of Plant Operations and the QA Division Staff. Such assistance shall not replace or supersede formal audits. NPPD Management shall be responsible to maintain focus on nuclear safety.

2.1.6 CNS Personnel

The operational duties and responsibilities of CNS personnel, are described in the CNS Operations Manual. Sufficient numbers of licensed and senior licensed operating personnel will be available to assure proper operation of the station. Station personnel are responsible for assuring that the station is tested, operated, maintained, and modified in accordance with approved plans and procedures. In addition, station personnel are assigned QC inspection functions.

Occasionally, assistance in performing QA Division functions will be required from trained technical, engineering, or other station personnel who are not members of the QA Division. During the time personnel are performing QA Division functions, they shall be responsible to the QA Division to maintain the organizational independence required by the QA Program.

2.1.7 Safety Review and Audit Board (SRAB)

The SRAB has been established to provide independent review and audit of designated activities. The responsibility and authority over the SRAB has been delegated to the VP - Nuclear.

2.1.7.1 SRAB Membership

Membership is seven (7), to include:

- (a) Chairman
- (b) Vice-Chairman
- (c) Five Members
- (d) Consultants (as required)

The Board members shall have the collective capability required to review problems in the following areas:

- (a) nuclear power plant operations,
- (b) nuclear engineering,
- (c) chemistry and radiochemistry,
- (d) metallurgy,
- (e) instrumentation and control,
- (f) radiological safety,
- (g) mechanical and electrical engineering,
- (h) quality assurance practices,
- (i) and other appropriate fields associated with the unique characteristics of the nuclear power plant involved.

When the nature of a particular problem dictates, special consultants will be utilized.

Alternate members shall be appointed in writing by the Chairman to serve on a temporary basis. No more than two alternates shall serve on the Board at any one time.

Meeting frequency is semiannual, and as required on call of the Chairman.

Quorum is five (5), including Chairman or Vice Chairman, plus four members, including alternates. No more than a minority of the quorum shall be from groups holding line responsibility for the operation of the plant.

1 The General Manager of Support shall serve as a member of the SRAB.

2.1.7.2 SRAB Responsibilities

The following subjects shall be reported to, and reviewed by, the SRAB.

- (a) The evaluations for 1) changes to procedures, equipment or systems and 2) tests or experiments completed under the provisions of 10CFR50.59, to verify that such actions did not require NRC approval pursuant to 10CFR50.59(c)(2).
- (b) Proposed changes to procedures, equipment or systems which require NRC approval pursuant to 10CFR50.59(c)(2).
- (c) Proposed tests or experiments which require NRC approval pursuant to 10CFR50.59(c)(2).
- (d) The evaluations performed in accordance with GL 86-10 for changes to the fire protection program and implementing procedures to verify that such actions did not require NRC approval.
- (e) Proposed changes to Technical Specifications or the CNS Operating License.
- (f) Violations of applicable codes, regulations, orders, Technical Specifications, license requirements, or internal procedures or instructions having nuclear safety significance.
- (g) Significant operating abnormalities or deviations from normal and expected performance of plant equipment that could affect nuclear safety.
- (h) All reportable events specified in 10CFR50.73.
- (i) Any indication of an unanticipated deficiency in some aspect of design or operation of safety-related structures, systems, or components.
- (j) Minutes of meetings of the SORC.
- (k) Disagreement between the recommendations of the SORC and the SORC Chairman.
- (l) Review of events covered under e, f, g, and h above shall include reporting the results of investigations to appropriate members of management and recommendations to prevent or reduce the probability of recurrence.

The SRAB shall attempt to detect trends that may not be apparent to a day-to-day observer.

The SRAB shall report and be advisory to the VP - Nuclear on the subjects of review specified previously, audit results, and on audit responsibilities specified in Section 2.18 of this Policy Document.

Minutes shall be recorded for all meetings of the SRAB and shall identify all documentary material reviewed. Copies of the minutes shall be forwarded within one month of the meeting to the VP - Nuclear, General Manager of Plant Operations, and such others as the Chairman may designate.

2.1.8 Station Operations Review Committee (SORC)

The SORC has been established to advise the General Manager of Plant Operations in all matters regarding operational safety.

2.1.8.1 SORC Membership

The SORC shall have a minimum of eight (8) voting members, to include:

Chairman: The SORC chairman and alternate SORC chairmen shall be designated in writing by the General Manager of Plant Operations.

Seven (7) members from the following disciplines:

- (a) Operations
- (b) Radiological (Chemistry/Health Physics)
- (c) Maintenance
- (d) Engineering
- (e) Reactor Engineering
- (f) Instrumentation and Control

The SORC chairman and alternate SORC chairmen shall meet the qualifications of Plant Manager as delineated in ANSI N18.1-1971.

The members, according to individual job title, shall meet the requirements as described in Sections 4.2, 4.3.1, or 4.4 of ANSI N-18.1 1971, "Selection and Training of Nuclear Power Plant Personnel," or Regulatory Guide 1.8, revision 2, "Qualification and Training of Personnel for Nuclear Power Plants", as stipulated in Section 2.2 of this Policy Document.

Non-voting members may also serve on SORC to broaden its expertise in other areas (e.g., Licensing.)

Alternate members shall be appointed in writing by the SORC Chairman to serve on a temporary basis. No more than two (2) alternates shall participate as voting members in SORC at any one time.

Meeting frequency is monthly, and as required on call of the Chairman.

Quorum is the SORC Chairman plus four (4) voting members.

2.1.8.2 SORC Responsibilities

SORC review responsibilities include:

- (a) Review of 10CFR50.59 or Generic Letter 86-10 Evaluations associated with procedures and programs required by Technical Specification 5.4.1, and changes thereto.
- (b) Review of proposed changes in procedures, SSCs or facilities, or tests or experiments involving a change in the Technical Specifications or any other changes to the Technical Specifications or Operating License.
- (c) Review of proposed tests and experiments and their results, where:
 - a written evaluation pursuant to 10CFR50.59(d)(1) is performed, or
 - where nuclear safety could be adversely affected.

The SORC shall submit tests or experiments which may require NRC approval pursuant to 10CFR50.59(c)(2) to the SRAB for review.

- (d) Review of proposed changes or modifications to SSCs or facilities:
 - as discussed in the USAR, or
 - where a written evaluation pursuant to 10CFR50.59(d)(1) is performed, or
 - where a written evaluation pursuant to Generic Letter 86-10 is performed, or
 - where nuclear safety could be adversely affected, or
 - which require NRC approval pursuant to 10CFR50.59(c)(2).

The SORC shall submit changes to equipment, systems, or facilities having safety significance to the SRAB for review.

- (e) Review of station operation to detect potential nuclear safety hazards.
- (f) Investigation of violations of Technical Specifications. This includes reporting evaluations and recommendations to prevent recurrence to the VP - Nuclear and the Chairman of the SRAB.
- (g) Performance of special reviews and investigations and rendering reports thereon as requested by the Chairman of the SRAB.
- (h) Review of reportable events specified in 10CFR50.73 and submission of the results of this review to the VP - Nuclear and the Chairman of the SRAB.
- (i) Review of drills on emergency procedures (including plant evacuation) and adequacy of communication with off site groups.

- (j) Review of proposed changes to the Offsite Dose Assessment Manual.
- (k) Review of proposed changes to the Process Control Program.
- (l) Review additions, deletions, or modifications to the Emergency Plan.

SORC may also review procedures and programs, and changes thereto, in lieu of the Independent Qualified Reviewer and Independent Qualified Approver, as specified in Section 2.1.10.

The SORC shall be advisory to the General Manager of Plant Operations.

The SORC shall recommend to the SORC Chairman approval or disapproval of proposals under the review responsibilities. In case of disagreement between the recommendations of the SORC and the Chairman, the course determined by the Chairman to be more conservative will be followed. A written summary of the disagreement will be sent to the VP - Nuclear, Chairman of the SRAB, and General Manager of Plant Operations.

The SORC shall report to the Chairman of the SRAB on all reviews and investigations listed under review responsibilities.

The SORC shall make determinations regarding whether or not proposals considered by the Committee require NRC approval pursuant to 10CFR50.59(c)(2). This determination shall be subject to review by the SRAB.

Minutes for all meetings of the SORC shall be recorded and shall include identification of all documentary material reviewed. Copies of the minutes shall be forwarded to the VP - Nuclear and the Chairman of the SRAB within one month of the meeting.

Written procedures for Committee operation shall be prepared and maintained describing the method of submission and content of presentations to the committee, provisions for use of subcommittees, review and approval by members of written Committee evaluations and recommendations, dissemination of minutes, and such other matters as may be appropriate.

2.1.9 Outside Contractors

It may occasionally be necessary to obtain assistance from outside suppliers, contractors, subcontractors and consultants (hereafter referred to as "contractors"). At all times these contractors will work under the direction of the NPPD organization having primary responsibility for the particular work being performed. In those instances in which personnel are merely furnished to augment the normal CNS staff for particular activities, such contractors shall be required to perform their work in accordance with the CNS QA Program and other appropriate station procedures and instructions. In those instances in which contractors are assigned primary responsibility for a particular activity, such contractors shall be required to maintain a QA and QC Program and organization appropriate to the work to be performed.

All contractors performing work classified as essential shall be maintained on the appropriate section of the CNS Approved Suppliers List. Selection of contractors shall

require the active participation of the QA Division for evaluation and approval of the contractor's QA Program.

In every instance in which contractors have responsibility for work at CNS on safety-related nuclear systems, such contractors shall be contractually required to work to procedures approved by CNS Independent Qualified Reviewers/Independent Qualified Approvers and/or SORC, as specified in Section 2.1.10 of this Policy Document. Recognized standards or existing proprietary procedures may be used, however, they must be specifically invoked in writing and clearly identified as to their applicability to the CNS work. Any contractor performing work at CNS under its own QA program shall be contractually required to prepare, prior to performing the work, a Project QA Plan specific to the work to be performed at CNS.

Prior to performing work at CNS which affects safety-related equipment, contractors and appropriate representatives from NPPD shall jointly develop and enforce written agreements and/or procedures which clearly define the limits of the work, interface between contractor and station personnel, status and custody tagging procedures, contractor personnel dosimetry, and any other aspects which bear on station or personnel security and safety. Such agreements shall be reviewed by the QA Division to ensure compliance with applicable QA Program requirements.

Contractors performing safety-related work under the CNS QA Program shall be contractually required to perform the work under NPPD supervision and in accordance with the CNS QA Program. NPPD personnel responsible for such work shall assure that contractor personnel are qualified to do the work and have been provided formal instruction in QA. Any calibrated tools and equipment provided by the contractor shall be recalibrated at CNS or by an NPPD-approved source prior to use.

If any portion of work on safety-related nuclear systems is to be subcontracted, the prime contractor shall impose the appropriate QA requirements on the subcontractor. CNS QA Division personnel shall have direct access, to and communication with, the contractor's personnel at all levels, both at their home office and in the field.

At all times, when contractors are obtained to assist in the execution of this QA Program, the responsibility for effectiveness of these support organization's activities will remain with NPPD.

2.1.10 Independent Qualified Reviewer/Independent Qualified Approver

2.1.10.1 Procedures and programs required by Technical Specifications 5.4.1 and changes thereto utilize an Independent Qualified Reviewer and Independent Qualified Approver process which shall be controlled and implemented by administrative procedure(s).

2.1.10.2 Each program and procedure required by Technical Specifications 5.4.1 and other procedures that affect nuclear safety, and changes thereto, shall be reviewed by a minimum of two technical reviewers; i.e., an Independent Qualified Reviewer and Independent Qualified Approver who are knowledgeable in the affected functional area. The Independent Qualified Reviewer and Independent Qualified Approver shall determine the need for cross-discipline reviews. All required cross-discipline reviews

of new procedures, procedure revisions, or changes thereto shall be completed prior to approval. Independent Qualified Reviewers and Independent Qualified Approvers shall not be the individual who prepared the program or procedure, or change thereto.

- 2.1.10.3 Proposed normal, abnormal, maintenance, and emergency operating procedures specified below, and changes thereto, and any other proposed procedures or changes thereto determined to affect nuclear safety, shall be reviewed by an Independent Qualified Reviewer and approved by an Independent Qualified Approver.
- 1) The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978;
 - 2) The emergency operating procedures required to implement the requirements of NUREG-0737 and NUREG-0737, Supplement 1, as stated in Generic Letter 82-33;
 - 3) The procedures that implement the quality assurance program for radioactive effluent and radiological environmental monitoring;
 - 4) Implementing procedures of the Fire Protection Program;
 - 5) Implementing procedures of the Safety Plan and Emergency Plan;
 - 6) Administrative procedures for shift overtime; and
 - 7) The procedures that implement all programs specified in Technical Specification 5.5.
- 2.1.10.4 Each program and procedure required by Technical Specifications 5.4.1 and other procedures that affect nuclear safety, and changes thereto, shall be reviewed by a certified preparer and reviewer to determine if a 10CFR50.59 or Generic Letter 86-10 Evaluation is required. Evaluations performed pursuant to 10CFR50.59(c) or Generic Letter 86-10, when required, shall be reviewed by the SORC per Section 2.1.8 of this Policy Document.
- 2.1.10.5 Nuclear safety related procedures and procedure changes shall be reviewed and approved, prior to implementation, by Independent Qualified Approvers.
- 2.1.10.6 Temporary changes to procedures that have been approved by two members of the operating staff holding SRO licenses (one of whom is a supervisor in charge of the shift), in accordance with Section 2.5 of this Policy Document, shall be reviewed by an Independent Qualified Reviewer and Independent Qualified Approver. The Independent Qualified Approver shall verify that the intent of the previously approved program or procedure was not changed.
- 2.1.10.7 The SORC may be utilized, in lieu of the Independent Qualified Reviewer and Independent Qualified Approver, to fulfill the functions described in Sections 2.1.10.1 through 2.1.10.6 above.

2.1.10.8 All changes to the Process Control Program (PCP) and Offsite Dose Assessment Manual (ODAM) shall be reviewed and accepted by the SORC and approved by the General Manager of Plant Operations prior to implementation.

2.1.10.9 Independent Qualified Reviewers shall meet or exceed the qualifications described in Section 4 of ANSI N18.1-1971, with the exclusion of the positions identified in Section 4.3.2 and 4.5. Individuals whose positions are described in Section 4.3.2 and 4.5 may qualify as Independent Qualified Reviewers provided they meet the qualification described in other portions of Section 4 of the ANSI standard.

2.1.10.10 The following administrative controls shall be established to govern the process:

- 1) The General Manager of Plant Operations shall appoint Independent Qualified Approvers to approve procedures and programs, and changes thereto.
- 2) The Independent Qualified Approver should be knowledgeable in the technical and functional area of the procedure change.
- 3) The Independent Qualified Approver should not be the preparer of the procedure change.
- 4) The General Manager of Plant Operations should be kept fully informed regarding the safety implications of the procedure changes to be authorized prior to their implementation, to assure that plant safety is not compromised.
- 5) Independent Qualified Approvers shall meet or exceed the qualifications equivalent to the Plant Manager, as specified in ANSI/ANS-3.1-1978, Section 4.2.1, as demonstrated by appropriate certification.

2.1.10.11 The General Manager of Plant Operations delegation of approval authority to Independent Qualified Approvers shall be implemented through administrative procedure.

- 1) The procedure shall, at a minimum, address the criteria in Step 2.1.10.10 of this Policy Document.
- 2) The procedure shall be approved by the General Manager of Plant Operations and VP-Nuclear.

2.2 10CFR50, Appendix B, Criterion II: Quality Assurance Program

The QA Program applies to all activities which affect nuclear safety. This Policy Document identifies the industry Standards and Regulatory Guidance documents which are applicable to the implementation of the QA Program for CNS. Specific exceptions to criteria contained within the referenced Standards are herein described in following sections, as applicable. Specific implementing criteria for the QA Program are contained in lower level implementing procedures.

Specific to the related ANSI Standards for this criterion, the following commitments apply:

1. ANSI N18.1-1971 "Selection and Training of Nuclear Power Plant Personnel," shall provide direction for selecting and training of personnel, with the following clarification:
 - (a) Regarding the qualifications of the specific positions of shift manager, senior operator, licensed operator, shift technical advisor, and radiation protection manager, CNS shall comply with the provisions of Regulatory Guide 1.8, Revision 2, "Qualification and Training of Personnel for Nuclear Power Plants."
2. ANSI N18.7-1972 "American National Standard for Administrative Controls for Nuclear Power Plants," and the associated Regulatory Guide 1.33 (November 1972) apply to the CNS QA Program with the same exceptions as those taken in other sections of this Policy Document to ANSI N45.2.12-1977, "Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants." Specific to the performance of audits, Section 4.5 of ANSI N18.7-1976 applies (see Section 2.18 of this QA Program). Audit frequencies shall be in accordance with Regulatory Guide 1.33, Revision 2. Additionally, to meet the standard of performing audits of all safety-related functions within a period of two (2) years, the QA Division will perform an audit, surveillance, or field observation.
3. ANSI N45.2-1977 "Quality Assurance Program Requirements for Nuclear Facilities," and associated Regulatory Guides 1.28 (June 1972) and 1.33 (November 1972), shall apply to the CNS QA Program, with the following exception:
 - (a) Where Section 11, "Inspection," identifies the reporting relationship between the inspector and the "immediate supervisors who are responsible for the work being inspected," the CNS QC Program only requires that the individual performing the verification function shall not perform or directly supervise the work being inspected.

The program shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained.

All NPPD personnel, as well as non-NPPD personnel, who work independently under this QA Program, shall receive formal instruction in Quality Assurance, including:

- (a) Basic principles of quality assurance,
- (b) 10CFR50 Appendix B,
- (c) The contents of this Policy Document
- (d) QA documents, as applicable.

Table 1 identifies the structures, systems, and major components associated with CNS covered by this program. Table 1 is not intended to be all inclusive. The Operations, Support and Engineering Divisions, with the assistance of the QA Division, will identify essential SSCs to be included within the scope of the QA Program. The QA Program is designed to provide control over all activities affecting quality of essential items to a degree consistent with their safety-related importance. These activities will be governed by approved plans and instructions and these documents shall be followed under controlled conditions.

In addition to essential SSCs, applicable portions of the QA Program shall be applied to selected nonessential SSCs important to station reliability and performance. Specific application will be identified in station procedures.

2.3 10CFR50, Appendix B, Criterion III: Design Control

Implementing procedures outline the method for identifying, controlling, and implementing design changes at CNS. The procedures provide the mechanism for correctly translating the design changes and regulatory requirements into specifications, drawings, procedures, and instructions. They also establish the method of reviews, interface requirements (with original design organization, if required), approvals, and the organizations delegated the authority to implement the design change.

Design control measures shall include the review for suitability of application of items that are essential to the safety-related function of the system involved. A necessary part of this review concerns the safety classification of items to be procured. In those instances where the normal methods of Section 2.7 cannot be applied, and it is necessary to purchase "commercial-grade" off-the-shelf items for use in essential applications, verification will be performed to ensure that the part utilized is functionally acceptable for the essential application. This verification may include dedication upon receipt, analysis, or other definitive method.

The QA Division will periodically review design changes during any phase of development or implementation. Final acceptance of the design change will require an independent verification or check of the design adequacy such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.

Specific to the related ANSI Standards for this criterion, the following commitments apply:

1. ANSI N45.2.11-1974 "Quality Assurance Requirements for the Design of Nuclear Power Plants," and the associated Regulatory Guide 1.64 (withdrawn¹ 7/31/91) shall be applied to design activities involving safety-related modification work and the revision or development of plant design documents occurring during the operational phase of CNS. However, where codes, standards, or design requirements are referenced, or are incorporated into the standard by reference,

¹Although this Regulatory Guide has been withdrawn, it still forms the basis upon which NPPD commitments were originally made and therefore remains a part of the QA Program.

which are in conflict with original design commitments as set forth in the USAR, the USAR commitments shall govern. Later revisions of applicable codes and standards may be specifically invoked by the design requirements where deemed appropriate, consistent with the overall commitment to maintain the plant in an "equal to or better than" original condition.

2. ANSI N45.2.4-1972 "Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations," and its associated Regulatory Guide 1.30, Revision 0, shall be applicable to the CNS QA Program for safety-related modification work, with the following exceptions/clarifications:
 - (a) The definition of Class I and Class IE electrical equipment set forth by this standard does not conform to the equipment categories of CNS. Electrical items upon which the QA Program is based are included in Table 1 of this Policy Document and the CNS "Q" List (a safety classification method and information list). The scope and applicability of this standard shall necessarily be limited to these defined areas.
 - (b) Appropriate requirements for installation, inspection, and tests are defined in job specifications and work instructions developed as a part of the modification work package. It is not intended that separate procedures be established which specifically address the various areas of this standard. During the development of work packages, consideration will be given to the areas outlined in this section, as appropriate.
 - (c) The requirements for installation, inspections, verifications, and tests shall be included in the work instructions. In the development of these instructions, consideration will be given to the guidance provided by Sections 4.0, 5.0, and 6.0 of this Policy Document, and appropriate requirements will be incorporated into the instructions. It is not intended that separate procedures be established to specifically address all of the areas referenced.
 - (d) Application of the guidance provided by the additional codes and standards listed in Appendix B will be considered to the extent that such codes and standards provide useful and practical guidance for the work being performed. Commitments to the guidance of N45.2.4 shall not include commitments to the guidance of referenced standards, unless otherwise noted.
3. ANSI N45.2.5-1974 "Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants," and its associated Regulatory Guide 1.94, Revision 1, shall be applicable to the CNS Operational QA Program for safety-related modification work, with the following exceptions/clarifications:

NOTE

With respect to structural concrete, acceptability shall be documented in accordance with NPPD's Dedication Procedures, which will be verified by independent QA audit.

- (a) Appropriate requirements for installation, inspection, and tests will be set forth by job specifications and work instructions developed as a part of the modification work package. It is not intended that separate procedures be established which specifically address the various areas of ANSI N45.2.5-1974. However, in the development of the work package, consideration will be given to the areas outlined in Section 2.2 of the ANSI standard, as appropriate.
- (b) The requirements of control and calibration of measuring and test equipment set forth by this ANSI standard shall be applied to all measuring and test equipment used by NPPD or their agents, test laboratories, and contractors. Such requirements, however, will not be imposed on commercial batch plant facilities. Instrumentation at commercial batch plant facilities will be evaluated by appropriate NPPD personnel to determine that sufficient accuracy can be obtained.
- (c) For small quantities of concrete involved in modification work, all concrete must be purchased from commercial concrete batch plants. For these small quantities of concrete, it is unreasonable to expect commercial facilities to shut down normal operations to provide certified aggregate, cement, admixtures, fly ash, water, etc. In this respect the qualification tests required by Table A of the ANSI Standard for aggregate; cement, admixtures, fly ash, and pozzolans; water and ice will not be required. Appropriate evaluations will be made to determine that good quality and generally-acceptable materials are used. NPPD evaluation, coupled with slump tests, air entrainment tests, and concrete cylinder strengths, will provide adequate control and qualification of the concrete.
- (d) Design mixes consistent with, or equivalent to, original requirements will be specified and the results of the cylinder tests will be evaluated by NPPD based on the acceptance criteria associated with the original design mix requirements.
- (e) The inspection requirements of Section 4.2 of the ANSI standard will not generally be performed as the small quantities of concrete involved in modification work will no doubt be mixed using materials already in the batch plant bins. Control of storage of materials would not be practicable.
- (f) If available, appropriate certifications shall be obtained from the concrete supplier which verify the adequacy of truck mixers per the requirements of American Concrete Institute (ACI) -304, American Society for Testing and Materials (ASTM) C-94. Where certifications are not available, two concrete test cylinders representing the first and last one-third of truck mixer

contents shall be taken for evaluation of the mixer truck, over and above the normal concrete cylinders taken to evaluate the in-place concrete. The concrete batch plant facility shall be inspected by NPPD and the CNS QA Staff to assure that reasonable controls are being exercised with reference to the inspection guidelines set forth by Section 4.3 (1) and (2) of this standard.

- (g) Inspection of fills and earthwork will meet the general requirements set forth. The extent to which individual inspection requirements are met will depend upon the nature and scope of the work to be performed.
- (h) Except for normal batch qualification tests (slump, air content, temperature, and compressive strength) and initial reinforcing steel certifications, the in-process tests required by Table B of ANSI N45.2.5-1974 are generally applicable to the periodic control which must be exercised with reference to long-term construction type programs. The in-process test requirement of Table B of the ANSI Standard are not considered applicable to short-term modification work as would be required by QA Program at CNS.

4. ANSI N45.2.8-1975 "Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants," shall be applicable to the CNS QA Program for safety-related modification work, with the following clarification:

- (a) Where specific design requirements included in this standard or referenced codes and standards are in conflict with original design requirements set forth in the USAR and other appropriate design documents, the original design requirements shall govern.

2.4 10CFR50, Appendix B, Criterion IV: Procurement Document Control

NPPD procedures are required to define the applicable requirements, design basis methods, and procedures for procurement of spare parts, materials, equipment, and services for essential nuclear systems. These instructions and procedures shall also include provisions for assuring that the necessary quality requirements are incorporated directly into the procurement documents. These instructions and procedures shall also include provisions for assuring that the necessary records are specified and provided to NPPD by the supplier.

The basic principles and practices included in these procedures are expected to be applicable to any purchasing activity necessary for operation of the station; however, additional special controls may be necessary for major modification or repair activities.

Procedures provide for independent QA review and approval of suppliers, and QA Audit of contractor and supplier activities. The QA Division will periodically review procurement documents for essential and quality commercial grade purchases.

Revisions issued to any procurement document will be subjected to the same review and approval as the original order.

All procurement documents issued to suppliers of safety-related items or services require that the supplier implement a QA Program that meets the intent of 10CFR50, Appendix B (with the exception of those suppliers performing all work at CNS or in the NPPD Columbus General Offices under NPPD's QA Program). The QA programs submitted by the suppliers will be evaluated by the NPPD QA Division to ascertain that they meet the criteria established in 10CFR50, Appendix B. All safety-related suppliers shall appear on the applicable section of the CNS Approved Suppliers List.

To the maximum extent practicable, the as-built drawings and specifications for Cooper Nuclear Station will be used in procurement of spare parts, material, and replacement parts.

Where necessary, because of design modifications, or where it is necessary or desirable to upgrade quality in replacement parts or material, necessary modifications will be made to drawings and specifications to incorporate requirements for currently appropriate quality level. These modifications or upgrading of replacement parts will be accomplished in accordance with approved instructions, procedures, and drawings. These documents will be subject to required reviews before being implemented.

Specific to the ANSI Standard related to this criterion, the following commitment applies:

1. ANSI N45.2.13-1976 "Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants" and its associated Regulatory Guide 1.123, Revision 1 (withdrawn² 7/31/91), is applicable to the CNS QA Program, with the following clarification:
 - (a) Equipment and components purchased during the design and construction phase were not purchased on the basis of present-day standards, particularly in reference to supplier approval and supplier QA programs. In this respect, replacement parts and spare parts for existing equipment are often limited to sole-source suppliers. Such replacement parts or spare parts are purchased to appropriate quality standards, and are verified by the NPPD QA Division to maintain an "equal to or better than" condition. However, it is not considered practicable to backfit the requirements of this standard to all such suppliers.

2.5 10CFR50, Appendix B, Criterion V: Instructions, Procedures, and Drawings

QA activities, activities affecting quality, and other activities which have nuclear safety significance (e.g., nuclear fuel purchase, design, manufacture, inspection, shipping, receipt, installation, and operation; station security; nuclear fuel accountability and safeguard, etc.) shall be prescribed and accomplished in accordance with documented instructions, drawings and procedures as appropriate. Relevant regulatory criteria, codes

²Although this Regulatory Guide has been withdrawn, it still forms the basis upon which NPPD commitments were originally made and therefore remains a part of the QA Program.

and standards, and design bases for safety-related systems shall be incorporated into procedures and instructions (such as test, operating, modifications, maintenance, etc.) as appropriate. These instructions will be sufficiently detailed and explicit so that any supervisor, inspector, or auditor can, by observation, determine whether or not activities are being satisfactorily accomplished and documented. These documents shall include the qualitative and quantitative acceptance criteria necessary to assure satisfactory completion of the test procedure. The acceptance criteria shall, where appropriate, require post installation testing prior to returning the component or system to service. Repair maintenance activities on essential systems shall be performed in accordance with approved maintenance and repair processes. The QA Division shall periodically review procedures governing the conduct of special processes, special tests, and special maintenance, and the implementation and results of such activities. Procedures which implement the QA Program shall also be reviewed periodically to assure that the requirements of the program are being met.

Each procedure of Technical Specification 5.4.1, and changes thereto, shall be reviewed and approved as specified by Section 2.1.10 of this Policy Document prior to implementation and reviewed periodically as set forth in administrative procedures.

Temporary changes to procedures of Technical Specifications Section 5.4.1 which do not change the intent of the original procedure may be made, provided such changes are approved by two members of the operating staff holding Senior Reactor Operator (SRO) licenses, with the second member being a supervisor in charge of the shift. Such changes shall be documented and subsequently reviewed by an Independent Qualified Reviewer and Independent Qualified Approver, or the SORC, as specified in Section 2.1.10 of this Policy Document, within one month.

Document hierarchy is defined below as four levels. Level IV documents are not within the scope of the QA Program and therefore are not subject to the same requirements as documents defined in Levels I through III.

Level I: License Basis Documents

- Applicable sections of 10CFR
- Exemptions or NRC Orders
- Technical Specifications, Operating License and License Conditions
- QA Policy Document, Emergency Plan, and Security Safeguards Plan
- USAR
- Technical Requirements Manual (TRM)
- Offsite Dose Assessment Manual (ODAM)
- Commitments in docketed NRC Correspondence (such as responses to NRC bulletins, generic letters, enforcement actions as well as commitments documented in NRC Safety Evaluation Reports, or licensee event reports)

Level II: Design Specifications and Drawings

Level III: Procedures

- Administrative Procedures
- Operations Procedures
- Maintenance/Work Control Procedures
- NQPs
- Departmental Procedures and Procedures Found in the Operations Manual

Level IV: Policies and Guidelines (e.g., Corporate Procedures, Human Resources, and other non-nuclear documents)

2.6 10CFR50, Appendix B, Criterion VI: Document Control

Administrative procedures shall be established to control the identification, indexing, and distribution of quality-related records and documents. They shall be reviewed and approved by authorized personnel and shall be distributed to and used at the site of the activity. These procedures shall also ensure that changes to quality-related records and documents receive the same level of review and approval as the original document.

The overall objectives of NPPD document control are to:

- (a) Identify those records and documents which are used to control, maintain, modify, or document quality-related activities in support of CNS.
- (b) Establish an index of quality-related records to enable personnel involved in safety-related activities to determine the proper documents to be used in the activity.
- (c) Establish measures to control distribution and revisions.

NPPD Management is responsible for establishing effective interfaces and document control procedures.

2.7 10CFR50, Appendix B, Criterion VII: Control of Purchased Material, Equipment, and Services

NPPD receiving inspection instructions provide for determining that all materials, equipment, and services purchased directly or through a contractor, supplier, or subcontractor meet the requirements specified on the original procurement specifications. The completed receipt inspection report shall become part of the purchase order package. Procurement documents shall be available at the receiving area to identify the receiving inspections required.

NQPs provide for evaluation of a supplier's QA program to determine effectiveness and compliance to the applicable 10CFR50 criteria as part of the supplier selection process. These instructions shall describe the methods and techniques used to evaluate the supplier's QA program.

The QA Division shall re-evaluate the supplier's QA program at intervals consistent with the importance, complexity, and quantity of the item or services to effectively maintain control of quality. Procurement documentation will specify mandatory hold points for witnessing or inspection of purchased materials, equipment, or services, if required by NPPD.

Upon receipt at the station, material, parts, and equipment purchased and identified as "Essential" or "Quality Commercial Grade" shall be placed in a segregated storage area until all inspections are complete and all required certification and documentation is received.

To prevent inadvertent use or installation, items which are nonconforming with requirements shall be placed on "Hold" status (i.e., placed in segregated areas). Items placed on "Hold" status shall not be issued by the Warehouse without the written permission of the General Manager of Plant Operations or designee, and then only after proper arrangements have been made to assure that necessary steps will be taken to bring all aspects of the particular item into conformance with normal requirements prior to the system containing components in "Hold" status being considered operable.

If appropriate, suppliers of essential equipment shall be required to provide certified documentary evidence that the material supplied conforms to the purchase document requirements; e.g., material test report, code required test and inspection, documentation, etc. A complete set of documentation required by the procurement document for all essential materials, equipment, and services will be filed at CNS.

2.8 10CFR50, Appendix B, Criterion VIII: Identification and Control of Parts, Materials, and Components

To the maximum extent practicable, activities carried out during operation of CNS will comply with the requirements for identification and control of materials, parts, and components as set forth in the as-built drawings and specifications for the station. Where special measures are required to assure proper identification of materials, parts, and components, such requirements will be incorporated directly into the procurement documents for such parts and assemblies. Such identifications which may include heat numbers, serial numbers, or other means of identification of the item will be incorporated into the procurement documents to provide means of traceability. Material received at CNS which has not been properly identified shall be segregated and tagged to indicate a "Hold" status. Except as indicated in Section 2.7 above, such parts will not be issued or used prior to final acceptance. Station procedures will incorporate requirements necessary to assure that the identification measures are properly carried out at the station, that unacceptable items will not be used in essential systems, and that the components to be used in essential systems receive independent verification of component identity prior to installation.

2.9 10CFR50, Appendix B, Criterion IX: Control of Special Processes

General maintenance procedures provide for performance of special processes by qualified personnel using qualified and approved procedures. Control procedures provide for documentation of activities, and for proper integration of QC Inspection. In most cases, the procedures will be prepared only when a specific process is required in the maintenance, repair, or modification of essential equipment at CNS. These procedures shall also require special processes, such as welding, heat treating, and Nondestructive Examination (NDE), to be controlled and performed by qualified personnel in accordance with qualified procedures.

CNS controls over special processes are within the purview of QA Division reviews. Such reviews should ensure that codes, standards, quality requirements, and acceptance criteria are appropriately incorporated into process controls and related procedures.

2.10 10CFR50, Appendix B, Criterion X: Inspection

CNS Management is responsible to ensure that QC inspections are appropriately assigned for activities affecting quality. A Peer QC Program shall be implemented in which QC inspections are normally performed by CNS personnel, qualified as QC Inspectors, and who may also be as qualified to perform the work as they are to inspect the work. QC Inspectors shall be qualified/certified in accordance with NPPD's commitment to ANSI N45.2.6-1978, "Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants." Details for the conduct of the QC Program will be procedurally established. Independent Qualified Reviewers/Independent Qualified Approvers and/or SORC review the controlling documents (procedures) governing inspection implementation, as specified in Section 2.1.10 of this Policy Document, to ensure incorporation of appropriate quality requirements.

QA shall routinely perform audits and surveillances of QC inspection activities at intervals and levels consistent with the importance of the activity. Special inspections, such as those requiring qualification to American Society for Nondestructive Testing (ASNT) ASNT-TC-1A, are normally contracted to approved suppliers. If direct inspection is impossible, indirect control methods shall be specified in the instructions to provide a method of monitoring process methods and equipment. The results of all inspections shall be placed in permanent record storage.

Specific to the ANSI Standard related to this criterion, the following commitment applies:

1. ANSI N45.2.6-1978 "Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants," and its associated Regulatory Guide 1.58 (withdrawn³ 7/31/91) is applicable to the CNS QA Program, with the following exceptions/clarifications:
 - (a) QC and test functions performed at CNS are incorporated directly into the station procedures. Inspection points are then performed and signed off by

³Although this Regulatory Guide has been withdrawn, it still forms the basis upon which NPPD commitments were originally made and therefore remains a part of the QA Program.

qualified personnel not directly performing or supervising the step(s) being inspected. Selection of candidates for QC certification is a function of CNS Management. Actual certification of QC inspectors is the responsibility of the QA Division.

- (b) NDE is performed in accordance with the recommended Practice No. SNT-TC-1A (endorsed by ASNT). These services are primarily contracted to an approved supplier. Any required NDE will be performed by personnel who are qualified and certified per ASNT-TC-1A.

2.11 10CFR50, Appendix B, Criterion XI: Test Control

Test programs performed by the station will be defined by written procedures and instructions. These test programs include the preoperational tests, start-up test instructions, operational testing, and surveillance testing of SSCs to demonstrate their capability to perform satisfactorily as a part of an integrated system and to demonstrate conformance to the requirements of drawings, specifications, procedures, and instructions. Acceptance tests will be developed for SSCs to demonstrate their capability to perform satisfactorily following repairs or modification prior to returning to service. Test procedures will identify the inspector, test performer, date, and data recorder. In addition, test procedures shall specify test requirements and quantitative and qualitative acceptance criteria where appropriate. Each type of acceptance test has individual test procedures which include quality control provisions, acceptance criteria, and check points for observation or checking of important aspects, where appropriate. These test procedure prerequisites will include the test instrumentation requirements and environmental conditions. All Special Test Procedures, Special Procedures, and Station Operating Procedures are routinely reviewed by Independent Qualified Reviewers/Independent Qualified Approvers and/or SORC, as specified in Section 2.1.10 of this Policy Document. Appropriate reports shall be prepared to document that results of tests meet prescribed acceptance criteria.

QA Audit and Surveillance activities shall be performed to assure that the test procedures are developed in accordance with the above criteria, tests are being performed in accordance with the requirements of the procedures, that results are evaluated and compared to the specified acceptance criteria, and that tests are being performed by appropriately trained personnel.

2.12 10CFR50, Appendix B, Criterion XII: Control of Measuring and Test Equipment

Procedures shall define the requirements of inspection, maintenance, repair and calibration of all tools, gauges, instruments, and other measuring and testing devices which are used in activities which affect quality of safety-related equipment.

Each permanent or temporary installed plant instrument performing an essential function has been identified and placed on a regularly-scheduled program of inspection, test, and recalibration. All test and measuring equipment required for calibration of this instrumentation shall also be placed on a regular program of inspection, test, and recalibration and will be appropriately tagged. Documented calibration records are

reviewed, as required, to evaluate calibration performance and frequency, and changes are made as may be necessary.

For equipment used to calibrate process equipment, procedures will define action to be taken if regularly-scheduled calibration checks reveal an out-of-specification condition exists. When inspection, measuring, and test equipment are found to be out of calibration, an evaluation shall be made documenting the validity of previous inspection or test results and of the acceptability of items previously inspected or tested. Should the evaluation determine that previous inspection or test results obtained with the affected instrument are unacceptable, the condition shall be documented per the Corrective Action Program (CAP; refer to Section 2.16). Reference and transfer standards, traceable to the National Institute of Standards and Technology (formerly NBS), will be maintained at CNS.

Audits or surveillances by the QA Division, the SRAB, or NPPD management will include review of the calibration program.

2.13 10CFR50, Appendix B, Criterion XIII: Handling, Storage, and Shipping

The procedures for procurement and control of essential spare parts, materials, replacement parts, and equipment include the requirements for the control, handling, cleaning, shipping, receiving, and storage of essential parts and material. QAPs and NQPs provide for QA activities to assure that procedures are followed and that essential parts and materials are received, inspected, stored, and controlled in such a manner to prevent degradation.

Specific to the ANSI Standard relating to this criterion, the following commitment applies:

1. ANSI N45.2.2-1972, "Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants (During the Construction Phase)," and its associated Regulatory Guide 1.38, Revision 2 is applicable to the CNS QA Program, with the following exceptions/clarifications:
 - (a) NPPD's QA program is structured to identify safety-related equipment and provide for designation of packaging, shipping, receiving, storage, and handling requirements for purchased parts and materials. The classifications of this standard cannot be applied directly to individual spare parts or subassemblies of the parent equipment. Due to difference in volume, complexity, inspectability, etc., the packaging, shipping, handling, and storage requirements of spare parts and subassemblies will necessarily be different from the requirements which may be imposed on the entire component or piece of parent equipment.
 - (b) The majority of items purchased for an operating plant consist of components, subassemblies, and individual spare parts which could be used in a multitude of different applications. Such items are purchased to the most stringent requirement for their intended use. The volume and characteristics of procurement during the operational phase differ

significantly from those purchases made during the design and construction phase. Items requiring special storage protection will be identified on the purchasing documents. Items that must be stored outdoors (equivalent of ANSI N45.2.2 Level D) and items that must be stored in covered but unheated conditions (equivalent of ANSI N45.2.2 Level C) will be evaluated on an individual case basis. However, it is not considered practicable to pre-classify individual parts by levels as required by Section 2.7 of this standard. Shipping and packaging requirements for such items will likewise be handled in the procurement documents, as appropriate.

2.14 10CFR50, Appendix B, Criterion XIV: Inspection, Test, and Operating Status

A "tagout" system shall be appropriately utilized to prevent unauthorized operation or adjustment which could endanger the safety of personnel, damage equipment, or invalidate the results of tests already performed. These tags shall indicate abnormal equipment test and inspection status and reference special instructions for equipment located throughout the CNS.

Tagout procedures, where necessary, shall require that equipment be tagged and that the associated power supplies, starters, switches and controls on the main control panel are tagged as well, to warn against operation. In some cases, power supplies will be disconnected and tagged to prevent inadvertent operation. Tagout will be controlled in accordance with station tagout procedures by a licensed Senior Reactor Operator. Records will be maintained to enable operators and Shift Managers to determine the status of the equipment tagged. The Nuclear Power Group will periodically verify the status of equipment tagged by performing an audit or surveillance.

A configuration change control program will be maintained to provide a method for recording the installation and removal of jumpers, fuses, or wire terminal disconnections. This record will include the location, reason, name of person authorizing action, and name of person performing the installation.

2.15 10CFR50, Appendix B, Criterion XV: Nonconforming Materials, Parts, or Components

Station procedures include requirements for the identification and tagging of nonconforming materials, parts, or components (refer to Sections 2.7 and 2.8 for additional discussion).

Nonconforming items will be controlled in such a way as to prevent their inadvertent use or installation. Disposition decisions such as use-as-is, re-inspection, returning to the manufacturer, scrapping, repair and/or rework will be performed and documented in accordance with station procedures.

Any decision to reduce requirements to permit use of nonconforming parts, materials, or components in essential systems shall be documented per the CAP (see Section 2.16), and shall be subject to SORC review and approval. Appropriate design modification documentation shall also be completed, if required.

2.16 10CFR50, Appendix B, Criterion XVI: Corrective Action

The CAP for CNS shall provide measures to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective materials and equipment, and nonconformances, are promptly identified and corrected. Measures taken to disposition significant conditions adverse to quality shall include: immediate actions taken, the cause of the condition, corrective actions, and actions taken to preclude recurrence. The identification of significant conditions adverse to quality shall be documented and reported to the appropriate levels of management. A monthly report of open CAP items shall be prepared and distributed to Senior Level Management and Department Management personnel, including the General Manager of Plant Operations.

The CAP shall be utilized by all personnel performing operation, maintenance, modification, or other quality-related functions or activities at CNS, to document and report such deficiencies or discrepancies as:

- (a) Deviations from approved procedures.
- (b) Nonconforming materials, parts, or components received from outside suppliers via essential end use procurement documents.
- (c) Nonconforming materials, parts, or components within the plant.
- (d) Nonconforming materials brought on site without following established receiving and inspection procedures.
- (e) Orders or recommendations to stop work.
- (f) Reportable occurrences.
- (g) Any other deficiency which violates the intent of the QA Program and which could have a significant adverse effect on quality.
- (h) Deviations which could be reportable under 10CFR21.
- (i) Violations of regulations or code requirements.

Failures, malfunctions, deficiencies, unusual operating experiences, and deviations which require formal reporting to the NRC will be reviewed and evaluated by the SORC and, where appropriate, by the SRAB. It will be the responsibility of CNS personnel to identify and promptly correct all such deficiencies or malfunctions either by improved maintenance, repairs, replacements, or modification. In all cases, the objective and the corrective action will not only be to correct the existing defect or deficiency, but also to include measures to determine cause and prevent recurrence of similar failures. QA activities will verify that corrective action is performed in accordance with approved written procedures and that the details of the corrective action are properly documented for the permanent station records.

Deficiencies and/or deviations identified by QA Division personnel shall be reported per the guidance defined in NQPs and/or the CNS CAP.

2.17 10CFR50, Appendix B, Criterion XVII: Quality Assurance Records

All activities having a significant effect on quality and safety will be documented, and all such documentation will be incorporated into the station records storage facility. Record identification, filing, storage, retrieval, access, control, retention, auditing, and safeguarding of all quality-related records associated with CNS will be in accordance with approved procedures. Records to be maintained include all records accumulated during engineering and construction and those records generated during station operation, maintenance, and modification as defined in Sections 2.6 of this Policy Document. These records shall also include qualification of personnel, equipment, and procedures. Inspection and test records shall identify the inspector, data recorder, method of observation, results, acceptance, and all nonconformance reports issued to document noted deficiencies.

NPPD personnel will be allowed to maintain active working files at their work stations. The time frame for submitting these records to record storage facilities will be determined by their respective administrative procedures.

Administrative procedures shall provide for methods for changing records that provide clear identification and authorization of the change.

Specific to the ANSI Standard related to this criterion, the following commitment applies:

1. ANSI N45.2.9-1974 "Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plants," and its associated Regulatory Guide 1.88, Revision 2 (withdrawn⁴ 7/31/91), shall be applicable to the CNS QA Program, with the following exception/clarification:
 - (a) For those design, manufacturing, construction, and operating records generated prior to implementation of this standard, it is not our intent to backfit the detailed requirements of this standard to those records. All such records, however, have been initially designated for lifetime storage, until specific review dictates otherwise, and will be stored in the record storage facility. Record indexes and filing systems shall be established to permit reasonable identification and retrieval. The records shall be stored and preserved per the requirements of Section 6.0 of the ANSI standard.

2.17.1 Records Authentication

Authentication of records shall be in accordance with the guidance provided in Section 4, Records Authentication of NIRMA TG11-1998, "Authentication of Records and Media."

⁴Although this Regulatory Guide has been withdrawn, it still forms the basis upon which NPPD commitments were originally made and therefore remains a part of the QA Program.

2.17.2 Records Retention and Disposition

Record retention and disposition of quality-related records at CNS and the NPPD Columbus General Offices shall be prescribed by instructions and procedures in accordance with the QA Program and applicable regulatory criteria. As a minimum, these instructions and procedures shall cover the following:

- (a) Records content and location;
- (b) Principal location from which records are to be controlled;
- (c) Complete records inventory and master index;
- (d) Conditions of storage, access, and security;
- (e) System of records identification, retrieval, and control;
- (f) System of records transfer and disposal.

Quality Assurance records shall be entered into the controlled records system per the requirements of station procedures and ANSI N45.2.9 - 1974, "Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plants."

Electronic records stored on optical disc will apply the requirements of NRC Generic Letter 88-18, "Plant Record Storage on Optical Discs."

2.17.2.1 Five (5) Year Retention

Records and/or logs relative to the following items shall be kept in a manner convenient for review and shall be retained for at least five (5) years unless a longer period is required by applicable regulations:

- (a) Records of normal station operation, including power levels and periods of operation at each power level.
- (b) Records of periodic checks, inspection and/or calibrations performed to verify that Surveillance Requirements are being met.
- (c) Records of principal maintenance activities, including inspection, repair, substitution, or replacement of principal items of equipment pertaining to nuclear safety.
- (d) Records of reportable events as specified in Section 2.1.8.2.h.
- (e) Records of changes to plant procedures.
- (f) Records of special tests and experiments.

- (g) Records of wind speed and direction.

2.17.2.2 Life Retention

Records and logs relating to the following items shall be kept for the life of the plant:

- (a) Records of changes made to the station as described in the USAR and amendments and reflected in updated, corrected, and as-built drawings and records.
- (b) Records of new and spent fuel inventory and assembly histories.
- (c) Records of station radiation and contamination surveys.
- (d) Records of off-site environmental monitoring surveys.
- (e) Records of radiation exposure for all station personnel, including all contractors and visitors to the station in accordance with 10CFR20.
- (f) Records of radioactivity in liquid and gaseous wastes released to the environment.
- (g) Design Fatigue Usage Evaluation
 - 1. Monitoring, recording, and evaluation will be met for various portions of the reactor coolant pressure boundary (RCPB) for which detailed fatigue usage evaluation per the ASME Boiler and Pressure Vessel Code Section III was performed⁵ for the conditions defined in the design specification. The locations to be monitored shall be:
 - (i) The feedwater nozzles;
 - (ii) The shell at or near the waterline;
 - (iii) The flange studs.
 - 2. Monitoring, Recording, Evaluating, and Reporting
 - (i) Operational transients that occur during plant operations will, at least annually, be reviewed and compared to the transient conditions defined in the component stress report for the locations listed in Item 1 above, and used as a basis for the existing fatigue analysis.
 - (ii) The number of transients which are comparable to or more severe than the transients evaluated in the stress report Code fatigue usage calculations will be recorded in an operating log book. For those transients which are more severe, available data, such as the metal and

⁵See ASME Section III, 1965 Edition, paragraph N-415.2.

fluid temperatures, pressures, flow rates, and other conditions will be recorded in the log book.

- (iii) The number of transient events that exceed the design specification quantity and the number of transient events with a severity greater than that included in the existing Code fatigue usage calculations shall be added. When this sum exceeds the predicated number of design condition events by twenty-five⁶, a fatigue usage evaluation of such events will be performed for the affected portion of the RCPB.
- (h) Records of current individual plant staff members showing qualifications and the completion of training.
- (i) Records of Environmental Qualification.
- (j) Records of the service lives of all hydraulic and mechanical snubbers noted in the CNS TRM, Section T3.7.3, including the date at which the service life commences and associated installation and maintenance records.

2.18 10CFR50, Appendix B, Criterion XVIII: Audits

The audit function is accomplished through audits, surveillances, and field observations performed to verify compliance and assess the effectiveness and performance of programs and personnel within the scope of the CNS QA Program. QA Management shall have the responsibility and authority for implementation of QA activities to audit programs defined by approved QAPs. QAPs describe specific requirements associated with the scope and frequency of audits.

Audits, surveillances, or field observations can be utilized to accomplish the requirements described in QAPs, and may be performance based or compliance oriented depending on the nature of the function being evaluated. The scope of each audit will be planned to focus, in part, on areas of vulnerability and on the quality of the product of the programs and personnel. Audits shall be performed in accordance with written instructions or checklists and conducted by trained personnel not directly responsible for areas being audited. Upon completion of audits, surveillances, or field observations a formal report will be prepared and transmitted to CNS Management in accordance with the requirements of Nuclear Quality Procedures (NQPs). Audit reports shall also include an overall evaluation of the program's effectiveness. Results of audits shall be reviewed with Management responsible for the area of activity audited.

Audit, surveillance, and field observation findings shall be appropriately documented and appropriate follow-up action shall be taken to assure that corrective action has been implemented. Follow-up action, including re-audits to verify corrective action, shall be fully documented. The audited organization shall respond as requested by the audit or surveillance report and shall review and investigate any adverse findings to determine and schedule appropriate corrective action including action to preclude recurrence as needed.

⁶The code rules permit exclusion of 25 stress cycles from secondary stress and fatigue usage evaluation. (See ASME Section III, 1968 Edition, Summer Addenda, paragraphs N-412(t)(3) and N-417.10(f).)

NQPs describe the specific requirements for the conduct of audits and surveillances. The SRAB will provide oversight of the CNS QA Program and audit and surveillance results.

Audits, surveillances, and field observations of selected aspects of plant operation shall be performed under the cognizance of SRAB with a frequency commensurate with their safety significance, as required by this QA Program, and in accordance with QAPs. Audits performed by the QA Department which meet this specification shall be considered to meet the SRAB audit requirements if the audit results are reviewed by SRAB.

The SRAB, or any member of management above Senior Level Managers or QA Management may initiate and carry out special QA audits within the guidelines provided by this QA Program.

Relating to this criterion, the following commitments apply:

1. ANSI N45.2.12-1977 "Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants," and its associated Regulatory Guide 1.144 (withdrawn⁷ 7/31/91), is applicable to the CNS QA Program, and to the Supplier Audit Program.
2. Section 4.5 of ANSI N18.7-1976, "Administrative Controls for Nuclear Power Plants," shall be used as a guide for conducting audits.
3. The frequency of audits shall be in accordance with Regulatory Guide 1.33, Revision 2, "Quality Assurance Program Requirements (Operation)."
4. Fire protection audits shall be in accordance with NRC Generic Letter 82-21 Enclosure 1, "General Scope of Fire Protection Audits and Composition and Qualifications of Auditors."
5. Audits of the Offsite Dose Assessment Manual (ODAM) with implementing programs and procedures, including radioactive environmental monitoring activities and radioactive effluent controls, shall be conducted at least once per 24 months.

2.19 Additional ANSI Standards

ANSI Standards applicable to the CNS QA Program, not directly related to the preceding sections, are discussed in this section:

1. ANSI N45.2.1-1973 "Cleaning of Fluid Systems and Associated Components During Construction Phase of Nuclear Power Plants," and its associated Regulatory Guide 1.37, is applicable to the CNS QA Program, with the following exceptions/clarifications:

⁷Although this Regulatory Guide has been withdrawn, it still forms the basis upon which NPPD commitments were originally made and therefore remains a part of the QA Program.

- (a) Cleaning requirements for almost all maintenance, repair, and modification work will be considered as a part of the overall job requirements. In this respect, detailed cleaning procedures will not generally be prepared as separate documents. Necessary requirements, consistent with the scope of the work, will be included as a part of the overall work instructions. System cleanness is controlled at CNS by the following methods:
- (1) Parts and components are checked for cleanness during receipt inspection and stored in a manner that will ensure adequate levels of cleanness are being maintained.
 - (2) Work instruction for safety-related maintenance activities will be evaluated by Shop Supervision to assure that adequate Foreign Material Exclusion (FME) controls are incorporated.
 - (3) Parts and components are inspected for cleanness prior to installation in accordance with CNS maintenance procedures.
 - (4) Work areas are maintained at a cleanliness level appropriate to the maintenance or modification activity being performed.
 - (5) Quality Control, Supervisory, or Engineering Inspections before, during, and after safety-related maintenance or modification activities address system cleanness.
 - (6) Random QA Audit and Surveillance of safety-related maintenance or modification activities requires verification of part, component, and system cleanness.
- (b) For cleanness classifications where the scope of plant modification work is such as to make application of the guidance provided by this standard practicable, the cleanness classifications and requirements thereof shall be evaluated and applied, as appropriate, as a part of the overall work requirements.
- (c) For most modification or maintenance work, however, involving only small portions or individual components of larger systems, it is not considered practicable to conduct cleanness tests with the American Society for Testing and Materials (ASTM) ABBE-70 Series. Appropriate cleanness will be maintained during the work and pre-operational flushing will be conducted, consistent with the scope of the work performed and the original design requirements. Controlling the parts and components and the work area has provided CNS with reasonable levels of assurance that system cleanness will be maintained. In addition to the above, chemistry department personnel routinely sample and test for system cleanliness, corrosion, crud buildup, etc.

2. ANSI N45.2.3-1973 "Housekeeping During the Construction Phase of Nuclear Power Plants," and its associated Regulatory Guide 1.39, is applicable to the CNS QA Program, with the following exceptions/clarifications:
 - (a) The plant has been divided into zones for fire protection and security purposes. The zones designated for cleanness in the ANSI Standard are primarily intended for control or work during construction of the plant. Therefore, the CNS facilities will not be classified by the zones designated in the Standard general housekeeping rules. Limitations on eating, drinking, and smoking are already provided in existing station procedures. Where special cleanliness controls, tool, and material accountability are required for particular types of work, temporary clean areas will be designated and defined in the procedures and work packages for accomplishing the work.
 - (b) Fire protection and prevention will be provided in accordance with NPPD evaluation of the CNS fire protection system as required by NRC regulations.
 - (c) Station procedures have been reviewed to determine the need for particular cleanness, housekeeping, and control provisions. Where indicated, procedures have been revised to incorporate such provisions, using the guidance of ANSI N45.2.3.
3. ANSI N45.2.23-1978, "Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants". This standard is applicable to the QA Program at CNS and to the QA Division training program.

4.0 QUALITY ASSURANCE DOCUMENTS

The CNS QA Program is defined by written policies, procedures, and plans which shall be implemented throughout the operating life of the station. Station procedure 0-QA-01, "CNS Quality Assurance Program," further describes the requirements of and implements the QA Program at CNS.

4.1 Station Procedures

The CNS Operations Manual contains station procedures and is based on the requirements of the QA Program. Preparation and maintenance of basic work procedures is separate from the QA Division procedures. The applicable criteria of 10CFR50 Appendix B shall be incorporated into the basic work procedures as they are initiated and implemented. Such initiation and use by the line organization shall be consistent with responsibilities as described by the Three Level QA Program (Table 2). The QA Division shall provide independent oversight of work procedures randomly, periodically, and situationally, at any stage of procedure generation, implementation, or closeout.

Quality Assurance Procedures will be maintained and revised in accordance with station procedures.

4.2 Nuclear Quality Procedures (NQPs)

The QA Division staff shall prepare NQPs approved by the General Manager of Support and the VP - Nuclear. As described in Section 1.3 of this Policy Document, NQPs define QA activities and responsibilities which cross divisional boundaries. When approved, NQPs become a part of the CNS QA Program.

4.3 Quality Assurance Plans (QAPs)

QAPs shall define the scope of the QA Program. QAPs shall be prepared by the QA Division and shall be reviewed and approved by the General Manager of Support. As described in Section 1.3 of this Policy Document, QAPs outline specific QA activities and shall become a part of the CNS QA Program. The QAPs shall define the specific work which is to be subjected to QA review, surveillance, and audit, and the manner in which such review, surveillance, and audit is to be implemented. Checklists shall be prepared per the guidance provided in NQPs, defining the scope of QA Surveillance or QA Audit activities. Distribution of these Plans will be to those individuals who are responsible for that particular activity.

**TABLE 2:
THREE LEVEL QUALITY ASSURANCE PROGRAM
EXPLANATION OF FIRST, SECOND, AND THIRD LEVEL QA RESPONSIBILITIES**

FIRST LEVEL: Work Performance and Quality Control (QC)	SECOND LEVEL: Management/Supervision Oversight	THIRD LEVEL: Quality Assurance Audit Function
<p>Each person performing work for CNS is charged with the first-line responsibility for adherence to quality practices and procedures. An individual other than the one doing the work (not to include immediate supervision at the task site) will have primary responsibility for QC. Personnel at this level are charged with the responsibility for direct inspection, witnessing, and sign-off, attesting that work has been performed in accordance with the quality requirements of the controlling documents.</p>	<p>Supervision and management personnel are responsible for providing workers and QC inspectors with the proper procedures and guidance for performing quality work. These Managers and Supervisors are then responsible for second level oversight as appropriate for work involved. The QA Division will periodically review controlling documents for safety-related activities to evaluate inclusion of appropriate quality requirements.</p>	<p>The QA Division is responsible for conducting audits and surveillances of activities which affect quality to assure that QC and inspection programs are being implemented and that quality requirements are being met. This includes verification that activities are properly performed and procedures are adequate for the activity they prescribe. Persons performing these activities are not directly involved in the day-to-day inspection or QC functions. Audits and surveillances will normally be performed by or under the direction of QA Management, or at the discretion of on-site or off-site safety review bodies (i.e., SORC and SRAB). In addition, SRAB shall be responsible for reviewing the results of audits and follow-up audits as described in Section 2.18 of this Policy Document. The QA staff is also responsible for the evaluation of audit results and for verifying that identified corrective action requirements have been implemented. Such activities are conducted to provide the highest level of overview of implementation of the QA Program.</p>