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CALLAWAY PLANT

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February 17, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton: ULNRC-746

Docket Number 50-483
Callaway Plant, Unit 1
Responses to NRC Requests for Additional Information
on the Operational Quality Assurance Program

Reference: "Request for Additional Information-Quality Assurance Branch", signed B. J. Youngblood, dated February 14, 1984

Furnished herewith are Union Electric responses to the referenced NRC requests for additional information on the Operational Quality Assurance Program. These responses are hereby incorporated by reference into the Callaway Application. These responses and associated text changes to FSAR Sections 17.2 and Appendix 3A will be incorporated into Revision 7 of the Callaway FSAR Site Addendum.

Very truly yours,

Robert F. Schnell

for Donald F. Schnell

DJW/cfs

Attachments

Limited Dist
B001
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Enclosures
To: G Edison (Pm)
IE/DQASIP/QAB
Reg File
NRC PDR
LPDR
NTIS
NSIC

STATE OF MISSOURI)
) S S
CITY OF ST. LOUIS)

Robert J. Schukai, of lawful age, being first duly sworn upon oath says that he is General Manager-Engineering (Nuclear) for Union Electric Company; that he has read the foregoing document and knows the content thereof; that he has executed the same for and on behalf of said company with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By Robert J. Schukai
Robert J. Schukai
General Manager-Engineering
Nuclear

SUBSCRIBED and sworn to before me this 17th day of February, 1984.

Barbara J. Pfaff
BARBARA J. PFAFF
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MY COMMISSION EXPIRES APRIL 22, 1985
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J. Holonich (NRC) w/a

J. G. Spraul (NRC) w/a

Item 260.72 Section 17.2.1 (FSAR Rev. 6 page 17.2-5) states that the QC Supervisor is not involved in activities such as surveillance testing, initial startup testing, and I&C, Radiation Protection, and Chemistry group activities. Describe the QA controls over these activities.

Response: Activities such as surveillance testing, initial startup testing, and I&C, Radiation Protection, and Chemistry group functions are controlled by approved procedures. They are audited and surveilled by QA, and procedures are reviewed and approved by authorized personnel. The personnel who perform these activities meet Regulatory Guide 1.8 (ANSI/ANS-3.1-1978) and are therefore not required to be certified as inspectors per Regulatory Guide 1.58 (ANSI N45.2.6).

The following sentence will be added to the second paragraph on Page 17.2-5:

> "Activities considered to be inspections unto themselves are covered by QA audits and QA surveillances as described in Section 17.2.18."

Item 260.73 Provide additional justification for deleting or replace the following commitments which FSAR Rev. 6 deleted from Section 17.2.2:

"UE personnel performing complex, unusual, or hazardous work shall be instructed in special indoctrination or briefing sessions. Emphasis shall be on special requirements for safety of personnel, radiation control and protection, unique features of equipment and systems, operating constraints, and control requirements in effect during performance of work.

"Training will be conducted in a time frame adequate to allow personnel to prepare for their job responsibilities. Retraining will be scheduled as necessary to assure adequate skills are maintained. UE personnel assigned to perform specialized work tasks or to augment the plant staff for modifications, and outside organization personnel performing work onsite shall receive indoctrination in the following subjects as required prior to commencing work:

1. safety rules;
2. health physics control and monitoring of radiation exposure;
3. plant security rules;
4. emergency provisions;
5. applicable QA Program requirements;
6. fire protection; and
7. job related procedures and instructions.

"Quality assurance records shall be maintained to furnish objective evidence regarding the acceptability or compliance of items or activities affecting quality. UE has established a record-keeping system consistent with the schedule for accomplishing work activities. Implementing procedures for the record system shall require that the records be listed in an index, retention times specified, and shall also address receipt of records; storage, preservation,

and safekeeping of records; record retrieval; and the disposition of records.

"UE will conduct a comprehensive Startup Test Program as delineated in the SNUPPS Standard Plant FSAR Section 14. The Plant Superintendent, Callaway Plant is responsible for assuring the preparation and review of startup testing procedures and for conducting the tests. Procedures shall establish administrative controls for the conduct of an efficient test program and will address and document: 1) organization; 2) responsibilities; 3) methods of establishing control of equipment; 4) interfaces; and 5) methods of assuring quality during the test programs. These procedures will define methods of identification of items to clearly indicate the latest prescribed test or inspection passed by an item in addition to organizational jurisdiction. Administrative procedures shall provide for the receipt and control of quality records. These controls will assure a smooth transition from the preceding testing."

Response: UE's original intent with this revision was to achieve a single point of reference. We have reviewed the change and conclude that the wording removed by FSAR Rev. 6 might appear to reduce UE's commitment to training. The text will be modified to reinsert the first paragraph referenced in the question and to add another paragraph which states "Training shall be conducted as required to, as a minimum, meet the requirements of UE's commitment to Regulatory Guide 1.8 (ANSI/ANS 3.1), Regulatory Guide 1.33 (ANSI N18.7), other Regulatory Guides as endorsed by FSAR Appendix 3A, and other regulatory requirements." The remaining referenced paragraphs are virtually verbatim quotes from various sections of ANS 3.1-1978, ANSI N18.7-1976, ANSI N45.2.9-1974, and Chapter 14 of the FSAR.

Item 260.74 Section 17.2.3 (FSAR Rev. 6 page 17.2-14) states: "Design changes engineered by the plant staff shall be the responsibility of the Superintendent, Engineering." FSAR Figure 13.1-3A (Rev. 6) shows a Superintendent Engineering reporting to the Assistant Manager, Technical Services. FSAR Figure 17.2-1 (Rev. 6) shows a Superintendent, Engineering reporting to the Manager, Nuclear Engineering. Clarify.

Response: The organization charts are correct. The possible confusion results from the fact that personnel in both UENE and UENO have the same title (Superintendent, Engineering). To clarify the referenced text, it will be modified to read: "Design changes engineered by the Plant staff shall be the responsibility of the plant Superintendent, Engineering." (The word plant will not be underlined in the text.)

Item 260.75 Provide additional justification for deleting or replace the following commitments which FSAR Rev. 6 deleted from Section 17.2.4:

> "Purchase requisitions shall include or invoke specifications, bills of material, drawings, catalog number, full description, or item identification as applicable. Commercial items shall rely on proven design and utilize verification methods by the purchaser in lieu of supplier controls."

Response: The first sentence is covered by the specific elements to be included in procurement documents as listed in ANSI N45.2.13, Section 3.2. The second sentence will be replaced in the text as modified below:

> "Commercial items shall rely on proven design and utilize verification methods, to the extent appropriate to item application, by the purchaser in lieu of supplier controls."

Item 260.76 The penultimate paragraph of FSAR Section 17.2.4 concerning drawings appears to more logically fit with the last paragraph of FSAR Section 17.2.3 or 17.2.5. Discuss the pros and cons of this change.

Response: UE concurs with the NRC observation. The reference paragraph will be relocated to follow the last paragraph in 17.2.3.

Item 260.77 Explain the significance of the following sentences added to the FSAR and describe controls to prevent abuse:

a) "It is recognized that skills normally possessed by qualified personnel may not require detailed step-by-step delineations in written procedures." (Third paragraph, Section 17.2.5)

b) "It is recognized that in certain instances activities are controlled via the communication of documented procedural instructions from a remote location, (i.e., separated from the location where the prescribed activity is being performed)." (Last paragraph, Section 17.2.6)

c) "Except in unusual circumstances (e.g., replacement parts are needed to preclude the development of some unsafe or undesirable condition), an evaluation of a Supplier's acceptability as a procurement source shall be accomplished prior to award." (Third paragraph, Section 17.2.7)

Response:

a) Here UE was restating a nuclear industry and NRC endorsed principle which is listed in ANSI N18.7-1976, Section 5.2.7, second paragraph, last sentence.

b) This was added to state "up front" a practice which might be used to convey instructions. As an example, a highly contaminated area where bulky radiation protection equipment would hamper the hand-held use of a procedure and where use of a procedure would add to contamination problems.

c) This was added to be consistent with our emergency procurement practices which are more completely described in our commitment to Regulatory Guide 1.123 (ANSI N45.2.13).

In all of the above cases, protection against abuse comes from QA audit and surveillance actions.

Item 260.78 With the deletion of the commitment in the third paragraph of FSAR Section 17.2.7 that buyers will document verification of acceptable suppliers, clarify that QA will verify that purchases are made only from acceptable procurement sources.

Response: QA will verify that purchases are made only from acceptable procurement sources by the audit process. Additionally, the first sentence of the fifth paragraph in FSAR Section 17.2.7 will be revised as follows and the second sentence will be deleted:

> "The suppliers to UE or its agents during the design and construction phase shall be initially regarded as qualified procurement sources for replacement parts during the operating phase as the procurement source evaluation measures employed previously have identified these suppliers as qualified procurement sources." (The underlining will not be included in the text.)

Item 260.79 It appears that the deletion of the following paragraph from FSAR Section 17.2.7 may have been an oversight since there is no corresponding line in the margin. Clarify.

> "The Nuclear Function shall be responsible for assuring that suppliers are capable procurement sources including initiating pre-award evaluations when necessary. Judgments regarding the capability of a supplier by evaluation shall be supported by the documented concurrence of participating evaluation organizations."

Response: The justification and the revision bar were inadvertently omitted. This paragraph was removed because it was redundant to the information in several of the following paragraphs.

Item 260.80 The last change to FSAR Section 17.2.7 indicates that the final acceptance of items may be by "designated inspection personnel" who are not in the Plant Quality Control organization. Clarify whether these personnel are the same as those identified in the third previous paragraph as other qualified plant personnel "under the direction of the Quality Control Supervisor."

Response: These designated inspection personnel are other plant personnel who meet Regulatory Guide 1.8 (ANSI/ANS 3.1), but are not under the direction of the QC Supervisor.

Item 260.81 Provide additional justification for deleting or replace the following commitments which FSAR Rev. 6 deleted from Section 17.2.8:

> "Verification of correct identification and control shall be performed following item acceptance, during surveillance of storage, assembly, and installation activities. The verification of identification during assembly and installation shall be by inspection. Verification of correct identification following receiving inspection shall be performed during the act of retrieval and release from storage."

Response: This was deleted because UE felt it was redundant to the detail provided in the two paragraphs which immediately precede the deleted paragraph.

Item 260.82 The third sentence of the second paragrapn of FSAR Section 17.2.9 begins: "Where UE commitments require." This appears to be too limiting and we suggest beginning the sentence: "Procedures for special processes shall be qualified..."

Response: We concur with the NRC comment. The NRC suggested wording will be substituted.

Item 260.83 The revised response to item 260.31 (page 260.31-1 Rev. 6, 12/83) does not directly address the question. Clarify.

Response: UE had made the change to facilitate the single point of reference concept and we believe the commitment was actually clarified by our revised response. To assure there is no misunderstanding, we will revise our response to 260.31 to the original response and modify the text of 17.2.9 accordingly.

Item 260.84 Discuss the significance of adding the following sentences to FSAR Section 17.2.10:

> "Inspection or testing may be employed as a means of verifying suitable performance subsequent to a large scale component replacement or repair."

Response: This sentence was intended to clarify that, in some instances, inspection will be the controlling methodology. In other instances, testing is the method used. Examples would include electrical or electronic component replacements which rely primarily on testing. Mechanical replacements or repairs, such as pipe hangers, rely primarily on inspection. This sentence will be revised in the text by changing "may" to "as appropriate, shall" and deleting the words "large scale."

Item 260.85 Provide additional justification for deleting or replace the following commitments which FSAR Rev. 6 deleted from Section 17.2.10.

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

Response: This was deleted because it was considered redundant to the third paragraph of 17.2.10. The commitment shall be re-inserted with the following change: "The monitoring of processes" will be changed to "Process monitoring."

Item 260.86 Discuss the significance of adding the following sentence to FSAR Section 17.2.11:

> "Surveillance testing should begin as soon as practicable but no later than 90 days prior to fuel load."

Response: This was added to alert Plant management to the fact that many other new plants have experienced "problems" with surveillance testing post-OL. By making this commitment in the QA program, UE was planning to avert such a problem. Surveillance testing has already begun. This sentence will be deleted from the text.

Item 260.87 The revision to FSAR Section 17.2.12 divides measuring and test equipment into three categories. This is acceptable, but it is somewhat confusing when one of the three categories is called "M&TE." Working with the three categories as defined in Section 17.2.12, it appears that the commitment that M&TE and reference standards are in a calibration program which requires recalibration on a specified frequency or prior to use should be extended as applicable to permanently installed process instrumentation (PI). It appears that the commitment that M&TE and reference standards shall be tagged or labeled indicating the date of calibration and the due date for recalibration should have a similar commitment for PI. If PI is not to be so tagged or labeled, the FSAR should describe how one can readily determine the calibration status of PI.

The commitment that PI "shall be afforded the control measures described herein consistent with the surveillance testing program and to the extent that the method and interval of calibration for each installed instrument and control device shall be defined..." needs clarification. The commitment that the calibration interval for PI is based on the type of equipment its stability, its reliability characteristics, its required accuracy, and other conditions affecting calibration should be extended to M&TE and reference standards. The commitment that "a special calibration shall be performed when the accuracy of an installed instrument (PI) is questionable" should also be extended to M&TE and reference standards.

The implication in the fourth paragraph of FSAR Section 17.2.12 that PI will not be "utilized by various organizations as required to perform tests or other special operations" should be dispelled by extending the commitments of that paragraph to include PI.

The first line of the fifth paragraph should clearly indicate that the calibration and control program provisions that are listed in the fifth

paragraph are applicable to M&TE, reference standards, and PI unless otherwise noted. Item 4 should not be limited to reference standards. Item 8 does not appear to satisfy NRC guidance (SRP Section 17.1, item 12.6) when it (item 8) states: "This accuracy ratio (i.e., 4 to 1) may be applied in whole or in part from a reference standard to M&TE or from M&TE to the process instrumentation such as that the combined accuracy ratio is at least 4.0..." Discuss. (See also the revised response to item 260.37 and 260.67C.)

Response: The concerns of this item will be addressed by a revision to the text of Section 17.2.12.

Item 260.88 It appears that the "should" in the second paragraph of FSAR Section 17.2.13 should be "shall". Make this change or justify not doing so. In the same sentence, the change of "Specific" to "Applicable" would be acceptable to the staff.

Response: We agree with the NRC's observation. We will change "should" to "shall" and "Specific" to "Applicable."

Item 260.89 The last sentence of FSAR Section 17.2.14 has added "or equivalent" regarding the Technical Specification requirements for review and approval of deviations from operating procedures. Clarify or delete the term "or equivalent."

Response: "Equivalent" was added to take into account the fact that many original reviews included extensive cross-disciplinary reviews as well as reviews by outside agencies or consultants. Subsequent changes may not need to involve the same extent of cross-disciplinary review or reviews by a specific individual or organization as long as a similarly qualified individual or organization performs the review.

Item 260.90 The definition of nonconformance as revised in the first paragraph of FSAR Section 17.2.15 should include nonconforming services and activities as noted in the first sentence of Section 5.2.14 of ANSI N18.7-1976, or some alternative should be provided in FSAR Appendix 3A for staff evaluation. The addition of the word "material" in front of "nonconformances" makes many commitments too limiting in FSAR Section 17.2.15; and, in these instances, "material" should be deleted.

Response: Chapter 17.2.15 titled "Nonconforming Material, Parts or Components" only identifies the programs in use to control nonconforming material, parts or components. These programs include the Nonconforming Material Report (NMR) and Nonconformance Logs. The qualifier "material" in this section was intended to clarify this position. Additional text changes have been made to provide further clarification.

The program which controls adverse conditions (nonconforming activities, services, programs, procedures, etc.) include the Request for Corrective Action (RCA) system which has been added to Chapter 17.2.16 "Corrective Action."

We feel that this program revision as identified above is responsive to Criteria XV and XVI of 10CFR50, Appendix B, and ANSI N18.7-1976, Section 5.2.14.

There are significant differences in the programs' requirements for control of nonconforming material, parts or components and those required for control of adverse conditions. These differences are such that the programs are respectively described under both Section 17.2.15 and 17.2.16 of the submittal.

Item 260.91 The third paragraph of FSAR Section 17.2.15 states that "other administrative controls" are used to identify and control nonconformances. These controls should be described. Are all nonconformances trended?

Response: "Administrative controls" was used as a generic term so that a specific "list" of nonconformance controls would not be given in a programmatic document such as Section 17.2. NMR's and NL's are two examples of administrative controls which may be used to identify and control material nonconformances. To clarify this paragraph, the last sentence in paragraph 3 has been revised to the following: "The programs describing the administrative controls for nonconformance control will delineate the methods of..."

All nonconformances are trended. Material nonconformances are trended under the requirements of 17.2.15 and adverse conditions (nonconforming activities, services, programs, procedures, etc.) are trended under 17.2.16.

Item 260.92 It appears that the fourth and last paragraph of FSAR Section 17.2.15 should be combined.

Response: UE concurs with the NRC observation. The fourth and last paragraphs of Section 17.2.15 will be combined.

Item 260.93 Indicate the organization(s) responsible to analyze and summarize nonconformances and the periodicity of these activities noted in the ninth paragraph of FSAR Section 17.2.15. Provide similar information regarding RCA per the sixth paragraph of FSAR Section 17.2.16.

Response: FSAR Section 17.2.15 will be revised to indicate the Manager, Callaway Plant has the responsibility for the preparation and analysis of material nonconformance summaries for potential adverse trends, and to specify a period of semi-annually.

FSAR Section 17.2.16 will be modified to indicate that each Nuclear Function Manager is responsible for developing and implementing a program for identifying and controlling adverse conditions, and that these programs shall contain, as a minimum, a requirement for semi-annual summaries to be prepared and analyzed for trends.

Item 260.94 The last sentence of the third paragraph of FSAR Section 17.2.16 states that "another controlled document" may negate the need for a Request for Corrective Action (RCA). Identify these documents such that it is clear why RCA's are not required.

Response: It is not desirable to identify all documents that fit the generic definition of a corrective action document. Under the plant's administrative controls there are several documents that serve this function. Since plant programmatic specifics tend to change with time, it is quite likely that certain of these will be combined, deleted, etc. The last sentences of the second paragraph and the third paragraph indicate the minimum requirements of alternative corrective action programs.

Item 260.95 Justify or delete the change requirement of audit report issue from 30 days (per prior commitment at the bottom of FSAR Rev. 2, page 17.2 - 50) to 30 working days.

Response: UE agreed to 30 days in the "Proof and Review Copy" of the Technical Specifications. We will delete the reference to "working" days.

Item 260.96 The description of the Callaway Plant Operating Manual in FSAR Table 17.2-2 states that the manual consists of plant operating procedures and that these operating procedures are controlled by Administrative Procedures. Clarify in what manual these Administrative Procedures are located.

Response: Administrative Procedures are located in the Plant Operating Manual. This will be reflected in Table 17.2-2.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

a. The last clarification of R.G. 1.8 refers to the requirements of Section 17.2.17 of the FSAR and ANSI N45.2.9. It would appear more appropriate to refer to the commitments in Section 17.2.17 of the FSAR and the Regulatory Position of Regulatory Guide 1.88. Clarify. We note that the Regulatory Position of R.G. 1.88 states that the requirements and guidelines of N45.2.9 provide an adequate basis for complying with 10 CFR 50 Appendix B (underline added).

Response: Throughout Appendix 3A, unless the reference is to a specific section of a standard, we will reference the Regulatory Guide that endorses the appropriate standard.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

b. The general clarification to Regulatory Guide 1.30, 1.37, and 1.116 limits their application to modification activities which are comparable in nature and extent to similar activities conducted during the construction phase. This clarification is too limiting. These Regulatory Guides should be applied to maintenance as well as modification activities. This type of clarification does not appear to be applicable to Regulatory Guide 1.64 concerning design control. Modify this clarificati n or justify not being so.

Response: The clarification for Regulatory Guide 1.30, 1.37 and 1.116 will be revised by adding "maintenance and" prior to "modification." UE will also revise the clarification to Regulatory Guide 1.64 by eliminating the entire paragraph "For operating phase...of defects."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

c. The general clarification to Regulatory Guides 1.30, 1.37, 1.39, and 1.64 regarding the use of "an NRC accepted Construction QA program" is unacceptable, as UE's Operating QA program should be used. Delete the clarification or justify not doing so.

Response: When activities are of such proportion that these guides are applicable, a major construction type effort would be required. These would normally be performed by craft personnel employed by outside contractors and who would not meet the qualification requirements of Regulatory Guide 1.8 (ANSI/ANS 3.1), so construction type controls would be more appropriate. The clarifications of these Regulatory Guides will be changed from "an NRC accepted" to "a UE accepted."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

d. A number of specific clarifications are not clear. An individual should be able to read Appendix 3A and determine specifically what is being clarified; what the clarification is; and, when it isn't obvious, why the clarification is being made. For example, a number of the R.G.Commitments include a clarification regarding definitions. For R.G. 1.30, the clarification states: "Definitions in this standard (N45.2.4) which are not included in ANSI N45.2.10 shall be used; all definitions which are included in ANSI N45.2.10 shall be used as clarified in UE's commitment to Regulatory Guide 1.74." N45.2.4 defines Class I Equipment, Class I Electric systems, system performance testing, set point, and lay-up. The only thing close in N45.2.10 is system performance test, and UE's commitment to R.G. 1.74 doesn't doesn't address any of the N45.2.4 definitions. The definition of system performance testing in N45.2.4 does not appear to be significantly different from the definition of system performance test in N45.2.10. Thus it is not clear what the clarification means. See similar clarifications noted below.

ANSI Standard	Sections	Regulatory Guide
N45.2.2	1.4	1.38
N45.2.3	1.4	1.39
N45.2.6	1.4	1.58
N45.2.11	1.4	1.64
N45.2.13	1.3	1.123
N45.2.12	1.4	1.144
N45.2.23	1.4	1.146

We note that UE indicates no alternatives or exceptions to the NRC guidance. For the clarifications to be understandable and acceptable, as noted above, each one should

show the requirement or guideline being clarified; describe the clarification; and, if not obvious, justify the need for it.

Response: This was part of the single point of reference concept: all definitions would be located in a commitment to a standard titled Definitions. As NRC correctly observes, it does not change the definitions in individual standards unless there is a similar definition elsewhere. Even though there may be no material difference (as in the case noted), for consistency, we wished to state which definition would be used. It is UE's intent to provide a glossary of definitions for insertion into the QA Procedures Manual.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

e. The clarification listed below provide for some unilateral action by engineering. Our position is that the action should be a joint action between engineering and QA/QC. Revise the clarifications to meet the staff position or justify not doing so.

Reg. Guide or ANSI Standard	Section	Action
N45.2.4 (RG1.30)	2.1	Planning
N45.2.4 (RG1.30)	3	Compliance
N45.2.4 (RG1.30)	4	Installation
RG 1.33 (N18.7)	C.5d (5.2.7.1)	Design & Test
N45.2.1 (RG1.37)	5	Cleaning
N45.2.2 (RG1.38)	2.7	Classification
N45.2.2 (RG1.38)	3.2.1	Packaging
N45.2.2 (RG1.38)	5.2.2	Receipt Inspection
N45.2.2 (RG1.38)	6.2.1	Storage
N45.2.2 (RG1.38)	6.2.4	Storage

Response: These are engineering actions performed in accordance with documented instructions, but they are not conducted without QA/QC involvement. The functions listed will always be subject to QA audits. In addition, most of the actions will result in a procedure which will receive either the cross-disciplinary review or the review by ORC (QA is a permanent member of ORC). For other activities, QA audits and surveillances and QC inspection activities assure QA/QC involvement.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

f. The clarifications listed below state that the commitments to the document(s) referenced will be in lieu of the specified requirements. In each case, clarify that the document(s) referenced do meet the specified requirement or, if not, where they do not.

ANSI Standard	Sections	Reg. Guide
N45.2.4	2.3,2.4, 5.1	1.30
N18.7	5.2.9, 5.2.10, 5.3.9.3	1.33
N45.2.2	2.3,2.4	1.38
N45.2.3	4	1.39
N45.2.11	11	1.64
N45.2.9	5.5	1.88
N45.2.13	3.4,12	1.123
N45.2.12	2.2,2.3, 2.4,3.3.6	1.144
N45.2.23	5.4	1.146

Response: In every case it was UE's desire for a single point of reference, not any dilution or deletion of controls which prompted the clarification. Therefore it was, and is, UE's belief based upon our review that in every case either identical or equivalent controls are provided in the sections of the referenced standards. When compliance with an NRC accepted program (e.g. Standard Technical Specifications, Requalification Training Program, Radiation Emergency Response Plan, Security Plan, Fire Protection Program, etc.) is referenced, UE has substituted the NRC accepted program for applicable regulatory requirements in lieu of the general requirements of the Quality Assurance Program standards.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

g. The clarifications listed below reference an ANSI standard committed to in FSAR Appendix A. Since Appendix A is a table of Regulatory Guide commitments, the clarifications should reference the noted Regulatory Guide.

ANSI Standard	Section	Reference ANSI	Should Ref. Reg. Guide
N45.2.4	8	N45.2.9	1.88
N18.7	4.2, 4.5	N45.2.12	1.144
N18.7	5.2.10	N45.2.3 & N45.2.1	1.37 & 1.39
N45.2.3	4	N45.2.9	1.88
N45.2.11	11	N45.2.12	1.144
N45.2.13	12	N45.2.12	1.144
N45.2.12	2.2, 2.3, 2.4	N45.2.23	1.146
N45.2.23	5.4	N45.2.9	1.88

Response: UE will comply with NRC's suggestion as described in the response to Item 260.97a.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

h. Regarding the clarification of Section 2.3 of ANSI N45.2.4 (RG 1.30), the "individual nuclear facility" should be specific, i.e., "Callaway Plant."

Response: UE will comply with the NRC's suggestion.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

i. Regarding the clarification of Section 2.5.2 of ANSI N45.2.4, there appears to be no need for the clarification. Any exceptions should be noted as such and justified. Also see question 260.87 regarding control of measuring and test equipment.

Response: The reason for the clarification was to reflect UE specific terminology and practices. Please see 260.87 for additional information. We have made programmatic changes in that response.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

j. Regarding the clarification of Section 4 of ANSI N45.2.4, the need for installation should be considered for maintenance procedures as well as modification procedures.

Response: UE will delete this clarification.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

k. Regarding the clarification of Section 5.2 of ANSI N45.2.4, test requirements should be inserted into both maintenance and modification procedures. Also clarify that when testing requirements are met by post installation surveillance testing in lieu of a special post-installation test that any elements of Section 5.2 not met will be documented and justified.

Response: UE will revise the clarification by deleting the second sentence "The test program...in modification procedures." UE will also revise the last sentence of the clarification as follows: "In some cases, surveillance testing may be used to meet the appropriate requirements of this Section."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

1. Regarding the clarification of Section 6 of ANSI N45.2.4, where considered necessary by engineering and QC, the elements described in Section 6 should be "used", i.e. not "considered", in the development and implementation of inspection and testing programs.

Response: UE will comply with the NRC's suggestion.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

m. Regarding the clarification of Section 7 of ANSI N45.2.4, UE proposes to add "Where used" at the beginning of the paragraph. The first sentence of Section 7 states: "Procedures shall be established for processing inspection and test data and their analysis and evaluation. It does not appear necessary or appropriate to add "Where used."

Response: "Where used" was added to account for the fact that some testing will not generate "data" as such. Examples are functional tests performed on the control board as part of routine operations. Without this clarification, the standard could be interpreted to require procedure for processing such "data." "Go" and "no go" tests generally are considered to fit into the area where no procedures are necessary.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

n. Regarding the clarification of Paragraph C.5.d of R.G. 1.33 (and Section 5.2.7.1 of ANSI N18.7 which it references), the second sentence appears argumentative and unnecessary. We suggest its deletion since the subsequent commitment appears to adequately address UE's position.

Response: UE will comply with the NRC's suggestion. The second sentence will be deleted.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

o. Regarding the clarification of Paragraph C.5.f of R.G. 1.33 (and Section 5.2.19(2) of ANSI N18.7 which it references), include a commitment that the determination is made jointly by engineering and QA/QC.

Response: The action referenced in this Section is the responsibility of UENO (Callaway Plant Operating Organization) but is not without QA/QC involvement. QA has been involved through audit and surveillance activities. QC has been involved in maintenance activities. The review commitment is not in the standard, and our changing of the word "possible" to "practical" should not mandate any higher degree of review.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

p. Regarding the clarification of Paragraph C.5.g of R.G. 1.33 (and Section 5.2.19.1 of ANSI N18.7 which it references), include a commitment that "management personnel" includes QA management.

Response: QA may be involved in either of two ways: by cross-disciplinary review or by ORC review. QA has and shall conduct audits or surveillances of preoperational testing. This involvement is consistent with QA's role as a staff, not a line function.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

q. Regarding the clarification of Section 3.4.2 of ANSI N18.7, clarify whether UE does or does not meet this section of the standard and, if not, where not. Also for Section 4.1.

Response: Section 3.4.2 references two standards, ANSI N18.1-1971 and ANSI N45.2.6-1973. As shown in our Appendix 3A, UE commits to Regulatory Guide 1.8 (ANSI/ANS 3.1-1978) and to Regulatory Guide 1.58 (ANSI N45.2.6-1978) instead of the earlier versions.

With respect to Section 4.1, in accordance with our single point of reference concept, we have committed to meet Regulatory Guide 1.144 (ANSI N45.2.12) as well as the Technical Specifications. We note that the review and audit functions are now described in Technical Specifications.

The specific Regulatory Guide references will be added to the text to clarify the location of UE's commitments.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

r. Regarding the clarification of Section 4.5 of ANSI N18.7, the significance of the last statement, "A biennial management assessment is discussed in Section 17.2.2 of the FSAR," needs to be shown.

Response: The referenced management assessment audit (the same one mentioned in Section 17.2.2, next to the last paragraph) is also required by Technical Specifications. Since it is redundant to list it here, it will be deleted.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

s. Regarding the clarification of Section 5.1 of ANSI N18.7, UE indicates that its OQAM fulfills the requirements for "summary document." Verify that the OQAM identifies the sources, indexes source documents to the requirements of ANSI N18.7, and provides a consolidated base for description of the program as required by the standard.

Response: Since the "source documents" for the OQAM are all contained in Chapter 17.2 and applicable Regulatory Guides in FSAR Appendix 3A; since Chapter 17.2 is organized to follow the 18 Criteria of Appendix B; and since the front matter of ANSI N18.7 provides a cross-reference between the criteria of Appendix B and the contents of ANSI N18.7, the requirements for the summary document are fulfilled by the program as written. There are no other source documents.

UE will clarify the text to state that the OQAM includes FSAR Section 17.2 and applicable Regulatory Guides from Appendix 3A.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

t. Regarding the clarifications of Section 5.2.7 of ANSI N18.7, the interpretation that the word "original" modifies only the words "design bases" does not appear correct in that "original" appears to describe design bases and requirement, material specifications, and inspection requirements. A clarification that inspection requirements will be in accordance with Section 5.2.17 of ANSI N18.7 and will ensure quality at least as good as the original quality would be acceptable.

Response: The following sentence will be added to our clarification of Section 5.2.7. "Operational inspection requirements shall be in accordance with UE's commitment to Section 5.2.17 of the Standard, and, in conjunction with the use of qualified maintenance personnel and approved procedures, shall assure quality at least as good as the original quality."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

u. Regarding the clarification of Section 5.2.7.1 of ANSI N18.7, practicality should be determined jointly by engineering and QA/QC and this should be included in the clarification.

Response: UE does not believe it is necessary to state that "practicality should be jointly determined by engineering and QA/QC." The clarification to the commitment was intended to cover those cases where the cause cannot practically be determined "promptly." The decision relative to determination of cause is the responsibility of UENO personnel. QA is involved via both audits and surveillances. QC is involved in inspection of maintenance activities.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

v. Regarding the clarification of Section 5.2.8 of ANSI N18.7 limiting the inspections to ISI inspections appears inappropriate. Delete ISI or justify its inclusion.

Response: We will modify the clarification. A new clarified sentence will read: "Schedules shall be established reflecting the status of in-plant surveillance tests and scheduled inspections."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

w. Regarding the clarification of Section 5.2.18 of ANSI N18.7, the qualification of special process procedures and personnel is a basic requirement of 10CFR50 Appendix B, not one to be "defined and implemented if considered necessary by engineering to assure quality." Thus this clarification is not acceptable.

Response: UE will revise the clarification to the following: "...shall be defined by engineering."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

x. Regarding the clarification of Section 5.3.5(4) of ANSI N18.7, the last sentence should be revised to the effect that, for each option, UE reviews and accepts that portion of each vendor manual that is used by UE.

Response: The suggested words will be added since they are consistent with UE's intention when the clarification was written.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

y. Regarding the clarification of Section 5.3.9.2 of ANSI N18.7, the first sentence could be interpreted to mean that the NRC is responsible to identify all natural occurrences which affect Callaway. This is not an NRC responsibility and the sentence should be deleted.

Response: UE will revise the referenced sentence by deleting the first three words and replacing "nuclear facility" with "Callaway Plant."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

z. Regarding the clarification of Section 2.1 of ANSI N45.2.2 (RG 1.38), clarify how items governed by the standard are identified in FSAR Table 3.2-1. Also, it is not clear what the last sentence of the clarification means. Clarify.

Response: UE concurs with the NRC's observation. UE will submit a new clarification which reads:"With regard to Section 2.1 of ANSI N45.2.2 - 1972 titled Planning: (First sentence) The specific items to be governed by the Standard shall be identified in FSAR Table 3.2-1 which lists those structures, systems and components to which the UE QA program is applied." (With this text change, there is no need for the second sentence.)

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

aa. Regarding the clarification of Section 3.3 of ANSI N45.2.2, clarify that each particular cleaning operation will have an individual cleaning procedure or will reference a generic procedure.

Response: The clarification will be amended by changing the last sentence to read: "Each particular cleaning operation shall be either governed by an individual cleaning procedure or by a generic procedure, either of which would specify method(s) of cleaning, or type(s) of solvent(s) that may be used in a particular application."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

bb. Regarding the clarification of Section 3.7.1 of ANSI N45.2.2, clarify that special qualification testing "shall be performed" (rather than "may be required") for loads above 1000 pounds.

Response: The suggested words will be added since they are consistent with UE's intention when the clarification was written.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

cc. Regarding the clarification of Section 4.2.2 of ANSI N45.2.2, we agree that the recommendation noted is not a requirement, and we do not see a need for this clarification.

Response: This was stated primarily for UE personnel who implement this standard. Since you agree with our statement, we request that it be allowed to remain for the information of our personnel.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

dd. Regarding the clarification of Section 6.3.3 of ANSI N45.2.2, we suggest hazardous items should not be stored in close proximity to "items important to safety") per NRC Generic Letter 84-01) instead of "installed systems required for safe shutdown". Clarify.

Response: The placement of hazardous material storage lockers in the plant is based upon installed safety-related systems, not particular components. Therefore, we wish to retain the terminology since it is relatively easy to determine where such placement would not be permitted. UE will change the text to insert the words "safety-related" between the words "installed" and "systems" and delete the words "required for safe shutdown."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

ee. Regarding the clarification of Section 6.4.2(7) of ANSI N45.2.2, clarify what is meant by "large" horizontal rotating equipment.

Response: UE will define large by adding a parenthetical expression after "Large" which will read: "(greater than or equal to 50HP or when designed to be used with a prime mover of greater than or equal to 50 HP)."

(7) "Prior to being placed in storage, large (greater than or equal to 50HP or when designed to be used with a prime mover of greater than or equal to 50 HP) horizontal rotating equipment shall be evaluated by engineering to determine if shaft rotation in storage is required: the results of the evaluation shall be documented. If rotation is required, it shall be performed at specified intervals, be documented, and be conducted so that parts receive a coating of lubrication where applicable and so that the shaft does not come to rest in the same position occupied prior to rotating. For long shafts or heavy equipment subject to undesirable bowing, shaft orientation after rotation shall be specified and obtained."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

ff. Regarding the clarification of Section 7.3 of ANSI N45.2.2, add a commitment that: "A dynamic load test over the full range of the lift using a weight at least equal to the lift weight shall be performed" or justify not doing so.

Response: UE will withdraw the clarification to Section 7.3. The words "as clarified above" will be deleted from our clarification to 7.4.2.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

gg. Regarding the clarification of Section 7.4.2 of ANSI N45.2.2, we agree with UE's position, and we do not see a need for this clarification.

Response: This was stated primarily for UE personnel who implement this standard. Since you agree with our statement, we request that it be allowed to remain for the information of our personnel.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

hh. Regarding the clarification of Section 2.1 of ANSI N45.2.3 (RG 1.39) clarify that the "level of cleanliness commensurate with company policy" meets the requirements of Section 2.1 or, if not, where it does not. The last sentence of the second paragraph should clarify who (or what organizations) determine the necessity, define or eliminate the term "major portions", and include modification with "inspection, maintenance or repair".

Response: Our clarification has been modified to replace the term "company policy" with "program requirements" and to delete the words "major portions of" and to add "modification" with "inspection, maintenance, or repair."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

ii. The clarification of Sections 3.1, 3.3, 3.4, and 3.5 of ANSI N45.2.3 states that all or part of each section is not applicable to the operation phase. It appears that these requirements should be met as applicable: during a major modification, for example. Delete or justify these clarifications.

Response: UE concurs with the NRC observation. UE's intentions are stated in the second paragraph in our Revision 6 submittal. Clarifications to Sections 3.1, 3.3, 3.4 and 3.5 are deleted.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

jj. Regarding the clarifications of Section 3.2 of ANSI N45.2.3, clarify that the "standard janitorial and work practices to maintain a level of cleanliness commensurate with company policy" meets the requirements of Section 3.2 or, if not, where they do not. The last sentence of the second paragraph should clarify who (or what organizations) determine the necessity, define or eliminate the term "major portions", and include modification with "inspection, maintenance or repair.

Response: Our clarification has been modified to replace the term "company policy" with "program requirements" and to delete the words "major portions of" and to add "modification" with "inspection, maintenance or repair."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

kk. Regarding the general clarifications to Regulatory Guide 1.58, the equating of inspection and test personnel to QC personnel within offsite or outside organizations may not be appropriate. Justify or eliminate this change. Also, the reference to ANSI N45.2.6 should reference Regulatory Guide 1.58 instead of the ANSI standard.

Response: We have modified our clarification to address your concerns as follows:

"The qualification of UE QC personnel or contracted QC personnel performing work at the plant shall be in accordance with ANSI N45.2.6-1978. Other personnel performing inspection, examination, and testing activities shall have appropriate experience, training, and retraining to assure competence in accordance with Regulatory Guide 1.8 (ANSI/ANS 3.1-1978). This position is consistent with ANSI N18.7-1976/ANS-3.2, Section 3.4.2."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

11. Regarding UE's definition of inspection in the third discussion paragraph of RG 1.74 (when used to refer to activities that are not performed by QA or QC personnel), describe how UE controls these activities.

Response: These activities are controlled by the Callaway Plant Operating Manual.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

mm. Based on question 260.97(c) above, the definition of "NRC accepted Construction QA Program" should be deleted from the Regulatory Guide 1.74 clarifications.

Response: UE will delete this definition.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

nn. We do not agree with the concept of allowing the use of subjective evidence to satisfy audit requirements. Therefore delete the parenthetical element and the words "where available" from the audit definition or justify not doing so (Regulatory Guide 1.74). Note that we accept the clarification to Subsection 4.3.2.2 of ANSI N45.2.12 (RG 1.144) on this same subject.

Response: Our basis for this clarification is to provide a consistent definition. Section 1.4 of ANSI N45.2.12 restricts an auditor to the use of only objective evidence during the audit process. In our clarification to Subsection 4.3.2.2 of ANSI N45.2.12, subjective evidence may be used in the audit process.

The following expression will be inserted in the definition as follows:

> "...objective evidence where available (subjective evidence may be used when objective evidence is not available), that..."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

oo. We do not agree that there is any significant difference between "must" and "shall". Therefore revise the definition of "must" accordingly or justify not doing so.

Response: Your view that there is no substantive difference between the definitions of "must" and "shall" is accurate from both a QA audit viewpoint and the implementation by UE personnel. UE management feels strongly that there should be a word which can denote management's direction, above and beyond all NRC requirements, which would not be subject to NRC enforcement. Without such a word, the incentive for management to go beyond the minimum NRC mandated requirements is substantially reduced. The text of Section 17.2.2 will be revised to indicate this concept as a new paragraph at the end of Section 17.2.2.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

pp. Regarding the clarification of Section 3.2.1 of ANSI N45.2.9 (RG 1.88), we do not agree that "completely filled out" means that sufficient information is recorded to fulfill the intended purpose of the record. Eliminate or justify the clarification.

Response: UE concurs that "completely filled out" does not mean the same thing as "sufficient information is recorded to fulfill the intended purpose of the record," that is why the clarification was made. The problem which we sought to overcome in this clarification deals with confusion over what constitutes a "record." It is the information, not the form, that is the record. Thus the information, not the form, needs to be complete to furnish documented "evidence of activities affecting quality."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

qq. Regarding the clarification of Section 5.4.3 of ANSI N45.2.9, include a commitment to address the manufacturer's recommendations.

Response: Since UE is ultimately responsible for record preservation, the clarification was made to eliminate the control by a manufacturer. A manufacturer of film will often recommend storage in containers which he manufactures. Such containers may be more expensive, and without better quality, than containers provided by other manufacturers. It was for this reason that the clarification was made. In addition, various films may be turned-over as records by UE subcontractors. Without the clarification, UE would be required to obtain the "recommendation" of each films' manufacturer. The text will be revised to include "Consideration will be given to manufacturer's recommendations."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

rr. Regarding the clarification of Section 5.6 (paragraph 4.3) of ANSI N45.2.9, provide a better description of the reference.

Response: The clarification will be revised to delete "and NRC...issued 7/1/80."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

ss. The last clarification to Regulatory Guide 1.88, that no special precautions are required for duplicate storage, is too broad to be acceptable. Delete or modify this clarification to provide acceptable limits or justify not doing so.

Response: UE feels that the clarification is sufficiently narrowed by the use of the modifier "special" before precautions. Our practices are subject to QA audits of records and to internal completeness checks by document control. Special precautions would be vault storage, special humidity and temperature recorders and similar items. The text will be revised to add these examples.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

tt. The commitment to Regulatory Guide 1.94 in the SNUPPS portion of the Callaway FSAR is not clear regarding the use of this guide during the operation phase. Clarify. (See question 260.97(b) above.)

Response: FSAR SNUPPS-C will be revised to address applicability of Regulatory Guide 1.94 to operating phase modification activities.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

uu. Regarding the clarification of Section 5.3 of ANSI N45.2.13 (RG 1.123), clarify that engineering and QA will jointly determine and document the "unusual circumstances" which preclude the need for supplier evaluation.

Response: The determination of "unusual circumstances" cannot be done in a before-the-fact manner, but guidance similar to that provided by the parenthetical expression in our clarification can be. While it is not UE's intent to make such determinations without engineering or QA involvement, UENO is ultimately responsible for the decision. QA Audit and Surveillance activities will assure against abuse.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

vv. Regarding the clarification of Section 3.3.7 of ANSI N45.2.12 (RG 1.144), clarify that the "quality organization" referred to is the quality assurance organization under UE's Manager, Quality Assurance.

Response: The clarification will be revised by changing the "quality organization" to "Quality Assurance Organization" in both places.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

ww. Regarding the clarification of Section 4.3.26 of ANSI N45.2.12, immediate notification of conditions requiring immediate corrective action should be made. Delete or further justify this clarification.

Response: UE assumed this refers to Section 4.3.2.6. This clarification was written with back shifts and supplier audits in mind where "management of the audited organization may not be 'immediately available'." The clarification is modified to read: "Conditions requiring immediate corrective action (i.e. those which are so severe that any delay would be undesirable) shall be reported immediately to the audited organization and as soon as practical to the management thereof."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

xx. Regarding the clarification of Section 4.4.4 of ANSI N45.2.12, provide justification for not including a evaluation Statement regarding QA Program effectiveness or delete this clarification.

Response: Since we summarize the findings, (as stated in the clarification) we have, de facto, provided an evaluation statement. Where an "evaluation statement" has been provided, we find that they tend toward broad generalizations. On the other hand, UE believes that our audit summary (not required by the Standard) provides a more meaningful basis for management to evaluate the effectiveness. UE will revise the text to add "which identify the importance of any adverse findings" after "results."

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

yy. Regarding the clarification of Section 4.4 (last paragraph) of ANSI N45.2.12, explain why UE required 30 working days to issue an audit report or delete this clarification. (See also 260.95 above.)

Response: Since we already have the 30 day requirement in the Technical Specifications, UE will delete this clarification.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

zz. Regarding the clarification of Section 4.5.1 of ANSI N45.2.12, include a commitment that a response is required, in writing, within 30 days of audit report issuance when corrective action is required or justify not doing so.

Response: The thirty day requirement will be added.

Item 260.97 Our review of Rev. 6 of FSAR Appendix 3A (introductory paragraphs and QA Regulatory Guides only, i.e., those listed in Chapter 17 of the NRC's Standard Review Plan) results in the following.

aaa. Regarding the clarification of Section 3.2 of ANSI N45.2.23 RG 1.146), the plus three months added to the annual assessment period should be justified or deleted.

Response: UE proposes this tolerance on lead auditor evaluation to facilitate evaluation planning while assuring a basis exists for extending qualification or requiring requalification. UE believes the intent of an annual evaluation is satisfied by performing an evaluation within these tolerances. UE will revise the text by adding the following sentence to the clarification: "...assessment is due. The combined time interval for any three consecutive assessment intervals shall not exceed 3.25 years."

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CHAPTER 17
QUALITY ASSURANCE

17.2 QUALITY ASSURANCE DURING THE OPERATIONS PHASE

17.2.0 INTRODUCTION

This section sets forth the requirements for establishing and maintaining an Operating Quality Assurance Program (OQAP) for the Union Electric (UE) Company Callaway Plant. The program provides control over activities affecting the quality of certain structures, systems, and components and demonstrates compliance with applicable regulatory requirements and industry codes and standards.

It is the policy of UE Company to develop, implement, and maintain an OQAP for utilization facilities regulated by provisions of a Nuclear Regulatory Commission (NRC) operating license and amendments thereto. The program shall be applied to those activities affecting quality (safety-related) regarding structures, systems, and components necessary to assure:

1. the integrity of the reactor coolant pressure boundary,

2. the capability to shut down the reactor and maintain it in a safe shutdown condition, or

3. the capability to prevent or mitigate the consequences of accidents which could result in offsite exposures comparable to the guideline exposures of 10 CFR Part 100.

The activities controlled by the OQAP include; initial startup testing (initial fuel loading and zero power testing, low power physics testing, and power ascension testing) and operational testing, operations, maintenance, refueling, and modifications. Control over these activities as they affect quality shall be to the extent consistent with their importance to safety.

The Operating Quality Assurance Program shall comply with 10 CFR 50, Appendix B - "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants" as described here in Chapter 17 and with the Regulatory Position of Regulatory Guide 1.33. Clarifications, alternatives, and exceptions to this Regulatory Position are described in Appendix 3A of the SNUPPS Standard Plant FSAR and this Addendum. An eighteen (18) section format is employed in the following program description with a discussion of how corresponding criteria of Appendix B are satisfied.

17.2.1 ORGANIZATION

UE has established an organizational structure for quality assurance activities. This section identifies the organizational structure; management positions and responsibilities; and delegation of authority for the development, implementation and maintenance of the OQAP. UE shall retain responsibility for the establishment and execution of the OQAP, although certain program activities may be delegated to others. The organizational structure responsible for implementing appropriate portions of the OQAP is shown in Figure 17.2-1. The Callaway Plant operating organization is shown in Figure 13.1-3.

The Executive Vice President is responsible to the President of UE Company for the establishment and implementation of the quality assurance program requirements. He has ultimate responsibility for quality assurance, engineering, construction, and operation of the Callaway Plant.

Under the Executive Vice President, the Vice President, Nuclear is responsible for initiating the quality assurance program, formulating the policy, and authorizing and assuring program implementation. He is responsible for directing activities within the Nuclear Function which support the engineering, construction, testing, and operation of the Callaway Plant and coordinating support activities performed by others who are not under his direct administrative control. He has corporate responsibility for the operation and physical control of the Callaway Plant.

The Assistant to the Vice President, Nuclear reports to the Vice President, Nuclear and is responsible for the conduct of the Construction Test Phase of the Callaway Test Program. The Construction Test Phase is governed by the administrative controls of the Design and Construction Quality Assurance Program and includes construction completion and preoperational testing. During the Construction Test Phase the Superintendent, Startup reports directly to the Assistant to the Vice President, Nuclear.

The Manager, Quality Assurance reports directly to the Vice President, Nuclear who is responsible for the administrative control (hire/fire and salary review) of the Manager, Quality Assurance. The Manager, Quality Assurance is responsible for directing the overall quality assurance program for UE including program development, maintenance, and verification of implementation. The Manager, Quality Assurance has sufficient authority, organizational freedom, and independence from undue influence from, or responsibility for, cost and schedule that he can effectively assure compliance with OQAP requirements as they control Callaway Plant and offsite quality activities. He maintains a quality assurance staff and provides them technical direction and administrative guidance. He is responsible for establishing and implementing a comprehensive audit program. The qualifications of the Manager, Quality Assurance are at least equivalent to those specified in ANSI/ANS-3.1-1978, "Selection and Training of Nuclear Power Plant Personnel", Section 4.4.5.

The Manager, Quality Assurance provides technical direction and administrative guidance to the Assistant Manager, Quality Assurance, and the Superintendent, Quality Engineering. The Superintendent, Quality Engineering is located at the General Office and directs the Supervising Engineer, Supplier Quality and the Quality Assurance Training Supervisor. The Supervising Engineer, Supplier Quality, has primary duties involving the audit and surveillance of the general office support organization and supplier quality activities. The Quality Assurance Training Supervisor is located at the Callaway Plant and is responsible for general quality assurance indoctrination and training for the Nuclear Functions, as requested.

The Assistant Manager, Quality Assurance is located at the Callaway plant. He directs the Supervising Engineer, Quality Assurance (Technical Support), the Supervising Engineer, Quality Assurance (Quality Systems), and the Supervising Engineer, Quality Assurance (Operations), who are located at the Callaway Plant and are responsible for assuring the implementation of the OQAP at the Callaway Plant.

The Manager, Quality Assurance, the Assistant Manager, Quality Assurance, the Superintendent, Quality Engineering, and all Supervising Engineers in the Quality Assurance Department are authorized by the Vice President, Nuclear to stop work on ongoing quality activities in accordance with approved procedures. During the operating phase they have the authority to stop unsatisfactory work during repair, maintenance, and refueling activities and the authority to recommend to the Manager, Callaway Plant stop work affecting the continuation of plant operation. Other stop work authority will be delineated in procedures. The continuance of an activity which would cover up a deficiency and preclude identification and correction, or increase the extent of the deficiency is subject to stop-work action by the Quality Assurance Department. The Manager, Quality Assurance, the Assistant Manager, Quality Assurance and the Superintendent, Quality Engineering have no duties or responsibilities unrelated to QA that would prevent their full attention to QA matters.

The authorities and duties of persons and organizations performing quality assurance functions shall be clearly established. Such persons have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify corrective action. Assurance of quality by checking, auditing, inspecting, or otherwise verifying program activities shall be by personnel other than the individual or group performing the specific activity.

The General Manager-Engineering reports directly to the Vice President, Nuclear and is responsible for engineering, licensing, fuel, project services, procurement other than that associated directly with operations, and an independent overview of plant safety. He provides administrative coordination between the various departments under his direction to assure effective operation of the

various disciplines involved in the offsite support and onsite overview of Callaway Plant.

The Manager, Nuclear Safety and Emergency Preparedness (NSEP) reports directly to the General Manager-Engineering and is responsible for providing a constant independent overview of nuclear plant safety.

The Manager, NSEP and staff evaluate Callaway Plant operations from a safety perspective and compare Callaway operating experience with that of plants of similar design. In addition, they assess the conformance of plant performance to safety requirements. The Manager, NSEP is also responsible for offsite emergency preparedness, coordination of the plant Radiological Emergency Response Plan with state and local emergency plans, and the planning and execution of all emergency drills and emergency plan exercises. The Manager, NSEP and staff, although reporting offsite to the General Manager-Engineering, are located onsite and the staff comprises the Independent Safety Engineering Group (ISEG) and the Shift Technical Advisor (STA) personnel. A communication path exists between the Manager, NSEP and the Vice President, Nuclear for matters having immediate or significant safety implications, thus providing a direct path to inform management with corporate responsibility for Callaway Plant.

The Manager, Nuclear Engineering reports directly to the General Manager-Engineering and directs a staff of engineers (as described in Section 13.1) whose primary function is to provide offsite technical support to the operating Callaway Plant.

The Manager, Nuclear Fuel reports directly to the General Manager-Engineering and has overall responsibility for all aspects of the nuclear fuel cycle including responsibility for preparation of fuel cycle economic studies and for certain aspects of incore fuel management.

The Manager, Nuclear Services reports directly to the General Manager-Engineering and is responsible for the processing and maintenance of records, exclusive of drawings, for the UE general office.

The Coordinator Nuclear Development reports directly to the General Manager-Engineering and is responsible for generic nuclear matters. He maintains an awareness of advanced nuclear activities outside UE.

The Principal Health Physicist reports directly to the General Manager-Engineering and provides a corporate level overview and guidance in the formulation and implementation of applied radiation protection programs. He reviews the radiological safety programs for compliance with federal and state standards and regulations.

The Superintendent, Document Management Program reports directly to the General Manager-Engineering and is responsible for the development and coordination of the records management and documentation programs for the Nuclear function.

The Manager, Nuclear Construction reports directly to the Vice President, Nuclear. He is responsible for site fabrication, installation, and construction activities during the construction phase and may assume similar responsibilities for construction activities during the operating phase.

The Manager, Callaway Plant reports directly to the Vice President, Nuclear and is responsible for the safe operation of the Callaway Plant. He controls plant functions and implements the OQAP through an Assistant Manager-Operations and Maintenance, an Assistant Manager-Technical Services, an Assistant Manager-Support Services, an Assistant Manager-Materials, a Superintendent Personnel Development, and the Superintendent, Startup (see Figure 13.1-3). He has the prime responsibility for reactor operation and safety. He is responsible for the conduct of initial startup testing during the Callaway Test Program. Within the Callaway Plant organization the QC Supervisor reports to the Superintendent, Compliance. The Quality Control Group performs work activity inspections, receipt inspection as described in Section 12.2.7, and nondestructive examinations and is not involved in those activities performed by others which are considered "inspections" unto themselves, e.g., surveillance testing, initial startup testing, and I&C, Radiation Protection, and Chemistry group activities. Activities considered to be inspections unto themselves are covered by QA audits and QA surveillances as discussed under Section 17.2.18. The QC Supervisor has no duties or responsibilities unrelated to quality control that would prevent his full attention to quality control matters.

The Purchasing Agent reports directly to the Vice President (or Director), Supply Service who in turn reports to the Executive Vice President. The Purchasing Agent is responsible for commercial aspects involved in procurement of materials, systems, components, and services (excluding engineering services and certain nuclear fuel cycle-related procurements) not delegated to others which are employed in support of the operating Callaway Plant.

The Manager, Mechanical Engineering reports to the Vice President (or Director), Engineering and Construction who in turn reports to the Executive Vice President. The Manager, Mechanical Engineering provides technical support, as necessary, to the Nuclear Engineering staff. The Chief Draftsman, who reports to the Manager, Mechanical Engineering provides drawing preparation and revision support, as requested, for design performed by the Plant Engineering staff, Nuclear Engineering, or other UE organizations.

The Manager, Electrical Engineering reports to the Vice President (or Director), Engineering and Construction. The Manager, Electrical Engineering provides technical support, as requested, to the Nuclear Engineering staff.

Other UE functions may provide safety-related services which augment and support selected program activities. These organizations shall be required to implement controls consistent with the OQAP

requirements applicable to their scope of activities. The coordination of these activities is the responsibility of [redacted]ce President, Nuclear.

Safety review committees shall be established to provide independent review of those items required by the Callaw Technical Specifications. These committees, the Onsite [redacted] Committee (ORC) and the Nuclear Safety Review Board (NSRB, described in the Administrative Controls Section of the Tec[redacted]ica Specifications.

17.2.2 QUALITY ASSURANCE PROGRAM

UE Company has established an OQAP which controls activities affecting quality. The program encompasses those quality activities necessary to support the operating phase of the Callaway Plant and shall comply with 10 CFR 50, Appendix B - "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants" as described herein and with the Regulatory Position of Regulatory Guide 1.33. Commitments, clarifications, alternatives, and exceptions to the Regulatory Position of Regulatory Guide 1.33 are stated in Appendix 3A of the SNUPPS Standard Plant FSAR and this Addendum. The Vice President, Nuclear has initiated the program and formulated the policy in addition to authorizing program implementation. This responsibility has been established by the Executive Vice President who is responsible to the President of UE Company for establishing and implementing the Quality Assurance Program requirements.

Lines of authority and responsibility have been established from the highest management level through intermediate levels and to the Manager, Callaway Plant and the onsite operating organization. These relationships shall be documented and updated, as appropriate, in the form of organization charts, functional descriptions of departmental responsibilities, and position guides for key personnel having direct operating, support, or audit responsibility. Where specific responsibilities are assigned within the OQAP the prescribed individual shall retain the overall responsibility; however, subject to applicable regulatory constraints, authority may be delegated to subordinates. Considering these same regulatory constraints, the authority of a subordinate may always be assumed by a superior.

After the Operating License is issued, updating and revision of the OQAP (Chapter 17.2 of the FSAR) shall be in accordance with the applicable requirements of 10 CFR 50.54 (a) and 10 CFR 50.71.

The scope and activity applicability of the OQAP are described in the Introduction (Section 17.2.0). The safety-related structures, systems and components referenced therein are identified in Table 3.2-1 of the Standardized Nuclear Unit Power Plant System (SNUPPS) Standard Plant FSAR. This list includes structures, systems, and components identified during the design and construction phase and may be modified as required during operations consistent with their importance to safety. Modifications to this list require the approval of the Manager, Quality Assurance and the Manager, Nuclear Engineering and shall be issued and controlled in accordance with Section 17.2.6. The development, control, and use of computer programs to be used in safety-related activities are within the scope of the OQAP. Consumables which could affect the form, fit or function of safety-related structures, systems, and components, although not listed in Table 3.2-1, are also under the control of the OQAP.

The OQAP shall be implemented at least 90 days prior to fuel loading. The transfer of system or subsystem QA program applicability shall be identified and controlled. Fuel loading, precritical tests, initial criticality, low-power tests, power ascension tests, and operation shall be performed in accordance with the Operating Quality Assurance Program. The OQAP shall be implemented throughout the operating life of the Callaway Plant.

Consistent with the schedule for accomplishing quality activities, the OQAP shall be established and documented by written policy, program manual, and procedure manuals. Persons conducting safety-related activities shall be responsible to implement approved procedures. The OQAP shall utilize the following document types to meet program objectives:

1. Operating Quality Assurance Program Policy

   The Operating Quality Assurance Manual (OQAM) Policy statement is approved by the Vice President, Nuclear and establishes governing principles in accordance with the requirements of 10 CFR 50, Appendix B.

2. Operating Quality Assurance Manual (OQAM)

   The OQAM contains a delineation of the Policy statement, quality assurance requirements, assignment of responsiblities, and a definition of organizational interfaces.

3. Procedure Manuals

   The Callaway Plant Operating Manual and the Union Electric Quality Assurance Procedures Manual provide specific instructions for the implementation of the quality requirements established in the OQAM. The content of these manuals is described in Table 17.2-2.

Table 17.2-1 shows the structure, scope, and responsibility for the OQAM.

Table 17.2-2 is a listing of controlled procedure manuals. These manuals contain mandatory requirements which shall be implemented by responsible organizations and individuals.

Table 17.2-3 lists areas of OQAP proposed implementing procedural coverage. This listing represents general areas of procedural coverage as provisions for procedure consolidation, separation, deletion, addition, or minor program change do not permit including an absolute implementing procedure listing.

The Callaway Plant design, construction and preoperational testing activities are governed by the quality assurance program described in the SNUPPS Quality Assurance Programs for Design and Construction Manual.

UE Company may employ the safety-related services of architect-engineers, NSSS suppliers, fuel fabricators, constructors, and others which provide or augment UE efforts during the operating phase. These organizations shall be required to work under a quality assurance program whose controls are consistent with the scope of their effort. This does not preclude any organization from working under the UE OQAP. The quality assurance program of outside organizations shall be subject to review, evaluation and acceptance by the UE Company Quality Assurance Department prior to the initiation of safety-related work.

Disputes which may arise between QA or QC personnel and personnel in other UE organizations which cannot be resolved shall be referred to the next higher level of management for resolution. Disputes which cannot be resolved through these levels shall be resolved ultimately by the Executive Vice President.

Preservice (PSI) and inservice (ISI) inspection, testing, and examination activities may be performed by outside organizations. These inspections and all other operating phase "code" activities shall comply with the requirements of the applicable Code Edition and Addenda of the ASME Boiler and Pressure Vessel Code. This compliance includes the independent third-party inspection coverage of "code" items by an Authorized Nuclear Inspector.

General indoctrination and training programs shall be developed for personnel performing safety-related activities to assure that responsible functions, departments, and individuals are knowledgeable regarding quality policy and requirements of applicable manuals and procedures. The requirements for training of Callaway Plant personnel are described in Section 13.2. The training of permanent Plant personnel is the responsibility of the Superintendent, Training. UE personnel performing complex, unusual, or hazardous work shall be instructed in special indoctrination or briefing sessions. Emphasis shall be on special requirements for safety of personnel, radiation control and protection, unique features of equipment and systems, operating constraints, and control requirements in effect during performance of work. Training shall be conducted as required to, as a minimum, meet the requirements of UE's commitment to Regulatory Guide 1.8 (ANSI/ANS 3.1), Regulatory Guide 1.33 (ANSI N18.7), other Regulatory Guides as endorsed by FSAR Appendix 3A, and other regulatory requirements. Records of training shall be maintained as described in 17.2.17. Where required by code and standard, personnel are trained or qualified according to written procedures in the principles and techniques of performing specific activities. Special equipment, environmental conditions, skills, or processes shall be provided as necessary for the effective implementation of the OQAP.

An audit system shall be established to assure management is advised of program effectiveness. The implementation and effectiveness of the OQAP shall be assessed through an audit program of quality activities which includes design, procurement, modification, and operation. The Manager, Quality Assurance is responsible for a

system of planned audits to assure OQAP compliance, with a frequency commensurate with the program aspect's safety significance and in accordance with the requirements of Section 17.2.18. He is responsible for conducting audits of offsite and onsite activities. Deficiencies identified during the audit process are reported to responsible management of the organization involved in the resolution and followup to assure corrective action .

The Vice President, Nuclear provides for an independent assessment of the scope, implementation, and effectiveness of the OQAP to assure

compliance with policy, commitments, and the requirements of 10 CFR 50, Appendix B as set forth here in Chapter 17. This assessment shall be conducted biennially and may be by representatives of other utilities, outside consultants, or UE management representatives.

Implementation of OQAP controls over activities affecting quality will assure achieving the objectives of the UE Company OQAP; to establish confidence that activities affecting quality regarding the design, fabrication, modification, and operation of the Callaway Plant are performed consistent with policy and to support the program with documentation and maintain quality information necessary for operation, maintenance, repair, modification, refueling, and inservice inspection.

UE Management has established standards of performance which exceed those set forth by the Regulatory Agencies. As a management initiative in this area, UE has defined the word "must" to impose management directed performance standards in excess of and in addition to established Regulatory directed performance. From the viewpoint of UE employees and UE contractors, there is no difference in the degree of compliance mandated by use of the words "shall" or "must". Compliance with actions initiated by use of either "shall" or "must" is audited and surveilled by the QA Department. Failure to implement a "must" mandated activity requires corrective action in the same way as failure to implement a "shall" mandated activity. However, from an external viewpoint, internally imposed "must" requirements (i.e., those in excess of Regulatory requirements) are not intended to be subject to enforcement action. "Must" is defined in Appendix 3A under Regulatory Guide 1.74.

17.2.3 DESIGN CONTROL

The design, modification, addition, and replacement of safety-related structures, systems, and components shall be controlled to assure appropriate design control measures are implemented and to assure the nondegradation of "as-built" quality. Procedures shall establish requirements, assign responsibilities, and provide control of activities regarding design in a planned, controlled, and orderly manner.

The plant design is defined by those UE, NSSS, A/E and selected supplier design drawings and specifications which illustrate the general arrangement and details of safety-related structures, systems, and components and define the requirements for assuring their continued capability to perform their intended operational or safety design function.

As the result of operating experience, or as necessitated by regulatory requirements, plant systems and equipment may have to be changed. A design change is a modification in plant design or operation and is accomplished in accordance with requirements and limitations of applicable codes, standards, specifications, licenses, and predetermined safety restrictions. An alteration of plant equipment, structures or systems which, is not by nature operational, maintenance or replacement by like kind, is considered a design change.

Design, including related procurement efforts, may be carried out by the Plant Engineering staff, Nuclear Engineering or outside organizations. Design change efforts not assumed by the Plant Engineering staff are performed by Nuclear Engineering or outside organizations.

Control of design shall be specified in procedures. These procedures shall include instructions for defining typical design requirements; communicating needed design information across internal and external interfaces; preparing, reviewing, approving, releasing, distributing, revising, and maintaining design documents; performing design reviews and reviews of design; and controlling field changes.

Design control shall involve measures which include a definition of design requirements; a design process which includes design analysis and delineation of requirements through the issuance of drawings, specifications, and other design documents (design outputs); and design verification or review of design to verify the adequacy of design or become acquainted with design features.

Design requirements and changes thereto shall be identified, documented, reviewed and approved to assure incorporation of appropriate quality standards in design documents and to control departures from these standards. Modifications to structures, systems, and components shall consider, as a minimum, the design bases described in the SNUPPS Standard Plant FSAR, the Callaway Plant Addendum, and the Technical Specifications. Design criteria

documents which are newly issued or modified in the course of design or design changes shall be reviewed by the Quality Assurance Department for seismic and quality group classification and selection of quality standards. Design criteria documents consist of original plant design criteria, system descriptions and other documents defining design input which change the plant as described in the FSAR.

Design activities shall include the correct translation of regulatory requirements and design bases into specifications, drawings, written procedures, and instructions (design outputs) that define the design. Design analyses regarding reactor physics, stress, thermal, hydraulic, radiation, and accident analyses used to produce design output documents, shall be detailed to permit an independent review by a technically qualified person. Analyses shall be detailed as to purpose, method, assumptions, design requirements, references, and units. When computer codes are employed, only verified codes shall be used in safety-related design and design changes.

Procedures shall specify requirements for the review and approval of design changes by the organizations or individuals that performed the original design. Design control activities, including design changes, may be delegated to others provided they have access to background and technical information. Design control measures for design revisions shall be commensurate with those applied to the original design. Specifications and revisions thereto, generated or revised in the design process, shall receive a quality review by the Quality Assurance Department.

Design activities shall also include: 1) reviewing the applicability of standards; 2) reviewing commercial or previously approved materials, parts or equipment for suitability of application; 3) reviewing the compatibility of materials used in the design; 4) reviewing the accessibility of equipment and components for inservice inspection, maintenance, and repair; 5) specifying criteria for inspection and test; and 6) reviewing and approving procedures for special processes.

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

The design interfaces between UE organizations performing work affecting quality of design and between UE and outside organizations shall be identified and controlled by procedures. These procedures shall address control of the interface, responsibilities, lines of communication, and documentation of internal and external interface activities.

The design process shall include design verification. Design verification assures that design is adequate and meets specified design inputs. Design control procedures shall specify requirements for the selection and accomplishment of a design verification program. The program depth shall be commensurate with the importance of the system or component to safety, complexity of the design, and similarity of the design to previous designs. Design verification shall be conducted in accordance with procedures which identify the responsibilities of the verifier and the documentation required and which, through adherence to the procedures, provide for the identification of the areas, features, and pertinent considerations to be verified. Design verification shall be by either design review, alternate calculation, qualification testing, or by a combination of these. UE shall perform "reviews of design" of selected documents for subcontracted design to become familiar with design features. An independent third-level review will be employed as an additional verification when UE judges that the design involves unique or special design features. The organization performing design shall have the responsibility for design control unless specified otherwise. Design verification shall be performed by competent personnel other than those who performed the original design and other than the designer's immediate supervisor. However, an individual's supervisor may perform design verification when he is the only technically qualified individual and in such instances the need for design verification by the designer's immediate supervisor shall be individually documented and approved in advance by the supervisor's management. Quality Assurance Department audits shall examine the frequency and the effectiveness of use of supervisors as design verifiers to guard against abuse.

Design verification, if other than by qualification testing of a prototype or lead production unit, shall be completed prior to release for procurement, manufacturing, construction or to another organization for use in other design activities. In those cases where this timing cannot be met, the design verification may be deferred, providing the justification for this action is documented and the unverified portion of the design output document and all design output documents, based on the unverified data, are appropriately identified and controlled. Site activities associated with a design or design change should not proceed without verification past the point where the installation would become irreversible (i.e., require extensive demolition and rework). In all cases, the design verification should be complete, prior to relying upon the component, system, or structure to perform its function.

Action shall be initiated to correct errors found in the design process. Errors and deficiencies identified in approved design

documents shall be documented and the process of their correction (i.e., review and approval) shall be controlled. These actions shall assure that changes to design or installed components are controlled.

Design changes or construction completion implemented after equipment or system are released to Nuclear Operations, but prior to 90 days before fuel load, shall be performed under the OQAP or the Design and Construction QA Program. Evaluation of design changes pursuant to 10 CFR 50.59 shall commence at least 90 days prior to fuel load.

Requests for design changes affecting safety-related structures, systems, and components may originate with or be processed through the Plant staff or Nuclear Engineering. Design changes engineered by the Plant staff shall be the responsibility of the plant Superintendent, Engineering. Design change efforts assumed by Nuclear Engineering shall be the responsibility of the Manager, Nuclear Engineering.

Independent of the responsibilities of the design organization, the requirements of the Onsite Review Committee and the Nuclear Safety Review Board as defined in the Technical Specifications shall be satisfied. Design changes require a safety evaluation which shall be reviewed by the ORC and approved by the Manager, Callaway Plant. In addition, changes in the facility as described in the FSAR which involve a change in the Technical Specifications incorporated in the license or an unreviewed safety question require review and approval by the NSRB and the Nuclear Regulatory Commission prior to implementation. When design is performed by an outside organization, UE shall perform or coordinate a review of the design for operability, maintainability, inspectability, FSAR commitment compatibility, test and inspection acceptance criteria acceptability, and design requirements imposed by plant generating equipment.

Safety analyses which consider the effect of the design as described in the design documents, shall be performed by the responsible UE engineering organization or outside organization(s). These analyses shall provide the basis for the safety evaluations which are performed to determine that design changes or the results of the changes do not involve an unreviewed safety question. Safety evaluations approved by the Manager, Nuclear Engineering, Superintendent, Engineering, or outside organization are submitted to the ORC. Changes involving the substitution of equivalent hardware require safety analyses to assure that the design requirement changes are consistent with and do not alter the design criteria specified in existing design documents. The engineering approval of design documents and safety analyses prepared by outside organizations shall be by the outside organization.

The ORC shall review design change safety evaluations to recommend final approval of design changes. Design changes which involve an unreviewed safety question or a change in the Technical Specifications shall be forwarded to the NSRB for review. An

application for amendment of the license shall be submitted to the Nuclear Regulatory Commission for approval pursuant to 10 CFR 50.90.

The NSRB shall review safety evaluations to verify that changes did not involve unreviewed safety questions.

Procedures and instructions related to equipment or systems that are modified are reviewed and updated to reflect the modification. Plant personnel are made aware of changes affecting the performance of their duties through procedure revisions or specific training in the operation of modified equipment or systems.

Records shall be maintained which reflect current design including safety analyses, safety evaluations, design change installation procedures, material identification documents, procurement documents, special process documents, equipment and installation specifications, and as-built drawings.

Drawings shall be prepared under a drawing control system which provides for checking methods and review and approval requirements. Drawings shall be subject to reviews by the responsible design organization for correctness, conformance to design criteria, and compliance with applicable codes and standards.

17.2.4 PROCUREMENT DOCUMENT CONTROL

Procurement document control applies to documents employed to obtain safety-related materials, parts, components, and services required to support plant operation. UE shall control procurement documents by written procedures which establish requirements and assign responsibility for measures to assure that applicable regulatory requirements, design bases, and other requirements necessary to assure quality are included in documents employed for the procurement of safety-related materials, parts, components, and services.

Written procedures shall include controls, as applicable, for preparation, content, review, approval, and processing of the following related procurement documents:

1. purchase requisitions;
2. purchase orders;
3. letters of intent;
4. Engineering Service Agreements (agreements for engineering, construction, or consultant services);
5. contracts;
6. specifications; and
7. drawings.

Provisions for the following shall be included in procurement documents as applicable:

1. Requirement that the supplier have an acceptable quality assurance program which implements the appropriate criteria of 10 CFR 50, Appendix B as established for the item or service to be supplied. This requirement is not applicable to off-the-shelf (commercial grade) items which utilize a supplier's standard or proven design to meet published product descriptions and whose fulfillment of the technical and quality requirements are accepted by receiving inspection.

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

3. Requirements for supplier surveillance, audit, and inspection including provisions for UE or agent access to facilities and records and for identification of witness and hold points.

4. Requirements for extending applicable requirements of UE procurement documents to lower-tier suppliers and subcontractors. These requirements shall include right-of-access to subsupplier facilities and records by UE.

5. Requirements for suppliers to obtain UE approval of nonconformances to procurement document requirements dispositioned "use-as-is" and "repair" and conditions of their disposition including identification of those subject to UE approval prior to further processing.

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

7. Applicability of 10 CFR Part 21 reporting requirements.

8. Requirements that the supplier furnish documentation which identifies the purchased item and provides traceability to the procurement requirements met by the item and documentation identifying any procurement requirements which have not been met.

Purchase requisitions shall be employed to initiate the procurement of safety-related materials, parts, components, and services while Engineering Service Agreements (ESA's) shall be used to contract for safety-related engineering, construction, or consultant services. Contracts (other than purchase orders generated from purchase requisitions and ESA's) shall be employed to procure certain goods and services associated with the nuclear fuel cycle.

Purchase requisitions for safety-related materials, parts, components, and services and Engineering Service Agreements for professional services may be initiated by personnel in the Quality Assurance, Nuclear Engineering, Nuclear Services, Nuclear Construction, and Nuclear Fuel Departments and the Plant staff.

Purchase requisitions, ESA's, letters of intent and contracts for safety-related materials, parts, components and services shall be reviewed by the internal UE originating organization and the Quality Assurance Department in accordance with written procedures. Collectively, these reviews assure that quality requirements are correctly stated, inspectable, and controllable; there are adequate acceptance and rejection criteria; and procurement documents have been prepared, reviewed, and approved in accordance with QA program requirements. The originating organization shall perform a documented independent review of procurement documents to assure requirements are correctly stated, inspectable, and controllable and

that there are adequate acceptance and rejection criteria. The QA Department shall perform a documented review of procurement documents to assure that the quality assurance program requirements (as defined in Section 3.2.3 of ANSI N45.2.13-1976) are correctly stated and that they have been prepared, reviewed, and approved in accordance with QA program requirements. Approval of the purchase requisition, letter of intent, Engineering Service Agreement, or contract shall be by an individual who has approval authority and signifies that the technical and quality review of the document has been completed.

Procurement document control preparation measures shall further provide that purchased safety-related components, piece parts, materials, and services are: purchased to specifications and codes equivalent to those specified originally or those specified by a properly reviewed and approved revision; packaged and transported in a manner to assure the non-degradation of quality during transit; and properly documented to show compliance with applicable specifications, codes, and standards.

Each item or service to be procured is evaluated by the procurement document originator to determine whether it performs a safety-related function or involves activities which affect the function of safety-related materials, parts, or components and to appraise the importance of this function to plant or public safety. For those cases where it is unclear if an individual piece (part of a safety-related structure, system, component or service) is governed by the OQAP, an engineering evaluation shall be conducted. The evaluation shall be conducted by Nuclear Engineering or the Plant Engineering Staff and shall classify the safety relationship of the service or questionable component, parts or items of safety-related structures, systems, and components. Evaluations shall be documented for future reference. Evaluations of this nature shall be reviewed by the Quality Assurance Department to assure that appropriate quality assurance requirements have been satisfied.

Letters of intent may be utilized with suppliers of materials, parts, components, and services for the purpose of reserving schedule space prior to the resolution of the requirements to be included in a purchase order, contract, or ESA. If employed, letters of intent shall specify that no safety-related activities shall begin until an approved purchase order, contract, or ESA is executed; however, in the event a letter of intent is issued for the purpose of securing an agreement and thereby allow safety-related work to begin prior to the issuance of such documents, it shall specify the applicable quality and technical requirements. Letters of intent shall be prepared by the Purchasing Department and the originating organization, reviewed by the Quality Assurance Department, and approved and issued by Purchasing. Letters of intent issued prior to the execution of a contract for nuclear fuel cycle-related goods and/or services shall be prepared and issued by the Nuclear Fuel Department and reviewed by the Quality Assurance Department. Letters of intent issued prior to the execution of an ESA shall be prepared and issued by the originating organization and reviewed by the Quality Assurance

Department. The QA review assures that appropriate quality assurance requirements have been imposed.

Additions, modifications, exceptions, and other changes to procurement document quality and technical requirements shall require a review equivalent to that of the original document and approval by the originator or the originating department approval authority. Commercial consideration changes shall not require review and concurrence by the originator.

The procurement of spare or replacement parts for safety-related structures, systems, and components shall be subject to the QA program controls in effect at the time the order is issued and to codes, standards, and technical requirements which are equal to or better than the original requirements or as may be required to reduce the probability for repetition of defects.

Commercial items shall rely on proven design and utilize verification methods, to the extent appropriate to item application, by the purchaser in lieu of supplier controls.

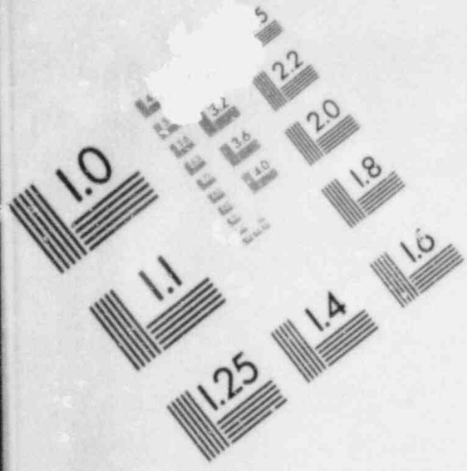
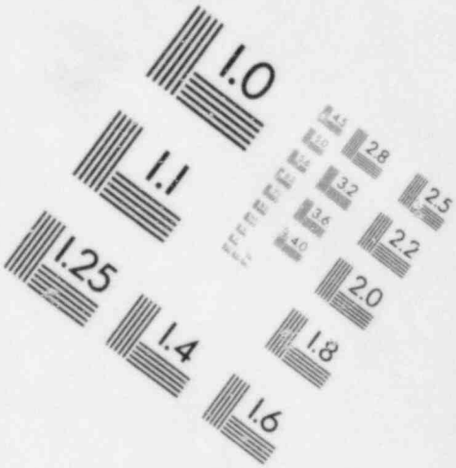
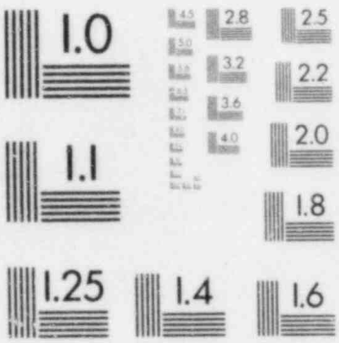
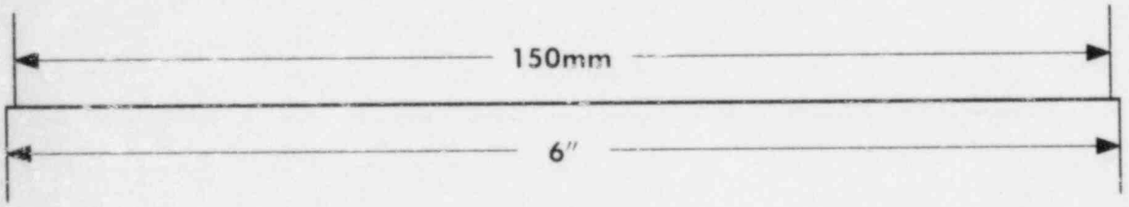
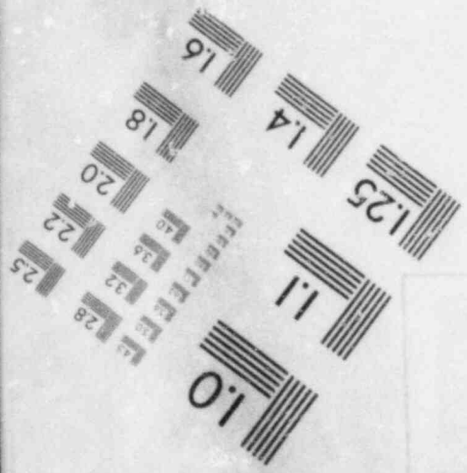


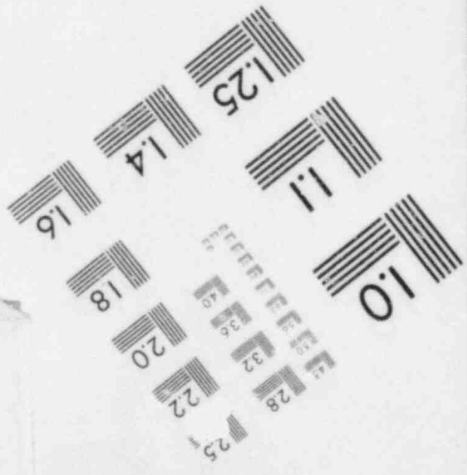
IMAGE EVALUATION TEST TARGET (MT-3)











17.2.5 INSTRUCTIONS, PROCEDURES AND DRAWINGS

The activities affecting quality associated with the operating phase shall be accomplished in accordance with documented instructions, procedures, drawings or checklists which specify the methods for complying with 10 CFR 50, Appendix B and the Technical Specifications. The degree of control imposed shall be consistent with the relative importance of the activity to safety.

The OQAP shall control activities affecting quality by providing measures for:

1. preparation of procedures, instructions, specifications, drawings or checklists of a type appropriate to the activity and its importance to safety;

2. provisions for the inclusion in these documents of quantitative and qualitative acceptance criteria for verifying that an activity has been satisfactorily accomplished;

3. the approval of these documents by responsible personnel prior to accomplishing an activity; and

4. the use of approved drawings, procedures, instructions or checklists to accomplish an activity.

The Nuclear Function and other responsible functions and departments shall provide written procedures and drawings as required to support the Callaway Plant operating phase. These procedures shall prescribe those activities regarding safety-related structures, systems, and components. It is recognized that skills normally possessed by qualified personnel may not require detailed step-by-step delineations in written procedures.

The Manager, Callaway Plant shall be responsible for providing specific guidance via Administrative Procedures for the development, review and approval of other plant operating procedures to govern activities which affect safety or quality consistent with the Technical Specifications. Similar guidance shall be provided for revisions and temporary changes to plant operating procedures. Plant operating procedures shall be reviewed no less frequently than every two years to determine if changes are necessary or desirable. A revision shall constitute a review.

The approval, issue and control of all other implementing procedures, manuals and policy shall be prescribed in Administrative Procedures consistent with the requirements of 17.2.2 and 17.2.6.

Table 17.2-2 prescribes the review and approval authorities for procedures. All plant Administrative Procedures shall be reviewed by the Quality Assurance Department.

The Quality Assurance Department shall examine drawings, on an audit basis, for evidence that they have been prepared, reviewed, and approved in accordance with QA program requirements.

17.2.6 DOCUMENT CONTROL

Documents and their revisions which control activities affecting safety-related structures, systems, and components shall be prepared, reviewed by knowledgeable individuals, and approved by authorized personnel prior to release or issuance in accordance with written approved procedures.

Functions, departments, and organizations responsible for program implementing documents shall be required to provide the necessary review and approval for instructions, procedures, specifications, and drawings. Reviews and approvals assure that issued documents are adequate, authorized, include proper quality and technical requirements, and are correct for intended use. Individuals or groups responsible for preparing, reviewing, and approving documents and revisions thereto shall be identified in written procedures. Specifically, the QA Department reviews Administrative Procedures; the QC Group reviews maintenance and modification procedures; and the QC Group is responsible for the preparation of inspection procedures and/or checklists to support maintenance and modification activities. Collectively, these reviews by the QA Department and the QC Group determine:

a. The need for inspection, identification of inspection personnel, and documentation of inspection results; and

b. That the necessary inspection requirements, methods, and acceptance criteria have been identified.

Changes to documents shall be reviewed and approved by the same function, department, group, or organization that performed the original review and approval; however, UE may assume or delegate this responsibility. Organizations which review and approve documents shall have access to pertinent information and knowledge of the intent of the original document.

Documents relating to the UE OQAP shall be controlled to an extent which considers the document type, its importance to safety, and the intended use of the document. The preparation, review, approval and revision of procedures, instructions and drawings shall adhere to the OQAP.

The controls governing the issuance of documents shall provide for the availability of documents at the point of use prior to commencing an activity and the prompt transmittal of approved changes for incorporation into subsequent revisions. Measures shall be established to prevent the inadvertent use of superseded documents.

Types of documents which shall be controlled include the FSAR, specifications, Operating Quality Assurance Manual, procurement documents, procedures, other design documents (e.g., calculations, drawings, analyses) including documents related to computer codes, nonconformance reports, as-built drawings, the UE QA Procedures Manual, the Callaway Plant Operating Manual, and topical

reports.

The issuance of controlled documents at the general office and Callaway Plant is the responsibility of the Manager, Nuclear Services and the Superintendent, Administration, respectively. The Superintendent, Administration shall be responsible for assuring the issuance of controlled documents generated or received onsite and for which plant personnel have the preparation and final approval or external interfacing responsibility. Similarly, the Manager, Nuclear Services shall be responsible for assuring the issuance of controlled documents generated or received at the general office for which general office personnel have preparation and final approval or external interfacing responsibility. In addition, the Manager, Nuclear Services shall be responsible for the issuance of the FSAR and revisions thereto.

Control of documents shall be defined by a method of control consistent with the importance of the document. Selected documents shall receive a control number. A serialized distribution list shall identify selected document holders by name and control number. Acknowledgement of receipt of selected documents, incorporation of revisions, and destroying or voiding of superseded documents shall be required by the distributor. In addition the distributing organization for documents controlled by a system of control numbers shall periodically compose a master list of the documents showing the effective revision date of each.

Procedures shall specify the requirements for the processing and maintenance of records. Procedures shall also be established to control instructions, procedures, and drawings governed by the OQAP. These procedural controls shall provide for the prompt transmittal of document revisions to work locations and the removal, destruction, or voiding of obsolete/superseded documents. The Plant staff and other UE organizations shall assure that current documents are distributed to and used at the location where the prescribed activity is performed. It is recognized that in certain instances activities are controlled via the communication of documented procedural instructions from a remote location, (i.e., separated from the location where the prescribed activity is being performed). Identified, controlled copies of documents shall be used to perform an activity. Uncontrolled copies shall be identified.

17.2.7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

Materials, equipment, and services shall conform to procurement documents as prescribed in Section 17.2.4. Provisions shall be established to control activities affecting quality associated with the procurement of material, equipment and services including:

1. the preparation, review, and change control of procurement documents as described in Section 17.2.4;
2. procurement source selections;
3. bid evaluation and award;
4. verification activities (surveillance, inspection, and audit) required by the purchaser;
5. control of nonconformances as described in Section 17.2.15;
6. corrective action regarding procurement as described in Section 17.2.16;
7. material, equipment, and service acceptance;
8. control of quality assurance records;
9. audits of the procurement program as described in Section 17.2.18.

Suppliers providing safety-related materials, equipment, or services shall be acceptable procurement sources. Provisions shall be made for supplier evaluations which assess their capabilities prior to award by: 1) source evaluation; or 2) review for objective evidence of quality; or 3) a review of supplier history. When evaluations are performed, the assessment of a supplier's capability shall be specific to the procured item, commodity, or service and the supplier's ability to provide the items or services in accordance with procurement document requirements. Suppliers of hardware and services which are manufactured prior to award, considered an "off-the-shelf" item, or implemented under the UE QQAP do not require pre-award source evaluation or post award audits which attest to their capability as a procurement source.

During the Plant operating life, procurements may be made with: 1) suppliers judged capable (prior to award) of providing items or services in accordance with procurement document requirements and a quality assurance program appropriate for the item or service procured; 2) suppliers and others in possession of hardware manufactured prior to award and whose acceptability can be determined by receiving inspection, an examination of quality verification documentation, or other suitable means; 3) suppliers of off-the-shelf (commercial grade) items able to be ordered solely on the basis of published product descriptions (catalog information); and 4) outside

organizations working under the UE OQAP. Regardless of the basis for the acceptability of the procurement source, prior to the issuance of a purchase order or execution of a contract or ESA, a verification of the supplier/outside organization acceptability shall be documented. Except in unusual circumstances (e.g. replacement parts are needed to preclude the development of some unsafe or undesirable condition), an evaluation of a Supplier's acceptability as a procurement source shall be accomplished prior to award. In the case of purchase orders, the responsible Purchasing Department Buyer shall verify that the supplier is an acceptable procurement source for the item or service being procured. Purchase orders may be issued prior to an assessment of supplier capability provided a prohibition on safety-related work is imposed. Such suppliers shall be released to begin safety-related work when evaluated to be an acceptable procurement source.

To support the control of purchased material, copies of purchase orders and other appropriate procurement documents shall be forwarded to the applicable receiving and acceptance point. Departments receiving or utilizing procured items or services shall establish measures to maintain and control procurement documents until the items or services are received and accepted. These documents shall include purchase orders, drawings and specifications, approved changes, and other related documents.

The suppliers to UE or its agents during the design and construction phase shall be initially regarded as qualified procurement sources for replacement parts during the operating phase as the procurement source evaluation measures employed previously have identified these suppliers as qualified procurement sources.

Procurement source evaluation and selection involves the Quality Assurance Department and the originating organization. Nuclear Engineering, Nuclear Fuel, Nuclear Services, Nuclear Construction, the Plant staff or other organizations participate in the qualification evaluations of suppliers in accordance with written procedures.

Measures for the evaluation and selection of procurement sources shall be specified in procedures and may vary depending on the complexity and relative importance to safety of the item or service. Procurement source evaluations shall consider one or more of the following except that suppliers of hardware and services which are manufactured prior to award, considered an "off-the-shelf" item, or implemented under the UE OQAP do not require pre-award source evaluation audits which attest to a suppliers capability as a procurement source:

1. Experience of users of identical or similar products of the prospective supplier. NRC Licensee Contractor and Vendor Inspection Program (LCVIP) reports, ASME Certificates of Authorization, Coordinating Agency for Supplier Evaluation

(CASE) Register listings, UE records accumulated in previous procurement actions, and UE product-operating experience may be used in this evaluation. Supplier history shall reflect recent capability. Previous favorable quality experience with suppliers may be an adequate basis for judgements attesting to their capability. When an LCVIP letter of confirmation or the CASE register listing is used to establish a supplier's acceptability as a procurement source, the documentation shall identify the "letter" or "audit" used.

2. An evaluation of the supplier's current quality records supported by documented qualitative and quantitative information which can be objectively evaluated. This may include review and evaluation of the supplier's QA Program, Manual, and Procedures, as appropriate; and responses to questionnaires.

3. A source evaluation of the supplier's technical and quality capability as determined by a direct evaluation (audit or surveillance) of facilities, personnel and quality assurance program implementation.

Procurement source evaluations involve a review of technical and quality assurance considerations. Technical considerations include the design or manufacturing capability and technical ability of suppliers to produce or provide the design, service, item, or component. Quality assurance considerations include one of the previously defined methods of supplier evaluation and a consideration of changes in a supplier's quality assurance program or capabilities. The measures employed to evaluate a supplier's continued acceptability as a procurement source (after the initial source evaluation) are described in Section 17.2.18.

Nuclear Engineering, Quality Assurance, Nuclear Fuel, Nuclear Services, Nuclear Construction, and the Plant staff, perform bid evaluations in accordance with documented procedures. These organizations shall initiate and coordinate bid evaluation activities for those proposals received in response to procurement documents initiated by them. Contracts initiated for nuclear fuel cycle-related goods and/or services shall be the responsibility of the Manager, Nuclear Fuel with preparation and negotiation by the Nuclear Fuel Department. Nuclear fuel cycle-related contracts and Engineering Service Agreements for professional services shall be executed by the Vice President, Nuclear or a company officer in accordance with Nuclear Function and corporate procedures related to agreements or contracts for services.

Bids or proposals shall be evaluated by the originating organization for conformance to procurement document requirements. The Quality Assurance Department shall review proposals for conformance to quality assurance requirements. Bid evaluations of selected bidders shall be documented and should include the following subjects, where appropriate to the type of procurement:

1. technical considerations
2. quality assurance requirements
3. suppliers' personnel qualifications
4. suppliers' production capability
5. suppliers' past performance
6. alternates
7. exceptions

Exceptions to procurement document requirements requested by bidders shall be evaluated by the responsible organization(s). Unacceptable conditions identified in bid evaluations shall be resolved prior to purchase award.

Consideration of the verification activities to be employed for item or service acceptance should begin during the purchase requisition, ESA, or contract preparation and review stage. Planning of verification activities shall include a review of the established acceptance criteria and identified documentation. Verification methods which may be employed include certifications (certificates of conformance and material certificates or test reports), supplier surveillance, receiving inspection, and post installation tests established by UE, with receiving inspection utilized in the acceptance of all items. Selected verification methods may be indicated as inspections, examinations, tests, or documentation reviews. The extent of the acceptance methods and associated verification activities will vary and be a function of the purchased item or service complexity and relative safety significance; as well as the suppliers past performance. The Quality Assurance Department shall review procurement documents and concur with the originating organization's determination of need for post award supplier monitoring; i.e., source inspection or surveillance. Procedures provide for the acceptance of off-the-shelf items based exclusively on receiving inspection with no supplier-generated quality verification documentation requirements. Documentation shall be generated as a result of UE receiving inspection activities.

Acceptance by supplier surveillance may be considered when the item or service is vital to plant safety; or the quality characteristics are difficult to verify after receipt; or the item or service is complex in design, manufacture, inspection or test. Surveillance in this sense involves a physical presence to monitor, by observation, designated activities for the purpose of evaluating supplier performance and product acceptance.

Receiving inspection instructions shall be documented. These instructions include specifying inspections or tests of commercial grade items procured from suppliers on the basis of product performance. Should it become necessary to upgrade stocked commercial items to specific requirements, inspections, tests, or documentation reviews may be employed to establish the item acceptability.

Organizations participating in the procurement process shall prepare procedures to monitor and evaluate supplier performance to

procurement document requirements. These procedures shall include provisions for: 1) controlling documents generated or processed during activities fulfilling procurement requirements; 2) identifying and processing change information; 3) establishing a method of control and documentation of information exchange with the supplier; and 4) audit or surveillance of supplier activities.

Depending on the complexity or scope of the item or service, the Purchasing Department and/or the originating organization shall initiate award activities. Meetings or other forms of communication may be held to establish the intent of UE in monitoring and evaluating supplier performance and establishing an understanding of procurement requirements. The depth and necessity of these activities are a function of the uniqueness, complexity, frequency of transactions with the same supplier, and past supplier performance. UE hold and witness points shall be documented as early as practicable in the procurement process.

The originating organization shall establish measures for monitoring supplier-generated document submittals against procurement document requirements. Similarly, measures shall be established for reviewing and approving supplier generated documents for use. Changes to procurement documents shall be in accordance with the controls described in Section 17.2.4.

Supplier monitoring activities may be performed by personnel from Quality Assurance, Nuclear Engineering, Nuclear Services, Nuclear Construction, Nuclear Fuel, the Plant Staff, or outside organizations in accordance with plans to perform inspections, examinations or tests. Supplier monitoring activities may include:

1. audits of supplier quality assurance program implementation;

2. monitoring, witnessing, or observing inspections, examinations, and performance tests;

3. surveillance of manufacturing processes; or

4. audits of supplier records to verify certification validity and the resolution of nonconformances.

Acceptance of items and services shall include one or more of the following:

1. written certifications
2. supplier surveillance
3. source inspection
4. receiving inspection
5. post installation test (in addition to one of the above)

Where required by code, regulation or contract requirement documentary evidence that items conform to procurement documents shall be available during receiving inspection or prior to use of such items. Where not precluded by other requirements, documentary

evidence may take the form of written certificates of conformance. When certificates of conformance are employed as a means of item acceptance, verification of the validity of supplier certificates and the effectiveness of the certification systems shall be conducted at intervals commensurate with the supplier's past quality performance. Certificates of conformance and compliance shall be required to be signed or accompanied by a signed letter of transmittal. Where acceptance shall be accomplished by supplier surveillance, documented evidence shall be furnished to the plant Quality Control organization by the responsible UE organization or their designated agent prior to acceptance.

Acceptance by receiving inspection shall be utilized as a prime method of verification and will be utilized as the sole means of item acceptance when items are relatively simple and standard in design and manufacture, such as: certain spare parts; items adaptable to standard or automated inspections; and inspections that do not require operations which could affect the integrity, function, or cleanliness of the item. When other methods are utilized, receiving inspection shall be employed to verify that items have not sustained damage.

Receiving inspection shall be performed by personnel certified to ANSI N45.2.6 - 1978, (as clarified in Appendix 3A Regulatory Guide 1.58 Discussion) under the direction of the Quality Control Supervisor. Other plant personnel qualified to ANS 3.1 - 1978 may be utilized to perform receipt inspections requiring specialized skills, such as receipt inspection of radioactive material, bulk chemicals and diesel fuel. In the event of modification, or other special circumstances, receiving inspection may be assigned to an outside organization(s).

Receiving inspection activities shall include:

1. Verifying that identification of materials, parts, and components upon receipt by tagging or other means of identification or segregation and the control of items in areas separate from the storage facilities for accepted items has been accomplished.

2. Verifying that items for acceptance have been examined for physical damage, correctness of identification and quality documentation, and completeness of specified quality documentation.

3. Inspecting or, where appropriate, testing using approved procedures and calibrated tools, gages and measuring equipment to verify the acceptability of items, including those from "off-the-shelf" suppliers.

4. Final acceptance providing all required verifications are complete and acceptable. Items determined to be acceptable for use shall be tagged with an accept tag or other means of identification or segregation, and released for storage

or use. Conditional acceptance of items by receiving inspection shall be procedurally controlled.

5. Verifying that received items which do not conform to procurement documents are segregated (if practicable) and processed in accordance with Section 17.2.15.

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

Final acceptance of items shall be by Plant Quality Control personnel or designated inspection personnel. The final acceptance of services shall be the responsibilty of the originating organization. Acceptance shall be documented.

17.2.8 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS AND COMPONENTS

The identification and control of materials, parts, and components shall be accomplished in accordance with documented procedures and apply to safety-related materials, parts, and components during fabrication, storage, installation or use. Materials, parts, and components identified as nonconforming shall be controlled as described in Section 17.2.15.

The identification and control requirements shall address traceability to associated documents, as appropriate; specification of the degree of identification and control necessary; location and method of identification to preclude a degradation of the item's functional capability or quality; and proper identification of materials, parts, and components prior to release for manufacturing, shipping, construction, and installation. Materials, parts, and components manufactured or modified by UE shall be controlled and identified during manufacture.

Documented procedures shall assure that specifications and other procurement documents include or reference appropriate requirements for the identification and control of materials, parts, and components including partially fabricated assemblies. Procedures shall also specify measures for material control including storing and controlling accepted items; controlling the issuance of accepted items from storage while maintaining item identity; controlling the return to storage of issued materials, parts, or components received, stored, installed, modified, and used at the plant site. These procedures shall assure that correct identifications are verified and documented prior to release.

Physical identification may be employed for relating an item at any point in time to applicable design or other pertinent specifying documents including drawings, specifications, purchase orders, manufacturing and inspection documents, nonconformance reports, and physical and chemical mill test reports. Physical identification or marking shall not affect the function or quality of the item being identifed. Where physical identification is not employed, physical separation, procedural control, tags, or other means shall be utilized. Identification shall be maintained on items, or records traceable to items through fabrication, erection, and installation. When unique traceability is impractical, bulk traceability may be employed consistent with the relative importance of the item to safety.

In the event the identification or traceability of an item is lost, it shall be handled as nonconforming in accordance with Section 17.2.15.

17.2.9 CONTROL OF SPECIAL PROCESSES

Special processes are fabrications, tests, and final preparation processes which require the qualification of procedure, technique, and personnel and which are performed in accordance with applicable codes and standards. Special processes require in-process controls in addition to final inspection to assure quality.

Special processes include such activities as welding, heat treating, nondestructive examination, the application of specialized coatings, and chemical cleaning, and shall be accomplished under controlled conditions by qualified personnel in accordance with the technical requirements of applicable codes, standards, specifications, or other special requirements to which UE is committed. Qualified personnel and approved procedures shall be employed. Procedures for special processes shall be qualified as part of their approval process; personnel qualifications shall be certified; and equipment shall be qualified prior to use. The responsible plant department head shall assure that personnel performing special processes are qualified and are employing approved procedures. Procedures shall also be established for recording evidence of acceptable accomplishment of special processes using qualified procedures, equipment, and personnel. The Quality Control Supervisor shall be responsible for assuring that personnel performing nondestructive examinations are qualified and are employing approved procedures. Nondestructive examination personnel shall be qualified in accordance with procedures established per the requirements of the American Society for Nondestructive Testing Standard SNT-TC-1A (June 1975).

Special process equipment that may require periodic adjustment and whose performance cannot be verified through direct monitoring of appropriate parameters shall be subject to the controls described in Section 17.2.12.

Qualified outside organizations may be employed to perform special processes and shall be required to conform to the requirements described herein. Special process procedures submitted by an outside organization(s) in accordance with procurement document requirements shall receive a technical review by the responsible engineering organization and a quality review by the Quality Assurance Department.

17.2.10 INSPECTION

A program for the inspection of safety-related activities shall be established and executed to verify conformance with applicable documented instructions, procedures, drawings, and specifications. Inspections and process monitoring which serve an inspection function shall be performed by personnel qualified to perform assigned inspection tasks and who are independent of individuals who performed the activity.

The inspection program shall be conducted in accordance with written approved procedures which specify inspection scope; personnel qualification requirements; inspection method description, including any mandatory holdpoints; acceptance criteria; data collection requirements; and documentation approval requirements. Inspection requirements may be obtained from drawings, instructions, specifications, codes, standards, or regulatory requirements.

Process monitoring of work activities, equipment, and personnel shall be utilized as a control if inspection of processed items is impossible or disadvantageous. Both inspection and process monitoring shall be provided when control is inadequate without both.

Process monitoring of ongoing activities at the Callaway Plant shall be at intervals based on the status and safety importance of the activities. Guidelines shall be established to indicate the minimum frequency of process monitoring for ongoing activities and to provide a basis for subsequent monitoring planning.

Process monitoring shall be performed to verify that activities affecting quality are being performed in accordance with documented instructions, procedures, drawings, and specifications.

The acceptance of an item shall be documented by authorized personnel. Modification, repair or replacement of items performed subsequent to final inspection shall require reinspection or retest to verify acceptability.

Required inservice inspection or process monitoring of structures, systems or components shall be planned and executed. Inspection methods shall be established and executed to verify that the characteristics of an item continue to remain within specified limits.

Personnel within the Quality Control Group or other plant or outside organizations shall perform "inspection" activities and shall be qualified within their respective areas of responsibility. The qualification of QC and any qualified offsite or outside organization inspection personnel shall be defined in three levels of capability which are not limiting with regard to company position and as described in ANSI N45.2.6. Other (plant) personnel performing "inspection" activities shall have appropriate experience, training, and retraining to assure competence in accordance with ANSI/ANS-3.1. Inspection assignments shall be consistent with the qualification of

an individual. In instances where the education and experience recommendations of ANSI N45.2.6 are not met by QC personnel, UE shall demonstrate by documented results of written examinations and evaluations of actual work proficiency that individuals possess

comparable or equivalent competence.

An inspection personnel qualification program shall be established to assure inspection program activities are being performed by personnel trained and qualified to a capability necessary for performance of the activity. Plant procedures shall prescribe the qualification requirements of inspection personnel. The Superintendent, Training shall be responsible for providing related technical and quality training appropriate to the certification/qualification of UE personnel. The Quality Assurance Department shall audit personnel qualification criteria and the qualifications of personnel performing inspection activities.

Procedures which specify inspection activities shall provide for the following, as required: 1) the inclusion of independent inspection or process monitoring when required; 2) the identification of inspection personnel; 3) the documentation of inspection results; 4) a description of the method of inspection; 5) the identification of the characteristics and activities to be inspected; 6) the acceptance and rejection criteria; and 7) specifying the necessary measuring and test equipment. Inspection or testing as appropriate shall be employed as a means of verifying suitable performance subsequent to a component replacement or repair.

Instructions, procedures, and supporting documentation shall be provided to inspection personnel for use prior to performing inspection activities. Inspection results shall be documented. Procedures shall prescribe the review and approval authority for inspection results.

Nuclear Engineering shall be responsible for assuring the development of a preservice and inservice (PSI/ISI) inspection program; the reference PSI/ISI examination plans for ASME Code Class 1, 2, and 3 systems and components including steam generator eddy current examination; the NDE procedures required by the reference plans; and the initial updating of the reference plans and procedures to reflect "as-built" conditions and the technical requirements of the applicable code edition and addenda prior to the issuance of the inservice inspection plans and procedures.

Nuclear Operations shall be responsible for assuring the development of the inservice testing program plan for pumps and valves, the test procedures required by this plan, and the securing of consulting services in this area. In addition Nuclear Operations shall be responsible for administering and performing the PSI/ISI program and implementing the examination and testing plans developed within the nuclear function. They are also responsible for all updates to the reference plans and NDE procedures subsequent to the issuance of the inservice inspection plans and procedures. The services of an outside organization may be secured to conduct all or portions of the

PSI/ISI examinations. PSI/ISI inspection plans and modifications shall be reviewed by the Quality Assurance Department.

17.2.11 TEST CONTROL

Testing shall be performed to demonstrate that safety-related structures, systems, and components perform satisfactorily in service. Testing programs include such tests as initial startup testing, surveillance tests, ISI pump and valve tests, and other tests, including those associated with plant maintenance, modification, procedure changes, failure analysis, and the acceptance of purchased material. A test is performance of those steps necessary to determine that systems or components function in accordance with predetermined specifications.

Test programs shall be established to demonstrate item or system performance. Testing shall be performed in accordance with written procedures which incorporate or reference the requirements and acceptance limits contained in applicable Technical Specifications, drawings, instructions, procurement documents, specifications, codes, standards, and regulatory requirements.

Administrative procedures, test procedures, or checklists shall include provisions for prerequisite conditions; test equipment calibration requirements; testing method instructions; limiting conditions and acceptance/rejection criteria; and data collection and test result approval requirements.

Personnel within the various UE organizations or outside organizations may perform testing activities including implementing test procedures and the evaluation and reporting of test results. The assignment of plant testing personnel shall be under the direction and control of the Manager, Callaway Plant. The qualification of QC and any offsite or outside organization test personnel shall be defined in three levels of capability which are not limiting with regard to company position and as described in ANSI N45.2.6. Other (plant) personnel performing "test" activities shall have appropriate experience, training, and retraining to assure competence in accordance with ANSI/ANS-3.1. Testing assignments shall be consistent with the qualification of an individual. In instances where the education and experience recommendations of ANSI N45.2.6 are not met by QC personnel, UE will demonstrate by documented results of written examinations and evaluations of actual work proficiency that individuals possess comparable or equivalent competence.

A test personnel qualification program shall be established to assure test program activities are performed by personnel trained and qualified to a capability necessary for performance of the activity. Plant procedures and procurement documents shall prescribe the qualification requirements of test personnel. The Superintendent, Training shall be responsible for providing related technical and quality training of UE test personnel.

Test results shall be documented, reviewed, and approved by qualified individuals or groups. Equipment found to be deficient shall be identified in accordance with Section 17.2.14. Surveillance test

procedure results which fail to meet the requirements and acceptance criteria of Technical Specifications shall be documented and reviewed in accordance with Section 17.2.15. Deficiencies identified as nonconforming shall be processed in accordance with Section 17.2.15.

Review and approval of tests and experiments shall be conducted as specified in the Technical Specifications and 10 CFR 50.59.

Initial startup testing shall be conducted subsequent to preoperational testing by qualified personnel to: 1) provide additional assurance that the facility has been adequately designed; 2) to verify the correctness of assumptions used for predicting plant responses to anticipated transients and postulated accidents; and 3) to provide assurance that construction and installation of facility equipment have been accomplished in accordance with design. The Superintendent, Engineering shall be responsible for the administration and conduct of the initial startup testing. Test program procedures shall be reviewed by the ORC and approved by the Manager, Callaway Plant.

Initial startup testing evaluations shall be the responsibility of the ORC. Test results shall be evaluated by the ORC and they may be assisted by personnel from the Plant Startup organization, the Plant Engineering staff, Nuclear Engineering, Lead A/E, NSSS supplier, Site A/E, or other organizations as necessary to verify compliance with acceptance criteria. Test procedures, test data, and test data evaluations shall be retained as part of the plant record. Individuals that direct or supervise the conduct of individual startup tests and individuals assigned responsibility for the review and approval of startup test procedures or results shall be qualified but not certified in accordance with Regulatory Guide 1.8.

At the release of systems or subsystems to the Plant organization, the Superintendent, Operations or Radwaste Supervisor shall be responsible for their operation to support plant evolutions. During the period prior to the initiation of initial startup testing, to the extent practicable, the plant technical and operating staff shall familiarize themselves with the facility operation and verify by trial use that operating and emergency procedures are adequate. The OQAP becomes the governing quality assurance program, on a system-by-system or subsystem basis, as systems are released to the Plant organization.

Provisions shall be established for the performance of surveillance testing to assure that the necessary quality of systems and components is maintained, that facility operations are within the

safety limits, and that limiting conditions of operation can be met. The testing frequency shall be as prescribed in the Technical Specifications. The provisions for surveillance testing shall include the preparation of a surveillance testing schedule(s) which reflects the status of in-plant surveillance tests. Qualified personnel perform surveillance tests.

Tests may also be performed subsequent to plant modifications, maintenance or significant operating procedure changes to confirm expected results. Tests provide a level of confidence in structure, system or component operation or functional acceptability.

When required by procurement documents, testing shall be employed as a means of purchased material and equipment acceptance. Acceptance testing of this nature shall be performed during receiving inspection or subsequent to installation in accordance with Section 17.2.7.

Equipment failure or malfunction analysis testing may also be performed. The causes of malfunctions are investigated, evaluated, and recorded. Experience with malfunctioning equipment and similar components shall be reviewed and evaluated to determine whether a like replacement component can be expected to perform its function reliably.

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

Measuring and test equipment utilized in activities affecting quality shall be controlled in accordance with written procedures or instructions. The procedures for calibration and control shall address the identification of test equipment, calibration techniques, calibration frequencies, maintenance control, and storage requirements. The equipment subject to these controls includes: (1) M&TE (portable measuring instruments, test equipment, tools, gages, and non-destructive test equipment used in measuring and inspecting safety-related structures, systems, and components); (2) reference standards (primary, secondary, transfer, and working); and (3) permanently installed process instrumentation (PI).

M&TE and reference standards shall be tagged or labeled indicating the date of calibration and the due date for recalibration.

Permanently installed process instrumentation shall be afforded the control measures described herein consistent with the surveillance testing program and preventive maintenance program.

The calibration and control program established at the Callaway Plant shall assure that M&TE, reference standards, and PI maintain their required accuracy. The Assistant Manager-Operations and Maintenance shall be responsible for assuring the program establishment. Program implementation shall be the responsibility of the appropriate Department Heads.

M&TE, and reference standards, and PI shall be utilized by various organizations as required to perform tests or other special operations. Each organization shall be responsible for assuring that the M&TE or reference standards it uses have been calibrated. Outside organizations and other UE organizations using M&TE or reference standards in activities affecting quality at the Callaway Plant shall be required to implement a calibration and control program consistent with the requirements described herein, or control their activities relating to M&TE or reference standards via the Callaway Plant calibration and control program.

The calibration and control program shall provide for:

1) The assignment of specific calibration intervals, calibration procedures which specify calibration methods, and instrument accuracy requirements. Interval selection shall be a function of the equipment type, inherent stability and reliability, intended use, required accuracy,

and other conditions which may affect calibration. Records shall be maintained to permit a determination of calibration intervals. A calibration shall be performed when the accuracy is suspect.

2) The unique identification of items.

3) The traceability to calibration test data.

4) The traceability of reference standards and thereby M&TE and PI, to nationally recognized standards and the periodic revalidation of reference standards.

5) The maintenance of records which indicate the status of each item, maintenance history, calibration results, anomalies, and most recent and next scheduled calibration dates. A recall system shall be established to assure that calibration intervals are not exceeded.

6) The maintenance and control of items not in use.

7) Provisions to control the purchase requirements and acceptance tests for items sent out for calibration and for new or replacement items including the requirements for accuracy, stability, and repeatability.

8) M&TE shall be calibrated from reference standards with an accuracy ratio of at least one-to-one (Reference standard to M&TE). The calibration of permanently installed process instrumentation (PI) against M&TE having an accuracy of at least four times the specified tolerance of the process instrumentation. Calibration accuracy ratios of less than 4.0 but equal to or better than 1.0 (M&TE to process instrumentation) shall be acceptable when equipment to meet specified requirements is not commercially available. The basis of acceptance in these cases shall be documented.

Calibration shall be performed against certified equipment or reference standards having known relationships to nationally recognized standards. Where no national standard exists, provisions shall be established to document the basis for calibration. Calibration and control measures shall not apply to rulers, tape measures, levels, and other devices when normal commercial practice affords adequate accuracy.

M&TE and reference standards found to be out of calibration shall require an investigation to evaluate the validity of previous measuring, test, inspection and calibration results and the acceptability of impacted items. Investigations shall evaluate the necessity of repeating original measurements, inspections, tests, or

calibrations to establish the acceptability of such items. When the calibration history of an item shows it to be consistently out of calibration, the item shall be repaired, replaced, or the calibration interval modified.

17.2.13 HANDLING, STORAGE, AND SHIPPING

Safety-related items including safety-related parts of structures, systems, and components and related consumables shall be handled, stored, shipped, cleaned, and preserved in accordance with procedures, instructions or drawings, to assure that the quality of items is preserved from fabrication until incorporation in the Callaway Plant.

Generic procedures or instructions shall be prepared for application to these activities; however, detailed procedures or instructions shall be prepared for the handling, cleaning, storing, maintaining while stored, or shipping of certain items and types of equipment or material. Applicable manufacturer instructions and recommendations, or procurement requirements shall be invoked in governing procedures.

Deviations from manufacturer's recommendations may impose more stringent requirements or may relax the requirements. The relaxation of manufacturer's requirements shall involve an engineering evaluation and is appropriate when unrealistic requirements are recommended and such recommendations are not reasonably necessary to preclude equipment degradation.

The requirements for activities described in this section shall be divided into levels with respect to protective measures to prevent damage, deterioration, or contamination of items. These levels are based upon the important physical characteristics and not the important functional characteristics of the item with respect to safety, reliability, and operation. The specific environmental and special measure level conditions shall be described in implementing procedures.

The Superintendent, Maintenance shall establish an inspection program for plant material handling equipment that provides for routine maintenance and inspection in accordance with documented procedures which specify acceptance criteria. Routine inspections shall determine the acceptability of equipment and rigging. Routine inspections shall be supplemented by nondestructive examinations and proof tests as delineated in procedures for items requiring special handling. Personnel performing nondestructive examination and proof testing shall be qualified.

Procedures shall be prepared for all items that require special handling and shall be available prior to the time items are to be handled. Items not specifically addressed by procedures shall be handled in accordance with sound material handling practice. Fuel assemblies, which require unique equipment and handling, shall be handled under the direction of a Licensed Senior Reactor Operator during core alterations. Other material handling activities may involve personnel from various plant organizations. Operators of special handling and lifting equipment shall be experienced or trained in the use of equipment.

Procurement documents or procedures shall address packaging requirements which afford protection from the possible degradation of quality during shipping, handling, or storing. The packaging protection specified may vary in degree consistent with the item's protection classification. Similarly, the mode of transportation employed shall be consistent with the protection classification of items.

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

Procedures shall provide instructions for the storage of materials and equipment to minimize the possibility of damage from the time an item is stored upon receiving inspection, until the time the item is removed from storage and placed in its final location. Material and equipment shall be placed in a storage level comensurate with the protection level of items. The various levels of storage shall correspond to prescribed environmental conditions which are procedurally defined.

The Quality Assurance Department shall review the inspection program of material handling equipment on an audit basis to assure the inclusion of required elements.

17.2.14 INSPECTION, TEST, AND OPERATING STATUS

Safety-related items that are received, stored or installed at the Callaway Plant shall be identified and controlled in accordance with documented procedures.

Items received at or installed in the plant shall be identified in accordance with procedures as to their status regarding required inspections and tests before the items are stored, issued or operated. Prior to storage or installation, items shall be identified by means of stamps, tags, labels, routing cards, segregation, or other means traceable to manufacturer and receiving inspection documentation. In the event traceability is not available, the item(s) shall be considered nonconforming and handled in accordance with Section 17.2.15.

Plant procedures shall provide instructions relating to the operational status of safety-related structures, systems, and components including temporary modifications. These procedures shall address measures for the release and control of equipment during periods of maintenance; thereby maintaining personnel and reactor safety and avoiding the unauthorized operation of equipment. Equipment and systems in a controlled status shall be identified.

Plant procedures shall establish controls to identify the status of inspection and test activities associated with maintenance, repair, modification, refueling, inservice inspection, and instrumentation and control system calibration and testing. The Technical Specifications establish the status required for safe plant operation, including provisions for periodic and nonperiodic tests and inspections of various structures, systems, and components. Periodic tests may be operational tests or tests following maintenance while nonperiodic tests may be made following repairs or modifications.

Required safety-related inspections, tests, and operations and their sequencing are performed in accordance with plant operating procedures which are reviewed and approved in accordance with the requirements of the Technical Specifications. Except in the case of temporary changes (non-intent changes) which are allowed by the Technical Specifications and which are administratively controlled, any deviations from procedural requirements shall be subject to the original or equivalent review and approval controls.

17.2.15 NONCONFORMING MATERIAL, PARTS OR COMPONENTS

Material nonconformances identified under the UE OQAP shall be controlled to prevent the inadvertent use of defective or indeterminate materials, parts, and components and to identify material documentation inadequacies. Material nonconformances, therefore, include material deficiencies (including inoperative and malfunctioning structures, systems, and components). Measures shall be established regarding identification, documentation, status control, disposition, and notification of affected organizations.

Material nonconformances shall be reviewed and accepted, rejected, repaired, reworked, or conditionally released in accordance with documented procedures. Repaired and reworked items shall be reinspected, tested, or monitored via process monitoring. Measures may be established to conditionally release nonconforming items whose disposition is pending provided that an evaluation indicates that further work or activity will not contribute adversely to the material nonconformance or preclude identification and correction. Material nonconformances shall be controlled, as appropriate, by documentation, tagging, marking, logging, or physical segregation.

Under the UE OQAP, Nonconforming Material Reports, Nonconformance Logs, or other administrative controls shall be employed to identify and control nonconformances. Nonconformance Logs may be employed to control deficiencies of a minor nature or to control material documentation deficiencies both of which can be corrected by bringing the deficiency into compliance with the original requirements. The programs describing the administrative controls for nonconformance controls will delineate the methods of identifying corrective action to be taken for a nonconforming item or series of nonconforming items.

Material nonconformances shall be processed in accordance with documented procedures and shall identify the specifics of the nonconformance stating the particular drawing, specification or other requirement; shall record the disposition; and shall register the signature of an approval authority. Procedures shall prescribe the individuals or groups assigned the responsibility and authority to approve and verify the implementation of the disposition of material nonconformances. The plant engineering staff, or Nuclear Engineering shall be responsible for approving material nonconformance dispositions of "use-as-is" and "repair". Regarding material nonconformances identified onsite, the QC Group shall be responsible for verification that approved dispositions have been implemented and for the final sign-off.

Material nonconformance disposition categories shall include:

1. "use as is" or "acceptable"
   (including conditional releases)

2. "reject" or "not acceptable, scrap or return to vendor"

3. "rework" in accordance with, approved procedures.

4. "repair" in accordance with approved procedures.

Material nonconformances which would impact the conduct of a test shall be corrected or resolved prior to initiation of the test on the item. The decision to proceed with the testing of a system or subsystem with outstanding material nonconformances will consider the nature of the nonconformance, its effect on test results, and the need for supplemental tests or inspections after correction of the nonconformance. These evaluations shall be documented.

Plant and other UE organization procedures shall prescribe measures for the control and disposition of UE purchased items and services identified by outside organizations as nonconforming. Procurement documents specify those nonconformances to be submitted to UE for approval of the recommended disposition. Actions taken in response to these nonconformances shall be required to be documented and forwarded to UE along with the hardware and accompanying quality verification documentation. The Superintendent, Engineering shall be responsible for assuring the processing of supplier-recommended dispositions for plant initiated procurements. Similarly, other UE or outside organizations shall approve or be requested to provide a technical evaluation regarding supplier-recommended dispositions of nonconformances regarding procurements they initiate. An approved disposition of a nonconformance which allows a reduction in the requirements of a safety-related structure, system, or component, shall be treated as a design change and subject to the controls prescribed in Section 17.2.3.

The Manager, Callaway Plant shall have material nonconformance summaries prepared semi-annually and analyzed for potential adverse quality trends. These summaries shall be sent to the Quality Assurance Department for an independent review. The results of this review shall be reported to management.

Significant nonconforming conditions involving a defect or material noncompliance in a delivered component or service which could create a substantial safety hazard shall be reported to the Nuclear Regulatory Commission pursuant to the requirements of 10 CFR Part 21.

All material nonconformances shall be reviewed for reporting applicability under 10 CFR Part 21 and other Federal reporting requirements.

17.2.16 CORRECTIVE ACTION

Measures shall be established to assure that conditions adverse to quality are promptly identified, reported, and corrected. Nonconformances shall be controlled in accordance with the requirements described in Section 17.2.15.

Conditions adverse to quality which impede the implementation or reduce the effectiveness of the program shall be controlled by the measures described herein. Adverse conditions may include noncompliance with procedural requirements; reportable occurrences required by Federal Regulations; adverse nonconformance trends; or deficiencies identified in the OQAP. Procedures shall provide instructions for identifying, reporting, and initiating corrective action to preclude recurrence of adverse conditions. Within the UE Corrective Action Program, a Request for Corrective Action (RCA) may be employed to document adverse conditions (as described above) within or between Nuclear Function Departments while a Corrective Action Report (CAR) shall be employed to document significant adverse conditions (such as a recurring condition for which past corrective action has been ineffective). While any UE Organization may initiate an RCA or CAR, they are normally employed by the QA Department to document adverse conditions and to initiate corrective action requests. Each of the Nuclear Function Managers is responsible for developing and implementing a program for identifying and controlling adverse conditions. For intra-department corrective actions, this may be accomplished by adoption of the RCA/CAR programs or by development of an alternative program(s). As a minimum each program shall provide for developing and analyzing trends on a semi-annual basis. An RCA is not required when corrective action is monitored by an alternate program.

Corrective action documents are transmitted to the responsible organization for identification of the cause(s) of the deficiency, specifying the action(s) necessary to correct the conditions and prevent recurrence, and providing or initiating the corrective action.

Nuclear Engineering or the Plant Engineering Staff shall review all conditions adverse to quality which involve design deficiencies or design changes which are recommended as corrective action. The ORC shall review all adverse conditions identified at the plant on CAR's.

The corrective action documents shall be closed out by verifying the implementation and adequacy of corrective action. Summaries of corrective action documents shall be analyzed for potential adverse quality trends. These summaries and analyses shall be sent to the Quality Assurance Department for an independent review. The results of this review shall be reported to management. The Quality Assurance Department shall periodically prepare summaries of CAR's and submit them to the NSRB and appropriate levels of management.

The Quality Assurance Department shall review requests for all CAR's prior to issuance and shall close out CAR's by verifying the

implementation and adequacy of corrective action. Copies of completed CAR's shall be transmitted to management to keep them apprised of significant conditions adverse to quality.

The close-out of corrective action documents shall be accomplished as promptly as practicable but will occur only after the effectiveness of the corrective action taken has been verified. It is understood that the term "corrective action", includes remedial action necessary to correct the deficiency as well as corrective action necessary to preclude recurrence. The nature of the deficiency may be such that remedial actions need to be taken immediately whereas development, implemenation, and determination of the effectiveness of corrective action to preclude recurrence may take substantially longer.

Significant adverse conditions involving a defect or noncompliance in a delivered component or service which could create a substantial safety hazard shall be reported to the Nuclear Regulatory Commission pursuant to the requirements of 10 CFR 21.

17.2.17 QUALITY ASSURANCE RECORDS

Quality assurance record systems governing the collection, storage, and maintenance of records shall be established by UE. They shall apply to records associated with startup testing, operation, maintenance, repair, refueling, and modification of safety-related structures, systems, and components at the Callaway Plant.

During the operating phase, Quality Assurance records shall be maintained to furnish documentary evidence of the quality of items and activities affecting quality. Documents shall be considered Quality Assurance records when completed. Records shall be maintained for varying periods and shall be identified as lifetime or nonpermanent records in that a lifetime or finite retention period shall be specified. All such records shall be legible, complete, identifiable to the item or activity involved and retrievable.

Quality assurance records include, but are not limited to, operating logs; maintenance and modification procedures and inspection results; reportable occurrences; results of reviews; inspections, tests, audits and material analyses; qualification of personnel, procedures, and equipment; and other documentation including drawings, specifications, procurement documents, nonconformance documentation, corrective action reports, calibration procedures and results, and the results of monitoring work performance (i.e., surveillance and process monitoring).

Inspection and test records shall contain the following when applicable:

1. a description of the type of observation;
2. the date and results of the inspection or test;
3. inspector or data recorder identification; and
4. evidence as to the acceptability of the results.

Quality assurance records generated by others are transferred or made accessible to UE as systems and equipment or services are transferred or delivered from A/E's, NSSS suppliers, fuel fabricators, constructors, or others. Records maintained by an outside organization prior to and subsequent to final transfer are required to be accessible to UE. Records generated internally shall be processed in a timely manner in accordance with documented procedures.

Record systems shall be established by the plant and the general office and shall be controlled in accordance with written procedures. The implementing procedures shall address records administration; receipt of records; storage, preservation and safekeeping of records; record retrieval; and the disposition of records. The Manager, Nuclear Services is responsible for assuring the handling and maintenance of Quality Assurance records generated, received, and stored at the general office. The Superintendent, Administration shall provide for the administration of the quality assurance record system at the Callaway Plant. The Quality Assurance Department

shall audit the general office and the Plant quality assurance record storage systems to verify their effectiveness.

The requirements regarding records administration shall require that quality assurance records be listed in an index. The index shall be established prior to the receipt of records and shall indicate the location of records. The distributing and handling of records, the correcting or supplementing of quality assurance records, and specifying the retention period of record types shall be delineated in written procedures. The retention period of records generated prior to commercial operation shall begin on the date of commercial operation.

The requirements regarding receipt of records shall define the requirements for the receipt of documentation generated by others during the operation of the Callaway Plant. These requirements shall assure that a submittal plan be established and that designated authorities be responsible for organizing and implementing a system of records receipt control. The records receipt control should permit an assessment of the status of records during the receiving process.

The requirements regarding storage, preservation, and safekeeping of records shall establish storage requirements for the maintenance, preservation, and protection of quality assurance record files. These requirements shall include methods for maintaining control of, access to, and accountability for records; storing records in a manner to preclude deterioration; security; and providing record storage facilities which protect contents from possible destruction by causes such as fire. An alternative to the establishment of a single record storage facility shall be the maintenance of a duplicate copy of records in a remote location. Where duplicate storage is employed, the storage environment will not be uniquely controlled in each storage area but will be the prevailing building temperature and humidity.

The requirements regarding record retrieval shall require that the storage system afford an accurate retrieval of information without undue delay. Those records maintained by an outside organization shall be required to be accessible to the buyer or UE, in the case of lifetime records for the life of the items involved or for designated retention times for nonpermanent records.

The requirements regarding record disposition shall establish requirements for the transfer of records from others to UE. Upon final transfer, records shall be inventoried against any transmittal forms and processed in accordance with written procedures. Nonpermanent records shall be retained for the specified retention period and subsequently are no longer required to be maintained as records.

17.2.18 AUDITS

A comprehensive audit program shall be established and implemented by UE to verify internal and external quality activity compliance with the OQAP. The audit program shall assure that applicable elements of the program have been developed, documented, and are being effectively implemented and shall provide for the reporting and review of audit results by management. The audit system is described in manuals and procedures. Nonconformances and program deficiencies shall be identified and corrective action shall be initiated and verified.

The UE audit system shall include the performance of audits and surveillances by the Quality Assurance Department. Surveillances may also be performed by personnel from other organizations and require no unique personnel qualifications or certifications. Audits determine, through investigation, the adequacy of and adherence to established procedures, instructions, specifications, codes, and other applicable contractural and licensing requirements and the effectiveness of implementation. Surveillances involve the periodic or continuous monitoring of the operation or performance of a supplier, item, component, or system. Surveillance in this audit sense should not be confused with inspections for the purpose of process monitoring or product acceptance or with requirements relating to test, calibration or inspection to assure that the necessary quality of systems and components is maintained, that facility operations are within the safety limits, and that limiting conditions of operations are being met (surveillance tests). Personnel performing surveillances should be familiar with the area to be surveilled and the applicable implementing procedure(s) governing surveillances.

The Manager, Quality Assurance shall establish a program which provides for the qualification and training of QA Department audit personnel. Audits shall be directed by Lead Auditors. A Lead Auditor is an individual certified as qualified to direct an audit, perform an audit, report audit findings, and to evaluate corrective action. Other personnel may assist Lead Auditors in the conduct of audits; namely, technical specialists, management representatives, auditor trainees and other Lead Auditors. Auditors selected for auditing assignments shall have training or experience commensurate with the scope, complexity, or special nature of the activities to be audited or the audit process and shall have no direct responsibility for the area audited. The auditor training program shall provide general orientation and specific training which develop competence for performing audits. Training records shall provide a history of auditor training, evaluations, recommendations, qualification certifications, and retraining.

Personnel in the Quality Assurance Department shall be qualified in accordance with the requirements prescribed in Quality Assurance Department procedures. Lead Auditor qualification requirements shall include education or professional status, previous work experience

and training, training received through UE, on-the-job performance and participation in audits as a trainee, a qualification examination, and other factors applicable to auditing not defined by procedure. The qualification certification of Lead Auditors shall be based on an evaluation of these factors by the Manager, Quality Assurance. The maintenance of proficiency by Lead Auditors shall be accomplished by active participation in the audit process; a review of program, codes, standards, procedures and other document revisions related to the OQAP; or participation in training programs. The qualification certification period shall not be finite, however, a Lead Auditor's qualification may be rescinded. The Manager, Quality Assurance shall provide for annual assessments of each Lead Auditor to determine proficiency. The failure to maintain proficiency for a period of two years or more shall be basis for qualification certification revocation. In such cases requalification shall be required.

The Manager, Quality Assurance shall be responsible for assuring the implementation of a comprehensive system of planned audits to verify compliance with the OQAP. The Manager, Quality Assurance has sufficient authority and organizational freedom to schedule and perform both internal and external audits. He has the organizational responsibility to measure and assure the overall effectiveness of the OQAP and is independent of the economic pressures of production. The Manager, Quality Assurance has direct access to the Vice President, Nuclear .

The Assistant Manager, Quality Assurance is responsible to the Manager, Quality Assurance for assuring the OQAP is being effectively implemented for onsite operating activities and supervises Supervising Engineers, Quality Assurance who direct full attention to this effort. The Assistant Manager, Quality Assurance shall be knowledgeable and experienced in nuclear power plant activities and shall bear no cost, schedule, or production responsibilities. He reports on the program effectiveness directly to the Manager, Quality Assurance. A communication path shall exist between the Assistant Manager, Quality Assurance and Manager, Callaway Plant thus providing a direct path to inform management regarding conditions affecting quality.

The audit system shall include internal and external audits. The system shall be planned, documented, and conducted to assure coverage of the applicable elements of the OQAP, and overall coordination and scheduling of audit activities. The Manager, Quality Assurance shall review the OQAP audit program annually to assure audits are being accomplished in accordance with the requirements described herein.

Internal audits shall be conducted by the Quality Assurance Department and shall be performed with a frequency commensurate with their safety significance. An audit of safety-related functions shall be completed in accordance with formal audit schedules within a period of two (2) years. Each element of the OQAP, such as design

control and document control, and each area of plant operations shall be audited.

Supplementary to the biennial requirement to audit safety-related functions, other activities shall be audited at the frequencies indicated in Section 6 of the Technical Specifications and under the cognizance of the NSRB.

During plant modifications or other major unique activities, audits shall be scheduled as required to assure that quality program requirements are properly implemented.

External audits shall be conducted by the Quality Assurance Department as a measure for the evaluation of procurement sources and as a post award source verification of conformance to procurement documents. Audits conducted by other organizations (with similar orders with the same supplier), including other utilities or A/E's, may be employed as a means of post award source verification in lieu of UE performed audits and may not necessarily audit specific items furnished to UE. Off-the-shelf items do not require supplier qualification or post award audits. Similarly, items which are relatively simple and standard in design and manufacture may not require supplier qualification or post award audits to assure their quality.

Applicable elements of suppliers' quality assurance programs shall be audited (post award) on a triennial basis. Audits generally should be initiated when sufficient work is in progress to determine whether the organization is complying with the established quality assurance provisions. Subsequent contracts or contract modifications which significantly enlarge the scope of activities by the same supplier shall be considered in establishing audit requirements. In addition, the need for a triennial audit may be precluded upon evaluation and documentation by the QA Department that the results of mini-audits performed during source inspection and source surveillance activities confirm the adequacy and implementation of the supplier's QA program.

Supplementary to audits, annual evaluations of suppliers shall be performed which take into account, as applicable: 1) the review of supplier furnished documents such as certificates of conformance, nonconformance notices, and corrective actions; 2) results of previous source verifications, audits, and receiving inspections; 3) operating experience of identical or similar products furnished by the same supplier; and 4) results of audits from other sources.

Audits shall also be conducted when: 1) significant changes are made in functional areas of the Quality Assurance Program such as significant reorganization or procedure revisions; or 2) when it is suspected that the quality of the item is in jeopardy due to deficiencies in the quality assurance program; or 3) when a

systematic, independent assessment of program effectiveness is considered necessary; or 4) when it is necessary to verify implementation of required corrective action. The NSRB shall selectively review audit reports of onsite audits. The NSRB shall also periodically review the onsite audit program as developed by the Quality Assurance Department, to assure that audits are being performed in accordance with Technical Specification requirements and the OQAP. Appropriate levels of management will be provided copies of internal and external audit reports. The audits described in the Technical Specifications which are performed under the cognizance of the NSRB will be conducted by the Quality Assurance Department.

Audits shall be conducted using written plans in accordance with Quality Assurance Department procedures. The procedures require evaluation of work areas, activities, processes, goods, services, and the review of documents and records for quality-related practices, procedures, and instructions to determine the effectiveness of the implementation of the OQAP and compliance with 10 CFR 50, Appendix B and the Technical Specifications. The audit plan shall identify the audit scope, the requirements, the activities to be audited, organizations to be notified, the applicable documents, the schedule, and the written procedures or checklists as appropriate. The audit plan and any necessary reference documents shall be available to the audit team members.

An audit team consists of one or more auditors. A Lead Auditor shall be appointed audit team leader. The audit team leader shall be responsible for the written plans, checklists, team orientation, audit notification, pre-audit conference, audit performance, post-audit conference, reporting, records, and follow-up activity to assure corrective action. Any findings shall be reported in a post-audit conference with team members and the audited organization, to discuss items and arrive at a general agreement on the identification of the findings. Formal audit reports shall be prepared and submitted to the audited organization within thirty days after the post-audit conference or last day of the audit, whichever is later.

Audit results shall be periodically reviewed by the Quality Assurance Department for quality trends and overall program effectiveness. Results of these reviews shall be reported to appropriate management in periodic summary reports of audit activities.

TABLE 17.2-1

OQAM STRUCTURE, SCOPE, AND RESPONSIBILITY

Identification	Description	Approval
Union Electric Operating Quality Assurance Manual	Manual consisting of Policy Statement and Quality Assurance Program description.	As noted below
Policy Statement	Policy Statement by the Vice President, Nuclear describing the quality assurance efforts to be applied to operating phase activities of the Callaway Plant.	The Policy Statement and all revisions thereto shall be approved by the Vice President, Nuclear.
Program Description	Program description which specifies requirements and assigns responsibilities for implementation of the Policy Statement regarding activities affecting quality associated with the operation of the Callaway Plant.	All sections within this manual and all revisions thereto shall be reviewed by the Quality Assurance Department. Final approval of all sections and all revisions is by the Vice President, Nuclear and Manager, Quality Assurance.

TABLE 17.2-2

CONTROLLED PROCEDURE MANUALS

Identification	Description	Approval
Callaway Plant Operating Manual	A manual consisting of a multi-volume set of plant operating procedures prepared or reviewed by the plant staff with the aid of other SNUPPS utilities, Nuclear Engineering, the Lead A/E, the NSSS supplier, and fuel fabricator. These procedures are controlled, approved, and issued in accordance with Administrative Procedures contained within the manual. This manual includes administrative controls consistent with those required by Regulatory Guide 1.33.	All Administrative Procedures and all revisions thereto shall be reviewed by the Callaway Plant Onsite Review Committee and the Quality Assurance Department. The final approval of Administrative Procedures and revisions thereto shall be by the Manager, Callaway Plant. The review and approval of all other plant operating procedures and revisions thereto shall be in accordance with approved Administrative Procedure which implement the requirements of the Technical Specifications.
Union Electric Quality Assurance Procedures Manual	A manual consisting of a set of procedures prepared by various responsible UE departments or functions. These procedures are approved by the various department or function heads and serve to implement the requirements specified herein regarding Quality Assurance Department and offsite quality activities necessary to support the operation of the Callaway Plant.	All procedures within this manual and all revisions thereto shall be prepared by the responsible department or function and shall be reviewed by the Quality Assurance Department. Final approval of all procedures and revisions to this manual is by the responsible department or function, head and the Manager, Quality Assurance.

TABLE 17.2-3
OQAP IMPLEMENTING PROCEDURAL COVERAGE

In addition to the procedures identified in Table 13.5-1 (CALLAWAY PLANT ADMINISTRATIVE PROCEDURES), the OQAP will include procedural coverage in the following areas.

Design Control

Design Change Control

Preparation, Review, Approval, and Revision of Specifications

Preparation, Review, Approval, and Revision of Drawings

Preparation, Review, Approval, and Revision of Requisitions

Preparation, Review, Approval, and Revision of Engineering Service Agreements

Preparation, Review, Approval, and Revision of Contracts

Preparation, Review, Approval, and Revision of Procedures (Instructions)

QA Indoctrination and Training

Auditor Training

Supplier Evaluations

Receipt and Transfer of Records

Document Control

Quality Program Audits

Corrective Action

Inspection

Inspection, Test, and Operating Status

Special Processes

APPENDIX 3A

CONFORMANCE TO NRC REGULATORY GUIDES

This appendix briefly discusses the extent to which Union Electric conforms to NRC published regulatory guides for the site related portions of Callaway Plant. Clarifications, alternatives, and exceptions to these guides are identified and justification is presented or referenced. In the discussion of each guide, the sections or tables of the FSAR where more detailed information is presented are referenced. The referenced tables provide a comparison of Union Electric's position to each regulatory position of section C of the regulatory guides.

In each of the ANSI standards referenced by one of the listed regulatory guides, other documents (i.e. other standards, codes, regulations or appendices) required to be included as a part of the standard are either identified at the point of reference or are described in a special section of the standard. The specific applicability or acceptability of these listed standards, codes regulations or appendices is either covered in other specific areas in the FSAR or UE Operating QA Program (OQAP), including tables, or such documents are not considered as requirements, although they may be used as guidance. When sections are referenced within a standard, it is understood that UE will comply with the referenced section as clarified.

REGULATORY GUIDE 1.8 *PROPOSED REVISION 2 *DATED 2/79

*Revision 1 Dated 9/75 For the position of Radiation Protection Manager only, in accordance with the Callaway Plant Technical Specifications.

Personnel Selection and Training

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

Refer to Site Addendum Section 13.1 for a discussion of the qualifications of personnel responsible for plant operation and support.

Personnel responsible for directing or supervising the conduct of safety-related preoperational and startup tests and for review and approval of safety-related preoperational and startup test procedures or results meet the qualifications of the regulatory guide, but are not required to be certified.

With regard to Section 5.6 of ANSI/ANS 3.1 - 1978 titled Documentation: UE will maintain records in accordance with and to meet the requirements of Section 17.2.17 of the FSAR and ANSI N45.2.9 as specified herein.

REGULATORY GUIDE 1.16 REVISION 4 DATED 8/75

Reporting of Operating Information - Appendix A Technical Specifications

DISCUSSION:

UE complies with reporting of operating information requirement as described in the Callaway Plant Technical Specifications.

REGULATORY GUIDE 1.17 REVISION 1 DATED 6/73

Protection of Nuclear Power Plants Against Industrial Sabotage

DISCUSSION:

Union Electric's method of physical protection of its nuclear power plant against industrial sabotage is defined in the Callaway Plant Security Plan.

REGULATORY GUIDE 1.21 REVISION 1 DATED 6/74

Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants

DISCUSSION:

The Union Electric program for measuring, evaluating, and reporting radioactivity in solid wastes and releases of radioactive materials in liquid and gaseous effluents from light-water-cooled nuclear power plants is described in the Callaway Plant Technical Specifications.

REGULATORY GUIDE 1.23 PROPOSED REVISION 1 DATED 9/80

Onsite Meteorological Programs

DISCUSSION:

UE complies with the recommendations of this regulatory guide. Refer to Site Addendum Section 2.3.

REGULATORY GUIDE 1.27 REVISION 2 DATED 1/76

Ultimate Heat Sink for Nuclear Power Plants

DISCUSSION:

Refer to Site Addendum Section 9.2.5 and Table 9.2-2.

REGULATORY GUIDE 1.28 REVISION 2 DATED 2/79

Quality Assurance Program Requirements (Design and Construction)

DISCUSSION:

This regulatory guide is not applicable to the operating phase.

REGULATORY GUIDE 1.30 REVISION - DATED 8/72

Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electronic Equipment (Safety Guide 30)

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

For operating phase maintenance and modification activities which are comparable in nature and extent to similar activities conducted during the construction phase, UE shall either control these activities under this Operating QA Program or under a UE accepted Construction QA Program. When this Operating QA Program is used, UE shall comply with the Regulatory Position established in this Regulatory Guide in that QA programmatic/administrative requirements included therein (subject to the clarifications below) shall apply to these maintenance and modification activities even though such requirements may not have been in effect originally. Technical requirements associated with the maintenance and modifications shall be equal to or better than the original requirements (e.g., code requirements, material properties, design margins, manufacturing processes, and inspection requirements), or as required to preclude repetition of defects.

Specific clarifications for ANSI N45.2.4 - 1972 are indicated below by sections.

Section 1.4 - Definitions in this Standard which are not included in ANSI N45.2.10 shall be used; all definitions which are included in ANSI N45.2.10 shall be used as clarified in UE's commitment to Regulatory Guide 1.74.

Section 2.1 - Planning requirements, as determined by engineering, shall be incorporated into modification procedures.

Section 2.3 - Procedures and Instructions shall be implemented as set forth in Sections 17.2.2, 17.2.3, 17.2.5, 17.2.10 and 17.2.11 of the

FSAR and by compliance with the Callaway Plant Technical Specifications and Regulatory Guide 1.33 (ANSI N18.7) as set forth in Appendix 3A and in lieu of the requirements set forth here.

Section 2.4 - Results will be implemented as set forth in Sections 17.2.10, 17.2.11 and 17.2.17 of the FSAR and by compliance with ANSI N18.7 as set forth in Appendix 3A and in lieu of the requirements set forth here.

Section 2.5.2 - Calibration and Control covers three classes of instrumentation used by UE: (1) M&TE (portable measuring instruments, test equipment, tools, gages, and non-destructive test equipment used in measuring and inspecting safety-related structures, systems, and components); (2) reference standards (primary, secondary, transfer, and working); and (3) permanently installed process instrumentation (PI).

With respect to the first sentence, M&TE and reference standards shall be included in a calibration program and shall either be calibrated at prescribed intervals or shall be calibrated prior to use. With respect to the last sentence, personnel shall be trained and procedures shall require that the calibration sticker shall be reviewed to determine calibration status prior to use: This label shall be considered to clearly identify equipment which is out of calibration. Lack of a sticker shall require record review and affixing a new sticker based on calibration data. M&TE and reference standards shall comply with sentences 2, 3 and 4.

With respect to the 3rd sentence, UE uniquely identifies each safety-related item of permanently installed process instrumentation. This identification provides traceability to calibration data. These actions are UE's alternative to the tagging or labeling of items to indicate the calibration date and the identity of the person who performed the calibration. Permanently installed process instrumentation shall comply with sentences 1, 2, and 5.

Section 3 - Preconstruction Verification will be implemented as follows: (1) is required only for modifications (2) shall be implemented with the clarification that "approved instruction manuals" shall be interpreted to mean the manuals provided by the supplier as required by the procurement order - these manuals are not necessarily reviewed and approved, per se, by UE: (3) no special checks are required to be made by the person withdrawing a replacement part from the warehouse - equivalent controls are assured by compliance with Regulatory Guide 1.38 (ANSI N45.2.2) as set forth in Appendix 3A; and, (4) shall be complied with as determined by engineering, by individual technicians as part of the modification process.

Section 5.1 - Inspections, including subsections 5.1.1, 5.1.2, and the first sentence in 5.1.3, will be implemented as set forth in Section 17.2.10 of the FSAR. The inspection program will incorporate, as determined by engineering and QC, those items listed in these subsections. The remaining sentence in 5.1.3 is covered in equivalent detail in UE's commitment to Regulatory Guide 1.33 (ANSI N18.7), Section 5.2.6; the requirements as set forth in that commitment will be implemented in lieu of the requirements stated here.

Section 5.2 - Tests, including subsections 5.2.1 through 5.2.3, will be implemented as set forth in Sections 17.2.3 and 17.2.11 of the FSAR. In some cases Surveillance testing may be used to meet the appropriate requirements of this section.

Section 6 - Post-Construction Verification is not generally considered applicable at operating facilities because of the scope of the work and the relatively short interval between installation and operation. Where considered necessary by engineering and QC, the elements described in this Section will be used in the development and implementation of inspection and testing programs as described in Sections 17.2.3, 17.2.10 and 17.2.11 of the FSAR.

Section 7 - Data Analysis and Evaluation will be implemented as stated herein after adding the clarifying phrase "Where used" at the beginning of that paragraph.

Section 8 - Records will be implemented by conformance with Section 17.2.17 of the FSAR and Regulatory Guide 1.88 (ANSI N45.2.9) as set forth in Appendix 3A.

REGULATORY GUIDE 1.33 REVISION 2 DATED 2/78

Quality Assurance Program Requirements (Operation)

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

Paragraph C.3 of Regulatory Guide 1.33 (and Section 4.3.4 of ANSI N18.7 which it references) will be implemented as required by the applicable Technical Specifications which define "Subjects Requiring Independent Review."

Paragraph C.4a of Regulatory Guide 1.33 (and Section 4.5 of ANSI N18.7 which it references) will be implemented as required by the applicable Technical Specifications which define the "Audit Program" to be conducted. The audit program is further defined and will be implemented as required by the commitment to Regulatory Guide 1.144 (ANSI N45.2.12) as stated in the clarifications.

Paragraph C.5.d. of Regulatory Guide 1.33 (and Section 5.2.7.1 of ANSI N18.7 which it references) will be implemented by adding the clarifying phrase "When determined by engineering" in front of the fourth sentence of the fifth paragraph. It is not always practicable to test parts prior to use. For modifications where these requirements are not considered practicable, a review in accordance with the provisions of 10CFR50.59 will be conducted and documented.

Paragraph C.5.e of Regulatory Guide 1.33 and Section 5.2.13.4 of ANSI N18.7 which it references will be implemented subject to the same clarifications made for Regulatory Guide 1.38 (ANSI N45.2.2).

Paragraph C.5.f of Regulatory Guide 1.33 (and Section 5.2.19(2) of ANSI N18.7 which it references) will be implemented with the substitution of the word "practicable" for the word "possible" in the last sentence.

Paragraph C.5.g of Regulatory Guide 1.33 (and Section 5.2.19.1 on ANSI N18.7 which it references) will be implemented with the addition of the modifier "normally" after each of the verbs (should) which the Regulatory Guide converts to "shall." It is UE's intent to fully comply with the requirements of this paragraph, and any conditions which do not fully comply will be documented and approved by management personnel. In these cases, the reason for the exception shall also be documented. The documentation shall be retained as lifetime records.

With regard to Section 3.4.2 of ANSI N18.7 - 1976 titled Requirements for the Onsite Operating Organization: Training standards referenced in this Section are implemented as described in the Appendix 3A commitments to Regulatory Guide 1.8 (ANSI/ANS 3.1) and Regulatory Guide 1.58 (ANSI N45.2.6-1978) or

otherwise part of the license. UE's methods of documenting and otherwise meeting the remainder of the requirements of this Section are set forth in Section 17.2.2 of the FSAR and in the Technical Specifications and other licensing commitments.

With regard to Section 4.1 of ANSI N18.7 - 1976 titled General: The UE audit program will be implemented in accordance with and to meet the requirements of: Regulatory Guide 1.144 (ANSI N45.2.12) as endorsed in Appendix 3A; Section 17.2.18 of the FSAR; and, the requirements of the Technical Specifications.

With regard to Section 4.2 of ANSI N18.7 - 1976 titled Program Description: Two aspects are addressed in this Section: audits and independent reviews. The independent review program is implemented as required by the Technical Specifications. The UE audit program will be described in accordance with and to meet the requirements of Regulatory Guide 1.144 (ANSI N45.2.12) as endorsed in Appendix 3A, the requirements of the Technical Specifications, and Section 17.2.18 of the FSAR.

With regard to Section 4.3 of ANSI N18.7 - 1976 titled Independent Review Process: The requirements of this Section, including all of its subparts, shall be met by compliance with the Technical Specification requirements and the Operating QA Program.

With regard to Section 4.5 of ANSI N18.7 - 1976 titled Audit Program: The UE audit program will be implemented in accordance with and to meet the requirements of: Regulatory Guide 1.144 (ANSI N45.2.12) as endorsed in Appendix 3A; the Operating QA Program; and the requirements of the Technical Specifications.

With regard to Section 5.1 of ANSI N18.7 - 1976 titled Program Description: The fourth sentence in this Section requires a "summary document"; UE's OQAM is organized in accordance with the 18 criteria of 10CFR50, Appendix B. UE interprets this manual (FSAR Section 17.2 and Applicable Regulatory Guides in FSAR Appendix 3A) to fulfill the requirements for a "summary document."

With regard to Section 5.2.2 of ANSI N18.7 - 1976 titled Procedure Adherence: The temporary change requirements of this Section are delineated in the Technical Specifications for activities occurring after the operating license (OL) is issued; the requirements of the Technical Specifications shall be used to control temporary changes.

With respect to Section 5.2.6 of ANSI N18.7 - 1976 titled Equipment Control: UE will comply with the "independent verification" requirements based on the definition of this phrase as given under our commitment to Regulatory Guide 1.74.

Since UE sometimes uses descriptive names to designate equipment, the sixth paragraph, second sentence is replaced with: "Suitable means include identification numbers or other descriptions which are traceable to records of the status of inspections and tests."

The first sentence in the seventh paragraph will be complied with after clarifying "operating personnel" to mean trained employees assigned to, or under the control of, plant management at an operating nuclear facility.

With regard to Section 5.2.7 of ANSI N18.7 - 1976 titled Maintenance and Modification: UE shall interpret the word "original" in the first sentence of this Section to modify ONLY the words "design bases." This interpretation is to assure that original inspection requirements are only required for modifications and maintenance that are similar in nature and extent to original construction activities. This makes this section consistent with Section 5.2.17 of the Standard. Operational inspection requirements shall be in accordance with UE's commitment to Section 5.2.17 of the Standard and, in conjunction with the use of qualified maintenance personnel and approved procedures, shall assure quality at least as good as the original quality.

Since some emergency situations could arise which might preclude preplanning of all activities, UE will comply with an alternate to the first sentence in the second paragraph which reads: "Except in emergency or abnormal operating conditions where immediate actions are required to protect the health and safety of the public, to protect equipment or personnel, or to prevent the deterioration of plant conditons to a possibly unsafe or unstable level, maintenance or modification of equipment shall be preplanned and performed in accordance with written procedures. Where written procedures would be required and are not used, the activities that were accomplished shall be documented after-the-fact and receive the same degree of review as if they had been preplanned."

With regard to Section 5.2.7.1 of ANSI N18.7 - 1976 titled Maintenance Programs: UE will comply with the requirements of the first sentence of the fifth paragraph, where practical. This clarification is needed since it is not always possible to promptly determine the cause of the malfunction. In all cases, UE will initiate proceedings to determine the cause, and will make such determinations promptly, where practical.

With regard to Section 5.2.8 of ANSI N18.7 - 1976 titled Surveillance Testing and Inspection Schedule: In lieu of a "master surveillance schedule," the following requirement shall be complied with: Schedules shall be established reflecting the status of in-plant surveillance tests and scheduled inspections."

With regard to Section 5.2.9 of ANSI N18.7 - 1976 titled Plant Security and Visitor Control: The requirements of the Security Plan shall be implemented in lieu of these general requirements.

With regard to Section 5.2.10 of ANSI N18.7 - 1976 titled Housekeeping and Cleanliness Control: The requirements of this Section, beginning with the last sentence of the first paragraph and continuing through the end of the Section, will be implemented as described in UE's commitments to Regulatory Guide 1.39 (ANSI N45.2.3) and Regulatory Guide 1.37 (N45.2.1) as set forth in Appendix 3A.

With regard to Section 5.2.13.1 of ANSI N18.7 - 1976 titled Procurement Document Control: Where changes are made to the technical or quality specifications on procurement documents they shall be subject to engineering and QA review."

With regard to Section 5.2.17 of ANSI N18.7 - 1976 titled Inspection: Not all inspections will require generation of a separate inspection report. Inspection requirements may be integrated into appropriate procedures or other documents with the procedure or document serving as the record. However, records of inspections will be identifiable and retrievable.

With regard to Section 5.2.18 of ANSI N18.7 - 1976 titled Control of Special Processes: UE shall comply with the following sentences in lieu of the last sentence of the referenced Section.

For special processes not covered by existing codes or standards, or where item quality requirements exceed the requirements of established codes or standards, personnel, equipment and procedure qualification shall be defined by engineering.

With regard to Section 5.3.5(4) of ANSI N18.7 - 1976 titled Supporting Maintenance Documents: UE may choose to include material from vendor manuals in any of three ways. (1) The applicable section of this manual may be duplicated, referenced in and attached to the procedure. (2) The procedure may reference the technical manual or a specific section and the manual may then be used in conjunction with the procedure for performing the activity. (3) The material, either as originally written or as modified by the author, may be reproduced within the body of the procedure. In options (1) and (2) above, the material will be considered as having received "the same level of review and approval as operating procedures" by virtue of this review and approval of the maintenance procedure. In option (2), the manual shall be available when the procedure is being considered for approval. In option (3), this material receives the same review and approval as the procedure since it is part of the procedure. In any of the options, Union Electric is NOT reviewing and accepting the entire manual. UE reviews and accepts that portion of each vendor manual that is used by UE.

With regard to Section 5.3.9 of ANSI N18.7 - 1976 titled Emergency Procedures: Since uncertainty exists as to whether these procedures shall be required to be "symptom" based or "event" based by the NRC, UE cannot commit to "event" based Emergency Procedures as stipulated by this Section. UE commits to providing Emergency Procedures in the format dictated by the NRC as required for issuance of the Operating License.

With regard to Section 5.3.9.2 of ANSI N18.7 - 1976 titled Events of Potential Emergency: The FSAR has identified all natural occurrences which affect the Callaway Plant. Therefore, UE will interpret item (11) to mean the natural occurrences which have been evaluated in the FSAR.

With regard to Section 5.3.9.3 of ANSI N18.7 - 1976 titled Procedures for Implementing Emergency Plan: UE's NRC accepted Emergency Plan will be implemented in lieu of the requirements in this Section.

REGULATORY GUIDE 1.37 REVISION - DATED 3/73

Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

For operating phase maintenance and modification activities which are comparable in nature and extent to similar activities conducted during the construction phase, UE shall either control these activities under this Operating QA Program or under a UE accepted Construction QA Program. When this Operating QA Program is used, UE shall comply with the Regulatory Position established in this Regulatory Guide in that QA programmatic/administrative requirements included therein (subject to the clarifications below) shall apply to these maintenance and modification activities even though such requirements may not have been in effect originally. Technical requirements associated with maintenance and modifications shall be equal to or better than the original requirements (e.g., code requirements, material properties, design margins, manufacturing processes, and inspection requirements), or as required to preclude repetition of defects.

Specific clarifications for this Regulatory Guide and ANSI N45.2.1 - 1973 are indicated below:

With regard to Paragraph C.3 of Regulatory Guide 1.37: The water quality for final flushing of fluid systems and associated components shall be at least equivalent to the quality of the operating system water except for the oxygen and nitrogen content; but this does not infer that chromates or other additives, normally in the system water, will be added to the flush water.

With regard to Paragraph C.4 of Regulatory Guide 1.37: Expendable materials, such as inks and related products; temperature indicating sticks; tapes; gummed labels; wrapping materials (other than polyethylene); water soluble dam materials; lubricants; NDT penetrant materials and couplants, dessicants, which contact stainless steel or nickel alloy surfaces shall not contain lead, zinc, copper, mercury, cadmium and other low melting points metals, their alloys or compounds as basic and essential chemical constituents. No more than

0.1 percent (1,000 ppm) halogens will be allowed where such elements are leachable or where they could be released by breakdown of the compounds under expected environmental conditions.

With regard to Section 5 of ANSI N45.2.1 - 1973 titled Installation Cleaning: The recommendation that local rusting on corrosion resistant alloys be removed by mechanical methods is interpreted to mean that local rusting may be removed mechanically, but the use of other removal means is not precluded, as determined by engineering or Chemistry.

REGULATORY GUIDE 1.38 REVISION 2 DATED 5/77

Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

With regard to Section 1.4 of ANSI N45.2.2 - 1972 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; all definitions which are included in ANSI N45.2.10 will be used as clarified in UE's commitment to Regulatory Guide 1.74.

With regard to Section 2.1 of ANSI N45.2.2 - 1972 titled Planning: (First sentence) The specific items to be governed by the Standard shall be identified in FSAR Table 3.2-1, which lists those structures, systems and components to which the UE QA program is applied.

With regard to Section 2.3 of ANSI N45.2.2 - 1972 titled Results: The specific methods for performing and documenting tests and inspections are given in Sections 17.2.10 and 17.2.11 of the FSAR. The requirements in these Sections will be implemented in lieu of the general requirements here.

With regard to Section 2.4 of ANSI N45.2.2 - 1972 titled Personnel Qualifications: Specific requirements for personnel qualifications are set forth in the Operating QA Program description and in the commitments in Appendix 3A. These requirements will be implemented in lieu of the general requirements stated in this Section.

With regard to Section 2.7 of ANSI N45.5.2.2 - 1972 titled Classification of Items: UE may choose not to explicitly use the four level classification system. However, the specific requirements of the Standard that are appropriate to each class are generally applied to the items suggested in each classification and to similar items, as determined by engineering.

With regard to Section 3.2.1 of ANSI N45.2.2 - 1972 titled Level A Items: As an alternate to the requirements for packaging and containerizing items in storage to control contaminants (Items (4) and (5)), UE may choose a storage atmosphere which is free of harmful contaminants in concentrations that could produce damage to stored items, as determined by engineering. Similarly (for Item (7)) UE may obviate the need for caps and plugs, as determined by engineering, with an appropriate storage atmosphere, and may choose to protect weld-end preparations and threads by controlling the manner in which the items are stored. These clarifications apply whenever items (4), (5) or (7) are subsequently referenced and to Section 3.5.1 titled Caps and Plugs and Section 3.4 titled Methods of Prevention.

With regard to Section 3.3 of ANSI N45.2.2 - 1972 titled Cleaning: (Third sentence) UE interprets "documented cleaning methods" to allow generic cleaning procedures to be written which are implemented, as necessary, by trained personnel. Each particular cleaning operation shall be either governed by an individual cleaning procedure or by a generic procedure either of which would specify method(s) of cleaning or type(s) of solvent(s) that may be used in a particular application.

With regard to Section 3.4 of ANSI N45.2.2 - 1972 titled Methods of Preservation: (First sentence) UE will comply with these requirements subject to the clarifications of Section 3.2.1 (4) and (5) above, and the definition of the phrase "deleterious corrosion" to mean that corrosion which cannot be subsequently removed and which adversely affects form, fit, or function.

With regard to Section 3.6 of ANSI N45.2.2 - 1972 titled Barrier and Wrap Material and Dessicants: This section requires the use of nonhalogenated materials in contact with austenitic stainless steel. Refer to Regulatory Guide 1.37 for the UE position.

With regard to Section 3.7.1 of ANSI N45.2.2 - 1972 titled Containers: Cleated, sheathed boxes may be used up to 1000 lbs. rather than 500 lbs. as specified in 3.7.1(1). This type of box is safe for, and has been tested for, loads up to 1000 lbs. Other national standards allow this (see Federal Specification PPP-B-601). Special qualification testing shall be required for loads above 1000 lbs.

With regard to Section 3.7.2 of ANSI 45.2.2 - 1972 titled Crates and Skids: Crates shall be used for equipment in excess of 1000 lb. in weight. Skids or runners shall be used on boxes with a gross weight of approximately 100 lb. or more, allowing sufficient floor clearance for forklift tines (as nominally provided by 4 inch lumber).

With regard to Section 4.2.2 of ANSI N45.2.2 - 1972 titled Closed Carriers: The use of fully enclosed furniture vans, as recommended in (2) of this Section, is not considered a requirement. UE will assure adequate protection from weather or other environmental conditions by a combination of vehicle enclosure and item packaging.

With regard to Sections. 4.3, 4.4 and 4.5 of ANSI N45.2.2 - 1972 titled, respectively, Precautions During Loading and Transit, Identification and Marking, and Shipment from Countries Outside the United States: UE will comply with the requirements of these Sections subject to the clarifications taken to other Sections which are referenced therein.

With regard to Section 5.2.1 of ANSI N45.2.2 - 1972 titled Shipping Damage Inspection: Stores 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. Since all required items receive the Item Inspection of Section 5.2.2, 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 may be all of the action taken to document completion of the Shipping Damage Inspection. Any nonconformance noted will be documented and dispositioned as required by Section 17.2.15 of the FSAR. The person performing the visual scrutiny during unloading is not considered to be performing an inspection function as defined under Regulatory Guide 1.74; therefore, while he will be trained to perform this function, he may not necessarily be certified Regulatory Guide 1.58 (N45.2.6) as an Inspector.

With regard to Section 5.2.2 of ANSI N45.2.2 - 1972 titled Item Inspection: The second division of this subsection requires six additional inspection activities if an item was not inspected or examined at the source. Engineering shall determine and document the extent of receipt inspection based on consideration of Paragraph 5.2.2.

With regard to Section 6.1.2 of ANSI N45.2.2 - 1972 titled Levels of Storage: Subpart (2) is replaced with the following:

(2) Level B items shall be stored within a fire resistant, weathertight, and well ventilated building or equivalent enclosure in which measures have been taken against vandalism. This building shall be situated and constructed so that it will not normally be subject to flooding; the floor shall be paved or equal, and well drained. If any outside waters should come in contact with stored equipment, such equipment will be labeled or tagged nonconforming, and then the nonconformance document will be processed and evaluated in accordance with Section 17.2.15 of the FSAR. Items shall be placed on pallets or shoring or shelves to permit air circulation. The building shall be provided with heating and temperature control or its equivalent to reduce condensation and corrosion. Minimum temperature shall be 40 F and maximum temperature shall be 140 F or less if so stipulated by a manufacturer.

With regard to Section 6.2.1 of ANSI N45.2.2 - 1972 titled Access to Storage Areas: 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 will not normally be provided, with engineering concurrence.

With regard to Section 6.2.4 of ANSI N45.2.2 - 1972 titled Storage of Food and Associated Items: 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, with engineering concurrence."

With regard to Section 6.2.5 of ANSI N45.2.2 - 1972 titled Measured to Prevent Entrance of Animals: 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."

With regard to Section 6.3.3 of ANSI N45.2.2 - 1972 titled Storage of Hazardous Materials: The sentence is replaced with 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 safety-related systems.

With regard to Section 6.4.2 of ANSI N45.2.2 - 1972 titled Care of Items: The following alternates are provided for indicated subpart:

(5) "Space heaters in electrical equipment shall be energized unless a documented engineering evaluation determines that such space heaters are not required."

(6) "Large (greater than or equal to 50HP) rotating electrical equipment shall be given insulation resistance tests on a scheduled basis unless a documented engineering evaluation determines that such tests are not required."

(7) "Prior to being placed in storage, large (greater than or equal to 50HP or when designed to be used with a prime mover of greater than or equal to 50 HP) horizontal rotating equipment shall be evaluated by engineering to determine if shaft rotation in storage is required: the results of the evaluation shall be documented. If rotation is required, it shall be performed at specified intervals, be documented, and be conducted so that parts receive a coating of lubrication where applicable and so that the shaft does not come to rest in the same position occupied prior to rotation. For long shafts or heavy equipment subject to undesirable bowing, shaft orientation after rotation shall be specified and obtained."

With regard to Section 6.5 of ANSI N45.2.2 - 1972 titled Removal of Items from Storage: UE does not consider the last sentence of this Section to be applicable to the Operating Phase due to the relatively short period of time between installation and use. The first sentence of the Section is replaced with: "UE will develop, issue, and implement a procedure(s) which cover(s) the removal of items from storage. The procedure(s) will assure that the status of all material issued is known, controlled, and appropriately dispositioned."

With regard to Section 6.6 of ANSI N45.2.2 - 1972 titled Storage Records: UE will comply with the requirements of this Section with the clarification that, for record purposes, only the access of non-UE personnel into indoor storage areas shall be recorded. Unloading or pick-up of material shall not be considered "access," nor shall inspection by NRC or other regulatory agents, nor shall tours by non-UE employees who are accompanied by UE employees.

With regard to Section 7.4.2, a subsection to Section 7.4 of ANSI N45.2.2-1972 titled Inspection of Equipment and Rigging: It is UE's position that this relates to the operability of the hoisting equipment and does not preclude rerating as allowed by Section 7.3.

REGULATORY GUIDE 1.39 REVISION 2 DATED 9/77

Housekeeping Requirements for Water-Cooled Nuclear Power Plants

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

For operating phase maintenance and modification activities which are comparable in nature and extent to similar activities conducted during the construction phase, UE shall either control these activities under this Operating QA Program or under a UE accepted Construction QA Program. When this Operating QA Program is used, UE shall comply with the Regulatory Position established in this Regulatory Guide in that QA programmatic/administrative requirements included therein (subject to the clarifications below) shall apply to these maintenance and modification activities even though such requirements may not have been in effect originally. Technical requirements associated with the maintenance or modification shall be equal to or better than the original requirements (e.g., code requirements, material properties, design margins, manufacturing processes, and inspection requirements), or as required to preclude repetition of defects.

Specific clarifications for ANSI N45.2.3 - 1973 are indicated for specific Sections below:

Section 1.4 - Definitions: Definitions in this Standard which are not included in Regulatory Guide 1.74 (ANSI N45.2.10) will be used: all definitions which are included in ANSI N45.2.10 will be used as clarified in UE's commitment to Regulatory Guide 1.74.

Section 2.1 - Planning: UE may choose not to utilize the five-level zone designation system, but will utilize standard janitorial and work practices to maintain a level of cleanliness commensurate with program requirements in the areas of housekeeping, plant and personnel safety, and fire protection.

Cleanliness will be maintained, consistent with the work being performed, so as to prevent the entry of foreign material into safety-related systems. This will include, as a minimum, documented cleanliness inspections which will be performed prior to system closure. As necessary, (e.g. the opening is larger than the tools being used) control of personnel, tools, equipment, and supplies will be established when the reactor system is opened for inspection, maintenance, modification or repair.

Additional housekeeping requirements will be implemented as required for control of radioactive contamination.

Section 2.2 - Procedures and Instructions: Appropriate procedures will be written and implemented.

Section 3.2 - Control of Facilities: UE may choose not to utilize the five-level zone designation system, but will utilize standard janitorial and work practices to maintain a level of cleanliness commensurate with program requirements in the areas of housekeeping, plant and personnel safety, and fire protection.

Cleanliness will be maintained, consistent with the work being performed, so as to prevent the entry of foreign material into safety-related systems. This will include, as a minimum, documented cleanliness inspections which will be performed prior to system closure. As necessary, (e.g. the opening is larger than the tools being used) control of personnel, tools, equipment, and supplies will be established when the reactor system is opened for inspection, maintenance, modification or repair.

Additional housekeeping requirements will be implemented as required for control of radioactive contamination.

Section 4 - Records: The requirements of Section 17.2.17 of the FSAR and Regulatory Guide 1.88 (ANSI N45.2.9) as set forth in Appendix 3A shall be implemented in lieu of the requirements of the Section.

REGULATORY GUIDE 1.58 REVISION 1 DATED 9/80

Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

The qualification of UE QC personnel or contracted QC personnel performing work at the plant shall be in accordance with Regulatory Guide 1.58 (ANSI N45.2.6-1978). Other personnel performing inspection, examination, and testing activities shall have appropriate experience, training, and retraining to assure competence in accordance with Regulatory Guide 1.8 (ANSI/ANS 3.1-1978). This position is consistent with Regulatory Guide 1.33 (ANSI N18.7-1976/ANS-3.2, Section 3.4.2).

In instances where the education and experience recommendations of ANSI N45.2.6-1978 are not met by QC personnel, UE will demonstrate by documented results of written examinations and evaluations of actual work proficiency that these individuals possess comparable or equivalent competence. SNT-TC-1A (1975) will be used to qualify and certify NDE personnel.

With regard to Section 1.2 of ANSI N45.2.6 - 1978 titled Applicability: The third paragraph requires that the Standard be used in conjunction with ANSI N45.2; UE no longer specifically commits to ANSI N45.2 in the Operating QA Program (Chapter 17.2 of the FSAR). The fourth paragraph requires that the Standard be imposed on personnel other than UE employees; the applicability of the Standard to suppliers will be documented and applied, as appropriate, in the procurement documents for such suppliers.

With regard to Section 1.4 of ANSI N45.2.6 - 1978 titled Definitions: Definitions in this Standard which are not included in Regulatory Guide 1.74 (ANSI N45.2.10) will be used; all definitions which are included in ANSI N45.2.10 will be used as clarified in UE's commitment to Regulatory Guide 1.74.

With regard to Section 2.5 of ANSI N45.2.6 - 1978 titled Physical: UE will implement the requirements of this Section 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 by UE, none are considered necessary.

REGULATORY GUIDE 1.59 REVISION 2 DATED 8/77

Design Basis Floods for Nuclear Power Plants

DISCUSSION:

Refer to Site Addendum Section 3.4.

REGULATORY GUIDE 1.64 REVISION 2 DATED 6/76

Quality Assurance Requirements for the Design of Nuclear Power Plants

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

With regard to Paragraph C.2(1) of Regulatory Guide 1.64: If the designer's immediate Supervisor is the only technically qualified individual available, this review may be conducted by the Supervisor, provided that: (a) the other provisions of the Regulatory Guide are satisfied and (b) the justification is individually documented and approved in advance by the Supervisor's management, and (c) quality assurance audits cover frequency and effectiveness of use of the Supervisors as design verifiers to guard against abuse.

With regard to Section 1.4 of ANSI N45.2.11 - 1974 titled Definitions: Definitions in this Standard which are not included in Regulatory Guide 1.74 (ANSI N45.2.10) will be used as clarified in Appendix 3A.

With regard to Section 11 (including subsections 11.1 through 11.7) of ANSI N45.2.11 - 1974, titled Audits: UE's Audit Program will be implemented in accordance with and to meet the requirements of: Regulatory Guide 1.144 (ANSI N45.2.12) as endorsed in Appendix 3A; Sections 17.2.16 and 17.2.18 of the FSAR; and the requirements of the Technical Specifications.

REGULATORY GUIDE 1.74 REVISION - DATED 2/74

Quality Assurance Terms and Definitions

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications.

UE reserves the right to define additional words or phrases which are not included in this Standard. Such additional definitions will be documented in appropriate procedures and/or in attachments/appendices to quality assurance procedures manual, or in Sections of the Operating QA Program.

In addition to the Standard's definition of "Inspection," UE will use the following: "Inspection (when used to refer to activities that are NOT performed by QA or QC personnel) - Examining, viewing closely, scrutinizing, looking over or otherwise checking activities. Personnel performing these functions are not necessarily certified to Regulatory Guide 1.58 (ANSI N45.2.6)."

When UE intends for Inspection to be performed in accordance with the Operating QA Program by personnel certified as required by that Program and for activities defined by "Inspection" in ANSI N45.2.10, appropriate references to the plant QC organization or the procedures to be used for performing the activity will be made. If such references are NOT made, inspections are to be considered under the additional definition given above.

In addition to the Standard's definition of "procurement documents," UE will utilize the definitions given in ANSI N54.2.13 and in Regulatory Guide 1.74. The compound definition is given as follows: Procurement documents - Contractually binding documents that identify and define the requirements which items or services must meet in order to be considered acceptable by the purchaser. They may include documents which authorize the seller to perform services or supply equipment, material or facilities on behalf of the purchaser (e.g. Engineering Service Agreement agreements for engineering, construction, or consulting services), contracts, letters of intent, purchase requisitions, purchase orders, or proposals and their acceptance, drawings, specifications, or instruction which define requirements for purchase.

"Program Deficiencies" (Not defined in ANSI N45.2.10, but used and defined differently in Regulatory Guide 1.144 (ANSI N45.2.12)) - Failure to develop, document or implement effectively any applicable element of the Operating QA Program.

"Quality Assurance Program Requirements" (Not defined in ANSI N45.2.10 but used and defined differently in ANSI N45.2.13) - Those individual requirements of the Operating QA Program which, when invoked in total or in part, establish the requirements of the quality assurance program for the activity being controlled. Although not specifically used in the Operating QA Program, ANSI N45.2 may be imposed upon UE's suppliers.

"Independent Verification" - Verification by an individual other than the person who performed the operation or activity being verified that required actions have been completed. Such verification will not require confirmation of the identical action when other indications provide assurance or indication that the prescribed activity is in fact complete. Examples include, but are not limited to: verification of a breaker opening by observed remote breaker indication lights; verification of a set point (made with a voltmeter or ammeter for example) by observing the actuation of status or indicating lights at the required panel-meter indicated value; verification that a valve has been positioned by observing the starting or stopping of flow on meter indications or by remote value positions indicating lights.

"Audit" (Will be a modification of the word - to allow the use of subjective evidence if no evidence is available - as defined in Section 1.4 of ANSI N45.2.12 - 1977 (Regulatory Guide 1.144) and Section 1.4.3 of ANSI N45.2.23 - 1978 (Regulatory Guide 1.146) as opposed to the definition given in ANSI N45.2.10 - 1973) - A documented activity performed in accordance with written procedures or checklists to verify, by examination and evaluation of objective evidence where available, (subjective evidence may be used when objective evidence is not available), that applicable elements of the quality assurance program have been developed, documented and effectively implemented in accordance with specified requirements. An audit should not be confused with surveillance or inspection for the sole purpose of process control or product acceptance.

"Must" - (Not defined in any ANSI Standard) - An internally auditable requirement imposed by UE management upon its employees, contractors, and agents - above and in excess of the legally binding requirements of the appropriate regulatory body. Such items are internally required but not externally enforceable.

"Will" - (Not defined in any ANSI Standard) - Means the same as "shall" except when used to denote simple futurity. When used to denote futurity, "will" is normally followed by "be".

REGULATORY GUIDE 1.86 REVISION 0 DATED 6/74

Termination of Operating Licenses for Nuclear Reactors

DISCUSSION:

The termination of the operating license and subsequent decommissioning of Callaway Plant will be in accordance with regulations in effect at that time.

REGULATORY GUIDE 1.88 REVISION 2 DATED 10/76

Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

With regard to Section 3.2.1 of ANSI N45.2.9 - 1974 titled Generation of Quality Assurance Records: The phrase "completely filled out" is clarified to mean that sufficient information is recorded to fulfill the intended purpose of the record.

With regard to Section 3.2.2 of ANSI N45.2.9 - 1974 titled Index: The phrase "an index" is clarified to mean a collection of documents or indices which, when taken together, supply the information attributed to "an index" in the standard.

The specific location of a record "within a storage area" may not be delineated (e.g. The specific location within a computer record file may not be constant. Further, UE may utilize a computer assisted random access filing system where such location could not be readily "documented," or would such a location be "relevent.") The storage location will be delineated, but where file locations change with time, the specific location of a record within that file may not always be documented.

With regard to Section 4.2 of ANSI N45.2.9 - 1974 titled Timeliness: UE's contractual agreement with its contractors and suppliers will constitute fulfillment of the requirements of this Section.

With regard to Section 5.4 of ANSI N45.2.9 - 1974 titled Preservation: The following clarification is substituted for the current subsection 5.4.2 "Records shall be stored in enclosed containers, cabinets or other comparable document storage hardware."

The following clarification is substituted for the current subsection 5.4.3: "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 records type." Consideration will be given to manufacturer's recommendation.

With regard to Section 5.5 of ANSI N45.2.9 - 1974 titled Safekeeping: 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.

With regard to Section 5.6 of ANSI N45.2.9 - 1974 titled Facility: This Section provides no distinction between temporary and permanent facilities. To cover temporary storage, the following clarification is added: "Active records (those completed but not yet duplicated or placed on microfilm) may be temporarily stored in one-hour fire rated file cabinets. In general, records shall not be maintained in such temporary storage for more than three months after completion without being duplicated (for dual storage) or being placed on microform. Open-ended documents those revised or updated on a more-or-less continuing basis over an extended period of time (e.g. personnel qualification and training documents, equipment history cards, master audit or master surveillance schedules) and those which are cumulative in nature (e.g. nonconforming item logs and control room log books) are not considered as QA records since they are not "complete." These types of documents shall become QA records: when they are issued as a specific revision (e.g. the master audit schedule); when they are filled-up or discontinued (e.g. log books or equipment history cards); on a predefined periodic basis when the completed portion of the on-going document shall be transferred to document control as a "record" (e.g. training and qualification records).

Paragraph 4, subsection 3 is clarified to require a two-hour minimum fire rating to be consistent with the 1979 version of the Standard.

NRC Criteria for Records Storage Facilities (Guidance-ANSI N45.2.9, Section 5.6) issued 7/1/80.

Paragraph 4, subsection 9 is clarified to read: "No pipes or penetrations except those providing fire protection, lighting, temperature/humidity control, or communications are to be located within the facility and they shall comply with a minimum two-hour fire protection rating."

Where duplicate storage is employed, no special precautions or provisions (including vault storage, special humidity and temperature recorders and similar items) are required.

REGULATORY GUIDE 1.91 REVISION 1 DATED 2/78

Evaluation of Explosions Postulated to Occur on Transportion Routes near Nuclear Power Plants

DISCUSSION:

Refer to Site Addendum Section 2.2.3.1 for a discussion of explosions near the plant site.

REGULATORY GUIDE 1.94 REVISION 1 DATED 4/76

Quality Assurance requirements for installation, inspection and testing of structural concrete and structural steel during the construction phase of nuclear power plants.

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

For operating phase modification activities which are comparable in nature and extent to similar activites conducted during the construction phase, UE shall either control these activities under this Operating QA Program or under a UE accepted Construction QA Program. When this Operating QA Program is used, UE shall comply with the Regulatory Position established in this Regulatory Guide in that QA programmatic/administrative requirements included therein (subject to the clarifications below) shall apply to these modification activities even though such requirements may not have been in effect originally. Technical requirements associated with modifications shall be equal to or better than the original requrements (e.g., code requirements, material properties, design margins, manufacturing processes, and inspection requirements), or as required to preclude repetition of defects.

REGULATORY GUIDE 1.101 REVISION NA DATED NA

Emergency Planning for Nuclear Power Plants

DISCUSSION:

This regulatory guide has been withdrawn.

REGULATORY GUIDE 1.102 REVISION 1 DATED 9/76

Flood Protection for Nuclear Power Plants

DISCUSSION:

Refer to Site Addendum Section 2.4.10 and 3.4 for a discussion offlood protection.

REGULATORY GUIDE 1.109 REVISION 1 DATED 10/77

Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I

DISCUSSION:

UE complies with the recommendations of this regulatory guide. Refer to Site Addendum Section 12.4.

REGULATORY GUIDE 1.111 REVISION 1 DATED 7/77

Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors

DISCUSSION:

UE complies with the recommendations of this regulatory guide. Refer to Site Addendum Section 2.3.

REGULATORY GUIDE 1.113 REVISION 1 DATED 4/77

Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I

DISCUSSION:

UE complies with the recommendations of this regulatory guide. Refer to Site Addendum Section 2.4.

REGULATORY GUIDE 1.114 REVISION 1 DATED 11/76

Guidance on Being Operator at the Controls of a Nuclear Power Plant

DISCUSSION:

UE complies with the recommendations of this regulatory guide.

REGULATORY GUIDE 1.116 REVISION 0-R DATED 5/77

Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

For operating phase maintenance and modification activities which are comparable in nature and extent to similar activities conducted during the construction phase, UE shall either control these activities under this Operating QA Program or under an NRC accepted Construction QA Program. When this Operating QA Program is used, UE shall comply with the Regulatory Position established in this Regulatory Guide in that QA programmatic/administrative requirements included therein shall apply to these maintenance and modification activities even though such requirements may not have been in effect originally. Technical requirements associated with maintenance and modifications shall be equal to or better than the original requirements (e.g., code requirements, material properties, design margins, manufacturing processes, and inspection requirements), or as required to preclude repetition of defects.

REGULATORY GUIDE 1.123 REVISION 1 DATED 7/77

Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants

DISCUSSION:

UE complies will the recommendations of this regulatory guide with the following clarifications:.

With regard to Section 1.3 of ANSI N45.2.13 - 1976 titled Definitions: With two exceptions (Procurement Document and Quality Assurance Program Requirements) definitions in this Standard which are not included in Regulatory Guide 1.74 (ANSI N45.2.10) will be used; all definitions which are included in ANSI N45.2.10 will be used as clarified in UE's commitment to Regulatory Guide 1.74. The two exceptions are defined in Appendix 3A under Regulatory Guide 1.74.

With regard to Section 1.2.2 of ANSI N45.2.13 1- 1976 titled Purchaser's Responsibilities: Item C is one of the options which may be used by UE to assure quality; however, any of the options given in 10CFR50, Appendix B, Criterion VII as implemented by Sections 17.2.4 and 17.2.7 of the FSAR may also be used.

With regard to Section 3.1 of ANSI N45.2.13 - 1976 titled Procurement Document Preparation, Review and Change Control: The phrase "the same degree of control" is stipulated to mean "equivalent level of review and approval." The changed document may not always be rereviewed by the originator; however, at least an equivalent level supervision shall review and approve any changes.

With regard to Section 3.4 of ANSI N45.2.13 - 1976 titled Procurement Document Control: UE will meet the requirements of Section 17.2.4 and 17.2.7 of the FSAR in lieu of the requirements specified in this Section.

With regard to Section 5.3 of ANSI N45.2.13 - 1976 titled Preaward Evaluation: UE will comply with an alternate paragraph which reads: "Except in unusual circumstances (e.g. replacement parts are needed to preclude the development of some unsafe or undesirable condition at Callaway), an evaluation of the Supplier's acceptability as a procurement source shall be performed as required by the Operating QA Program (Chapter 17.2 of the FSAR)."

With regard to Section 6.4 of ANSI N45.2.13 - 1976 titled Control of Changes in Items of Services: The phrase "the Operating QA Program" will be inserted in lieu of "ANSI N45.2, Section 17.2.7."

With regard to Section 8.2 of ANSI N45.2.13 - 1976 titled Disposition: The third sentence of item b is revised to read:

"Nonconformances to the contractual procurement requirements or Purchaser approved documents and which consist of one or more of the following shall be submitted to the Purchaser for approval of the recommended disposition prior to shipment when the nonconformance could adversely affect the end use of a module* or shippable component relative to safety, interchangeability, operability, reliability, integrity, or maintainability:

1) Technical or material requirement is violated;

2) Requirement in Supplier documents, which have been approved by the Purchaser, is violated;

3) Nonconformance cannot be corrected by continuation of the original manufacturing process or by rework; and/or

4) The item does not conform to the original requirement even though the item can be restored to a condition such that the capability of the item to function is unimpaired.

*A module is an assembled device, instrument, or piece of equipment identified by serial number or other identification code, having been evaluated by inspection and/or test for conformance to procurement requirements regarding end use. A shippable component is a part of sub-assembly of a device, instrument, or piece of equipment which is shipped as an individual item and which has been evaluated by inspection and/or test for conformance to procurement requirements regarding end use."

With regard to Section 12 of ANSI N45.2.13 - 1976 titled Audit of Procurement Program: The UE audit program will be implemented in accordance with and to meet the requirements of: Regulatory Guide 1.144 (ANSI N45.2.12) as endorsed in Appendix 3A; Sections 17.2.16 and 17.2.18 of the FSAR, and the requirements of the Technical Specifications.

REGULATORY GUIDE 1.125 REVISION 1 DATED 10/78

Physical Models for Design and Operation of Hydraulic Structures and Systems for Nuclear Power Plants

DISCUSSION:

No physical models were used to predict the action or interaction of surface waters with safety-related structures or components located outside of containment. This Regulatory Guide does not apply to the Callaway Plant.

REGULATORY GUIDE 1.127 REVISION 1 DATED 3/78

Inspection of Water-Control Structures Associated with Nuclear Power Plants

DISCUSSION:

Refer to Site Addendum Section 2.4.11.6 for a discussion of this regulatory guide.

REGULATORY GUIDE 1.132 REVISION 1 DATED 3/79

Site Investigations for Foundations of Nuclear Power Plants

DISCUSSION:

Refer to Site Addendum Section 2.5.4 for a discussion of stability of subsurface materials and foundations.

REGULATORY GUIDE 1.134 REVISION 1 DATED 3/79

Medical Certification and Monitoring of Personnel Requiring Operating Licenses

DISCUSSION:

UE complies with the recommendations of this regulatory guide.

REGULATORY GUIDE 1.135 REVISION 0 DATED 9/77

Normal Water Level and Discharge at Nuclear Power Plants

DISCUSSION:

Refer to Site Addendum Section 2.4 for a discussion of ground water level and its affect on safety-related structures.

REGULATORY GUIDE 1.138 REVISION 0 DATED 4/78

Laboratory Investigations of Soils for Engineering Analysis and Design of Nuclear Power Plants

DISCUSSION:

Refer to Site Addendum Section 2.5.4 for a discussion on engineering analysis of subsurface materials.

REGULATORY GUIDE 1.144 REVISION 1 DATED 9/80

Auditing of Quality Assurance Programs for Nuclear Power Plants

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

With regard to Section 1.4 of ANSI N45.2.12 - 1977 titled Definitions: With one exception (Program Deficiencies) the definitions in this Standard which are not included in Regulatory Guide 1.74 (ANSI N45.2.10) will be used: all definitions which are included in ANSI N45.2.10 will be used as clarified in UE's commitment to Regulatory Guide 1.74. The one excepted definition and a clarified definition (of audit) relevant to this Standard are defined in Appendix 3A under Regulatory 1.74.

With regard to Section 2.2 of ANSI N45.2.12 - 1977 titled Personnel Qualification: The qualification of UE audit personnel will be accomplished as described to meet the requirements of Regulatory Guide 1.144 (ANSI N45.2.23 - 1978) as endorsed in Appendix 3A and Sections 17.2.18 of the FSAR.

With regard to Section 2.3 (and subsections 2.3.1 through 2.3.3) of ANSI N45.2.12 - 1977 titled Training: The training of UE audit personnel will be accomplished as described to meet the requirements of Regulatory Guide 1.144 (ANSI N45.2.23 - 1978) as endorsed in Appendix 3A and Section 17.2.18 of the FSAR.

With regard to Section 2.4 of ANSI N45.2.12 - 1977 titled Maintenance of Proficiency: The maintenance of proficiency of UE audit personnel will be accomplished as described to meet the requirements of Regulatory Guide 1.144 (ANSI N45.2.23 - 1978) as endorsed in Appendix 3A and Section 17.2.18 of the FSAR.

With regard to Section 3.3 of ANSI N45.2.12 - 1977 titled Essential Elements of the Audit System: UE will comply with subsection 3.3.5 as it was originally written (subsection 3.2.5) in ANSI N45.2.12, Draft 3, Revision 4: "Provisions for reporting on the effectiveness of the quality assurance program to the responsible management." For the auditing organization (UE), effectiveness is reported as required by the Technical Specifications. Other than audit reports, UE may not directly report on the effectiveness of the quality assurance programs to the audited organization when such organizations are outside of UE.

Subsection 3.3.6 requirements are considered to be fulfilled by compliance with the organization and reporting measures outlined in the Operating QA Program and the Technical Specifications.

Subsection 3.3.7 requires verification of effective corrective action on a "timely basis." Timely basis is interpreted to mean within the framework or period of time for completion of corrective action that is accepted by the Quality Assurance Organization. Each finding requires a response and a corrective action completion date; these dates are subject to revision (with the approval of the Quality Assurance Organization) and must be escalated to higher authority when there is a disagreement between the audited and the auditing organization on what constitutes "timely corrective action."

With regard to Section 3.5 of ANSI N45.2.12 - 1977 titled Scheduling: Subsection 3.5.3.1 is interpreted to mean the UE may procedurally control qualification of a contractor's or supplier's quality assurance program prior to awarding a contract or purchase order by means other than audit.

With regard to Section 4.3.1 of ANSI N54.2.12 - 1977 titled Pre-Audit Conference: UE will comply with requirements of this Section by inserting the word "Normally" at the beginning of the first sentence. This clarification is required because, in the case of certain unannounced audits or audits of a particular operation or work activity, a pre-audit conference might interfere with the spontaneity of the operation or activity being audited. In other cases, persons who should be present at a pre-audit conference may not always be available: such lack of availability should not be an impediment to beginning an audit. Even in the above examples, which are not intended to be all inclusive, the material set forth in Section 4.3.1 will normally be covered during the course of the audit.

With regard to Section 4.3.2 of ANSI N45.2.12 - 1977 titled Audit Process:

(a) Subsection 4.3.2.2 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. UE will comply with an alternate sentence which reads: "When available, objective evidence shall be examined for compliance with quality assurance program requirements. If subjective evidence is used (e.g. personal interviews, direct observations by the auditor), then the audit report must indicate how the evidence was obtained."

(b) Subsection 4.3.2.4 is modified as follows to take into account the fact that some nonconformances are virtually "obvious" with respect to the needed corrective action: "When a nonconformance or quality assurance program deficiency is identified as a result of an audit, unless the apparent cause, extent, and corrective action are readily evident, further investigation shall be conducted by the audited organization in an effort to identify the cause and effect and to determine the extent of the corrective action required."

(c) Subsection 4.3.2.5 contains a recommendation which is clarified with the definition of "acknowledged by a member of the audited organization" to mean that "a member of the audited organization has been informed of the findings "Agreement or disagreement with a finding may be expressed in the response from the audited organization.

(d) Subsection 4.3.2.6 is modified as follows to account for the fact that immediate notification is not always possible: "Conditions requiring immediate corrective action (i.e. those which are so severe that any delay would be undersirable) shall be reported immediately to the audited organization and as soon as practical to the management thereof.

With regard to Section 4.3.3 of ANSI N45.2.12 - 1977 titled Post-Audit Conference: UE will substitute and comply with the following paragraph: "For all external audits, a post-audit conference shall be held with management of the audited organization to present audit findings and clarify misunderstandings; where no adverse findings exist, this conference may be waived by management of the audited organization: such waiver shall be documented in the audit report. Unless unusual operating or maintenance conditions preclude attendance by appropriate managers/supervisors, a post-audit conference shall be held with managers/supervisors for all internal audits for the same reasons as above. Again, if there are no adverse findings, management of the internal audited organization may waive the post-audit conference: such waiver shall be documented in the audit report."

With regard to Section 4.4 of ANSI N45.2.12 - 1977 titled Reporting:

(a) This Section requires that the audit report shall be signed by the audit team leader; this is not always the most expeditious route to take to assure that the audit report is issued as soon as practical. UE will comply with Section 4.4 as clarified in the following opening: "An audit report, which shall be signed by the audit team leader, or his supervisor in his absence, shall provide:" In cases where the audit report is not signed by the Lead Auditor due to his absence, one record copy of the report must be signed by the Lead Auditor upon his return. The report shall not require the Lead Auditor's review/concurrence/signature if the Lead Auditor is no longer employed by UE at the time the audit report is issued.

(b) UE will comply with subsection 4.4.3 clarified to read: "Supervisory level personnel with whom significant discussions were held during the course of pre-audit (where conducted), audit, and post-audit (where conducted) activities."

(c) Audit reports may not necessarily contain an evaluation statement regarding the effectiveness of the quality assurance program elements which were audited, as required by subsection 4.4.4, but they will provide a summary of the audited areas and the results which identify the importance of any adverse findings.

With regard to Section 4.5.1 of ANSI N45.2.12 - 1977 titled By Audited Organization: UE will comply with the following clarification of the Section: "Management of the audited organization or activity shall review and investigate all adverse audit findings, as necessary, (e.g. where the cause is already known, another organization has not already investigated and found the cause, etc.) to determine and schedule appropriate corrective action including action to prevent recurrence. They shall clearly state the corrective action taken or planned to prevent recurrence and the results of the investigation if conducted. In the event that corrective action is not completed within thirty days, the audited organization's response shall include a scheduled date for completion of planned corrective action: a followup response shall be provided stating the corrective action taken and the date that the action was completed. If corrective actions are verified as satisfactorily completed by the quality organization prior to the scheduled completion date, no followup response is required. The audited organization shall take appropriate action to assure that corrective action is accomplished as scheduled. Either the Manager, Quality Assurance or the Assistant Manager, Quality Assurance may waive the requirement for a supplementary response.

REGULATORY GUIDE 1.145

Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants

DISCUSSION:

UE complies with the recommendations described in the Draft Regulatory Guide 1.XXX (1978). Refer to Site Addendum Section 2.3.4.2.1 for a discussion of short-term diffusion estimates.

REGULATORY GUIDE 1.146 REVISION - DATED 8/80

Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants

DISCUSSION:

UE complies with the recommendations of this regulatory guide with the following clarifications:

With respect to Section 1.4 of ANSI N45.2.23 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used: "Audit" which is included in Regulatory Guide 1.74 (ANSI N45.2.10) will be used as clarified in Appendix 3A.

With respect to Section 2.2 of ANSI N45.2.23 - 1978 titled Qualification of Auditors: Subsection 2.2.1 references an ANSI B54.2 (persumed to be standard N45.2); therefore, UE will comply with an alternate subsection 2.2.1 which reads:

> Orientation to provide a working knowledge and understanding of the Operating QA Program, including the ANSI standards and Regulatory Guides included in Appendix 3A applicable to the Program, and UE's procedures for implementing audits and reporting results.

With respect to Section 4.1 of ANSI N45.2.23 - 1978 titled Organizational Responsibility: UE will comply with this Section with the substitution of the following sentence in place of the last sentence in the Section.

> The Manager, Quality Assurance; Superintendent, Quality Engineering; Supervising Engineer, Supplier Quality; Supervising Engineer, QA; or Lead Auditor shall, prior to commencing the audit, assign personnel who collectively have experience or training commensurate with the scope, complexity, or special nature of the activities to be audited.

With respect to Section 3.2 of ANSI N45.2.23 - 1978 titled Maintenance of Proficiency: UE will comply with the requirements of this Section by defining "annual assessment" as one which takes places every 12 + or - 3 months and which uses the intitial date of certification (not the calender year) as the starting date for determining when such annual assessment is due. The combined time interval for any three consecutive assessment intervals shall not exceed 3.25 years.

With respect to Section 5.3 of ANSI N45.2.23 - 1978 titled Updating of Lead Auditor's Records: UE will substitute the following sentence for this Section:

> Records for each Lead Auditor shall be maintained and updated during the period of the annual management assessment as defined in Section 3.2 (as clarified).

With respect to Section 5.4 of ANSI N45.2.23 - 1978 titled Records Retention: UE substitute the following sentence for this Section.

> Qualification records shall be generated and maintained as required by Section 17.2.17 of the FSAR and by commitment to Regulatory Guide 1.88 (ANSI N45.2.9) as clarified in Appendix 3A."