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Vogtle Project

March 29, 1985

Director of Nuclear Reactor Regulation
Attention: Ms. Elinor G. Adensam, Chief
Licensing Branch #4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

File: X7BC35
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NRC DOCKET NUMBERS 50-424 AND 50-425
CONSTRUCTION PERMIT NUMBERS CPPR-108 AND CPPR-109
VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2
REQUESTS FOR ADDITIONAL INFORMATION: DSER OPEN ITEMS

Dear Mr. Denton:

Your Staff has requested additional information as part of the VEGP review process. Attached is a listing of the DSER open items, the enclosures where they are addressed and the source of the request. As noted in the remarks, except for open items 98 & 107, the information will be incorporated in Amendment 16.

Sincerely,

J. A. Bailey
Project Licensing Manager

JAB/caa
Enclosure
xc: D. O. Foster
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1/1

Attachment

OPEN ITEMS INDEX

Open Item	Enclosure	Remarks
98	A	Response to NRC telephone inquiry, Emergency Operator Procedure Generation Package
86	B	Response to NRC telephone inquiry and NRC March 22, 1985 meeting. The changes noted will be incorporated in FSAR Amendment 16.
105	C	Response provided to questions raised at the NRC March 22, 1985. Revisions supercedes those transmitted by GN-546 dated March 13, 1985. These changes will be incorporated in FSAR Amendment 16.
106	D	Response provided to questions raised (less item 2 on reviewer's notes) at the NRC March 22, 1985 meeting. Changes are also provided to Section 17.2 to reflect GPC corporate changes. These changes will be incorporated in FSAR Amendment 16.
107	E	Response provided to NRC letter dated February 27, 1985 concerning the CRDR.

Enclosure A
Open Item 98

SER OPEN ITEM #98 - Clarifications:

Question: Provide the process for determining the required characteristics of instruments & controls, (i.e. range of instruments, gallons, etc.). How do we know that the proper instrumentation is in place when writing related EOPs?

Response: Since VEGP is under construction, it is not feasible to physically identify the installed equipment. Three other processes are used, however, to determine the proper instrumentation:

1) VEGP design drawing, i.e. Mechanical, Electrical Drawings; Instrument qualifications, etc. are used to determine proper instrumention.

2) Instrument Data Sheets or duplicate instruments installed in the VEGP specific siimulator are referenced to determine the range or scale of a specific instrument.

3) The VEGP Instrument Index is referenced to verify the accuracy of our selection of proper instrumention. This instrumentation index was specified by Westinghouse for the preliminary EOP Setpoint study. This study along with the task analysis portion of the Control Room design review will provide final confirmation of the required characteristics of the instrumentation and controls.

Question: Provide a description of how operators keep track of time in implementing the steps of a time dependent procedure.

Response: On initiation of an event, the time is logged either as a result of normal log book keeping or as a result of completed the required Emergency Plan Notification Forms. Short term time requirements associated cooldown rate are incorporated into the Proteus Computer, Emergency Response Facility, and Safety Parameters Display System Computers. Further, the cooldown rate is manually checked every 15 minutes using the Control Room clock or operator's personal time pieces. This method of time tracking is also utilized for time periods associated with venting reactor head into containment and time until hotleg recirculation. The computer systems monitor and track the times associated with operations following a transient and thus provide adequate timing records (sequence of event recorders). VEGP Operators are not required to record the times associated with the steps of a time dependent procedure. However, should time tracking problems arise during the EOP validation, the EOPs will be modified.

Question: What process does an operator use to show that he is on the right step of a procedure?

Response: VEGP utilizes a mechanical marker as a place keeper to indicate the particular page being transitioned from. Based on our experience in simulator training and EOP pre-validation simulator testing, the practice of checking off steps in EOPs was found unnecessary. Further, the two columnar fromat of the EOPs eleminates the necessity of jumping around on a particular page. Should operators subsequently experience problems concerning keeping track of the correct step of a procedure, measures will be taken to eliminate this problem.

Enclosure B
Open Item 84

10.3.5.4 Chemical Addition

VEGP employs an all-volatile treatment (AVT) method to minimize general corrosion in the feedwater system, steam generators, and main steam piping. Ammonia and hydrazine are the two chemicals to be injected into the condensate pump discharge header.

Alkaline conditions reduce the general corrosion rate of ferrous alloys, so ammonia (in the form of ammonia hydrazine) is injected to maintain these alkaline conditions. Although ammonia is volatile and will not concentrate in the steam generator, it will reach an equilibrium level which will establish an alkaline condition in the steam generator.

Hydrazine is added to scavenge dissolved oxygen present in the feedwater system. Hydrazine also promotes the formation of a protective magnetite layer on ferrous surfaces and to keep this layer in a reduced state, further inhibiting general corrosion.

10.3.5.5 Action Levels for Abnormal Conditons

Prompt and appropriate responses to abnormal chemistry conditions are prudent to assure the long integrity of secondary cycle components. As such, three action levels have been defined for taking remedial action when monitored parameters are observed and confirmed to be outside the normal operating value. Normal operating value as it is used here refers to the value of a parameter which is consistent with long term system reliability. 15

The Vogtle general manager will authorize the action to be taken upon confirmation of one or more chemistry parameters outside normal operator ranges. In general, these actions will be consistent with action levels described in "PWR" Secondary Water Chemistry Guidelines," EPRI, NP-2704 1982.

Action level 1 is implemented whenever an out-of-normal value is detected. Maintaining parameter values within the normal range will provide a high degree of assurance that corrosive conditions will be avoided. Action level 2 is instituted when conditions exist which have been shown to result in some degree of steam generator corrosion during extended full power operation. Action level 3 is implemented when conditions exist which will result in rapid steam generator corrosion, and continued operation is not advisable.

TABLE 10.3.5-1

SECONDARY SIDE WATER CHEMISTRY SPECIFICATIONS
DURING POWER OPERATION

Parameter	Normal Sample Frequency	Normal Value	Action Levels 1	2	3
Condensate pump discharge					
Dissolved Oxygen, ppb	Continuous or daily	≤10	>10	>~~30~~ 50	-
Steam generator blowdown					
pH	Continuous or daily	8.8-9.5	<8.8	-	-
			>9.5	-	-
Cation					
Conductivity, ~~u~~mho/cm	Continuous or weekly	≤0.8	>0.8	>2.0	>7.0
Sodium, ppb	Continuous or daily	≤20	>20	>100	>500 15
Chloride, ppb	Three times a week	≤20	>20	>100	-
Silica, ppb	Daily	≤300	>300	-	-
~~Sulfate, ppb~~	~~Weekly~~	~~≤20~~	~~>20~~	~~-~~	~~-~~

TABLE 10.3.5-2

STEAM GENERATOR BULK WATER GUIDELINES DURING WET LAYUP

Parameter	Frequency	Normal Value	Initiate Action	Value Prior to Heatup
pH	3/week	9.81-10.5	<9.8 >10.5	>9.0
Hydrazine, ppm	3/week	75-200	<75 >200	-
Sodium ppb	3/week	<1000	>1000	≤100
~~Chloride, ppb~~	~~3/week~~	~~<1000~~	~~>1000~~	~~≤100~~ e
~~Sulfate, ppb~~	~~1/week~~	~~<1000~~	~~>1000~~	~~≤100~~ e
Cation Conductivity umho/cm	3/week	<10.0	>10.0	< 2.0

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TABLE 10.3.5-3

STEAM GENERATOR BULK WATER GUIDELINES DURING HEATUP

Parameter	Normal Frequency	Normal Value	Initiate Action	Value Prior to Power Escalation >5%	Value Prior to Power Escalation >30%
pH	Continuous	≥8.7	<8.7	-	≥8.7
Cation conductivity, μmho/cm	Continuous	≤2.0	>2.0	≤2.0	≤0.8
Specific conductivity, μmho/cm	Continuous	>2.7 <11	-	-	-
Dissolved O_2, ppb	Daily	≤5	>5	-	-
Sodium, ppb	Continuous	≤100	>100	≤100	≤20
Chloride, ppb	Daily	≤100	>100	≤100	≤20
~~Sulfate, ppb~~	~~Weekly~~	~~≤100~~	~~>100~~	~~≤100~~	~~≤20~~ e
~~Silica, ppb~~	~~Daily~~	~~<300~~	~~-~~	~~-~~	~~<300~~ e

15

Enclosure C
Open Item 105

- Failure would not directly cause a Condition III or IV event (as defined in ANSI N18.2-1973).
- There is no safety function to mitigate, nor could failure prevent mitigation of, the consequence of a Condition III or IV event.
- Failure during or following any Condition IV event would result in consequences no more severe than allowed for a Condition III event.
- Routine post-seismic procedures would disclose loss of the safety function.

1.9.30 REGULATORY GUIDE 1.30, AUGUST 1972, QUALITY ASSURANCE REQUIREMENTS FOR THE INSTALLATION, INSPECTION, AND TESTING OF INSTRUMENTATION AND ELECTRIC EQUIPMENT

1.9.30.1 Regulatory Guide 1.30 Position

The requirements for the installation, inspection, and testing of nuclear power plant instrumentation and electric equipment which are included in ANSI N45.2.4-1972, Installation, Inspection, and Testing. Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations (also designated IEEE Std. 336-1971) are generally acceptable and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications in the regulatory guide.

1.9.30.2 VEGP Position

The VEGP QAP during design and construction conforms to ANSI N45.2.4-1972 and IEEE 336-1971. The VEGP QAP is described in chapter 17.

The VEGP operations QAP conforms with the requirements of ANSI N45.2.4-1972 as it is endorsed by Regulatory Guide 1.30-72 (Revision 0) with the following clarifications~~, and exceptions~~. 9

~~Clarifications are as follows:~~

1. Paragraph 1.5, Referenced Documents. Guides issued after 1972 have normally stated that when standards are referenced, the NRC position is that as described in the Regulatory Guide which endorses that standard.

2. Paragraph 2.2, Prerequisites. VEGP will conform to the conditions as stated in this paragraph in accordance with the VEGP position taken to the applicable codes and standards.

VEGP-FSAR-1

Since Regulatory Guide 1.30-72 does not include such a statement, VEGP feels justified in stating that standards referenced in ANSI N45.2.4-1972 are addressed in appropriate sections of the VEGP FSAR. 9

3. Paragraph 8, Records, requires certain records to be prepared. VEGP has stated its position on records in section 17.2 and the VEGP position to Regulatory Guide 1.88.

4. For operations phase maintenance and modification activities, VEGP shall control these activities under the operations QAP (section 17.2). VEGP shall conform with the regulatory position in that QA programmatic/ administrative requirements (subject to the clarifications below) shall apply to modification activities. Technical requirements will be made at least to the technical requirements of the FSAR. 9

5. Paragraph 2.3, Procedures and Instructions, will be implemented as set forth in section 17.2 and by conformance with the Technical Specifications and VEGP position to Regulatory Guide 1.33.

6. Paragraph 2.4, Results, will be implemented as set forth in section 17.2 and with VEGP position to Regulatory Guide 1.33.

7. Paragraph 2.5, Measuring and Test Equipment. VEGP conforms with this paragraph as discussed in section 17.2.

8. Paragraph 3, Preconstruction Verification. VEGP conforms with this paragraph as discussed in subsections 17.2.10 and 17.2.11.

9. Paragraph 4, Installation. VEGP conforms with this paragraph as discussed in section 17.2. 9

10. Paragraph 5.1, Inspections, including subparagraphs 5.1.1, 5.1.2, 5.1.3, will be implemented as set forth in section 17.2.

11. Paragraph 5.2, Tests, including subparagraphs 5.2.1 through 5.2.3. VEGP conforms with this paragraph as discussed in section 17.2.

12 ~~11~~. Paragraph 6, Post-Construction Verification. VEGP conforms with this paragraph as discussed in subsections 17.2.10 and 17.2.11. 9

13 ~~12~~. Paragraph 6.2.1, Equipment Tests. The last paragraph of this section deals with tagging and labeling. VEGP will follow the requirements for tagging and labeling as set forth in section 17.2 and the VEGP position to Regulatory Guide 1.33.

14 ~~13~~. Paragraph 7, Data Analysis and Evaluation. VEGP conforms with this paragraph as discussed in subsections 17.2.10 and 17.2.11. VEGP shall have procedures for the performance of analyzing test data, but these procedures are not referred to as data processing procedures. 9

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~~14. Paragraph 2.2, Prerequisites. VEGP will conform to the conditions as stated in this paragraph in accordance with the VEGP position taken to the applicable codes and standards~~s. 15

1.9.31 REGULATORY GUIDE 1.31, REVISION 3, APRIL 1978, CONTROL OF FERRITE CONTENT IN STAINLESS STEEL WELD METAL

1.9.31.1 Regulatory Guide 1.31 Position

This guide describes a method acceptable to the NRC for implementing requirements for the control of welding in fabricating and joining safety-related austenitic stainless steel components and systems in light-water-cooled nuclear power plants.

1.9.31.2 VEGP Position

Conforms to the basic concept of controlling delta ferrite content except for magnetic measurement of the delta ferrite in procedure qualification samples and in production welds. To meet the intent of the regulatory guide, the control of ferrite content in weld metal is attained by chemical analysis and/or magnetic measurement of the weld metal, as applicable. 10

Welding materials for welding austenitic stainless steel to austenitic stainless may contain 5- to 25-percent delta ferrite. The use of welding materials with a delta ferrite exceeding the recommended Ferrite Number 20 is done in accordance with the regulatory guide since austenitic stainless steel items are not postweld heat treated above 350°F (except during welding) unless they are given a full solution anneal at the material manufacturer's recommended temperature and holding period, followed by water quenching or spraying from the solution heat treating temperature rapidly enough to prevent carbide precipitation.

Control of ferrite content in stainless steel weld metal for NSSS equipment is discussed in paragraph 5.2.3.4.6.

1.9.32 REGULATORY GUIDE 1.32, REVISION 2, FEBRUARY 1977, CRITERIA FOR SAFETY-RELATED ELECTRIC POWER SYSTEMS FOR NUCLEAR POWER PLANTS

1.9.32.1 Regulatory Guide 1.32 Position

For the portion of safety-related electric power systems within its scope, the criteria, requirements, and recommendations in IEEE Std.-308-1974 are generally acceptable to the NRC staff and provide an adequate basis for complying with General Design Criteria 17 and 18 of Appendix A to 10 CFR 50 with respect to the design, operation, and testing of electric power systems, subject to the qualifications identified in the guide.

1.9.32.2 VEGP Position

Conform. Refer to comparisons for Regulatory Guides 1.6, 1.9, 1.75, 1.81, and 1.93. Further discussion is provided in sections 8.1 and 8.3.

1.9.33 REGULATORY GUIDE 1.33, REVISION 2, FEBRUARY 1978, QUALITY ASSURANCE PROGRAM REQUIREMENTS (OPERATION)

1.9.33.1 Regulatory Guide 1.33 Position

The overall QAP requirements for the operation phase that are included in ANSI N18.7-1976/American Nuclear Society (ANS) 3.2 are acceptable to the NRC and provide an adequate basis for complying with the QAP requirements of Appendix B to 10 CFR 50, subject to the qualifications in the guide.

1.9.33.2 VEGP Position

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The VEGP operations QAP conforms with this guide, which endorses ANSI N18.7-1976, with the following clarifications:

1. It is GPC's understanding that ANSI N18.7-1976 applied to the operational phase of plant life. Section 17.2 of the FSAR defines when the operations QAP becomes effective for plant systems, structures, or components.

2. ANSI N18.7-1976 identifies other ANSI standards. GPC addresses its position on those standards/regulatory guides in the appropriate parts of this section.

3. Paragraph 1, Scope, recommends that this standard apply to activities other than those associated with safety-related equipment, activities, and procedures.

   ANSI N18.7-1976 has not fully taken into account the requirements of regulations other than 10 CFR 50. Conflicts may exist between ANSI N18.7-1976 and those other regulations, such as Occupational Safety and Health Administration, 10 CFR 19, 20, 21, 30, 40, 70, 71, 73, and ASME. Therefore, VEGP shall apply ANSI N18.7-1976 only to those activities determined to be safety related, which are defined as those plant features necessary to assure the integrity of the reactor coolant pressure boundary (RCPB), the capability to shut down the reactor and maintain it in a safely shutdown condition, or the capability to prevent or mitigate the consequences of accidents which would result in offsite exposures comparable to the guideline exposures of 10 CFR 100.

4. Paragraph 2.2 defines the term quality assurance. The last sentence of this definition, "It applies to all activities associated with doing a job correctly as well as verifying and documenting the satisfactory completion of the work", is inconsistent with that of ANSI N45.2.10-1974 and 10 CFR 50 Appendix B. The VEGP definition of quality assurance is consistent with 10 CFR 50 Appendix B.

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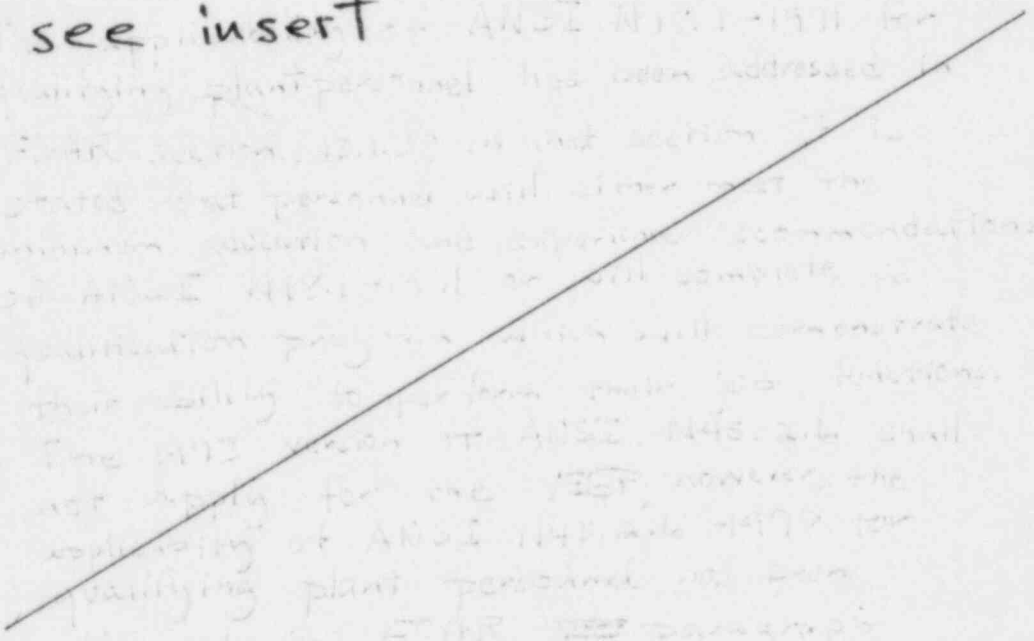
5. Paragraph 3.4.2 indicated the requirements to have personnel qualified in accordance with ANSI N18.1-1971 and ANSI N45.2.6-1973. ~~VEGP conforms with ANSI N18.1 in accordance with the VEGP position to Regulatory Guide 1.8; and VEGP conforms with ANSI N45.2.6 in accordance with the VEGP position to Regulatory Guide 1.58.~~

see insert



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6. Paragraph 5.1 of Program Description. The fourth sentence in this section required a "Summary Document;" section 17.2 provides a description of the operations QAP. The plant procedure index lists plant procedures that will address the applicable requirements.

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Amend. 9 8/84
Amend. 15 3/85
Amend. 16 4/85

INSERT

The applicability of ANSI N18.1-1971 for qualifying plant personnel has been addressed in FSAR section 13.1.3; in that section, it is stated that personnel will either meet the minimum eduction and experience recommendations of ANSI N18.1-1971 or will complete a qualification program which will demonstrate their ability to perform their job functions. The 1973 version of ANSI N45.2.6 shall not apply for the VEGP, however, the applicability of ANSI N45.2.6-1978 for qualifying plant personnel has been addressed in FSAR paragraph 1.9.58.2.

7. Paragraph 5.2.6, Equipment Control. VEGP will conform with the independent verification requirements based on the definition of this phrase as given under the VEGP position to Regulatory Guide 1.74. 15

   Since GPC 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 GPC management at an operating nuclear facility.

8. Paragraph 5.2.7, Maintenance and Modifications, discusses retaining documents as specified in section 5.2.12. VEGP shall retain records as required by Technical Specifications and the VEGP position on Regulatory Guide 1.88 as stated in the FSAR. 15

9. Paragraph 5.2.7, Maintenance and Modification. Since some emergency situations could arise which preclude preplanning of all activities, GPC will conform 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 conditions to a possibly unsafe or unstable level, maintenance or modification of equipment shall be preplanned and performed in accordance with written procedures which conform to applicable codes, standards, specifications, and criteria. 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." 15 15

10. Paragraph 5.2.7.1, Maintenance Programs. VEGP will conform 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, GPC will initiate proceedings to determine the cause, and will make such determination promptly, when practical. 15

11. Paragraph 5.2.7.2, Modifications, discusses ANSI N45.2.11-1974. VEGP shall perform modifications as specified in section 17.2 and in the VEGP position on Regulatory Guide 1.64. 15

12. Paragraph 5.2.9, Plant Security and Visitor Control, requires certain procedures and controls. The VEGP position on security is addressed in its position on Regulatory Guide 1.17. An NRC approved security plan shall be implemented prior to fuel loading. 15

13. Paragraph 5.2.10, 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 to VEGP conformance to ANSI N45.2.3 and N45.2.1 as described in the FSAR. 15 9

14. Paragraph 5.2.11, Corrective Action. VEGP shall follow the requirement as discussed in subsection 17.2.16. 15

15. Paragraph 5.2.17, Inspections, requires inspection of modifications and nonroutine maintenance to be conducted in a manner similar to the construction phase. VEGP will inspect modification and nonroutine maintenance activities in a manner so as to ensure the reliability and integrity of the item. 15

16. Paragraph 5.2.17, second to the last sentence, "Deviations, their cause, and any..." to be consistent with paragraph 5.2.11, the cause of the condition will be determined for only significant conditions adverse to safety. 15

17. Paragraph 5.3.9 and subsections, Emergency Procedures. As directed by the NRC, GPC will follow a format for emergency operating procedures in accordance with item I.C.1 of NUREG-0737. 7

Exceptions to Regulatory Guide 1.33-1978 are as follows:

1. 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 as discussed in section 17.2. 15

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Amend. 7 5/84
Amend. 9 8/84
Amend. 15 3/85

~~2. Paragraph 5.2.15, Review, Approval and Control of Procedures. In the third sentence in paragraph 3, "an unusual incident" is defined to include "an accident, unexpected transient significant operator error, or equipment malfunction which results in a reportable event." Since there is no clear guidance for what an unusual incident is, VEGP has defined this term so that it is clearly understood when to perform the applicable procedure reviews.~~ 15 9

2. Paragraph 5.2.16, Measuring and Test Equipment, of ANSI N18.7-1976, which required equipment be suitably marked to indicate calibration status. Installed process instruments at VEGP are identified by unique instrument numbers. These instrument numbers are traceable to calibration schedules and calibration records. These instruments are not tagged or labeled with the date due to next calibration.

3. Paragraph C.5.g of Regulatory Guide 1.33 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 GPC 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 be retained for the same period of time as the affected preoperational tests. 15

1.9.34 REGULATORY GUIDE 1.34, DECEMBER 1972, CONTROL OF ELECTROSLAG WELD PROPERTIES

1.9.34.1 Regulatory Guide 1.34 Position

This guide describes an acceptable method of implementing requirements with regard to the control of weld properties when fabricating electroslag welds for nuclear components made of ferritic or austenitic materials.

1.9.34.2 VEGP Position

Conform. Refer to paragraph 5.2.3.4.6.

1.9.35 REGULATORY GUIDE 1.35, REVISION 2, JANUARY 1976, INSERVICE INSPECTION OF UNGROUTED TENDONS IN PRESTRESSED CONCRETE CONTAINMENT STRUCTURES

1.9.35.1 Regulatory Guide 1.35 Position

This guide describes an acceptable basis for developing an appropriate inservice inspection and surveillance program for ungrouted tendons in prestressed concrete containment structures.

1.9.35.2 VEGP Position

Conform. Refer to subsection 3.8.1 for discussion on this subject.

1.9.36 REGULATORY GUIDE 1.36, FEBRUARY 1973, NON-METALLIC THERMAL INSULATION FOR AUSTENITIC STAINLESS STEEL

1.9.36.1 Regulatory Guide 1.36 Position

This guide describes an acceptable method for implementing criteria for the selection and use of nonmetallic thermal insulation to minimize contamination that could promote stress-corrosion cracking in stainless steel components.

1.9.36.2 VEGP Position

Conform. Refer to paragraphs 5.2.3.2.3 and 6.1.1.1.3.

1.9.37 REGULATORY GUIDE 1.37, MARCH 1973, QUALITY ASSURANCE REQUIREMENTS FOR CLEANING OF FLUID SYSTEMS AND ASSOCIATED COMPONENTS OF WATER-COOLED NUCLEAR POWER PLANTS

1.9.37.1 Regulatory Guide 1.37 Position

The requirements and recommendations for onsite cleaning of materials and components, cleanness control, and preoperational cleaning and layup of water-cooled nuclear power plant fluid systems that are included in ANSI N45.2.1-1973, Cleaning of Fluid Systems and Associated Components During Construction Phase of Nuclear Power Plants, are generally acceptable and

provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in the guide.

1.9.37.2 VEGP Position

The VEGP QAP during design and construction conforms to ANSI N45.2.1-1973 with the following exceptions and clarifications.

Exceptions are as follows:

1. The VEGP QAP during design and construction conforms to ANSI N45.2.1-1973 except in regard to installation cleaning. Carbon steel piping is stored with the end caps removed and without dessicants. The piping is stored to allow drainage and to prevent entry of rainwater. Prior to installation the piping is inspected and cleaned if necessary.

Clarifications are as follows:

1. This guide applies to onsite cleaning of materials and components and, therefore, not in the direct scope of NSSS supply. However, controls for cleaning processes during manufacture of NSSS equipment satisfy the objective of ANSI N45.2.1-1973, which is to assure that components delivered to the plant site require only water flushing or rinsing to render them ready for service. 9

   Refer to paragraph 5.2.3.4.1 and subsection 17.1.2.

The VEGP operations QAP conforms with ANSI N45.2.1-1973, as it is endorsed by Regulatory Guide 1.37 (3/73), with the following clarifications:

1. Paragraph 5, 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. 15

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In addition to the above clarifications, the operations QAP (section 17.2) conforms with Regulatory Guide 1.37 for modification activities only with the following clarification. (For operation and maintenance activities, cleanliness will be maintained per VEGP position on Regulatory Guide 1.33.)

1. Paragraph C.3 of Regulatory Guide 1.37. The water quality for final flushing of fluid systems and associated components shall meet the requirements of ANSI N45.2.1-1973, but this does not infer that chromates or other additives normally in the system water will be added to the flush water. 9

2. — add attached

1.9.38 REGULATORY GUIDE 1.38, REVISION 2, MAY 1977, QUALITY ASSURANCE REQUIREMENTS FOR PACKAGING, SHIPPING, RECEIVING, STORAGE AND HANDLING OF ITEMS FOR WATER-COOLED NUCLEAR POWER PLANTS

1.9.38.1 Regulatory Guide 1.38 Position

The requirements for the packaging, shipping, receiving, storage, and handling of items for water-cooled nuclear power plants that are included in ANSI N45.2.2-1972, Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants During the Construction Phase, are acceptable to the NRC staff and, when supplemented by the guidelines identified in regulatory position 2, provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in this guide.

1.9.38.2 VEGP Position

The VEGP QAP during design and construction conforms, with the following clarifications:

1. Brightly or specially colored tape will not be used due to the rigorous flushing program scheduled prior to preoperation. Tapes and vapor barriers used in packaging processes for NSSS equipment contrast with the material being packaged when such packing materials are commercially available. 9

2. Caps and plugs are used only when required by the specification. See Regulatory Guide 1.37 comparison. Tape near a weld may be removed to clean, setup, and inspect surface.

Amend. 16 4/85

INSERT 1.9-36

2. Paragraph C.4 of Regulatory Guide 1.37. This paragraph includes requirements that chemical compounds which are to be used with austenitic stainless steels and nickel-base alloys should not contain chlorides, fluorides, lead, zinc, copper, sulfur, or mercury where such elements are leachable or where they could be released by breakdown of the compounds under expected environmental conditions. In lieu of this requirement, for expendable consumable materials which are to be used in contact with austenitic stainless steels and nickel-base alloys, VEGP shall establish prescribed maximum levels of water leachable contaminants (chlorides, total halogens, sulfur, etc.) These levels shall be established so as to prevent any contribution to intergranular cracking or stress-corrosion cracking that could occur. Criteria for approving the use of a specific type or product of consumable material at VEGP, include the requirements that its water leachable contaminant content is below the prescribed maximum level and that it does not contain these contaminants as basic and essential chemical constituents. Approved for use consumable materials are delineated in a controlled specification. Refer to the clarification made to paragraph 3.6 of ANSI N45.2.2 - 1972, FSAR paragraph 1.9.38.2, for a further discussion of the use of consumable materials at VEGP.

3. The contact preservative used on the main condenser is not water flushable; it will be chemically cleaned.

4. Quality assurance for packaging, shipping, receiving, storage, and handling of NSSS equipment is described in WCAP-8370, Rev. 9A-Amendment 1, Table 17-1. Refer to chapter 17 for further discussion.

The VEGP operations QAP conforms with this guide, which endorses ANSI N45.2.2-1972, with the following clarifications and exceptions.

Clarifications are as follows:

1. Paragraph 2.5, Measuring and Test Equipment (2.5.2). VEGP meets the requirements of paragraph 2.5 of ANSI N45.2.2 by providing for calibration and control of appropriate warehouse monitoring instruments under the VEGP planned maintenance program. The VEGP planned maintenance program provides for calibration and control of all appropriate installed process plant equipment in accordance with the VEGP position to RG 1.33, paragraph 5.2.16.

2. Paragraph 3.3, Cleaning (third sentence). VEGP interprets "documented cleaning methods" to allow generic cleaning procedures to be written which are implemented, as necessary, by trained personnel. Each particular cleaning operation may not have an individual cleaning procedure, but the generic procedures will specify which methods of cleaning or which types of solvent may be used in a particular application.

3. Paragraph 3.4, Methods of Preservation (first sentence). VEGP will conform with these requirements subject to the exception taken to the requirements paragraph 3.2.1 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.

4. add attached

5. 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. VEGP will conform with the requirements of these sections on a case by case basis.

6. Paragraph 5.2, Receiving Inspection Requirements. Preliminary visual inspection will be performed prior to unloading where practical; however, the receiving inspection of record will be performed in an area and in a manner which does not adversely affect the quality of the item being inspected.

7. Paragraph 5.3.1, Acceptable. Item acceptance status will be indicated by application of tags, stickers, ribbons, or signs. Storage areas are not designated as accept areas except for bulk items (e.g., rebar, structural steel, aggregate, etc.)

8. Paragraph 5.7, Documentation. Receiving inspection records will provide traceability to the item and its status. Superfluous identification and tagging will not be recorded except when they are the subject of a nonconformance or specifically required by site inspection procedures.

9. Paragraph 6.2.1, Access to Storage Areas. Items which fall within the Level D classification of the standard will be stored in areas which may be posted to limit access, but other positive controls such as fencing or guards will not normally be provided.

10. Paragraph 6.3.3, Storage of Hazardous Material. ~~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 these systems.

VEGP shall conform to this sentence by defining "important nuclear plant items" to be "installed systems required for safe shutdown or installed systems which assure the capability to prevent or mitigate the consequences of accidents which could result in potential off-site exposures comparable to those referred to in 10CFR 100.11. VEGP shall store....

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4. Paragraph 3.6, Barrier and Wrap Materials and Desiccants. This section contains requirements that; "Barrier and Wrap Materials shall be non-halogenated when used in direct contact with austenitic stainless steels, shall be noncorrosive, shall not readily support combustion, and shall not be otherwise harmful to the item packaged." In lieu of the requirement for this material being nonhalogenated, VEGP shall establish a prescribed maximum level for water leachable halogen content for barrier and wrap materials to be used in contact with austenitic stainless steels. In general, VEGP shall establish prescribed maximum levels for any water leachable contaminants contained in any consumable materials which are to be used in contact with austenitic stainless steels and nickel-base alloys. The levels for water leachable contaminants shall be established so as to prevent any contribution to intergranular cracking or stress-corrosion cracking that could occur. At VEGP, only the specific products or types of consumable materials which have undergone an engineering evaluation and have been approved as qualified will be used in contact with austenitic stainless steels. Criteria for approving the use of a specific type or product of consumable material include the requirements that its water leachable contaminant content is below the prescribed maximum level and that it does not contain these contaminants as basic and essential chemical constituents. Approved for use consumable materials are delineated in a controlled specification; while consumable materials specified or supplied by a component vendor that are not covered by this specification shall be used only for the application and in the manner specified by the vendor's drawings, technical manuals, or other official documentation. Refer to the clarification of Regulatory Position C.4 of Regulatory Guide 1.37, March '73, contained in FSAR paragraph 1.9.37.2 for further discussion of the use of consumable materials at VEGP.

11 10. Paragraph 6.4.2, Care of Items. The following clarifications are provided for indicated subparts: 15

(5) "Space heaters in electrical equipment shall be energized unless a documented engineering evaluation determines that such space heaters are not required." 9

(6) "Rotating electrical equipment shall be given insulation resistance tests on a scheduled basis unless a documented engineering evaluation or manufacturer's recommendations determine that such tests are not required."

(7) Prior to being placed in storage, rotating equipment weighing over approximately 50 lb shall be evaluated by engineering personnel 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, and documented. Parts will receive a coating of lubrication where applicable, 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. 15

to protect them from excessive friction and corrosion.

the shaft shall be rotated X + 1/4 turns.

12 11. Paragraph 7.3, Hoisting Equipment. Rerating of hoisting equipment will be considered only when absolutely necessary. Prior to performing any lift above the load rating, the equipment manufacturer should be contacted for his approval and direction. The manufacturer should be requested to supply a document granting approval for a limited number of lifts at the new rating and any restrictions involved, such as modifications to be made to the equipment, the number of lifts to be made at the new rating, and the test lift load. At all times, the codes governing rerating of hoisting equipment must be observed. 15

If rerating of hoisting equipment is necessary and VEGP cannot or does not contact the equipment manufacturer as described above, the test weight used in temporarily rerating hoisting equipment for special lifts will be at least equal to 110 percent of the lift weight. A dynamic load test over the full range of the lift using a weight at least equal to 110 percent of the lift weight will be performed. 15

Exceptions are as follows:

1. Paragraph 3.2.1, Level A Items. As an alternate to the requirements for packaging and containerizing items in storage to control contaminants (items 4 and 5), VEGP may choose a storage atmosphere which is free of harmful contaminants in concentrations that could produce damage to stored items. Similarly (for item 7), VEGP may delete the need for caps and plugs with an appropriate storage atmosphere. VEGP will protect weld-end preparations ~~stored~~; however, VEGP may delete the use of caps and plugs for items ~~stored in an appropriate storage atmosphere. Prior to installation weld-end preparations will be inspected for any damage which may have occurred during storage~~. These clarifications apply to items 4, 5, or 7 and paragraph 3.4, Methods of Preservation.

1.9.39 REGULATORY GUIDE 1.39, REVISION 2, SEPTEMBER 1977, HOUSEKEEPING REQUIREMENTS FOR WATER-COOLED NUCLEAR POWER PLANTS

1.9.39.1 Regulatory Guide 1.39 Position

This guide describes an acceptable method of complying with regulations with regard to housekeeping requirements for the control of work activities, conditions, and environments at water-cooled nuclear power plant sites.

1.9.39.2 VEGP Position

Conform.

~~Conform.~~

~~Refer to chapter 17 for further discussion.~~

1.9.40 REGULATORY GUIDE 1.40, MARCH 1973, QUALIFICATION TESTS OF CONTINUOUS-DUTY MOTORS INSTALLED INSIDE THE CONTAINMENT OF WATER-COOLED NUCLEAR POWER PLANTS

1.9.40.1 Regulatory Guide 1.40 Position

The procedures for conducting qualification tests of continuous-duty motors installed inside the containment of water-cooled nuclear power plants which are specified by IEEE Std. 334-1971, IEEE Trial-Use Guide for Type Tests of

Insert 1.9-40

~~Conform~~ with the understanding that in accordance with ~~Regulatory Position C.2 of Reg. Guide 1.39, Rev. 2~~ Regulatory Revision , VEGP is not committed to ~~the~~ guidelines and requirements for fire protection and prevention ~~included~~ of ~~in~~ Subdivision ~~3.2.3~~ of ANSI ~~N45.2.3-1973~~; ~~including the requirements for establishing fire watches during and immediately following welding operations.~~

Delete

Continuous-Duty Class I Motors Installed Inside the Containment of Nuclear Power Generating Stations, are generally acceptable and provide an adequate basis for complying with the

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qualification testing requirements of Criterion III of Appendix B to 10 CFR 50, to verify adequacy of design for service under the most adverse design conditions, subject to the qualifications identified in the guide.

1.9.40.2 VEGP Position

To the extent practicable, the procedures for conducting qualification tests specified by IEEE Std. 334-1974 are used to supplement the requirements of IEEE 323-1974 for Class 1E motors inside the containment. Refer to Regulatory Guide comparison 1.100 and section 3.11.

1.9.41 REGULATORY GUIDE 1.41, MARCH 1973, PREOPERATIONAL TESTING OF REDUNDANT ONSITE ELECTRIC POWER SYSTEMS TO VERIFY PROPER LOAD GROUP ASSIGNMENTS

1.9.41.1 Regulatory Guide 1.41 Position

As part of the initial preoperational testing program, and also after major modifications or repairs to a facility, those onsite electric power systems designed in accordance with Regulatory Guides 1.6 and 1.32 (Safety Guides 6 and 32) should be tested as follows to verify the existence of independence among redundant onsite power sources and their load groups.

1. C.1 The plant electric power distribution system, not necessarily including the switchyard and the startup and auxiliary transformers, should be isolated from the offsite transmission network. Preferably, this isolation should be effected by direct actuation of the undervoltage-sensing relays within the onsite system.

2. C.2 Under the conditions of C.1 above, the onsite electric power system should be functionally tested successively in the various possible combinations of power sources and load groups with all dc and onsite ac power sources for one load group at a time completely disconnected. Each test should include injection of simulated accident signals, startup of the onsite power source(s) and load group(s) under test, sequencing of loads, and the functional performance of the loads. Each test should be of sufficient duration to achieve stable operating conditions and thus permit the onset and detection of adverse conditions which could result from improper

assignment of loads, e.g., the lack of forced cooling of a vital device.

3. C.3 During each test, the dc and onsite ac buses and related loads not under test should be monitored to verify absence of voltage at these buses and loads.

1.9.41.2 VEGP Position

VEGP is committed to follow this regulatory guide. Refer to section 14.2 for further discussion.

1.9.42 REGULATORY GUIDE 1.42

Withdrawn.

1.9.43 REGULATORY GUIDE 1.43, MAY 1973, CONTROL OF STAINLESS STEEL WELD CLADDING OF LOW-ALLOY STEEL COMPONENTS

1.9.43.1 Regulatory Guide 1.43 Position

This guide describes acceptable methods for implementing requirements with regard to the selection and control of the welding process used for cladding ferritic steel components with austenitic stainless steel to restrict practices that could result in underclad cracking.

1.9.43.2 VEGP Position

Qualification testing is performed on any high-heat input welding process (such as the submerged-arc wide-strip welding process or the submerged arc 6-wire process) used to clad coarse or fine grained SA-508 Class 2 material. This test follows the recommendations of this guide. Production welding is monitored by the fabricator to ensure that essential variables remain within the limits established by the qualification. If the essential variables exceed the qualification limits, an evaluation is performed to determine if the cladding is acceptable for use. Where Westinghouse permits the use of submerged-arc strip process on SA-508 Class 2 material, a two-layer technique is used to minimize intergranular cracking. Refer to paragraph 5.2.3.3.2.

Clarifications are as follows:

1. Paragraph 1.2 of ANSI N45.2.6-1978, Applicability. VEGP personnel who approve preoperational, startup, and test results and who direct or supervise the conduct of individual preoperational, startup, and operational tests shall be qualified in accordance with the VEGP position to Regulatory Guide 1.8 in lieu of being qualified to ANSI N45.2.6 as allowed by Regulatory Position C.1 of Regulatory Guide 1.58 Rev. 1. VEGP personnel who perform NDEs shall meet the requirements of ANST "Recommended Practice No. SNT-TC-1A" in accordance with regulatory position C.2 of Regulatory Guide 1.58 Rev. 1. For nuclear operating personnel, VEGP shall apply the requirements of this guide to quality control inspection personnal; however, for personnel performing calibration, installation checkouts, or routine surveillance, the requirements of this guide shall not apply since, as stated in Section 1.2 of ANSI N45.2.6, the requirements of this guide are optional for these personnel.

Replace with attached

2. Paragraph 2.5 of ANSI N45.2.6-1978, Physical. VEGP 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 VEGP, none are considered necessary. GPC employees receive an initial physical examination to assure satisfactory physical condition; GPC management shall determine which personnel are required to receive an annual examination.

3. Paragraph 3 of ANSI N45.2.6-1978, Qualification. Same clarification as 1.

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1. ~~Qualification 1.~~ Paragraph 1.2 of ANSI N45.2.6 - 1978, Applicability. VEGP personnel who approve preoperational, startup, and test results and who direct or supervise the conduct of individual preoperational, startup, and operational tasks shall be qualified in accordance with the VEGP position to Reg. Guide 1.8 in lieu of being qualified to ANSI N45.2.6 as allowed by regulatory position C.1 of Reg. Guide 1.58, Rev. 1. For Nuclear Operations, VEGP elects to apply the requirements of this guide to quality control inspection personnel. In lieu of regulatory position C.2 of Reg. Guide 1.58, Rev. 1, which states that the 1975 version of SNT-TC-1A is acceptable, VEGP shall use SNT-TC-1A-1980 for qualifying personnel performing nondestructive inspection, examination, or testing in accordance with ANST Recommended Practice No. SNT-TC-1A. The 1980 version shall be used in order to be consistent with the requirements of the ASME Boiler and Pressure Vessel Code.

For personnel performing calibration, installation checkouts, or routine surveillances the requirements of this guide will not be applied, as allowed by Section 1.2 of ANSI N45.2.6 - 1978; personnel performing these functions shall either meet the minimum education and experience recommendations of ANSI N18.1 - 1971 or will complete a qualification program which will demonstrate their ability to perform their job functions. FSAR Table 13.1.3-1 designates the minimum education and experience recommendations for plant personnel, while FSAR Section 13.2.2 describes the training programs which demonstrate the ability of plant personnel to perform their job functions.

1.9.59 REGULATORY GUIDE 1.59, REVISION 2, AUGUST 1977, DESIGN BASIS FLOODS FOR NUCLEAR POWER PLANTS

1.9.59.1 Regulatory Guide 1.59 Position

This guide describes the conditions resulting from the worst site-related flood probable at a nuclear power plant that safety-related structures, systems, and components must be designed to withstand and retain capability for cold shutdown and maintenance thereof.

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1.9.59.2 VEGP Position

Conform. See subsections 2.4.3, 2.4.4, and 3.4.1 for a detailed discussion on flood protection.

1.9.60 REGULATORY GUIDE 1.60, REVISION 1, DECEMBER 1973, DESIGN RESPONSE SPECTRA FOR SEISMIC DESIGN OF NUCLEAR POWER PLANTS

1.9.60.1 Regulatory Guide-1.60 Position

This guide describes an acceptable procedure for defining response spectra for seismic design of nuclear power plants.

The Newmark-Blume-Kapur design spectra curves for free field ground accelerations are endorsed.

1.9.60.2 VEGP Position

Conform. Refer to subsection 3.7.1 for discussion on this subject.

1.9.61 REGULATORY GUIDE 1.61, OCTOBER 1973, DAMPING VALUES FOR SEISMIC DESIGN OF NUCLEAR POWER PLANTS

1.9.61.1 Regulatory Guide 1.61 Position

This guide delineates acceptable damping values to be used in the elastic model dynamic seismic analysis of Seismic Category 1 structures, systems, and components.

1.9.61.2 VEGP Position

Conformance is discussed in subsections 3.7.B.1 and 3.7.N.1.

1.9.62 REGULATORY GUIDE 1.62, OCTOBER 1973, MANUAL INITIATION OF PROTECTIVE ACTIONS

1.9.62.1 Regulatory Guide 1.62 Position

This guide describes an acceptable method for complying with the requirements of Section 4.17 of IEEE Std. 279-1971 for including the means for manual initiation of protective actions.

required independent design verification, nor should the independent design verification be construed to dilute or replace the clear responsibility of supervisors for the quality of work performed under their supervision."

3. C.3 In the first sentence of Section 8 of N45.2.11-1974, the word "effecting" should be inserted before "design changes" for clarification. Further, the term "approved design document" should be construed to mean "design output" (Section 1.4) approved by the organization performing the design.

4. C.4 Sections 4.3, 4.4, and 4.5 of N45.2.11-1974 concern the establishment of procedures for the preparation and control of drawings, specifications, and other design documents. These sections list typical subjects to be covered by such procedures. One of the subjects to be covered is "nonconformances." The NRC staff considers the "nonconformances" listed in these sections to be nonconformances with procedural requirements. Thus in Section 4.3, item (11), "Nonconformance with drawing requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of drawings;" in Section 4.4, item (7), "Nonconformance with specification requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of specifications;" and in Section 4.5, item (7), "Nonconformance with design document requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of design documents."

1.9.64.2 VEGP Position

Alternatives and clarification to the text of ANSI N45.2.11-1974 are contained in WCAP-8370, Rev. 9A, Table 17-1.

C.1 Conform for the design and construction QAP.

VEGP operations QAP conforms with this guide, which endorses ANSI Standard N45.2.11-1974, as described below. 15

Clarifications are as follows: 9

1. For operations phase modification activities, VEGP shall control these activities under the requirements

described in section 17.2. VEGP shall conform with the regulatory position in that quality assurance programmatic/administrative requirements shall apply to these modification activities even though such requirements may not have been in effect originally. Technical requirements associated with modifications shall be made at least to technical requirements of the FSAR.

2. ANSI N45.2.11-1974, Section 11, Audits. The GPC audit program will be implemented in accordance with the requirement set forth in section 17.2, the Technical Specifications, and the VEGP position on Regulatory Guide 1.144. 9

Exceptions are as follows:

1. Paragraph C.2(1). For the exceptional circumstances in which the designer's immediate supervisor is the only technically qualified individual available, this review can be conducted by the supervisor, provided that:

   a. The other provisions of the Regulatory Guide are satisfied.

   b. The justification is individually documented and approved in advance by the supervisor's management.

   c. Quality assurance audits cover frequency and effectiveness of the use of supervisors as design verifiers to guard against abuse.

The VEGP QAP is described in chapter 17.

1.9.65 REGULATORY GUIDE 1.65, OCTOBER 1973, MATERIALS AND INSPECTIONS FOR REACTOR VESSEL CLOSURE STUDS

1.9.65.1 Regulatory Guide 1.65 Position

This guide defines acceptable materials and testing procedures for implementing criteria with regard to reactor vessel closure stud bolting for light-water-cooled reactors.

1.9.65.2 VEGP Position

VEGP conforms with this guide except for two points. The use of modified SA-540 Grade B24 material as specified in ASME Boiler and Pressure Vessel Code Case 1605 is not specified in the guide but is used by Westinghouse. The use of this Code Case has been approved by the NRC via Regulatory Guide 1.85.

The maximum limit of 170 ksi ultimate tensile strength is not explicitly specified by Westinghouse as required by the guide. Westinghouse does specify fracture toughness of 45 ft/lb and 25 mils lateral expansion as required by the ASME Code and 10 CFR 50, Appendix G. These requirements also result in strength levels below the maximum limit, as demonstrated by the actual stud material properties for VEGP which are listed in tables 5.3.1-4 and 5.3.1-5.

1.9.66 REGULATORY GUIDE 1.66

Withdrawn.

1.9.67 REGULATORY GUIDE 1.67, OCTOBER 1973, INSTALLATION OF OVERPRESSURE PROTECTION DEVICES

1.9.67.1 Regulatory Guide 1.67 Position

This guide describes an acceptable method for the design of piping for safety valve and relief valve stations which have open discharge systems with limited discharge pipes, and which have inlet piping that neither contains a water seal nor is subject to slug flow of water upon discharge of the valves.

1.9.67.2 VEGP Position

Conform. Refer to paragraph 3.9.B.3.

1.9.68 REGULATORY GUIDE 1.68, REVISION 2, AUGUST 1978, INITIAL TEST PROGRAMS FOR WATER-COOLED NUCLEAR POWER PLANTS

1.9.68.1 Regulatory Guide 1.68 Position

This guide describes the general scope and depth of initial test programs acceptable to the NRC for light-water-cooled nuclear power plants. The guide provides a representative

listing of the plant structures, systems, components, and the design features and performance capability tests that should be demonstrated during the initial test program. The guide also provides information on inspections that will be performed by the NRC and provides guidance on the preparation of procedures for the conduct of initial test programs.

1.9.68.2 VEGP Position

Conform as follows, except for Appendix A, Section 5, Subsections V, KK, CC, and MM:

Tests V and MM will not be performed as the results obtained will be similar to the results obtained during a turbine trip from 100 percent power which will be performed. The closure times for the MSIVs will be verified during hot functional and preoperational testing.

The loss of or bypass of feedwater heaters test (test KK) will not be performed as results will be similar, but less severe than those obtained during the load swing test, section 14.2.8.2.27. 15

The gaseous and liquid radwaste systems (test CC) will be tested as decribed in the gaseous waste processing system preoperational test abstract (paragraph 14.2.8.1.48) and the liquid waste processing system preoperational test abstract (paragraph 14.2.8.1.49). Performance of these tests during the power ascension test phase would produce the same results as testing during the preoperational test phase.

1.9.68.3 Regulatory Guide 1.68.2, Revision 1, July 1978, Initial Startup Test Program to Demonstrate Remote Shutdown Capability for Water-Cooled Nuclear Power Plants

1.9.68.3.1 Regulatory Guide 1.68.2 Position

This guide describes an initial startup test program acceptable to the NRC for demonstrating hot shutdown capability and the potential for cold shutdown from outside the control room.

1.9.68.3.2 VEGP Position

Conform; the initial startup test program is described in chapter 14.

1.9.68.4 Regulatory Guide 1.68.3, April 1982, Preoperational Testing of Instrument and Control Air Systems

1.9.68.4.1 Regulatory Guide 1.68.3 Position

This guide describes a method acceptable to the NRC for verifying that instrument and control air systems and the loads they supply will operate properly at normal system pressures and to assure the operability of functions important to safety in the event that system pressure is lost, reduced below normal operating level, or increased above the design pressure of the air system components to the upstream safety valve accumulation pressure.

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1.9.68.4.2 VEGP Position

The instrument air system has no safety design basis as discussed in subsection 9.3.1. VEGP conforms with this guide with the understanding that the provisions of position C.8 are satisfied as follows:

The ability of the instrument air system to perform its design function will be demonstrated during the instrument air preoperational test described in chapter 14. Monitoring of the response of each safety-related pneumatic valve upon loss of air occurs during construction acceptance tests for each valve and is a prerequisite test for the preoperational test of the system. In performing this testing, the air pressure that will be supplied will be equivalent to the air pressure supplied by the instrument air system during normal plant operation, and it will be demonstrated that each valve responds properly (assumes its fail-safe position) for both a simulated sudden loss of air and for a gradual loss of air pressure. Since it is verified, on an individual basis, that each safety-related pneumatically operated valve will assume its fail-safe position, performance of a large-scale loss-of-air test encompassing several branches of the instrument air system is not necessary to verify correct valve response. 15

1.9.69 REGULATORY GUIDE 1.69, DECEMBER 1973, CONCRETE RADIATION SHIELDS FOR NUCLEAR POWER PLANTS

1.9.69.1 Regulatory Guide 1.69 Position

This guide endorses ANSI N101.6-1972 which addresses the design and construction of concrete radiation shields.

1.9.69.2 VEGP Position

Not applicable since VEGP uses conventional concrete for shielding, not concrete shields addressed in ANSI N101.6-1972.

1.9.70 REGULATORY GUIDE 1.70, REVISION 2, NOVEMBER 1978, STANDARD FORMAT AND CONTENT OF SAFETY ANALYSIS REPORTS FOR NUCLEAR POWER PLANTS

1.9.70.1 Regulatory Guide 1.70 Position

The purpose of the FSAR is to inform the NRC of the nature of the plant, the plans for its use, and the safety evaluations

that have been performed to evaluate whether the plant can be operated without undue risk to the health and safety of the public. The FSAR is the principal document for the applicant to provide this information. The purpose of this guide is to indicate the information to be provided in the FSAR and to establish a uniform format acceptable to the NRC for presenting this information.

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1.9.70.2 VEGP Position

Conform as discussed in subsection 1.1.6.

1.9.71 REGULATORY GUIDE 1.71, DECEMBER 1973, WELDER QUALIFICATION FOR AREAS OF LIMITED ACCESSIBILITY

1.9.71.1 Regulatory Guide 1.71 Position

This guide describes a method acceptable to the NRC for implementing requirements with regard to the control of welding for nuclear components.

1.9.71.2 VEGP Position

This guide provides guidelines above and beyond requirements of ASME Section IX. All welder qualification at VEGP is in conformance with ASME Section IX. Few welds of limited accessibility are expected to be encountered. Reasonable engineering judgment will be used to determine if performance qualification is necessary under simulated access conditions for any specific case.

Westinghouse practice does not require qualification or requalification of welders for areas of limited accessibility as described by the guide and has provided welds of high quality. Limited accessibility qualification or requalification, which are additional to ASME Section III and IX requirements, is an unduly restrictive requirement for shop fabrication, where the welders' physical position relative to the welds is controlled and does not present any significant problems. In addition, shop welds of limited accessibility are repetitive due to multiple production of similar components, and such welding is closely supervised.

Refer to section 5.2.3 for further discussion.

1.9.72 REGULATORY GUIDE 1.72, REVISION 2, NOVEMBER 1978, SPRAY POND PIPING MADE FROM FIBERGLASS-REINFORCED THERMO-SETTING RESIN

1.9.72.1 Regulatory Guide 1.72 Position

This guide describes a method acceptable to the NRC for designing, fabricating, and testing fiberglass-reinforced thermo-setting resin piping for spray pond applications.

Subdivision 5.6 of ANSI N45.2.9-1974. The National Fire Protection Association (NFPA) No. 232-1975, "Standard for the Protection of Records," also contains provisions for records protection equipment and records handling techniques that provide protection from the hazards of fire. This standard, within its scope of coverage, is considered by the NRC staff to provide an acceptable alternative to the fire protection provisions listed in Subdivision 5.6 of N45.2.9-1974. When NFPA No. 232-1975 is used, quality assurance records should be classified as NFPA Class 1 records (NFPA No. 23-1975, Chapter 5, Section 5222).

1.9.88.2 VEGP Position

The VEGP QAP conforms with the requirements of ANSI N45.2.9-1974 ~~as clarified by WCAP 8370, Rev. 9A, Table 17-1 for NSSS records.~~ for the operations phase as endorsed by Regulatory Guide 1.88, Rev. 2. 15

The VEGP QAP is described in chapter 17.

1.9.89 REGULATORY GUIDE 1.89, NOVEMBER 1974, QUALIFICATION OF CLASS 1E EQUIPMENT FOR NUCLEAR POWER PLANTS

1.9.89.1 Regulatory Guide 1.89 Position

The procedures described in IEEE Std. 323-1974, IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations, dated February 28, 1974, for qualifying Class 1E equipment for service in light-water-cooled and gas-cooled nuclear power plants are generally acceptable and provide an adequate basis for complying with design verification requirements of Criterion III of Appendix B to 10 CFR 50 to verify adequacy of design under the most adverse design conditions subject to the following:

1. C.1 Reference is made in IEEE Std. 323-1974, Section 2, 6.3.2(5), and 6.3.5, to IEEE Std. 344-1971, Guide for Seismic Qualification of Class 1 Electric Equipment for Nuclear Power Generating Stations. The specific applicability or acceptability of IEEE Std. 344 will be covered separately in other regulatory guides, where appropriate.

2. C.2 The radiological source term for qualification tests in a nuclear radiation environment should be based on the same source term as that used in Regulatory Guide 1.7 (Safety Guide 7, March 10, 1971) for boiling water reactors (BWRs) and PWRs. An equivalent source term (i.e., 100 percent of the noble gases, 50 percent of the halogens, and 1 percent of the remaining solids developed from maximum full-power operation of the core) should be used for high temperature gas-cooled reactors (HTGRs). The containment size should be taken into account in each case. For exposed organic materials, calculations should take into account both beta and gamma radiation.

1.9.89.2 VEGP Position

Conform. See section 3.11.B for information on environmental conditions and design bases for mechanical, instrumentation, and electrical safety-related equipment. For NSSS equipment, Westinghouse conforms to IEEE Std. 323-1974 by implementation of the final NRC approved version of WCAP-8587.

1. C.1 See Regulatory Guide 1.100 comparison.

2. C.2 Conform.

1.9.90 REGULATORY GUIDE 1.90, REVISION 1, AUGUST 1977, INSERVICE INSPECTION OF PRESTRESSED CONCRETE CONTAINMENT STRUCTURES WITH GROUTED TENDONS

1.9.90.1 Regulatory Guide 1.90 Position

This guide describes bases acceptable to the NRC for developing an appropriate surveillance program for prestressed concrete containment structures with grouted tendons.

1.9.90.2 VEGP Position

This guide is not applicable since VEGP does not use grouted tendons.

1.9.91 REGULATORY GUIDE 1.91, REVISION 1, FEBRUARY 1978, EVALUATIONS OF EXPLOSIONS POSTULATED TO OCCUR ON TRANSPORTATION ROUTES NEAR NUCLEAR POWER PLANTS

1.9.91.1 Regulatory Guide 1.91 Position

This guide describes methods acceptable to the NRC for determining whether the risk of damage due to an explosion on a nearby transportation route is sufficiently high to warrant a detailed investigation.

1.9.91.2 VEGP Position

Conform. Refer to subsection 2.2.3 for discussion on this subject.

1.9.92 REGULATORY GUIDE 1.92, REVISION 1, FEBRUARY 1976, COMBINING MODAL RESPONSES AND SPATIAL COMPONENTS IN SEISMIC REPONSE ANALYSIS

1.9.92.1 Regulatory Guide 1.92 Position

This guide describes the procedures to be used for combining modal responses of individual modes and the combination of effects due to the three independent spatial components of an earthquake in seismic analyses of nuclear power plant structures, systems, and components.

1.9.92.2 VEGP Position

Conform with the exception that Westinghouse uses an alternative method of combining modal responses to satisfy Regulatory Guide 1.92, Revision 1, as described in paragraph 3.7.N.2.7.

Refer to sections 3.7.B and 3.7.N for discussion on this subject.

1.9.93 REGULATORY GUIDE 1.93, DECEMBER 1974, AVAILABILITY OF ELECTRIC POWER SUPPLIES

1.9.93.1 Regulatory Guide 1.93 Position

This guide describes operating procedures and restrictions acceptable to the NRC which should be implemented if the available electric power sources are less than the limiting conditions for operation (LCO).

1.9.93.2 VEGP Position

VEGP will conform with this guide by implementing the appropriate NRC approved standard Technical Specifications.

Refer to the Technical Specifications for further discussion.

1.9.94 REGULATORY GUIDE 1.94, REVISION 1, APRIL 1976, QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF STRUCTURAL CONCRETE AND STRUCTURAL STEEL DURING THE CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS

1.9.94.1 Regulatory Guide 1.94 Position

This guide describes a method acceptable to the NRC for complying with the quality assurance requirements for installation, inspection, and testing of structural concrete and structural steel during the construction phase of nuclear power plants. This guide endorses ANSI N45.2.5-1974 as generally acceptable to the NRC as a basis for complying with Appendix B to 10 CFR 50.

1.9.94.2 VEGP Position

The extent of conformance with ANSI N45.2.5-1974 for both the operational and construction phases is discussed in paragraph 3.8.3.6.2.C. 15

Refer to Regulatory Guide 1.55 comparison for a discussion of the standards being used in the placement of concrete in Category 1 structures.

1.9.95 REGULATORY GUIDE 1.95, REVISION 1, JANUARY 1977, PROTECTION OF NUCLEAR POWER PLANT CONTROL ROOM OPERATORS AGAINST AN ACCIDENTAL CHLORINE RELEASE 3

1.9.95.1 Regulatory Guide 1.95 Position

This guide describes design features and procedures that are acceptable to the NRC for the protection of nuclear plant control room operators against an accidental chlorine release.

1.9.114.2 VEGP Position

Conform. Refer to chapter 18 and section 13.5.

1.9.115 REGULATORY GUIDE 1.115, REVISION 1, JULY 1977, PROTECTION AGAINST LOW TRAJECTORY TURBINE MISSILES

1.9.115.1 Regulatory Guide 1.115 Position

This guide describes methods acceptable to the NRC for protecting safety-related structures, systems, and components against low-trajectory missiles resulting from turbine failure.

1.9.115.2 VEGP Position

Conformance is discussed in paragraph 3.5.1.3.

1.9.116 REGULATORY GUIDE 1.116, REVISION O-R, JUNE 1976, QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF MECHANICAL EQUIPMENT AND SYSTEMS

1.9.116.1 Regulatory Guide 1.116 Position

This guide endorses ANSI N45.2.8-1975 which describes a method acceptable to the NRC for complying with regulations with regard to quality assurance requirements for installation, inspection, and testing of mechanical equipment and systems for water-cooled nuclear power plants.

1.9.116.2 VEGP Position

Conform for the design and construction QAP. The VEGP QAP is described in chapter 17.

The VEGP operations QAP conforms with the requirements of ANSI N45.2.8-1975 as it is endorsed by this guide with the following clarifications, ~~and exceptions~~.

~~Clarifications are as follows~~:

1. Paragraph 2.7, Personnel Qualifications. VEGP has addressed this requirement in its position to Regulatory Guide 1.58. 9

2. Paragraph 7, Records, will be implemented in accordance with the VEGP position to Regulatory Guide 1.88.

3. For modification activities, VEGP shall control these activities under the operations QAP as described in section 17.2. Technical requirements associated with modifications shall be the original requirements or better (e.g., code requirements, material properties, design margins, manufacturing processes, and inspection requirements).

4. Paragraph 1.4, Definitions in this Standard, and definitions which are included in ANSI N45.2.10 will be used as clarified in VEGP position to Regulatory Guide 1.74. 9

5. Paragraph 2.2, Procedures and Instructions, will be implemented as set forth in section 17.2 and by conformance with the Technical Specifications and VEGP position to Regulatory Guide 1.33.

6. Paragraph 2.3, Results, will be implemented as set forth in section 17.2 and by VEGP position to Regulatory Guide 1.33.

7. Paragraph 2.4, Cleaning, will be implemented as set forth in the VEGP position to Regulatory Guide 1.37.

8. Paragraph 2.5, Receiving, Storage, and Handling, will be implemented as set forth in the VEGP position to Regulatory Guide 1.38.

9. Paragraph 2.6, Housekeeping, will be implemented as set forth in the VEGP position to Regulatory Guide 1.39.

10. Paragraph 6, Data Analysis and Evaluation. Where required the plant shall have procedures for the performance of analyzing test data, but these procedures are not referred to as data processing procedures. 9

~~Exceptions are as follows~~ 15

1.9.123 REGULATORY GUIDE 1.123, REVISION 1, JULY 1977, QUALITY ASSURANCE REQUIREMENTS FOR CONTROL OF PROCUREMENT OF ITEMS AND SERVICES FOR NUCLEAR POWER PLANTS

1.9.123.1 Regulatory Guide 1.123 Position

The requirements that are included in ANSI N45.2.13-1976 for control of procurement of items and services for nuclear power plants are acceptable to the NRC staff and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in the guide.

1.9.123.2 VEGP Position

VEGP conforms during the design and construction QAP except for components purchased from the NSSS vendor which conform except for regulatory position C.6b. The NSSS vendor routinely identifies notification points in procurement documents when applicable. Such points are not always identified in pre- and post-award meetings. However, the required notification/hold points are specified by changes to the procurement documents in a reasonable time prior to their being accomplished to allow the purchaser the opportunity to witness the event.

Alternatives and clarifications to the text of ANSI N45.2.13-1976 are contained in the text of WCAP-8370, Rev. 9A-table 17-1. The VEGP QAP is described in chapter 17. 9

The VEGP operations QAP conforms with the requirements of ANSI N45.2.13-1976 as it is endorsed by this guide with the following clarifications:

1. Paragraph 1.3, Definitions. With two exceptions, procurement document and QAP requirements, definitions in this standard and the definitions which are included in the VEGP position to Regulatory Guide 1.74 will be used. The two exceptions are defined in the VEGP positoin to Regulatory Guide 1.74.

2. Paragraph 1.2.2, Purchaser's Responsibilities. Item c is one of the options which may be used by VEGP to assure quality; however, any of the options given in 10 CFR 50, Appendix B, Criterion VII, as implemented by section 17.2, may also be used.

15

3. Paragraphs 3.2.3, 3.2.4, and 3.2.6. VEGP does not consider that these paragraphs or vendor qualifications apply for the procurement of off-the-shelf items. Off-the-shelf items (which include original as well as spare and replacements) are commercial grade items which are:

   a. Not subject to design or specification requirements that are unique to facilities or activities licensed by the Nuclear Regulatory Commission.

   b. Used in applications other than facilities or activities licensed by the NRC.

   c. Ordered from the manufacturer, distributor, supplier, or retailer on the basis of the manufacturer's catalog or product description.

4. Paragraph 3.3 requires procurement documents to be reviewed prior to bid or award of contract. The quality assurance review of procurement documents is satisfied through review of the applicable procurement specification and purchase requisition prior to bid or award of contract.

15

5. Paragraph 4.2, Selection Measures, outlines certain methods acceptable for the selection of suppliers. GPC's history of using similar methods has proven adequate in the procurement of items; therefore, VEGP wishes to replace paragraph 4.2(a), (b), and (c) with the following selection methods:

   a. The supplier's quality assurance capabilities as determined by a direct survey of his facilities and personnel, and the implementation of his QAP.

   b. Evaluating the supplier's history of providing a product which performs satisfactorily in actual use. One or more of the following information shall be evaluated:

(1) Experience of users of identical or similar products of the same prospective supplier.

(2) GPC records that have been accumulated in connection with previous procurement actions and product operating experience. Historical data should be representative of the supplier's current capability. If there has been no recent experience with the supplier or if he is a new supplier, the prospective supplier shall be requested to submit information on a similar item or service for evidence of his current capabilities.

(3) Evaluating the supplier's current quality records supported by documented qualitative and quantitative information which can be objectively evaluated. This would include review and evaluation of the supplier's QAP manual and procedures, as appropriate, to ensure that the applicable requirements of 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants, are met.

(4) Verification that the supplier holds an active certificate of authorization from ASME to supply or manufacture materials or the items described in the purchase requisition.

(5) A supplier may be considered acceptable, without a survey, to supply off-the-shelf items. An inspection shall be performed to assure that the correct item was received and no damage exists. A supplier may be considered acceptable to supply "Q" quality commodity without a survey. Such items procured must be produced to a standard and must have defined ratings, such as pressure, temperature, voltage. The procurement of such items shall be based upon a documented engineering evaluation. At receipt, an inspection shall be performed by quality control to verify compliance to the description and that it has been approved for use by an evaluation. 15

(6) Verification that the supplier is listed in the current Coordinating Agency for Supplier

Evaluation (CASE) register. However, the audit report which formed the basis for listing the supplier in the CASE register must be obtained and reviewed for applicability to the procurement. All deficiencies which could degrade the procured item must be resolved prior to the procurement. This review shall be documented and, together with the audit, report, be retained.

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(7) Verification that the supplier's QAP is acceptable to the NRC under the Licensee Contractor and Vendor Inspection Program and has been satisfactorily implemented as evidenced by a confirming letter from NRC-IE. Alternately, the acceptability of the supplier's QAP and its implementation may be determined by reviewing the NRC's inspection report(s) for applicability to the procurement. All such reviews shall be documented, and together with the NRC's inspection report(s) retained.

8. Paragraph 5.2 shall be applicable only for new procurement; it shall not be applicable for spares or replacements parts that do not change the original design. 15

~~9. Paragraph 5.3, Preaward Evaluation. GPC will conform 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 a nuclear facility), a preaward evaluation of the supplier shall be performed as described in VEGP position herein.~~

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9~~10~~. Paragraph 6.2, Planning and Coordination. GPC will conform with the exception that the NSSS vendor routinely identifies notification points in procurement documents when applicable. Such points are not always identified in pre- and post-award meetings. However, the required notification/hold

Cread 16 4/85

points are specified by changes to the procurement documents in a reasonsble time prior to their being accomplished to allow the purchaser the opportunity to witness the event.

10 ~~11~~. Paragraph 7.5, Personnel Qualification. Refer to VEGP Position to Regulatory Guide 1.58 (Clarification 1).

11 ~~12~~. Paragraph 8 provides guidance for purchaser review and disposition of vendor nonconformances. GPC, as purchaser, satisfies this requirement by requiring, as a minimum, deviations to specifications that cannot be brought into conformance with specification requirements, prior to shipment of the material to be submitted to GPC for approval. Such deviations, when approved by the purchaser, are required to be submitted along with shipment of the material. 15

Amend. 9 8/84
Amend. 15 3/85
Amend. 16 1/85

15

12.18. Regulatory Position C.3 indicates that the purchaser should verify the implementation of the supplier's corrective action systems when such a system is required, but this verification need not be included as part of the purchaser's corrective action

Amend. 9 8/84
Amend. 15 3/85
Amend. 16 4/85

1.9.132 REGULATORY GUIDE 1.132, REVISION 1, MARCH 1979, SITE INVESTIGATIONS FOR FOUNDATIONS OF NUCLEAR POWER PLANTS

1.9.132.1 Regulatory Guide 1.132 Position

Paragraph C of the guide addresses site investigations for foundations.

1.9.132.2 VEGP Position

VEGP site investigation conforms with the requirements of this regulatory guide. Refer to section 2.5 for discussion on this subject.

1.9.133 REGULATORY GUIDE 1.133, REVISION 1, MAY 1981, LOOSE-PART DETECTION PROGRAM FOR THE PRIMARY SYSTEM OF LIGHT-WATER-COOLED REACTORS 10 13

1.9.133.1 Regulatory Guide 1.133 Position

This guide describes a method acceptable to the NRC for implementing requirements with respect to detecting a potentially safety-related loose part in light-water-cooled reactors during normal operation.

1.9.133.2 VEGP Position

Refer to subsection 4.4.6.4 for a discussion of the digital metal impact monitoring system (DMIMS) which is the VEGP loose part monitoring system. VEGP conforms to Regulatory Guide 1.133, with the following clarifications to Provision C.6. Upon receipt of an alarm, VEGP will investigate the alarm to confirm if a loose part exists. An engineering evaluation of confirmed loose parts will be performed to determine whether a reportable condition has occurred as described in 10 CFR 50.72 and 10 CFR 50.73. VEGP shall follow the requirements of 10 CFR 50.72 and 10 CFR 50.73 for providing prompt notification and followup reporting of the confirmation of a loose part. 10 13 15

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Containment Isolation Provisions for Fluid Systems, are generally acceptable and provide an adequate basis for complying with the pertinent containment isolation requirements of Appendix A to 10 CFR 50, subject to the qualifications identified in the guide.

1.9.141.2 VEGP Position

VEGP conforms as discussed in subsection 6.2.4.

1.9.142 REGULATORY GUIDE 1.142, OCTOBER 1981, REVISION 1, SAFETY-RELATED CONCRETE STRUCTURES FOR NUCLEAR POWER PLANTS (OTHER THAN REACTOR VESSELS AND CONTAINMENTS)

1.9.142.1 Regulatory Guide 1.142 Position

This guide endorses the procedures and requirements described in American Concrete Institute (ACI) 349-76 subject to the qualifications provided in this guide.

1.9.142.2 VEGP Position

ACI 318-71 is used in lieu of ACI 349-76.

Refer to subsection 3.8.4 for discussion on this subject.

1.9.143 REGULATORY GUIDE 1.143, REVISION 1, OCTOBER 1979, DESIGN GUIDANCE FOR RADIOACTIVE WASTE MANAGEMENT SYSTEMS, STRUCTURES, AND COMPONENTS INSTALLED IN LIGHT-WATER-COOLED NUCLEAR POWER PLANTS

1.9.143.1 Regulatory Guide 1.143 Position

This guide furnishes design guidance acceptable to the NRC regarding seismic and quality group classification and quality assurance provisions for radioactive waste management systems, structures, and components.

1.9.143.2 VEGP Position

Conform, with the following clarifications:

- Radioactive waste management systems, structures, and components are classified in table 3.2.2-1.

- ACI 318-71 is used for design of concrete structures in lieu of ACI 318-77. 5

See section 11.4 for further discussion.

1.9.144 REGULATORY GUIDE 1.144, REVISION 1, SEPTEMBER 1980, AUDITING OF QUALITY ASSURANCE PROGRAMS FOR NUCLEAR POWER PLANTS

1.9.144.1 Regulatory Guide 1.144 Position

The requirements that are included in ANSI/ASME N45.2.12-1977 for auditing QAPs for nuclear power plants are acceptable to the NRC staff and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in the guide.

1.9.144.2 VEGP Position

VEGP conforms with Regulatory Guide 1.144 with the following clarification. VEGP does not conform to the latest revisions of the following ANSI standards: ANSI N45.2, ANSI N45.2.9, and ANSI N45.2.10. VEGP conforms to ANSI N45.2-1971, ANSI N45.2.9-1974 and ANSI N45.2.10-1973. Conformance to Regulatory Guides 1.28, 1.74, and 1.88 is indicated in this section. The VEGP quality assurance program is described in chapter 17. 7 15

1.9.145 REGULATORY GUIDE 1.145, AUGUST 1979, ATMOSPHERIC DISPERSION MODELS FOR POTENTIAL ACCIDENT CONSEQUENCE ASSESSMENTS AT NUCLEAR POWER PLANTS

1.9.145.1 Regulatory Guide 1.145 Position

This guide identifies acceptable methods for:

- Calculating atmospheric relative concentration (x/Q) values.
- Determining x/Q values on an overall site basis.
- Determining x/Q values on a directional basis.

Amend. 5 4/84
Amend. 7 5/84
Amend. 9 8/84
Amend. 15 3/85

- Choosing x/Q values to be used in evaluations of the types of events described in Regulatory Guides 1.3 and 1.4.

1.9.145.2 VEGP Position

Conform. Refer to subsection 2.3.4.

1.8.146 REGULATORY GUIDE 1.146, AUGUST 1980, QUALIFICATION OF QUALITY ASSURANCE PROGRAM AUDIT PERSONNEL FOR NUCLEAR POWER PLANTS

1.8.146.1 Regulatory Guide 1.146 Position

This guide describes a method acceptable to the NRC for complying with regulations with regard to qualification of QAP audit personnel for nuclear power plants.

1.8.146.2 VEGP Position

Conform. The QAP is discussed in chapter 17.

1.9.147 REGULATORY GUIDE 1.147, REVISION 2, FEBRUARY 1982, INSERVICE INSPECTION CODE CASE ACCEPTABILITY, ASME SECTION XI, DIVISION 1

1.9.147.1 Regulatory Guide 1.147 Position

This regulatory guide lists those Section XI ASME code cases that are generally acceptable to the NRC for implementation in the ISI of light-water-cooled nuclear power plants.

1.9.147.2 VEGP Position

Conform. Refer to section 6.6 for further discussion.

1.9.148 REGULATORY GUIDE 1.148, MARCH 1981, FUNCTIONAL SPECIFICATION FOR ACTIVE VALVE ASSEMBLIES IN SYSTEMS IMPORTANT TO SAFETY IN NUCLEAR POWER PLANTS

1.9.148.1 Regulatory Guide 1.148 Position

This guide delineates a procedure acceptable to the NRC for implementing regulations with respect to the detailed specification of information pertinent to defining operating requirements for active valve assemblies in light-water-cooled nuclear power plants.

1.9.148.2 VEGP Position

Conformance is addressed in table 3.9.B.3-10. 15

1.9.149 REGULATORY GUIDE 1.149, APRIL 1981, NUCLEAR POWER PLANT SIMULATORS FOR USE IN OPERATOR TRAINING

1.9.149.1 Regulatory Guide 1.149 Position

This regulatory guide describes a method acceptable to the NRC for specifying the functional requirements of a nuclear power plant simulator to be used for operator training.

1.9.149.2 VEGP Position

Conform, except with regard to Section 5.4(3) of ANSI/ANS 3.5-1981. GPC will conduct periodic simulator performance testing in response to plant changes which affect training. Since digital software does not drift or change, retesting of verified simulator response will not be conducted. Through the use of startup test data, operator observations supported by plant transient charts and plant change notices, the VEGP simulator will be modified and tested to match plant response. See subsection 13.2.1 for additional discussion.

Enclosure D
Open Item 106

INSERT Response to Q260.62. A.6

The inspection and testing requirements (including maintenance requirements) for the containment building polar bridge crane are discussed in FSAR Section 9.1.5.

INSERT Response to Q260.61 A.7

FSAR Section 17.2.18, "Audits", lists the areas to be audited. The accident-related meteorological collection equipment operations, calibration, maintenance and reliability will be included in the audit plan for environmental monitoring, plant chemistry and environmental technical specifications.

INSERT Response to Q260.61 A.8

Radiation Protection Systems, including necessary equipment and supplies will be included in the audit plan for Health Physics and Radiation Protection. This audit will verify that the equipment is present, functional, and calibrated; that there are appropriate procedures, they are being used, and they are working effectively; that involved personnel are adequately trained.

INSERT Response to Q260.62 B6 and 7

The inspection and testing requirements (including maintenance requirements) for refueling machine and fuel transfer system are discussed in FSAR Section 9.1.4. ~~During operation, any maintenance preformed on the refueling machine and fuel transfer system will be commensurate with the design of the refueling machine and fuel transfer system.~~

INSERT Response to Q260.61 C.2

The effectiveness of plant shielding area radiation survey results, and frequency of area radiation surveys will be included in the audit plan for Health Physics and Radiation Protection. Temporary shielding to reduce personnel exposure in high radiation areas will also be included in the audit plan for Health Physics and Radiation Protection.

The application of additional shielding (temporary or permanent), including seismic and stress design considerations will be included in the audit plan for design change and plant modification control.

INSERT Response to Q260.61 C.18

The Iodine Monitoring System Internal to the plant will be included in the audit plan for Health Physics and Radiation Protection. The Iodine Monitoring System External to the plant, including Stack Gas Monitoring Systems and Liquid Effluent Discharge Monitoring systems will be included in the audit plans for Environmental Monitoring, Plant Chemistry, and Environmental Technical Specification and the audit plan for the emergency plan and procedures, as applicable. This audit will verify that the equipment is present, functional, and calibrated; that there are appropriate procedures, they are being used, and they are working effectively; that involved personnel are adequately trained.

Principal System and Components	(a) Location Unit 1 Unit 2	(b) Source of Supply	(c) Quality Group	(d) VEGP Safety Class	(e) Seismic Category	(f) Codes and Standards Designator	(g) Principal Construction Code	(h) Q-List	(i) Safety Related	(j) Environmental Designator	(k) Comments
ROD CONTROL POWER SYSTEM											
1. Reactor trip switchgear		W	NA	1	1	E	mfg	Y	Y		
2. Other switchgear		W	NA	6	2	E	mfg	N	N		
FULL LENGTH ROD CONTROL SYSTEM											
1. Rod control equipment		W	NA	6	1	J	mfg	~~N~~ Y	N		Note AA
ROD POSITION INDICATION SYSTEM											
1. Rod position instrumentation		W	NA	6	1	J	mfg	N	N		
RADIATION MONITORING SYSTEM											
1. Safety-related portions		W	NA	1	1	J	mfg	Y	Y		
2. Nonsafety-related, seismic Category 1 portions		W	NA	6	1	J	mfg	N	N		
3. Other portions		W	NA	6	2	J	mfg	N	N		
ESF ACTUATION SYSTEM											
1. All portions		W	NA	1	1	J	mfg	Y	Y		
REACTOR INSTRUMENTATION											
1. All portions inputting to reactor protection		W	NA	1	1	J	mfg	Y	Y		
2. Other portions		W	NA	6	2	J	mfg	N	N		
REACTOR CONTROL SYSTEM											
1. Protection-related portions		W	NA	1	1	J	mfg	Y	Y		
2. Other portions		W	NA	6	2	J	mfg	N	N		

TABLE 3.2.2-1 (SHEET 97 OF 97)

Position CMEB 9.5-1, Appendix A, attached to Nuclear Regulatory Commission (NRC) Standard Review Plan 9.5.1. 3

w. The quality assurance program to be applied to radioactive waste management systems is described in Regulatory Guide 1.143.

x. The Seismic Category 1 fire protection standpipe system serves no safety function but is classified as project class 313 to ensure the implementation of a Seismic Category 1, ASME III-3 design and installation. 3

GENERAL NOTES

1. For systems under the Westinghouse scope of supply, all piping and all manual valves 2 in. and smaller are supplied by Bechtel, except for the reactor coolant loop piping, the pressurizer surge line, the pressurizer relief piping complex, reactor vessel bottom mounted instrument tubing, reactor vessel head vent piping to refueling disconnect flange, and reactor vessel seal leak detection leakoff appurtenance.

2. Hangers and supports for Seismic Category 1 systems and components are designed as Seismic Category 1. In general hangers and supports for Seismic Category 2 piping, cable tray, and ducting in Seismic Category 1 buildings are designed to maintain their structural integrity under the postulated earthquake conditions; however, exceptions to this requirement are permitted when it is demonstrated that their failure will not adversely affect adjacent Seismic Category 1 equipment or systems. 12

3. All "Q" listed coatings are assigned a project classification of 02C. Q listed coatings are not seismically qualified but will not fail in a manner that would compromise the function of safety-related equipment in the event of an earthquake since they are applied to Seismic Category 1 structures.

AA These components are manufactured under the appropriate provisions of WCAP 8370.

("Y" will be site grading note an "Z" will be Accw note)

responsibilities are accomplished through the organization shown in figure 17.2.1-1 and are discussed in the following paragraphs.

GPC's executive vice president-power supply regularly assesses the scope, adequacy, and compliance of the OQAP to 10 CFR 50, Appendix B, through frequent meetings with the general manager-quality assurance and radiological health and safety (GMQA), review of safety review board activities, and assessment of quality assurance audits.

An annual assessment of the effectiveness of the OQAP is performed by the general manager-quality assurance, and results are reported to the executive vice president-power supply.

17.2.1.1.1 Safety Review Board

The safety review board shall be appointed by the executive vice president-power supply for the purpose of advising him in matters related to nuclear power plant safety. Board members shall have competence in various fields of engineering technology and be familiar with nuclear safety, environmental, and regulatory requirements. The safety review board has access to the advice and services of technical specialists within GPC and outside expertise as necessary. Board member responsibilities and authorities are described in the plant Technical Specifications. 8

17.2.1.1.2 Nuclear Operations

The senior vice president-nuclear power, and the vice president and general manager-nuclear operations are responsible to the executive vice president-power supply for the implementation of the quality assurance program for plant operations at all nuclear power generating plants in the GPC system. The general manager-Vogtle nuclear operations reports to the vice president and general manager-nuclear operations, ~~through the manager-nuclear operations~~. ~~The manager-nuclear operations assumes the responsibilities of vice president and general manager-nuclear operations in his absence.~~

The manager-nuclear planning and control reports to the vice president and general manager-nuclear operations. Some of the responsibilities of this position are to provide long range planning and scheduling of maintenance work to be performed at GPC nuclear plants ~~and to provide~~ the long range manpower plan for GPC nuclear plants.

that applicable guidelines of

The manager-nuclear training reports to the vice president and general manager-nuclear operations. A few of the responsibilities of this position are to provide the GPC nuclear plants with training programs to ensure compliance with Nuclear Regulatory Commission (NRC) regulations and Institute of Nuclear Power Operations standards are utilized and to ensure that nuclear operations personnel have the education, training, and skills to safely and efficiently operate and maintain the plants. 8

The manager-nuclear engineering and chief nuclear engineer is responsible to the vice president and general manager-nuclear operations for day-to-day monitoring of plant activities, special projects as required, licensing support, and interfacing with appropriate companies and organizations in the areas of nuclear fuel management, procurement, and reprocessing.

17.2.1.2 Plant Organization

The plant staff (as described in chapter 13) will perform safety-related activities in accordance with written, approved procedures. Quality assurance requirements will be included in detailed plant procedures. The superintendents and supervisors in the VEGP organization will be responsible for implementation of the OQAP for activities under their purview. The general manager-Vogtle nuclear operations will regularly assess the workload of all departments involved in the OQAP to ensure that a sufficient number of personnel are available for complete and efficient implementation.

17.2.1.2.1 General Manager-Vogtle Nuclear Operations ~~and Assistant Plant Manager(s)~~ Deputy General Manager

The general manager-Vogtle nuclear operations is responsible to the vice president and general manager-nuclear operations for all activities at the VEGP, including implementation of the OQAP requirements with the exception to controls that are assigned to the quality assurance department. The general manager-Vogtle nuclear operations is also responsible for the safe, reliable, and efficient operation of VEGP. 8

~~The deputy general manager will assume the responsibilities of the general manager-Vogtle nuclear operations in his absence.~~

Add Insert

17.2.1.2.3 Quality Control Supervisor

The quality control supervisor is responsible to the general manager-Vogtle nuclear operations for administration and implementation of an effective quality control inspection program at VEGP. Quality control specialists report to the quality control supervisor. The quality control supervisor, or his representative, is involved in day-to-day safety-related

Insert pg. 17.2.1-4

17.2.1.2.2 Manager Unit Operations

The manager unit operations is responsible to the general manager - Vogtle nuclear operations for the overall operation of the plant.

activities. These activities include work planning meetings, plant review board meetings, and routine staff meetings. Quality control personnel have procedural authority to stop work and to control further processing, use, or installation of nonconforming items. 8

17.2.1.2.~~4~~4 Superintendent of Maintenance

The superintendent of maintenance is responsible for effective implementation of the OQAP of applicable mechanical, electrical, and instrument and controls maintenance of plant equipment, systems, or structures.

17.2.1.2.~~5~~5 Superintendent of Operations

The superintendent of operations has the responsibility to ensure that the plant is operated in accordance with approved procedures and license requirements.

17.2.1.2.~~6~~6 Superintendent of Plant Engineering Services

The superintendent of plant engineering services is responsible for providing engineering-related technical services in support of VEGP operations. He shall assist, as required, in the procurement of equipment, materials, and services and shall coordinate review, approval, and closeout of design changes.

17.2.1.2.~~7~~7 Superintendent of Administration

The superintendent of administration has the responsibility of maintaining the plant documentation files, procedure and change logs, and distribution control for plant-originated procedures, plant review board minutes, and correspondence.

17.2.1.2.~~8~~8 Materials Supervisor

The materials supervisor is responsible for material and equipment control and material requisitioning to maintain plant stock levels. He is also responsible for receiving, handling, and storing materials.

17.2.1.2.~~9~~9 Superintendent of Nuclear Training

The superintendent of nuclear training is responsible for the development and implementation of training programs for the

plant staff. He ensures that the VEGP training programs are adequate to provide qualified personnel.

17.2.1.2.~~9~~ 10 Superintendent of Regulatory Compliance

The superintendent of regulatory compliance will advise plant management on matters concerning compliance with requirements of operating license, Technical Specifications, approved plant procedures, Security Plan, Emergency Plan, OQAP, and applicable federal, state, and local regulations.

17.2.1.2.~~10~~ 11 Superintendent of Health Physics and Chemistry

The superintendent of health physics and chemistry is responsible for the health physics and chemistry program. He is also responsible for the as-low-as-reasonably-achievable program at VEGP.

Add Insert 17.2.1.2.12 Superintendent of Engineering Liason & 17.2.1.2.13 Procurement Review Section Supervisor

17.2.1.2.~~11~~ 14 Plant Review Board

The plant review board shall be comprised of responsible plant department personnel and shall advise the plant manager on matters pertaining to safety-related activities.

17.2.1.3 Quality Assurance Department

The quality assurance department, under the direction of the GMQA, verifies implementation of the OQAP.

The qualifications for the GPC quality assurance department personnel meet the requirements of Regulatory Guide 1.146, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants, as described in section 1.9.

The minimum qualifications for the GMQA and the VEGP quality assurance manager are that they hold an engineering or equivalent degree and have a minimum of 5 years experience in the areas of engineering, field construction, or plant operation. Two of these 5 years must be in the field of quality assurance, of which at least 6 months must be in the field of nuclear quality assurance experience. 8

The size of the quality assurance organization is based on meeting the commitment for audit coverage required by the Technical Specifications and on experience gained at Hatch Nuclear Plant. The approximate size of the site quality assurance organization is 10 technical people for Unit 1

Insert pg. 17.2.1-6

17.2.1.2.12 Superintendent of Engineering Liason

The superintendent of engineering liason has responsibility for coordinating construction and technical support activities ~~for~~ in making plant modifications.

17.2.1.2.13 Procurement Review Section (PRS) Site Supervisor

The ~~procurement~~ PRS site supervisor is responsible for ensuring that requisitions for parts, materials, and services specify the correct procurement level (safety classification), that appropriate technical and quality requirements are specified for safety-related requisitions, and for ensuring that documentation received with safety-related parts and materials is adequate.

17.2.1.4 Engineering

Add Insert 17.2.1.4

~~The GPC power supply engineering and services department, under the direction of the vice president and chief engineer power supply engineering and services is responsible for providing engineering and technical support to the various power supply organizations. During the operation of VEGP, the power supply engineering and services department is responsible for the management of design engineering support, the qualification of suppliers, and the review of procurement documents for quality requirements.~~ In addition to providing engineering support as requested, SCS is the architect/engineer for VEGP during operation. ~~The GPC power supply engineering and services department Vogtle project manager serves as the interface between the GPC nuclear power department and SCS for coordination and direction of engineering support provided by SCS. In addition,~~ SCS provides quality assurance support, including audits, supplier qualification and surveillances, and engineering procedure reviews. SCS also administers for VEGP the contract for engineering services provided by BPC. Activities within the SCS work scope are governed by the SCS VEGP Operational Support Policy and Procedures Manual and the SCS Engineering Policy and Procedures Manual. These procedures are reviewed and concurred with by the SCS quality assurance organization. The GPC GMQA performs or causes to be performed audits of these functions. 8

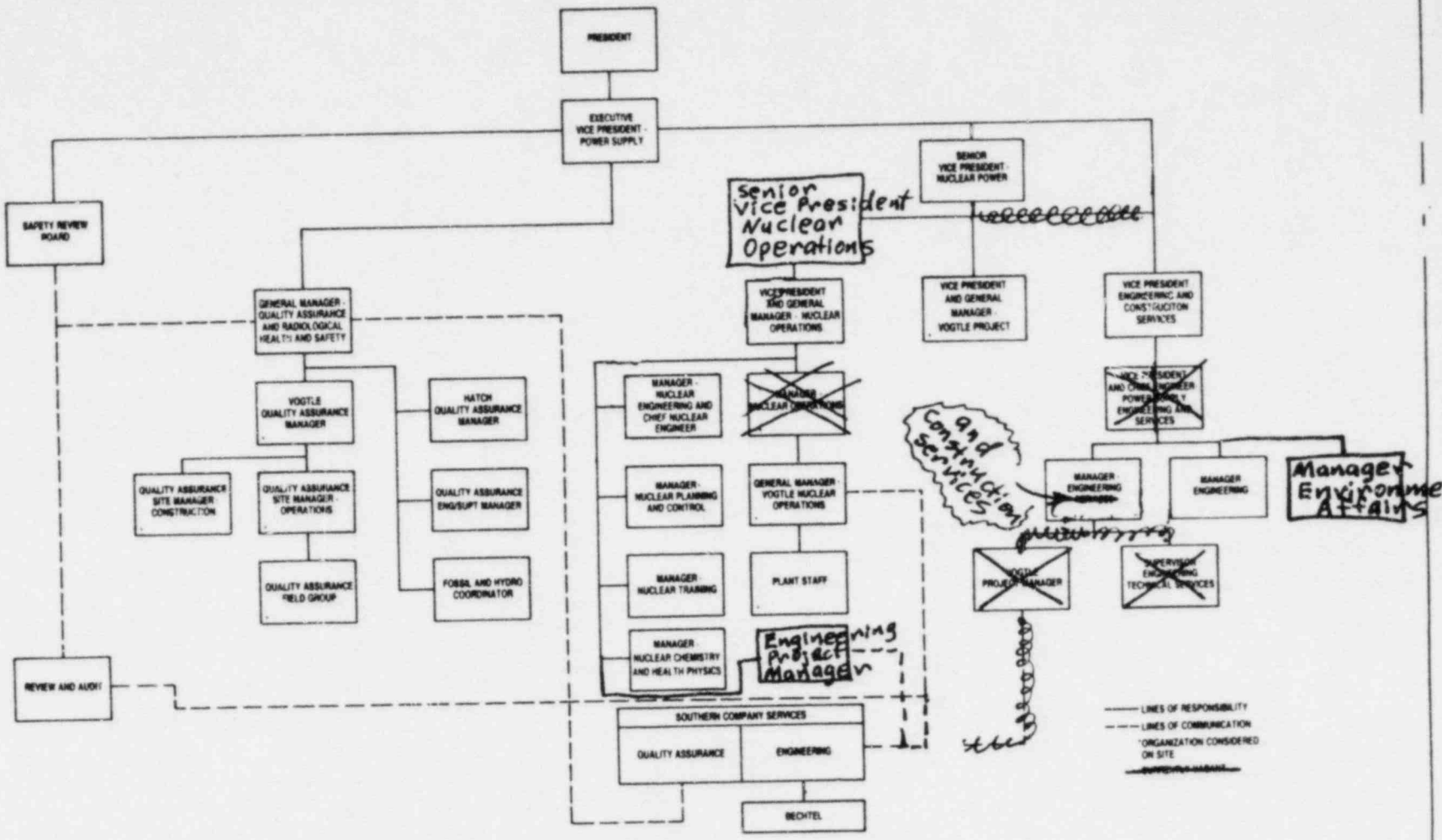
BPC is under contract to SCS to provide architect/engineering services. The work scope includes plant design, development of purchase recommendations for equipment and materials, administration of purchase orders resulting from SCS-developed purchase recommendations such as the nuclear steam supply system, and support of the SCS supplier surveillance functions by providing procurement surveillance services for selected Q-list items. Activities within the BPC work scope are governed by the BPC VEGP Nuclear Quality Assurance Department Procedures Manual and Vogtle Project Engineering Procedures Manual. The GPC GMQA performs or causes to be performed audits of these procedures and functions.

17.2.1.5 Vogtle Project

The vice president and general manager-Vogtle Project is responsible to the senior vice president-nuclear power for implementation of the OQAP for performing any remaining construction activities at ~~an~~ operating ~~nuclear power plant.~~ VEGP units.

Insert 17.2.1.4

The GPC nuclear operations department has overall responsibility for assuring the availability of, providing, or securing adequate engineering and technical support for the VEGP. The nuclear operations engineering project manager serves as the principal interface between the GPC nuclear operations department and the GPC engineering and construction services department, and/or appropriate architectural/engineering organizations for coordination and direction of engineering and technical support provided to the VEGP.



Amend. 8 7/84

Georgia Power

VOGTLE ELECTRIC GENERATING PLANT UNIT 1 AND UNIT 2

ORGANIZATIONAL CHART FOR QUALITY ASSURANCE DURING PLANT OPERATIONS

FIGURE 17.2.1-1

17.2.4 PROCUREMENT DOCUMENT CONTROL

The quality requirements for the control of documents prepared by Georgia Power Company or its designated agents, for safety-related components, materials, and services are consistent with the provisions of Regulatory Guide 1.123, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants, as described in section 1.9. The vice president and general manager-nuclear operations is responsible for procurement planning of VEGP.

To satisfy the quality assurance requirements for procurement document control, the following specific requirements shall be implemented. Measures shall be established to ensure:

A. Procedures are established delineating the sequence of actions to be accomplished in the preparation, review, approval, and control of procurement documents. The general manager-Vogtle nuclear operations, in conjunction with the vice president-engineering and services, is responsible for the preparation, review, approval, and control of procurement documents. 8

construction

B. A review and concurrence of the adequacy of quality assurance requirements stated in procurement documents is performed by qualified personnel knowledgeable in the quality assurance requirements. Plant procedures will define training requirements for ensuring knowledge of quality assurance requirements. This review is to determine that all quality assurance requirements are correctly stated, can be inspected and controlled, and provide adequate acceptance and rejection criteria and that the procurement document has been prepared in accordance with quality assurance program requirements.

C. The person performing the review will be an individual independent of the procurement document originator. Documented evidence of the review and approval of procurement documents is provided and available for verification.

D. Procurement documents identify those 10 CFR 50, Appendix B, requirements that must be complied with and described in the supplier's quality assurance program. This quality assurance program or portions thereof shall be reviewed and concurred with by the general manager-Vogtle nuclear operations, in conjunction with the vice president-engineering and services, and qualified personnel knowledgeable 8

construction

Review of documentation required by the purchase order is performed by ~~quality control.~~ the procurement review section. 8

B. Inspections, tests, and other specified records attesting to the acceptance of materials, equipment, and components are completed and available at VEGP prior to installation or use.

C. Materials, equipment, and components are inspected and judged acceptable in accordance with predetermined inspection instructions prior to installation or use.

Items accepted and released are identified as to their inspection status prior to forwarding them to a controlled storage area or releasing them for installation or further work. 8

Nonconforming items are clearly identified, controlled, and segregated where practical, until proper disposition is made.

For commercial (off the shelf) items where specific quality assurance controls appropriate for nuclear applications cannot be imposed in a practical manner, special quality verification requirements shall be established to provide the necessary assurance of the item.

The quality assurance department will audit the control of purchased materials, equipment, and services to ensure proper implementation of the requirements. See subsection 17.2.18 for a description of the quality assurance audit system.

and test equipment and the criteria for determining when a test or inspection is to be performed are contained in the established plant procedures.

The quality control supervisor is responsible to plant management for administering and implementing tests and inspections assigned to the quality control department. He is also responsible for analyzing the results of applicable inspections performed at VEGP. Inspections are performed by quality control specialists (qualifications discussed in subsection 13.1.3) who are independent of the individuals performing the activity being inspected. Plant management ensures that quality control specialists and any other personnel performing inspection activities are qualified, and qualification records are documented and kept current. The training and qualification of these personnel will be verified through written examinations, proficiency testing, or oral examination. Documented evidence of qualification for these personnel will indicate the function which the individual is qualified to perform. Proficiency of these personnel is maintained by retraining and reexamining in accordance with applicable codes, standards, and/or procedures. 8

The criteria for determining the size of the quality control organization is based on known or anticipated tasks which require quality control inspection and other functions based on experience gained at Hatch Nuclear Plant. The approximate number of technical personnel planned for the quality control organization during normal plant operation is ~~26~~ 18, which may be augmented by contractor personnel during outages.

The quality control supervisor and quality control specialists have written stop-work authority, including the authority to prevent equipment or systems from being returned to service if the activity was not performed in accordance with an approved procedure, specification, or drawing. If specified inspection hold points/witness points, requiring witnessing or inspecting by an inspector and beyond which work is not to proceed without inspector approval, are necessary, the specific hold points will be indicated in the work procedure. If at these checkpoints the activity is found to be unsatisfactory, further processing of the activity is suspended until the problem is resolved. Procedures requiring inspection criteria will be reviewed by qualified personnel from quality control prior to performance of the work. This review will include a check for the need for inspection, identification of inspection personnel, and documentation of inspection results. Further, this review will ensure that inspection requirements, methods, and acceptance criteria have been identified. Quality control involvement in day-to-day work planning meetings and staff meetings should

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

Measures for the control of measuring and test equipment are consistent with the position of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), as described in section 1.9.

Provisions for the control of applicable measuring and test equipment require that:

A. Procedures shall be established which describe the calibration technique, calibration frequency, maintenance and control of measuring and test instruments, tools, gauges, fixtures, reference standards, transfer standards, and nondestructive test equipment to be used in the measurement and inspection of safety-related components, systems, and structures. 8

B. Measurement and test equipment shall be uniquely identified and have traceability to calibration test data.

C. Measuring and test instruments shall be calibrated and maintained at specific intervals, based on the required accuracy, purpose, degree of usage, stability characteristics, and other conditions affecting the measurement.

D. Measuring and test equipment shall be calibrated on or before the designated due date or removed from service until corrective action can be taken.

E. When measuring and test equipment is found to be out of calibration, an investigation shall be conducted and documented to determine the validity of previous inspections performed and the acceptability of those items previously inspected. Procedures are established to ensure that measurements made with measuring and test equipment found to be out of calibration will be evaluated to determine the need for reinspection.

F. Calibrating instruments shall have known, valid relationships to a nationally recognized standard or natural physical constant. If no national standard or natural physical constant exists, the basis of calibration will be documented and approved by the responsible department superintendent or a higher level of management. 7 8

G. Records will be maintained which indicate the complete status of all items under the calibration system and

Amend. 7 5/84
Amend. 8 7/84

reflect the last and future calibration dates or the last calibration date and frequency, if applicable.

H. Calibration facilities used for calibrating sensitive and close tolerance measuring and test equipment shall provide an environment that is sufficiently controlled to allow the measuring device to be evaluated and calibrated to its required accuracy.

Reference standards will have an uncertainty (error) requirement of no more than one-fourth of the tolerance of the measuring and test equipment being calibrated; a greater uncertainty will be acceptable and equipment and standards not meeting this requirement will be documented and approved by the responsible department superintendent or by a higher level of management. Comparison standards used in calibration of reference standards will have a tolerance equal to or smaller than the reference standard and will be traceable to the standards housed in the National Bureau of Standards. The calibration of reference standards using comparison standards will be supported by certification reports and data sheets.

The superintendent of maintenance is responsible to the general manager-Vogtle nuclear operations for developing, approving, and implementing procedures and instructions to establish a control and calibration program. He also approves calibration procedures. The administrative procedures that control the calibration program are reviewed by the plant review board and approved by the general manager-Vogtle nuclear operations. The quality control department is responsible for certifying the control of measuring and test equipment for compliance to plant procedures. Quality control will verify control of measuring and test equipment during inspections of work activities.

Effectiveness of the program is ensured through periodic audits performed under the quality assurance audit system that is described in subsection 17.2.18.

Enclosure E
Open Item 107

Open Item 107 - CRDR PROGRAM PLAN CLARIFICATIONS

1. Modifications to the generic ERGs in order to develop plant specific EOPs will be documented in the VEGP step document (Procedure No. 11894-C) as part of the EOP development. In the task analysis, a task data form will be generated and the task will be analyzed for all plant specific EOP steps.

2. VEGP has no EOPs that are not covered by the ERGs.

3. All operator information and controls used to accomplish the tasks outlined in the ERGs/EOPs will be documented and analyzed. The required function to assure safe plant conditions are derived from the ERGs at the task level. The functional requirement for control room equipment is to support the performance of those required tasks. Required characteristic of specific control room equipment are inherent in the task elements. The task elements needed to perform each task must be associated with specific equipment, and cannot be developed independent of the actual control room in a design review. The specific requirements can vary with each task element and are therefore being evaluated at that level by one or more CRDR team members during the control room walkthru-instrument verification. Applicable requirements such as range, accuracy, and trending capability are evaluated for each task element and any deficency documented as a Human Engineering Discrepancy on the Task Data Form.

4. While the required tasks in the TASK ANALYSIS are developed from the Westinghouse Emergency Response Guidelines, the task elements in each task are developed from the corresponding plant specific Emergency Operating Procedures. In this way the plant specific means to accomplish each task is identified in the task analysis. All EOPs are developed from ERGs.

5. Control Room Survey items not incorporated in our checklists are documented in INPO 83-042 appendix B-H. The Control Room Design Review Team will review those items and document how they have been addressed in the CRDR or why they were inappropriate or not applicable. Human Engineering Discrepancies will be developed for all applicable or appropriate guidelines which are not met.

OTHER REVIEWER CONCERNS - REPLY

1. Georgia Power is committed to achieving a well designed control room. The CRDR is the primary accountability of the review team leader and all other personnel are available as needed to complete the CRDR.

2. All CRDR procedures, evaluations, and recommendations are reviewed and approved by all review team members or alternates.

3. The CRDR team considers the impacts of any control room changes in the development of HED resolutions.

4. The CRDR team will document review of improvement verifications.

5. The diverse nature of potential HED's precludes the prior development of rigid criteria for evaluation and resolution. The multi discipline CRDR team, will draw on their collective experience to evaluate problems and develop optimum solutions. These decisions are developed by concensors and documented in CRDR records.