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Vogle Project

March 15, 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  
Log: GN-546

NRC DOCKET NUMBERS 50-424 AND 50-425  
CONSTRUCTION PERMIT NUMBERS CPPR-108 AND CPPR-109  
REQUEST FOR SUPPLEMENTAL INFORMATION  
DSER OPEN ITEM 105 - COMPLIANCE  
WITH (QA) REGULATORY GUIDES

Dear Mr. Denton:

Attached for your staff's review are revisions to the VEGP conformance positions to Regulatory Guides 1.33, 1.38, 1.39, 1.58, 1.64, 1.88, 1.123 and 1.144. These revisions will appear in the next FSAR amendment presently scheduled for April 10, 1985 and supercedes those submitted in FSAR Amendment 15..

If your staff requires any additional information, please do not hesitate to contact me.

Sincerely,

J. A. Bailey  
Project Licensing Manager

JAB/sw

Attachment

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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.

2. 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.
3. 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.
4. 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.
5. Paragraph 2.4, Results, will be implemented as set forth in section 17.2 and with VEGP position to Regulatory Guide 1.33.
6. Paragraph 2.5, Measuring and Test Equipment. VEGP conforms with this paragraph as discussed in section 17.2.
7. Paragraph 3, Preconstruction Verification. VEGP conforms with this paragraph as discussed in subsections 17.2.10 and 17.2.11.
8. Paragraph 4, Installation. VEGP conforms with this paragraph as discussed in section 17.2.
9. 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.
10. Paragraph 5.2, Tests, including subparagraphs 5.2.1 through 5.2.3. VEGP conforms with this paragraph as discussed in section 17.2.

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

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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

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.

The applicability of ANSI N18.1-1971 for qualifying plant personnel has been addressed in FSAR section 13.1.0; in that section it is stated that personnel will cover 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. The 1973 version of ANSI N45.2.6 shall not apply for the VEGP, however the applicability of ANSI N45.2.6-1973 for qualifying plant personnel has been addressed in FSAR ~~13.1.0~~ paragraph 13.1.0.2.

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.

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

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

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

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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.

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.

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.

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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.
3. 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.
4. 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.

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.



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- 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

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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.

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.

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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.

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.
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.

2. Paragraph C-4 of Regulatory Guide 1.37.

Expendable consumable materials, such as ink and related products; temperature indicating sticks; tapes; gummed labels; wrapping materials (other than polyethylene); water soluble dam materials; lubricants; non penetrant materials and couplants; and desiccants which contact stainless steel or nickel alloy surfaces, shall not contain lead, zinc, copper or mercury, cadmium, and other low melting point metals, their alloys or compounds, as basic and essential chemical constituents. Prescribed maximum levels of water leachable chlorides, total halogens, and sulphur and its compounds shall be imposed on consumable products. 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 VEGT.

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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.



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- 4. 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.
- 5. 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.
- 6. 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.)
- 7. 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.
- 8. 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.
- 9. 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 installed systems required for safe shutdown."

VEGP shall contain 6" this sentence by defining "important nuclear plant items" to be "installed systems required for safe shutdown."

VEGP shall store

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

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5. Paragraph 3.6, Barrier and Wrap Materials and Desiccants.

This section contains requirements that; "Barrier and wrap materials shall be nonhalogenated 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." At VEGP, to prevent undesirable contaminants from coming in contact with austenitic stainless steels, only the products or types of consumable materials (including barrier and wrap materials) which have undergone an engineering evaluation and have been approved as qualified will be used in contact with austenitic stainless steels. Approved <sup>for use</sup> 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. For barrier and wrap materials, requirements for approving the use of a specific type or product ~~these materials~~ include ~~requirements~~ the conditions that they not be made of halogenated base materials, that they have self-extinguishing burning characteristics, and that the total leachable halogen content be less than 100ppm. Refer to the clarification of Regulatory Position

Insert 1.9-38, page 2

Section 1.9.37.2 for a further discussion  
of the use of <sup>expendable</sup> consumable materials at  
VEGP.

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

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

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.

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.

*While in Storage*

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.

*to remove other  
welds, cutouts,  
mechanics or ports  
etc. can be applied  
to, caps, storage  
bags, shipping  
containers, etc.*

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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. *(see attached)*

Refer to chapter 17 for further discussion.

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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

*Amend. 16 4/85*

Insert 1,9-40

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



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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

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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.

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Clarifications are as follows:

- Revised not included*
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 personnel; 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.
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.

Insert - pg. 1.9-51 ; Clarification 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. For personnel performing <sup>nondestructive</sup> inspection,  
examination, or testing in accordance with  
~~AN~~ ASNT Recommended Practice No. SNT-TC-1A,  
VEGP commits to <sup>qualifying</sup> ~~certifying~~ personnel to  
SNT-TC-1A-1980 in order to be consistent  
with the requirements of the ASME Boiler and Pressure  
Vessel Code; this is 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. ~~For the qualifi-~~  
~~cation of personnel performing nondestructive examination;~~  
~~subject to the conditions noted.~~ 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.

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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.

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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.

Clarifications are as follows:

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

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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.

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.

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### 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

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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.

The gaseous and liquid radwaste systems (test CC) will be tested as described 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.



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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.

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### 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 3, 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

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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.



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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.

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The VEGP QAP is described in chapter 17.

*was reviewed by Regulatory Unit 1/85, Rev. 2.*

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.

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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

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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 RESPONSE 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).

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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.

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

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.

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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.

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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.
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.

*Exemptions are as follows:*



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### 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 position 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.

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.

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:

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- (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 a "Q" quality commodity without a survey. Such items procured must be produced to a standard and must have defined ratings, such as pressure, temperatures, 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.
- (6) Verification that the supplier is listed in the current Coordinating Agency for Supplier

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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.
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."~~
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

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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.

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

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13. 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

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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

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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 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.

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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.

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.

#### 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.

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- Choosing  $\lambda/Q$  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.

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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.

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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.