



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

December 10, 2008

Mr. David A. Christian  
President and Chief Nuclear Officer  
Virginia Electric and Power Company  
Innsbrook Technical Center  
5000 Dominion Boulevard  
Glen Allen, VA 23060-6711

SUBJECT: SURRY POWER STATION, UNIT NOS. 1 AND 2, ISSUANCE OF AMENDMENTS REGARDING REVISION OF TECHNICAL SPECIFICATION 5.0, "DESIGN FEATURES" (TAC NOS. MD8426 AND MD8427)

Dear Mr. Christian:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 262 to Renewed Facility Operating License No. DPR-32 and Amendment No. 262 to Renewed Facility Operating License No. DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments change the Technical Specifications (TSs) in response to your application dated April 2, 2008.

These amendments revise TS Section 5.0, "Design Features," to delete certain design details and descriptions included in TS 5.0 that are already contained in the Updated Final Safety Analysis Report, or are redundant to existing TS requirements, and are not required to be included in the TS by Title 10 of the *Code of Federal Regulations*, Part 50, Section 50.36(c)(4). The proposed change also revises the format of, and incorporates design descriptions into, TS 5.0 consistent with the content and format of NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." The licensee also proposed a minor editorial change to address a previously deleted paragraph.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "John Stang".

John Stang, Senior Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosures:

1. Amendment No. 262 to DPR-32
2. Amendment No. 262 to DPR-37
3. Safety Evaluation

cc w/encls: Distribution via Listserv



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 262  
Renewed License No. DPR-32

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated April 2, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-32 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 262 , are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Melanie C. Wong, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to License No. DPR-32  
and the Technical Specifications

Date of Issuance: December 10, 2008



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No.262  
Renewed License No. DPR-37

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated April 2, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-37 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 262 , are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Melanie C. Wong, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes License No. DPR-37  
and the Technical Specifications

Date of Issuance December 10, 2008

ATTACHMENT

TO LICENSE AMENDMENT NO. 262

RENEWED FACILITY OPERATING LICENSE NO. DPR-32

DOCKET NO. 50-280

AND

TO LICENSE AMENDMENT NO. 262

RENEWED FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NO. 50-281

Replace the following pages of the Licenses and the Appendix A Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

License

License No. DPR-32, page 3

License No. DPR-37, page 3

TSs

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5.1-1

Figure 5.1-1

5.2-1

5.2-2

5.2-3

5.2-4

5.3-1

5.3-2

5.3-3

5.3-4

5.4-1

5.4-2

Figure 5.4-1

6.2-1

6.4-3

Insert Pages

License

License No. DPR-32, page 3

License No. DPR-37, page 3

TSs

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5.0-1

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5.0-2

5.0-3

Figure 5.3-1

6.2-1

6.4-3

3. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2546 megawatts (thermal).

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 262, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

The licensee shall make certain reports in accordance with the requirements of the Technical Specifications.

D. Records

The licensee shall keep facility operating records in accordance with the requirements of the Technical Specifications.

E. Deleted by Amendment 65

F. Deleted by Amendment 71

G. Deleted by Amendment 227

H. Deleted by Amendment 227

I. Fire Protection

The licensee shall implement and maintain in effect the provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report and as approved in the SER dated September 19, 1979, (and Supplements dated May 29, 1980, October 9, 1980, December 18, 1980, February 13, 1981, December 4, 1981, April 27, 1982, November 18, 1982, January 17, 1984, February 25, 1988, and

E. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

3. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2546 megawatts (thermal).

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 262, are hereby incorporated in this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

The licensee shall make certain reports in accordance with the requirements of the Technical Specifications.

D. Records

The licensee shall keep facility operating records in accordance with the requirements of the Technical Specifications.

E. Deleted by Amendment 54

F. Deleted by Amendment 59 and Amendment 65

G. Deleted by Amendment 227

H. Deleted by Amendment 227

TECHNICAL SPECIFICATION  
TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
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4.16	LEAKAGE TESTING OF MISCELLANEOUS RADIOACTIVE MATERIALS SOURCES	TS 4.16-1
4.17	SHOCK SUPPRESSORS (SNUBBERS)	TS 4.17-1
4.18	DELETED	
4.19	STEAM GENERATOR (SG) TUBE INTEGRITY	TS 4.19-1
4.20	CONTROL ROOM AIR FILTRATION SYSTEM	TS 4.20-1
5.0	<u>DESIGN FEATURES</u>	TS 5.0-1
5.1	SITE LOCATION	TS 5.0-1
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6.4	UNIT OPERATING PROCEDURES AND PROGRAMS	TS 6.4-1
6.5	STATION OPERATING RECORDS	TS 6.5-1
6.6	STATION REPORTING REQUIREMENTS	TS 6.6-1
6.7	ENVIRONMENTAL QUALIFICATIONS	TS 6.7-1
6.8	PROCESS CONTROL PROGRAM AND OFFSITE DOSE CALCULATION MANUAL	TS 6.8-1

## 5.0 DESIGN FEATURES

### 5.1 SITE LOCATION

The Surry Power Station is located in Surry County, Virginia, on property owned by Virginia Electric and Power Company on a point of land called Gravel Neck which juts into the James River. It is approximately 46 miles SE of Richmond, Virginia, 17 miles NW of Newport News, Virginia, and 25 miles NW of Norfolk, Virginia.

### 5.2 REACTOR CORE

#### 5.2.1 Fuel Assemblies

The reactor shall contain 157 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy or ZIRLO fuel rods with an initial composition of natural or slightly enriched uranium dioxide ( $UO_2$ ) as fuel material. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core locations.

#### 5.2.2 Control Rod Assemblies

The reactor core shall contain 48 control rod assemblies. The control material shall be silver indium cadmium, as approved by the NRC.

### 5.3 FUEL STORAGE

#### 5.3.1 Criticality

- 5.3.1.1 The spent fuel storage racks are designed and shall be maintained with:
- Fuel assemblies having a maximum U-235 enrichment of 4.3 weight percent;
  - $k_{\text{eff}} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties as described in Appendix 9A of the UFSAR; and
  - A nominal 14 inch center to center distance between fuel assemblies placed in the storage racks.
- 5.3.1.2 The new fuel storage racks are designed and shall be maintained with:
- Fuel assemblies having a maximum U-235 enrichment of 4.3 weight percent;
  - $k_{\text{eff}} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties calculated in accordance with the methodology described in Virginia Electric and Power Company letter dated November 5, 1997 (Serial No. 97-614);
  - $k_{\text{eff}} \leq 0.98$  if moderated by aqueous foam, which includes an allowance for uncertainties calculated in accordance with the methodology described in Virginia Electric and Power Company letter dated November 5, 1997 (Serial No. 97-614); and
  - A nominal 21 inch center to center distance between fuel assemblies placed in the storage racks.
- 5.3.1.3 The spent fuel pool is divided into a two-region storage pool. Region 1 comprises the first three rows of fuel racks (324 storage locations) adjacent to the Fuel Building Trolley Load Block. Region 2 comprises the remainder of the fuel racks in the fuel pool. During spent fuel cask handling, Region 1 is limited to storage of spent fuel assemblies which have decayed at least 150 days after discharge and shall be restricted to those assemblies in the "acceptable" domain of Figure 5.3-1. Administrative controls with written procedures will be employed in the selection and placement of these assemblies.

### 5.3 FUEL STORAGE (CONTINUED)

#### 5.3.2 Boron Concentration

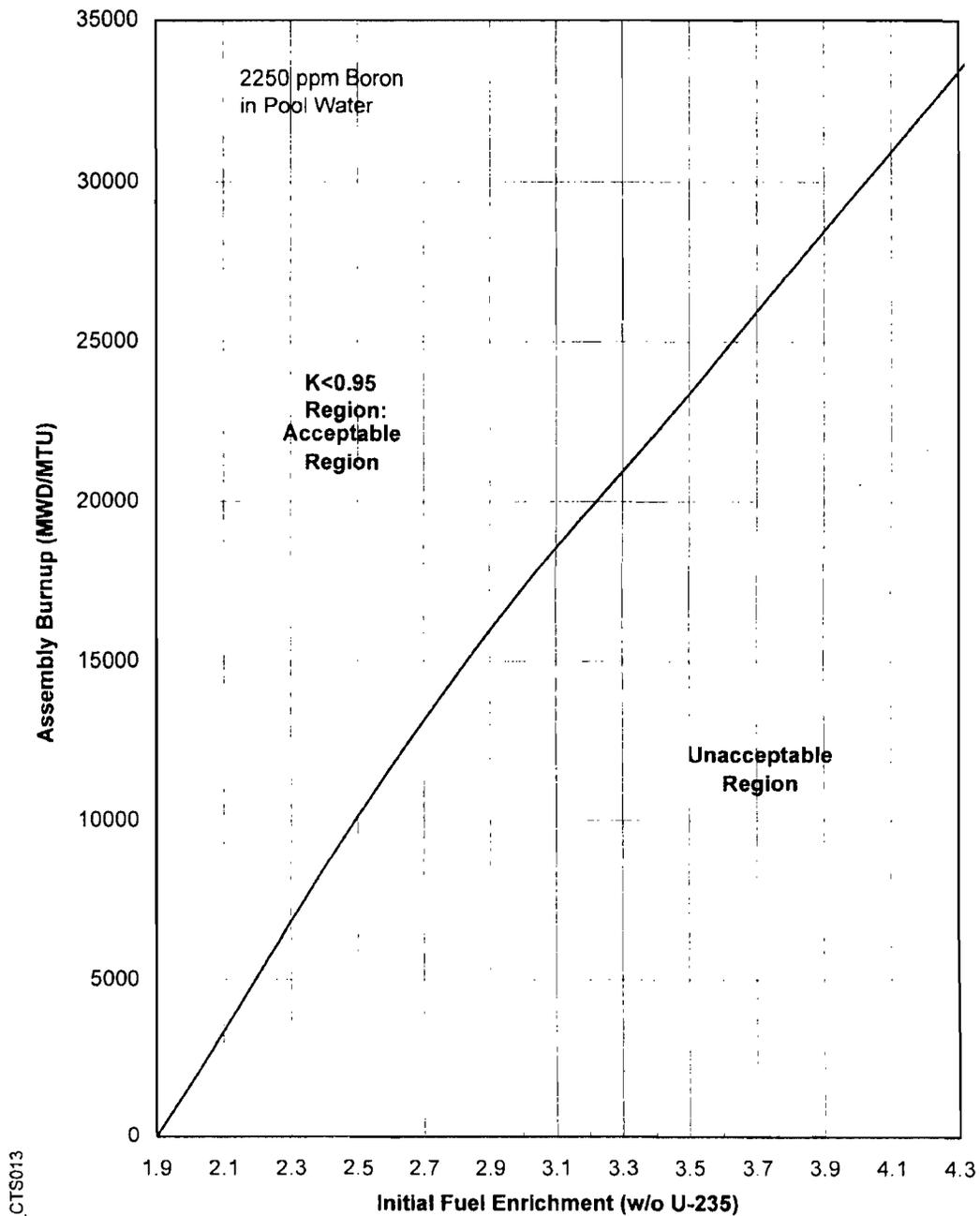
Whenever there is spent fuel in the spent fuel storage pool, the pool shall be filled with borated water at a boron concentration not less than 2300 ppm to match that used in the reactor cavity and refueling canal during refueling operations.

#### 5.3.3 Drainage

The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 41 feet, 2 inches mean sea level, USGS datum.

#### 5.3.4 Capacity

The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 1044 fuel assemblies.



S\_CTS013

Figure 5.3-1  
MINIMUM FUEL EXPOSURE VERSUS INITIAL ENRICHMENT  
TO PREVENT CRITICALITY IN DAMAGED RACKS

6.2 GENERAL NOTIFICATION AND REPORTING REQUIREMENTS

Specification

A. The following action shall be taken for Reportable Events:

A report shall be submitted pursuant to the requirements of Section 50.73 to 10 CFR.

B. Immediate notifications shall be made in accordance with Section 50.72 to 10 CFR.

C. CORE OPERATING LIMITS REPORT

Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle. Parameter limits for the following Technical Specifications are defined in the CORE OPERATING LIMITS REPORT:

1. TS 3.1.E - Moderator Temperature Coefficient
2. TS 3.12.A.2 and TS 3.12.A.3 - Control Bank Insertion Limits
3. TS 3.12.B.1 and TS 3.12.B.2 - Power Distribution Limits

2. The requirements of 6.4.B.1 above, shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr, but less than 500 rads/hr at one meter from a radiation source or any surface through which radiation penetrates. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of the Shift Manager on duty and/or the senior station individual assigned the responsibility for health physics and radiation protection.
3. Written procedures shall be established, implemented, and maintained covering the activities referenced below:
  - a. Process Control Program implementation.
  - b. Offsite Dose Calculation Manual implementation.

C. Deleted

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 262 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-32

AND

AMENDMENT NO. 262 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-280 AND 50-281

1.0 INTRODUCTION

By letter dated April 2, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML080940287), Virginia Electric and Power Company (the licensee), submitted a request for changes to the Surry Power Station, Unit Nos. 1 and 2 (Surry 1 and 2), Technical Specifications (TSs). The requested changes would revise TS Section 5.0, "Design Features," to delete certain design details and descriptions included in TS 5.0 that are already contained in the Updated Final Safety Analysis Report (UFSAR), or are redundant to existing TS requirements, and are not required to be in the design features section of the TSs by Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.36(c)(4). The proposed change also revises the format of, and incorporates design descriptions into, TS 5.0, to be consistent with the content and format of NUREG-1431, "Standard Technical Specifications (STS), Westinghouse Plants," to the extent practical. A minor editorial change is proposed to address a previously deleted paragraph.

Some specific changes include, removing Section 5.2, "Containment" from the TSs in its entirety. This section includes the minimum spray flows for the Containment Spray and Recirculation Spray Subsystems, but operability and performance of these systems are adequately controlled by existing TSs. The licensee proposes to remove the statement regarding how draining of the spent fuel pool is prevented and include a statement in the TS that would limit draining the spent fuel pool below the elevation of 41 feet, 2 inches mean sea level. Additionally, the licensee proposes to incorporate the spent fuel pool storage capacity of 1044 assemblies into the TSs. This limit was previously established by Amendment Nos. 37 and 36 to Surry 1 and 2, respectively.

The proposed changes are as follows:

1. Revise TS TABLE OF CONTENTS

- a. Revise TS 5.1 title from "SITE" to "SITE LOCATION,"
- b. Delete TS 5.2 "CONTAINMENT,"

- c. Revise TS 5.3 title from "REACTOR" to "REACTOR CORE,"
- d. Renumber TS 5.3 and 5.4 as TS 5.2 and 5.3, respectively,
- e. Renumber TS page numbers as TS 5.0-1, TS 5.0-2, etc.

2. TS 5.0 "DESIGN FEATURES"

Revise TS 5.1, "SITE," to:

- a. Change the section title from, "SITE," to "SITE LOCATION,"
- b. Delete the Applicability, Objective and References sections, as well as the Specification header,
- c. Delete the discussion associated with the site exclusion area boundary,
- d. Delete TS Figure 5.1-1, "Map Defining Unrestricted Areas for Radioactive Gaseous and Liquid Effluents."

3. Delete TS SECTION 5.2, "CONTAINMENT."

4. Revise TS 5.3, "REACTOR," to:

- a. Change the section title from "REACTOR" to "REACTOR CORE," and renumber as TS 5.2,
- b. Delete the Applicability, and Objective sections, as well as the Specification header,
- c. Delete TS 5.3.A.1 through 5.3.A.6 and replace with new TS 5.2.1, "Fuel Assemblies," and 5.2.2, "Control Rod Assemblies,"
- d. Delete TS 5.3.8, "Reactor Coolant System."

5. Revise TS 5.4, FUEL STORAGE, to:

- a. Renumber as TS 5.3,
- b. Delete the Applicability, Objective and References sections, as well as the Specification header,
- c. Delete TS 5.4.A and first sentence of TS 5.4.8.
- d. Reformat TS 5.4.8 as new TS 5.3.1.1 and 5.3.1.2 to conform to NUREG-1431 content and format,
- e. Reformat and renumber TS 5.4.B as TS 5.3.1 regarding spent and new fuel and storage racks,
- f. Retain the TS 5.4.8 discussion regarding spent fuel pool regional storage requirements as new TS 5.3.1.3,
- g. Renumber TS 5.4.C, which specifies the spent fuel pool boron concentration limit, as TS 5.3.2. The word "pit" is also changed to "pool" for consistency in TS terminology. The associated footnote is deleted since it is obsolete.
- h. Add TS 5.3.3 to include a limit for spent fuel pool level,
- i. Add TS 5.3.4 to incorporate the limit for spent fuel pool storage capacity,
- j. Renumber TS Figure 5.4-1 as TS Figure 5.3-1.

6. REVISE TS 6.2.C, "CORE OPERATING LIMITS REPORT," to:

- a. Delete the reference to TS 5.3.A.6.b associated with the Moderator Temperature Coefficient contained in TS 6.2.C.1 since TS 5.3.A.6 is being deleted.

7. REVISE TS 6.4, "UNIT OPERATING PROCEDURES AND PROGRAMS," to:

- a. Add item C as "Deleted" to correct a TS numbering inconsistency.

2.0 REGULATORY EVALUATION

In 10 CFR 50.36, the Nuclear Regulatory Commission (NRC) established its regulatory requirements related to the content of the TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements; (4) design features; and (5) administrative controls. The rule does not specify the particular requirements to be included in a plant's TSs. Section 50.36(c)(4), "Design Features" states "Design features to be included are those features of the facility such as materials of construction and geometric arrangements, which, if altered or modified, would have a significant effect on safety and are not covered in categories described in paragraphs (c) (1), (2), and (3) of this section."

The Surry 1 and 2 TS Section 5.0, "Design Features," contains design information regarding the plant site (TS 5.1), the containment structure, penetrations and systems (TS 5.2), the reactor core and Reactor Coolant System (TS 5.3), and fuel storage (TS 5.4). The proposed deletions from TSs, are not required to be included in the TS Design Features section by 10 CFR 50.36(c)(4). The licensee also proposes to revise and reformat the TS information to conform, as closely as practical, to NUREG-1431, improved STS. The other proposed changes include incorporation of previously established limits and an editorial change introduced from previous amendments.

The NRC staff reviewed the proposed changes for compliance with 10 CFR 50.36 and agreement with the precedent as established in NUREG-1431. In general, licensees cannot justify TS changes solely on the basis of adopting the model STS format and contents. To ensure this, the NRC staff makes a determination that proposed changes maintain adequate safety. Changes that result in relaxation (less restrictive condition) of current TS requirements require detailed justification.

In general, there are two classes of changes to the TSs: (1) changes needed to reflect contents of the design basis (TSs are derived from the design basis), and (2) voluntary changes to take advantage of the evolution in policy and guidance as to the required content and preferred format of TSs over time. Licensees may revise the TSs to adopt improved STS format and content provided that plant-specific review supports a finding of continued adequate safety because: (1) the change is editorial or provides clarification (i.e., no requirements are materially altered); (2) the change is more restrictive than the licensee's current requirement; or (3) the change is less restrictive than the licensee's current requirement, but nonetheless still affords adequate assurance of safety when judged against current regulatory standards.

3.0 TECHNICAL EVALUATION

3.1 TS 5.0, "DESIGN FEATURES"

There are general statements and headings in the design features section that the licensee proposed to either remove or revise. The licensee's application described the changes requested in TS Section 5.0 as:

TSs 5.1 through 5.4 contain general statements regarding the applicable requirements entitled "Applicability" and "Objective," as well as the section title "Specification." These TSs also include a list of UFSAR references at the end of each section. The purpose of the general statements and headings is to provide an introduction to the Design Features, and the purpose of the reference section is to provide background information for the requirement. This format appears to be a carryover from the original Surry TS format used for the TS contained in Sections 3 (LCOs) and 4 (Surveillance Requirements). However, this information is not required to understand and apply the Design Features, and NUREG-1431 does not include these general statements and headings or the list of references. The TS descriptions are adequate to understand and apply the Design Features; therefore, these items are being deleted.

The proposed change is consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG 1431. The items being removed does not meet the criteria of 10 CFR 50.36(c)(4) for items to be included within the design features section of the TSs. Therefore, the NRC staff finds the proposed change to TS Section 5.0 acceptable.

### 3.2 TS 5.1, "SITE"

The licensee's application described the changes requested in TS Section 5.1 as:

Consistent with the NUREG-1431 improved STS format, TS 5.1, "SITE," is renamed "SITE LOCATION." TS 5.1 is also revised to delete the existing discussion of the site exclusion area boundary and delete the TS Figure 5.1-1, *Map Defining Unrestricted Areas for Radioactive Gaseous and Liquid Effluents*. The site exclusion area boundary text is duplicative of information already contained in the UFSAR (Section 2.1.2, Exclusion Area Authority and Control), and TS Figure 5.1-1 is identical to UFSAR Figure 2.1-4, *Site Boundary and Unrestricted Areas*. Since changes to the UFSAR are subject to 10 CFR 50.59 requirements, any future changes to the information would be properly evaluated and adequately controlled. Furthermore, the deleted text and figure are not required to be included in the TSs by 10 CFR 50.36(c)(4), and NUREG-1431 does not include this information in the Design Features section. The existing site location description is retained and unchanged [in TS Section 5.1].

The proposed change is consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG 1431. The information being removed does not meet the criteria of 10 CFR 50.36(c)(4) for items to be included within the design features section of the TSs. Therefore, the NRC staff finds the proposed change to TS Section 5.1 acceptable.

### 3.3 TS 5.2, "CONTAINMENT"

The licensee's application described the changes requested in TS 5.2 as:

TS 5.2, CONTAINMENT, is deleted in its entirety, including subsections 5.2.A, Structure; 5.2.B, Containment Penetrations; and 5.2.C, Containment Systems. The design features, i.e., system design information referred to within these specifications, are duplicated within the UFSAR or, in certain cases, appropriately controlled by other applicable TS LCOs. The removal of these details from the TS

is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The removed information will be maintained in the UFSAR, which is controlled by 10 CFR 50.59 and, therefore, ensures that any changes will be properly evaluated and controlled. In addition, Surry TS contain requirements regarding containment OPERABILITY in TS 3.8 and containment leakage in TS 4.4, to ensure the containment is capable of performing its design function.

TS 5.2.C, Containment Systems, contains the minimum spray flows for the Containment Spray (CS) and Recirculation Spray (RS) Subsystems. While these values are significant, they are input parameters to the plant safety analyses for Surry, and it is these analyses [i.e., the method used] and their results that are controlling [or the basis for the TS requirements]. Therefore, maintaining the CS and RS Subsystems minimum flow values in the design features section has [no] additional safety benefit. Furthermore, CS and RS system operability and performance are adequately assured by existing TS 3.4, Spray Systems, and TS 4.5, Spray Systems Tests.

The information contained in TS 5.2 does not meet the criteria of 10 CFR 50.36(c)(4) for items to be included within the design features section of the TSs. Additionally, the proposed change is consistent with the guidance provided in NUREG-1431, which does not include containment specifications in the design features section of the improved STSs. The proposed changes are consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG-1431. Therefore, the NRC staff finds the proposed deletion of TS 5.2, "Containment," acceptable.

### 3.4 TS 5.3 "REACTOR"

The licensee proposed several changes regarding the reactor core. These changes to TS Section 5.3 are described in the licensee's application as:

Consistent with the NUREG-1431, improved STS format, TS 5.3, "REACTOR," is renumbered as TS 5.2 and renamed "REACTOR CORE."

Existing TS 5.3.A.1, 2 and 3 contain details of fuel assembly design, such as number of fuel rods per fuel assembly, that the fuel rods are pressurized with helium, the approximate weight of the uranium dioxide fuel, the initial core loading average and maximum enrichment and the number of enrichments in the initial core, and the maximum enrichment of reload fuel. The existing TS wording regarding the number of fuel assemblies in each reactor core (i.e., 157) is retained. However, the other information is replaced with the more general statement of, "Each assembly shall consist of a matrix of Zircaloy or ZIRLO fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO<sub>2</sub>) as fuel material." This proposed change to the TS to eliminate the detailed description of fuel assemblies is permissible because this type of information is not required to be included in the TSs by 10 CFR 50.36. The proposed change is also consistent with the guidance provided in NUREG-1431, which does not include this information in the Design Features section of the improved STS. Since the deleted TS information is contained in the UFSAR, it will be controlled in accordance with 10 CFR 50.59, which ensures changes are properly evaluated. The fuel

enrichment limit currently specified in TS 5.3.A.3 is retained in TS 5.3.1.1.a and 5.3.1.2.a for spent and new fuel, respectively.

The proposed change is consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG-1431. The information removed is not required to be included in the design features section of the TSs by 10 CFR 50.36(c)4. Therefore, the NRC staff finds the proposed change to TS Section 5.3, acceptable.

Generic Letter 90-02 Supplement 1, states that the NRC staff, "considers an NRC-approved methodology to be any methodology that the NRC staff has explicitly approved in a written safety evaluation, or a plant-specific technical specification basis. That NRC-approved methodology must be used only for the purpose and the scope of application specified in the reviewed document as approved or modified in the NRC approval documentation." The requested changes regarding fuel assemblies are more restrictive than the licensee's current TSs. The licensee's application described the change as:

New TS [5.2.1] (i.e., revised TS 5.3.A.1) includes the statement, "Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core locations." The purpose of this statement [as described in GL 90-02 Supplement 1] is to reiterate that all aspects of reactor core design must be performed in accordance with NRC staff approved methods and with approved computer codes. [Current TS 5.3.A.1 allows] the use of fuel assemblies which have been reconstituted to replace leaking fuel rods with non-fuel rods (e.g., Zircaloy or stainless steel); however, [it] does not specifically require the use of NRC-approved codes and methods. On July 31, 1992, the NRC issued Generic Letter (GL) 90-02 Supplement 1, "Alternative Requirements for Fuel Assemblies in the Design Features Section of Technical Specifications," [ADAMS Accession No. ML031140545] which included a model TS and stated that licensees may propose the model TS wording as [proposed in TS 5.2.A.1] above. In a letter dated March 14, 1995, [ADAMS Legacy Accession Number: 9503200061], Dominion [the licensee], committed to comply with the intent of the GL 90-02, Supplement 1 TS wording for Surry Power Station but did not revise the TS at that time to include the proposed wording.

The licensee also proposed one slight difference in the wording from the GL 90-02, Supplement 1. The phrase "nonlimiting core locations" is used in place of the phrase "nonlimiting core regions." The word "locations" refer to a specific x-y coordinate within a spent fuel pool "region". Using "locations" in place of "regions" gives a more specific and more accurate description of where the fuel assemblies are within the spent fuel pool. The NRC staff finds the proposed changes to TS 5.3 acceptable.

The proposed changes also eliminate the description of burnable poison rods. The licensee stated, "TS 5.3.A.4 contains details of burnable poison rods. Burnable poison rods are included in a core design to control core power distribution." However, TS 3.12, "Control Rod Assemblies and Power Distribution Limits" also contains the requirements on core power distribution.

NUREG-1431 does not contain a description of burnable poison rods nor is this information required by 10 CFR 50.36(c)(4) to be in the design features section of the TSs. The proposed change is consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG-1431. Therefore, the NRC staff finds the proposed change to TS 5.3.A.4 acceptable.

The licensee's description of control rod design is revised as described in the application as:

TS 5.3.A.5 contains details of control rod design, such as the nominal length of absorber material and control rod cladding material. The improved [S]TS do not contain these details and, instead, provides a general statement of, "The control material shall be silver indium cadmium as approved by the NRC." Furthermore, the TS include requirements on control rod OPERABILITY in TS 3.12. The revised specification is renumbered as TS 5.2.2.

The proposed change is consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG-1431. The information being removed does not meet the criteria of 10 CFR 50.36(c)4 for inclusion into the design features section of the TSs. Therefore, the NRC staff finds the proposed change to TS 5.3.A.5 acceptable.

The licensee's request to delete TS 5.3.A.6, is described in the application as:

TS 5.3.A.6 addresses hot channel factor and moderator temperature coefficient limits and the requirement for the reactor core to be made subcritical. This specification is being deleted. The proposed change does not alter or change the hot channel factor or the moderator temperature coefficient technical requirements. Specifically, as indicated in TS 5.3.A.6.a, the hot channel factors requirements are provided in TS 3.12.B.1 and must be met. The moderator temperature coefficient requirements in TS 5.3.A.6.b are repeated verbatim in TS 3.1.E. Finally, the TS 5.3.A.6.c subcriticality requirement is contained in TS 3.12.A.3.C. Consequently, TS 5.3.A.6 is redundant to other TS requirements. An associated reference to TS 5.3.A.6 contained in TS 6.2.C.1 is also being deleted.

This change deletes redundant TS requirements, which are not required by 10 CFR 50.36(c)(4) and are not contained in NUREG-1431, Section 4, "Design Features." The proposed change is consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG-1431. Therefore, the NRC staff finds the proposed change to TS 5.3.A.6 acceptable.

The RCS piping code requirements, volume, and seismic requirements are important plant design considerations, however, they are parameters utilized in the licensee plant safety analyses, and it is these analyses (i.e., the methods used) and their results that are important to safety. Therefore, maintaining this information in the design features section of the TS provides no additional safety benefit. The licensee states, "the TS requirements on RCS OPERABILITY are contained in TS 3.1, and surveillance requirements associated with RCS operational LEAKAGE are included in TS 4.13. These TS requirements adequately control RCS parameters, such as pressure, temperature, and pressure boundary degradation, which could have a significant impact on safety." The licensee's application described the proposed changes to TS Section 5.3.B as:

TS 5.3.B describes certain [Reactor Coolant System] RCS design criteria associated with code requirements, seismic qualifications and RCS volume. The proposed change deletes TS 5.3.B from the TSs in its entirety because: 1) this

information is duplicative of information contained in the UFSAR, 2) NUREG-1431 does not contain this information, and 3) this information does not satisfy any of the inclusion criteria specified in 10 CFR 50.36(c)(4).”

The proposed change is consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG-1431. The information removed does not meet the criteria of 10 CFR 50.36(c)4 for inclusion into the design features section of the TSs. Therefore, the NRC staff finds the proposed change to TS 5.3.B acceptable.

### 3.5 TS 5.4, “FUEL STORAGE”

The licensee’s application describes the proposed changes to TS Section 5.4 as:

Consistent with the NUREG-1431 improved STS format, TS 5.4, “FUEL STORAGE,” is renumbered as TS 5.3.

Current TS 5.4.A and 5.4.B contain descriptions of the fuel building, the spent fuel storage racks, and the new fuel storage racks, such as materials of construction, seismic design, fuel orientation, and operational controls. The proposed change eliminates details of the seismic and structural design of the Fuel Building and spent fuel storage racks and reformats the section to conform to NUREG-1431 guidance. However, the proposed TS change retains requirements on the nuclear design characteristics of the spent fuel and new fuel storage racks, such as maximum center-to-center fuel cell spacing and maximum enrichment. The current TS requirements associated with spent fuel regional storage contained in TS 5.4.B and Figure 5.4-1, and the spent fuel pool boron concentration limit included in TS 5.4.C, are being retained as TS 5.3.1.1.d and TS 5.3.2, respectively. The footnote associated with the spent fuel pool boron concentration limit is being deleted since it is associated with an earlier operating cycle, and thus no longer provides pertinent or meaningful information.

Current TS 5.4.D addresses how draining of the spent fuel pool is prevented. TS 5.4.D is being replaced by proposed TS 5.3.3 which states, “The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below the elevation 41 feet, 2 inches mean sea level, USGS [U.S. Geological Survey] datum.” The proposed change revises the TS by eliminating details of how the spent fuel storage pool is operated to prevent draining of the spent fuel pool below the required level. The removal of these details, which are related to system operation, from the TS is acceptable because this type of information is not necessary to be included in the TS to [meet the requirements of 10 CFR 50.36]. The TS retain the requirement that the spent fuel storage pool is designed and maintained to prevent inadvertent draining below the required level.

Section 50.36 of 10 CFR does not require the TSs to state how this requirement is implemented. The changes are consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG-1431. The information being removed does not meet the criteria of 10 CFR 50.36(c)4 for inclusion into the design features section of the TSs. Therefore, the NRC staff finds the proposed changes to TS Section 5.4 acceptable.

### 3.6 Proposed TS 5.3.4, "CAPACITY"

The licensee's application described the proposed change to TS 5.3.4 as:

Proposed TS 5.3.4, Capacity, states that, "The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 1044 fuel assemblies." The current TS do not contain this information. [This change] provides appropriate TS limits [1044 fuel assemblies] for the spent fuel pool storage racks [as evaluated in previously approved license amendments for Surry 1 and 2, ADAMS Accession No. ML012420026]. The Atomic Energy Act of 1954 (Public Law 83-703), Section 2232, states that technical specifications shall include information of the "amount, kind, and source" of the special nuclear material required.

The proposed change adds a previously established limit to the TSs that is not currently located in the TSs. The proposed change is consistent with the requirements of 10 CFR 50.36 and with the content and format of NUREG-1431. The NRC staff finds the proposed change acceptable.

### 3.7 TS 6.4, "UNIT OPERATING PROCEDURES AND PROGRAMS"

The licensee's application described the proposed change to TS Section 6.4 as:

[Previous amendments issued for Surry 1 and 2] revised the Administrative Controls section of the TSs to support implementation of Topical Report DOM-QA-1, "Dominion Nuclear Facility Quality Assurance Program Description." As part of the TS revision, the organization and responsibilities of the onsite and offsite safety review committees [TS 6.4.C and 6.4.G] were relocated from the TSs to the Topical Report. The intent was to retain the TS 6.4 "C" and "G" item designators with the word "Deleted" inserted in place of the relocated TS requirements to preclude renumbering the subsequent TS items and their associated references within other TSs. While this was done for TS 6.4.G, TS 6.4.C was inadvertently deleted in its entirety, thus introducing a TS numbering inconsistency into TS 6.4. The proposed change reinserts TS item designator C into TS 6.4 with the word "Deleted" to restore the correct TS numbering sequence.

The proposed change of this administrative TS is consistent with the requirements of 10 CFR 50.36. No substantive change is made. Therefore, the NRC staff finds the proposed change to TS Section 6.4 acceptable.

## 4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission may issue the license amendments before the expiration of the 60-day period provided that its final determination is that the amendments involve no significant hazards consideration. These amendments are being issued prior to the expiration of the 60-day period, which began November 4, 2008. Therefore, a final finding of no significant hazards consideration follows.

The Commission has made a final determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendments do not

(1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has performed its own analysis, which is presented below.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes to Section 5.0, "Design Features," removes certain details from the TSs that are not required to be maintained in the TSs by 10 CFR 50.36(c)(4), or are adequately controlled by other existing TSs, incorporates previously approved TS limits that meet the 10 CFR 50.36(c)(4) inclusion criteria, and revises the TSs for consistency with NUREG-1431. An additional change addresses a minor editorial discrepancy introduced by a previous amendment. The minimum spray flow values for the CS and RS Subsystems are removed, but operability and performance of both subsystems are adequately controlled by existing TSs ensuring they will continue to perform their design functions. The values do not meet the inclusion criteria of 10 CFR 50.36(c)(4). The proposed changes remove the statement describing how draining of the spent fuel pool is prevented (does not meet the criteria of 10 CFR 50.36(c)(4) for inclusion in the TSs) and includes a statement in the TS that would limit draining the spent fuel pool below the elevation of 41 feet, 2 inches mean sea level (as analyzed in the UFSAR and consistent with the content and format of NUREG-1431). The proposed change incorporates the spent fuel pool storage capacity of 1044 assemblies into the TSs. This limit was evaluated in previously approved Amendment Nos. 37 and 36 to Surry Power Station, Unit Nos. 1 and 2, respectively. The proposed changes do not affect initiators of previously analyzed events or assumed mitigation of accident or transient events. Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

There is no physical alteration of the plant (no new or different type of equipment will be installed) associated with the proposed amendment. The proposed changes will not have any effect on the assumptions of accident scenarios previously made in the UFSAR. The proposed changes do not alter or prevent the ability of structures, systems, and components to perform their intended function to mitigate the consequences of an initiating event. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

Response: No.

The spent fuel pool and the CS and RS Subsystems will continue to perform as designed and analyzed in the UFSAR. There is no change to the methods used to analyze their performance. Their required function will be maintained as currently set forth in the UFSAR and existing TSs.

The proposed changes do not result in plant operation in a configuration outside the design basis. The proposed changes do not adversely affect systems that respond to safely shutdown the plant and to maintain the plant in a safe shutdown condition. The dose analysis is not affected. The proposed changes do not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on its own analysis, determined that the three standards of 10 CFR 50.92 are satisfied. Therefore, the NRC staff has made a final determination that the amendments involve no significant hazards consideration.

#### 5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendments. The State official had no comments.

#### 6.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact was published in the Federal Register on December 9, 2008 (73 FR 74767). Accordingly, based upon the environmental assessment, the Commission has determined that issuance of these amendments will not have a significant effect on the quality of the human environment.

#### 7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Gerald Waig, NRR

Date: December 10, 2008

