Eugene S. Grecheck
Vice President
Nuclear Development

Dominion Energy, Inc. • Dominion Generation
Innsbrook Technical Center
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-2442, Fax: 804-273-3903
E-mail: Eugene.Grecheck@dom.com

Dominion®

September 11, 2008

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

Serial No. NA3-08-091R
Docket No. 52-017
COL/MEP

DOMINION VIRGINIA POWER
NORTH ANNA UNIT 3 COMBINED LICENSE APPLICATION
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER NOS. 011, 013 AND 021 (FSAR CHAPTERS 1, 5, 13, 14 AND 17)

On July 28, 2008, the NRC requested additional information to support the review of certain portions of the North Anna Unit 3 Combined License Application (COLA). The responses to the following RAIs are provided as Enclosures 1 through 18:

- RAI Question 05.02.01.01-1, ASME BPV Code & ASME Code for Operation and Maintenance
- RAI Question 05.02.01.02-1, Code Cases Not in ESBWR DCD re ASME BPV or OM Codes
- RAI Question 05.02.01.02-2, Annulled Code Cases in 10CFR
- RAI Question 13.01.01-1, Guidance Regarding Outside Company Work
- RAI Question 13.01.01-2, Executive & Management Positions
- RAI Question 13.01.01-3, Corporate Organization
- RAI Question 13.01.01-4, Plant Maintenance Programs
- RAI Question 13.01.01-5, NSSS & A/E Organizations
- RAI Question 13.01.01-6, Organizational Arrangement Regarding Nuclear w/ Corporate
- RAI Question 13.01.02-13.01.03-2, QA Program Requirements
- RAI Question 13.01.02-13.01.03-3, Plant Organization Regarding Section 17.5
- RAI Question 13.01.02-13.01.03-4, Regulatory Guide 1.33
- RAI Question 13.02.01-1, NEI-06-13-A Revision 1 in FSAR
- RAI Question 13.02.02-1, SRP Section 13.2.2 re Section 13.1
- RAI Question 13.05.02.01-2, Procedures in FSAR Section 13.5.2
- RAI Question 13.05.02.01-3, P-STGs from GTGs
- RAI Question 13.05.02.01-4, P-SWG re EOPs and P-STGs
- RAI Question 14.02-7, Subsection 14AA.3.4- License Amendment

D089
NRO

As committed to in Response to Request for Additional Information Letters Nos. 11 and 13 (Dominion Serial Numbers NA3-08-063R and NA3-08-066R, dated August 4, 2008), this letter also includes the responses to the following RAIs, provided as Enclosures 19 and 20:

- RAI 13.01.02-13.01.03-1, Fire Protection Organization
- RAI 17.5-4, QAPD Organizational Charts

This information will be incorporated into a future submission of the North Anna Unit 3 COLA, as described in the Enclosures.

Please contact Regina Borsh at (804) 273-2247 (regina.borsh@dom.com) if you have questions.

Very truly yours,

Eugene S. Grecheck

COMMONWEALTH OF VIRGINIA

COUNTY OF HENRICO

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Eugene S. Grecheck, who is Vice President-Nuclear Development of Virginia Electric and Power Company (Dominion Virginia Power). He has affirmed before me that he is duly authorized to execute and file the foregoing document on behalf of the Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 11th day of September, 2008
My registration number is 7173057 and my
Commission expires: August 31, 2012

Notary Public

WANDA K. MARSHALL
Notary Public
Commonwealth of Virginia
7173057
My Commission Expires Aug 31, 2012

Enclosures:

1. Response to RAI Letter Number 021, RAI Question 05.02.01.01-1
2. Response to RAI Letter Number 021, RAI Question 05.02.01.02-1
3. Response to RAI Letter Number 021, RAI Question 05.02.01.02-2
4. Response to RAI Letter Number 021, RAI Question 13.01.01-1
5. Response to RAI Letter Number 021, RAI Question 13.01.01-2
6. Response to RAI Letter Number 021, RAI Question 13.01.01-3
7. Response to RAI Letter Number 021, RAI Question 13.01.01-4
8. Response to RAI Letter Number 021, RAI Question 13.01.01-5
9. Response to RAI Letter Number 021, RAI Question 13.01.01-6
10. Response to RAI Letter Number 021, RAI Question 13.01.02-13.01.03-2
11. Response to RAI Letter Number 021, RAI Question 13.01.02-13.01.03-3
12. Response to RAI Letter Number 021, RAI Question 13.01.02-13.01.03-4
13. Response to RAI Letter Number 021, RAI Question 13.02.01-1
14. Response to RAI Letter Number 021, RAI Question 13.02.02-1
15. Response to RAI Letter Number 021, RAI Question 13.05.02.01-2
16. Response to RAI Letter Number 021, RAI Question 13.05.02.01-3
17. Response to RAI Letter Number 021, RAI Question 13.05.02.01-4
18. Response to RAI Letter Number 021, RAI Question 14.02-7
19. Response to RAI Letter Number 011, RAI Question 13.01.02-13.01.03-1
20. Response to RAI Letter Number 013, RAI Question 17.5-4

Commitments made by this letter:

1. Incorporate proposed changes in a future COLA submission.

cc: U. S. Nuclear Regulatory Commission, Region II
T. A. Kevern, NRC
J. T. Reece, NRC
J. J. Debiec, ODEC
G. A. Zinke, NuStart/Entergy
T. L. Williamson, Entergy
R. Kingston, GEH
K. Ainger, Exelon
P. Smith, DTE

ENCLOSURE 1

Response to NRC RAI Letter 021

RAI Question 05.02.01.01-1

NRC RAI 05.02.01.01-1

The FSAR incorporates by reference Subsection 5.2.1.1, "Compliance with 10 CFR 50.55a," in ESBWR DCD Tier 2 Revision 4 without supplemental information or departures. ESBWR DCD Subsection 5.2.1.1 refers to Table 3.2-1, "Classification Summary," and Table 3.2-3, "Quality Group Designations – Codes and Industry Standards," for the ASME Code applied to components in the ESBWR design. As those tables focus on Section III of the ASME Boiler & Pressure Vessel Code *(BPV Code), the COL applicant is requested to address the application of other sections of the ASME BPV Code and the ASME* Code for Operation and Maintenance of Nuclear Power Plants *(OM Code) in its implementation of the ESBWR reactor design.*

Dominion Response

Section 5.2 of the ESBWR DCD discusses the measures to provide and maintain the integrity of the reactor coolant pressure boundary (RCPB). DCD Section 5.2.1 discusses compliance with Codes and Code Cases, and DCD Section 5.2.1.1 discusses compliance with 10 CFR 50.55a with respect to Code compliance, with reference to DCD Tables 3.2-1 and 3.2-3 for applicable code requirements for components. DCD Table 1.9-22 provides the code edition and addenda applicable to the design, construction and inspection of the ESBWR reactor coolant pressure boundary components and materials. DCD Section 3.1.4.3 specifies that inspection of the RCPB is in accordance with ASME B&PV Code Section XI. DCD Section 5.2.4 (via reference to DCD Table 1.9-22) and FSAR Section 5.2.4 indicate the ASME Code edition and addenda applicable to the preservice and inservice inspection programs required by ASME Code Section XI. DCD Section 3.9.3.7.1 indicates that snubber inspection and testing is in accordance with the ASME OM Code, Section ISTD. DCD Section 3.9.6 indicates that the ASME OM Code is used for preservice and inservice testing of safety-related components (pumps, valves). FSAR Section 5.2.1.1 will be revised to provide references to the appropriate sections that discuss ASME Code Section XI and ASME OM Code (and thus 10 CFR 50.55a) compliance.

Proposed COLA Revision

FSAR Section 5.2.1.1 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

Chapter 5 Reactor Coolant System and Connected Systems

5.1 Summary Description

This section of the referenced DCD is incorporated by reference with no departures or supplements.

5.2 Integrity of Reactor Coolant Pressure Boundary

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

5.2.1 Compliance with Codes and Code Cases

5.2.1.1 Compliance with 10 CFR 50.55a

Add the following at the end of this section.

STD SUP 5.2-2

As described in Section 5.2.4, preservice and inservice inspection of the reactor coolant pressure boundary is conducted in accordance with the applicable edition and addenda of the ASME Boiler and Pressure Vessel Code, Section XI, required by 10 CFR 50.55a. As described in DCD Section 3.9.6 for pumps and valves, and in DCD Section 3.9.3.7.1 for dynamic restraints, preservice and inservice testing of the reactor coolant pressure boundary components is in accordance with the edition and addenda of the ASME OM Code required by 10 CFR 50.55a.

5.2.1.2 Applicable Code Cases

Add the following as the third sub-bulleted paragraph after the second sub-bullet of the third bullet in the first paragraph.

STD SUP 5.2-3

— Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code." This guide lists those ASME OM Code cases that are acceptable to the staff for use in the preservice and inservice testing of pumps, valves, and dynamic restraints in light-water-cooled nuclear power plants.

5.2.4 Preservice and Inservice Inspection and Testing of Reactor Coolant Pressure Boundary

Replace the second sentence in the second paragraph with the following.

STD COL 5.2-3-A

All Class 1 austenitic or dissimilar metal welds are included in the referenced certified design.

ENCLOSURE 2

Response to NRC RAI Letter 021

RAI Question 05.02.01.02-1

NRC RAI 05.02.01.02-1

The FSAR incorporates by reference Subsection 5.2.1.2, "Applicable Code Cases," of the ESBWR DCD Tier 2 without supplemental information or departures. The ESBWR DCD indicates that the various ASME Code Cases that may be applied to components in the ESBWR design are listed in Table 5.2-1, "Reactor Coolant Pressure Boundary Components (Applicable Code Cases)." The ESBWR DCD also notes that NRC Regulatory Guide (RG) 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III," and RG 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," provide a list of ASME Code design and fabrication code cases that have been generically approved by the NRC staff. The ESBWR DCD does not reference RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code." The COL applicant is requested to discuss use of Code Cases not listed in ESBWR DCD Tier 2 Table 5.2-1 related to the ASME BPV or OM Codes.

Dominion Response

No ASME Section III or ASME Section XI Code Cases other than those listed in DCD Table 5.2-1 have been identified as necessary at this time. Other Code Cases approved by the NRC in Regulatory Guide 1.147 may be used during development and implementation of the preservice and inservice inspection programs, as documented in the program documents. DCD Section 3.9.3.7.1b, "Inspection, Testing, Repair and/or Replacement of Snubbers" provides reference to Regulatory Guide 1.192 (applicable revision listed in DCD Table 1.9-22) for use of Code Cases applicable to inservice testing of dynamic restraints. The DCD states: "The intervals for visual examination are the subject of Code Case OMN-13, which is accepted under the RG 1.192." DCD Section 3.9.6.6, "10 CFR 50.55a Relief Requests and Code Cases," states: "The IST Program for valves does not invoke the use of any ASME Code Cases for inservice testing." Other Code Cases approved by the NRC in Regulatory Guide 1.192 may be used during development and implementation of the preservice and inservice testing programs, as documented in the program documents.

Proposed COLA Revision

FSAR Section 5.2.1.2 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

Chapter 5 Reactor Coolant System and Connected Systems

5.1 Summary Description

This section of the referenced DCD is incorporated by reference with no departures or supplements.

5.2 Integrity of Reactor Coolant Pressure Boundary

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

5.2.1 Compliance with Codes and Code Cases

5.2.1.1 Compliance with 10 CFR 50.55a

Add the following at the end of this section.

STD SUP 5.2-2

As described in Section 5.2.4, preservice and inservice inspection of the reactor coolant pressure boundary is conducted in accordance with the applicable edition and addenda of the ASME Boiler and Pressure Vessel Code, Section XI, required by 10 CFR 50.55a. As described in Section 3.9.6 for pumps and valves, and in DCD Section 3.9.3.7.1 for dynamic restraints, preservice and inservice testing of the reactor coolant pressure boundary components is in accordance with the edition and addenda of the ASME OM Code required by 10 CFR 50.55a.

5.2.1.2 Applicable Code Cases

Add the following as the third sub-bulleted paragraph after the second sub-bullet of the third bullet in the first paragraph.

STD SUP 5.2-3

— Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code." This guide lists those ASME OM Code cases that are acceptable to the staff for use in the preservice and inservice testing of pumps, valves, and dynamic restraints in light-water-cooled nuclear power plants.

5.2.4 Preservice and Inservice Inspection and Testing of Reactor Coolant Pressure Boundary

Replace the second sentence in the second paragraph with the following.

STD COL 5.2-3-A

All Class 1 austenitic or dissimilar metal welds are included in the referenced certified design.

ENCLOSURE 3

Response to NRC RAI Letter 021

RAI Question 05.02.01.02-2

NRC RAI 05.02.01.02-2

ESBWR DCD Tier 2 Revision 4, Subsection 5.2.1.2, states that annulled cases are considered active for equipment that has been contractually committed to fabrication prior to the annulment. The COL applicant is requested to discuss compliance with the requirements regarding the use of annulled Code Cases specified in 10 CFR 50.55a(b)(4), (5), and (6).

Dominion Response

Design, fabrication and construction of safety related components is conducted in accordance with the ASME Code requirements specified in DCD Table 3.2-1 and 3.2-3. As stated in DCD Section 5.2.1.1:

"The ESBWR meets the relevant requirements of the following regulations:

- ....
- 10 CFR 50.55a, as it relates to establishing minimum quality standards for the design, fabrication, erection, construction, testing and inspection of components within the RCPB and other safety-related fluid systems, ..."

and:

"Tables 3.2-1 and 3.2-3 show the Code applied to components. Code edition, applicable addenda, and component dates are in accordance with 10 CFR 50.55a."

This includes application of any limitations and modifications to the applicable code edition and addenda as may be specified in 10 CFR 50.55a, including any limitations regarding the use of annulled Code Cases.

Preservice and inservice inspection and testing of safety related components is conducted in accordance with the requirements of the ASME Code Section XI, and the ASME OM Code as discussed in DCD and FSAR Sections 3.9.3.7.1, 3.9.6, 5.2 and 6.6. As indicated in these sections, the applicable edition and addenda of the ASME Code as identified in 10 CFR 50.55a is used, subject to the limitations and modifications specified in 10 CFR 50.55a, including those limitations specified in 10 CFR 50.55a(b)(4), (5), and (6) regarding the use of code cases.

Proposed COLA Revision

None

ENCLOSURE 4

Response to NRC RAI Letter 021

RAI Question 13.01.01-1

NRC RAI 13.01.01-1

Standard Review Plan Section 13.1.1, "Management and Technical Support Organization," Section I.1.1.B discusses preoperational responsibilities of the applicant. The statement is made in Section 13.1.1.2.1, Engineering, of the application, that design work may be contracted to and performed by outside companies in accordance with Section 17.5. Where is this guidance related to outside company work found in the application?

Dominion Response

Delegation of work is discussed in Appendix 17BB in Section 2, Quality Assurance Program and Section 2.2, Delegation of Work. Section 13.1.1.2.1 will be revised to indicate that this information is located in Appendix 17BB.

Proposed COLA Revision

FSAR Section 13.1.1.2.1 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

The engineering organization is responsible for:

- Support of plant operations in the engineering areas of mechanical, structural, electrical, thermal-hydraulic, metallurgy and materials, electronic, ~~and~~ instrument and control, and fire protection. Priorities for support activities are established based on input from the plant manager with emphasis on issues affecting safe operation of the plant.
- Support of procurement, chemical and environmental analysis, and maintenance activities in the plant as requested by the plant manager
- Performance of design engineering of plant modifications
- Maintaining the design basis by updating the record copy of design documents as necessary to reflect the actual as-built configuration of the plant
- Accident and transient analyses
- Human Factors Engineering design process

Reactor engineering, led by the functional manager in charge of reactor engineering, provides technical assistance in the areas of core operations, core thermal limits, and core thermal hydraulics.

Design work may be contracted to and performed by outside companies in accordance with ~~Section 17.5~~ Appendix 17BB, Sections 2 and 2.2.

13.1.1.2.2 **Plant Chemistry**

A chemistry program is established to monitor and control the chemistry of various plant systems such that corrosion of components and piping is minimized and radiation from corrosion by-products is kept to levels that allow operations and maintenance with radiation doses as low as is reasonably achievable.

The functional manager in charge of chemistry is responsible for maintaining chemistry programs and for monitoring and maintaining the water chemistry of plant systems. The staff of the chemistry department consists of laboratory technicians, support personnel, and supervisors who report to the functional manager in charge of chemistry.

13.1.1.2.3 **Radiation Protection**

A radiation protection (RP) program is established to protect the health and welfare of the surrounding public and personnel working at the plant. The RP program is described in Chapter 12.

ENCLOSURE 5

Response to NRC RAI Letter 021

RAI Question 13.01.01-2

NRC RAI 13.01.01-2

FSAR Section 13.1.1.1, Design, Construction, and Operating Responsibilities, states that Section 17.5 provides a discussion of key executive and corporate management positions, functions, and responsibilities. Staff review indicates such discussion is not contained in Section 17.5. Please identify the location of this discussion.

Dominion Response

The requested information will be added to Section 13.1.1.3. The added information addresses the following key executive and corporate management positions, functions, and responsibilities:

- Executive/Management Organization
  - Chief Nuclear Officer
  - Senior Vice President of Nuclear Operations
  - Vice President of Nuclear Engineering
  - Vice President of Support Services
  - Vice President of Nuclear Development
  - Director of Nuclear Oversight
  - Director of Nuclear Analysis and Fuel
  - Director of Nuclear Engineering, Corporate
- Site Organization (Operating)
  - Site Vice President
  - Site Director of Nuclear Engineering
  - Functional Manager in Charge of System Engineering
  - Functional Manager in Charge of Design Engineering
  - Functional Manager in Charge of Engineering Programs
  - Functional Manager in Charge of Projects
  - Manager of Organizational Effectiveness
  - Functional Manager in Charge of Plant Licensing
  - Functional Manager in Charge of Emergency Preparedness
  - Manager of Nuclear Training
  - Functional Manager of Supply Chain Services
  - Manager of Nuclear Protection
  - Manager of Nuclear Oversight

Proposed COLA Revision

FSAR Section 13.1.1.3 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

13.1.1.2.11 **Emergency Organization**

The emergency organization is a matrixed organization composed of personnel who have the experience, training, knowledge, and ability necessary to implement actions to protect the public in the case of emergencies. Managers and station personnel assigned to positions in the emergency organization are responsible for supporting the emergency preparedness organization and the emergency plan as required. The staff members of the emergency planning organization administer and orchestrate drills and training to maintain qualification of station staff members, and develop procedures to guide and direct the emergency organization during an emergency. The emergency preparedness manager reports to the corporate-stationed executive in charge of emergency planning via the corporate emergency manager. The site emergency plan organization is described in the Emergency Plan.

13.1.1.2.12 **Outside Contractual Assistance**

Contract assistance with vendors and outside suppliers is provided by the materials, procurement, and contracts organization. The functional manager in charge of materials, procurement, and contracts reports to the corporate stationed senior manager in charge of materials, purchasing, and contracts.

Resources and management of the materials, procurement, and contracts organization are shared between units.

13.1.1.3 **Organizational Arrangement**

Organizational arrangement for corporate offices and site organizations reporting directly to corporate offices is presented ~~in Section 17.5~~ below.

13.1.1.3.1 **Executive/Management Organization**

Executive management is ultimately responsible for execution of activities and functions for Unit 3. Executive management establishes expectations such that a high level of quality, safety, and efficiency is achieved in aspects of plant operations and support activities through an effective management control system and an organization selected and trained to meet the above expectations. The executives with direct line of authority for activities associated with the design, construction, and operation of the plant are shown in Figure 13.1-204. Responsibilities of those executives are discussed below.

13.1.1.3.1.1 **Chief Nuclear Officer**

The CNO has the ultimate responsibility for the safe and reliable operation of each nuclear station owned and/or operated by the utility. It is the responsibility of the CNO to provide guidance and direction such that safety-related activities under his/her direction including engineering, construction, operations, operations support, maintenance, and planning are performed following the guidelines of the quality assurance program.

The CNO delegates authority and responsibility for operation and support of the site through the senior vice president of nuclear operations, the vice president of engineering, the vice president of support services, the vice president of nuclear development, and the director of nuclear oversight. The CNO has no ancillary responsibilities that might detract attention from nuclear safety matters.

13.1.1.3.1.2 **Senior Vice President of Nuclear Operations**

The senior vice president of nuclear operations is responsible for the operation of all nuclear plants owned and/or managed by the utility. The senior vice president of nuclear operations maintains direct control of nuclear plant operations through the site vice president. The senior vice president of nuclear operations reports to the CNO.

13.1.1.3.1.3 **Vice President of Nuclear Engineering**

The vice president of nuclear engineering is responsible for engineering activities associated with operating nuclear plants in the system. The vice president of nuclear engineering performs these functions through managers who are responsible for the functions and programs discussed in Section 13.1.1.2.1. The vice president of nuclear engineering reports to the CNO.

13.1.1.3.1.4 **Vice President of Support Services**

The vice president of support services is responsible for ensuring that nuclear regulatory requirements for operating plants are implemented, and for maintaining lines of communication with the nuclear regulatory authority. The vice president of support services is also responsible for the operating plant support functions of emergency planning, training and development, and security. The direct reports of the vice president of support services include managers responsible for security, training, emergency preparedness, and licensing for the operating plants. The vice president of support services reports to the CNO.

13.1.1.3.1.5 **Vice President of Nuclear Development**

The vice president of nuclear development is responsible for the preparation, submission, and defense of license applications for new nuclear units before the nuclear regulatory authority and for the implementation of regulatory requirements and license conditions upon issuance of the license up to commencement of commercial operations. The vice president of nuclear development is also responsible for engineering oversight and project activities, and for site activities associated with new nuclear units prior to commencement of commercial operations. The direct reports to the vice president of nuclear development include managers responsible for new nuclear projects, new nuclear plant, fire protection (construction), module engineering planning, construction safety/security/environmental, and quality control.

13.1.1.3.1.6 **Director of Nuclear Oversight**

The director of nuclear oversight is responsible for the verification of effective company and supplier QA program development, documentation, and implementation. This position is independent of cost and scheduling concerns associated with construction, operations, maintenance, modification, and decommissioning activities for performing quality assurance program verification. Where implementation of any or all of these functions is delegated to suppliers, procedures require the establishment of interface documents including defining lines of communication and authorities as appropriate for the delegated functions. However, this senior management position retains responsibility for the scope and effective implementation of the quality assurance program for those functions.

This management position has the necessary authority and responsibility for verifying quality achievement; identifying quality problems, recommending solutions and verifying implementation of the solutions, and escalating quality problems to higher management levels. This position has the authority to suspend unsatisfactory work and control further processing or installation of non-conforming materials. The authority to stop work delegated to Nuclear Oversight personnel is delineated in procedures. The director of nuclear oversight reports to the chief nuclear officer.

13.1.1.3.1.7 **Director of Nuclear Analysis and Fuel**

The director of nuclear analysis and fuel is responsible for providing nuclear fuel and related business and technical support consistent with the operational needs of the plant. The director of nuclear analysis and fuel is assisted by functional managers of fuel procurement, safety analysis, core design, probabilistic risk assessment, and spent fuel storage and handling. The director of nuclear analysis and fuel reports to the vice president of nuclear engineering.

13.1.1.3.1.8 **Director of Nuclear Engineering, Corporate**

The director of nuclear engineering, corporate, is responsible for providing engineering support to the nuclear stations in the areas of design, projects, and programs, including the fire protection program. The site director of nuclear engineering directs functional managers responsible for each of these engineering areas, and reports to the vice president of nuclear engineering.

13.1.1.3.2 **Site Organization (Operating)**

13.1.1.3.2.1 **Site Vice President**

The site vice president reports to the senior vice president of nuclear operations. The site vice president is directly responsible for management and direction of activities associated with the efficient, safe, and reliable operation of the nuclear station, except for those functions delegated to the vice president of engineering, the vice president of support services, and the director of nuclear oversight. The site vice president is assisted in management and technical support activities by the plant manager and the director in charge of nuclear safety and licensing. The site vice president is responsible for the site fire protection program through the fire protection engineer.

13.1.1.3.2.2 **Site Director of Nuclear Engineering**

The site director of nuclear engineering is the on-site lead position for engineering and reports to the vice president of nuclear engineering. The site director of nuclear engineering is responsible for engineering activities related to design engineering, system engineering, project engineering, program engineering, and component engineering. The site director of nuclear engineering directs functional managers responsible for each of these engineering areas.

13.1.1.3.2.2.1 **Functional Manager in Charge of System Engineering**

The functional manager in charge of system engineering supervises a technical staff of engineers and other engineering specialists and coordinates their work with that of other groups. System engineering staff includes reactor. The functional manager in charge of system engineering reports to the site director of nuclear engineering and is responsible for providing direction and guidance to system engineers as follows:

- Monitoring the efficiency and proper operation of balance of plant and reactor systems.
- Planning programs for improving equipment performance, reliability, or work practices.
- Conducting operational tests and analyzing the results.
- Identification of plant spare parts for systems within his/her cognizance.

13.1.1.3.2.2.2 **Functional Manager in Charge of Design Engineering**

The functional manager in charge of design engineering reports to the site director of nuclear engineering and is responsible for:

- Resolution of design issues.
- On-site development of design related change packages and plant modifications.
- Management of contractors who may perform modification or construction activities.
- Maintaining configuration control program.

13.1.1.3.2.2.3 **Functional Manager in Charge of Engineering Programs**

The functional manager in charge of engineering programs reports to the manager site director of nuclear engineering and is responsible for programs such as:

- Materials engineering
- Performance/ISI engineering
- Valve engineering
- Maintenance rule tracking and trending

- Piping erosion corrosion
- In-service testing
- Fire protection
- Predictive Analysis

13.1.1.3.2.2.4 **Functional Manager in Charge of Projects**

The functional manager in charge of projects reports to the site director of nuclear engineering and is responsible for:

- Development of maintenance programs and specifications of selected plant equipment.
- Planned upgrades to equipment such as turbine rotors and major component replacement.
- Implementation of effective project management of contractors.
- Implementation of effective project management methods and procedures, including cost controls, for implementation of modifications and construction activities.

13.1.1.3.2.3 **Manager of Organizational Effectiveness**

The responsibilities of the manager of organizational effectiveness include establishing processes and procedures to facilitate identification and correction of conditions adverse to quality and implementing corrective actions. The functional manager in charge of corrective actions and assessments reports to the director of nuclear safety and licensing.

13.1.1.3.2.4 **Functional Manager in Charge of Plant Licensing**

The functional manager in charge of plant licensing is responsible for providing a coordinated focus for interface with the NRC, and for technical direction and administrative guidance to the licensing staff for the following activities:

- Developing licensee event reports (LERs) and responding to notices of violations.
- Preparing/submitting license amendments and updating the FSAR.
- Tracking commitments and answering generic letters.
- Analyzing operating experience data and monitoring industry issues.
- Preparing the station for special NRC inspections, interfacing with NRC inspectors, and interpreting NRC regulations.

- Maintaining the licensing basis.

The functional manager in charge of plant licensing reports to the director of nuclear safety and licensing.

13.1.1.3.2.5 Functional Manager in Charge of Emergency Preparedness

The functional manager in charge of emergency preparedness is responsible for:

- Coordinating and implementing the plant emergency response plan with state and local emergency plans.
- Developing, planning, and executing emergency drills and exercises.
- Emergency action level development.
- NRC reporting associated with 10 CFR 50.54(q).

The functional manager in charge of emergency preparedness reports to the vice president of nuclear support services through the corporate emergency planning and support management.

13.1.1.3.2.6 Manager of Nuclear Training

The manager of nuclear training is responsible for training programs at the site required for the safe and proper operation and maintenance of the plant as described in Section 13.1.1.2.8. The manager of nuclear training supervises a staff of training supervisors who coordinate the development, preparation, and presentation of training programs for nuclear plant personnel and reports through corporate-training and development to the vice president of nuclear support services.

13.1.1.3.2.7 Functional Manager of Supply Chain Services

The functional manager of supply chain services is responsible for providing sufficient and proper materials to support the material needs of the plant and performing related activities including:

- Procedure development
- Materials storage
- Supply system database maintenance
- Meeting quality assurance and internal audit requirements

The functional manager of supply chain services is also responsible for site purchasing. This position reports to the vice president of nuclear support services through the corporate supply chain organization.

13.1.1.3.2.8 **Manager of Nuclear Protection**

The manager of nuclear protection is responsible for:

- Implementation and enforcement of security directives, procedures, and instructions received from appropriate authorities.
- Day-to-day supervision of the security guard force.
- Administration of the security program.
- Training the security force.
- Implementing the fitness-for-duty program.

The manager of nuclear protection reports to the vice president of support services via corporate security management.

13.1.1.3.2.9 **Manager of Nuclear Oversight**

The manager of nuclear oversight is responsible for those functions listed in Section 13.1.1.2.7. The manager of nuclear oversight reports to corporate oversight management.

13.1.1.4 Qualifications of Technical Support Personnel

Personnel of the technical support organization meet the education and experience qualifications for those described in ANSI/ANS-3.1 (Reference 13.1-201) as endorsed and amended by RG 1.8.

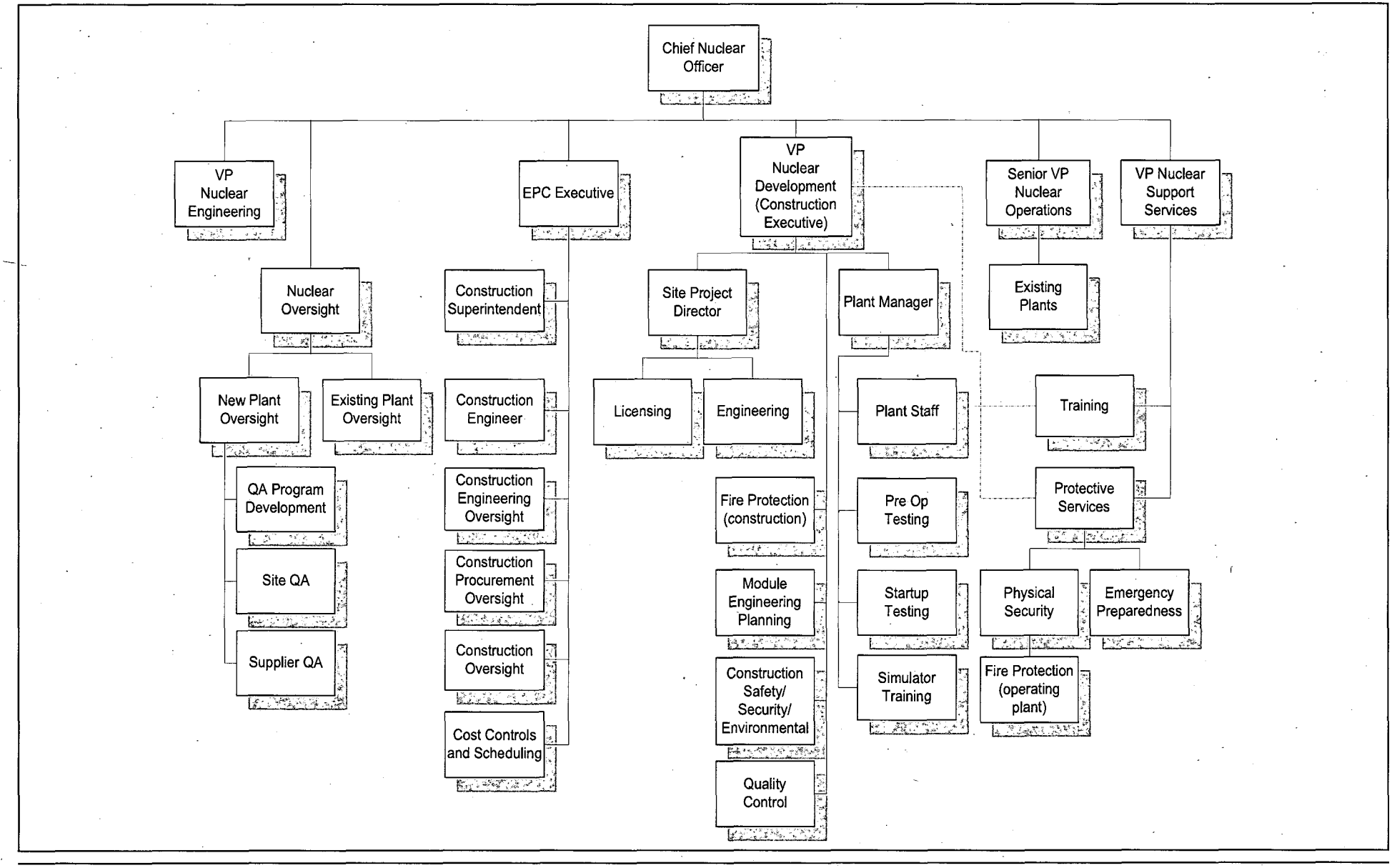
13.1.2 Operating Organization

13.1.2.1 Plant Organization

The plant management, technical support, and plant operating organizations are ~~incorporated into Section 17.5~~ shown in Figure 13.1-204. The operating organization is described in Sections 13.1.1.3 and 13.1.2. The on-shift organization is shown in Figure 13.1-203. Additional personnel are required to augment normal staff during outages.

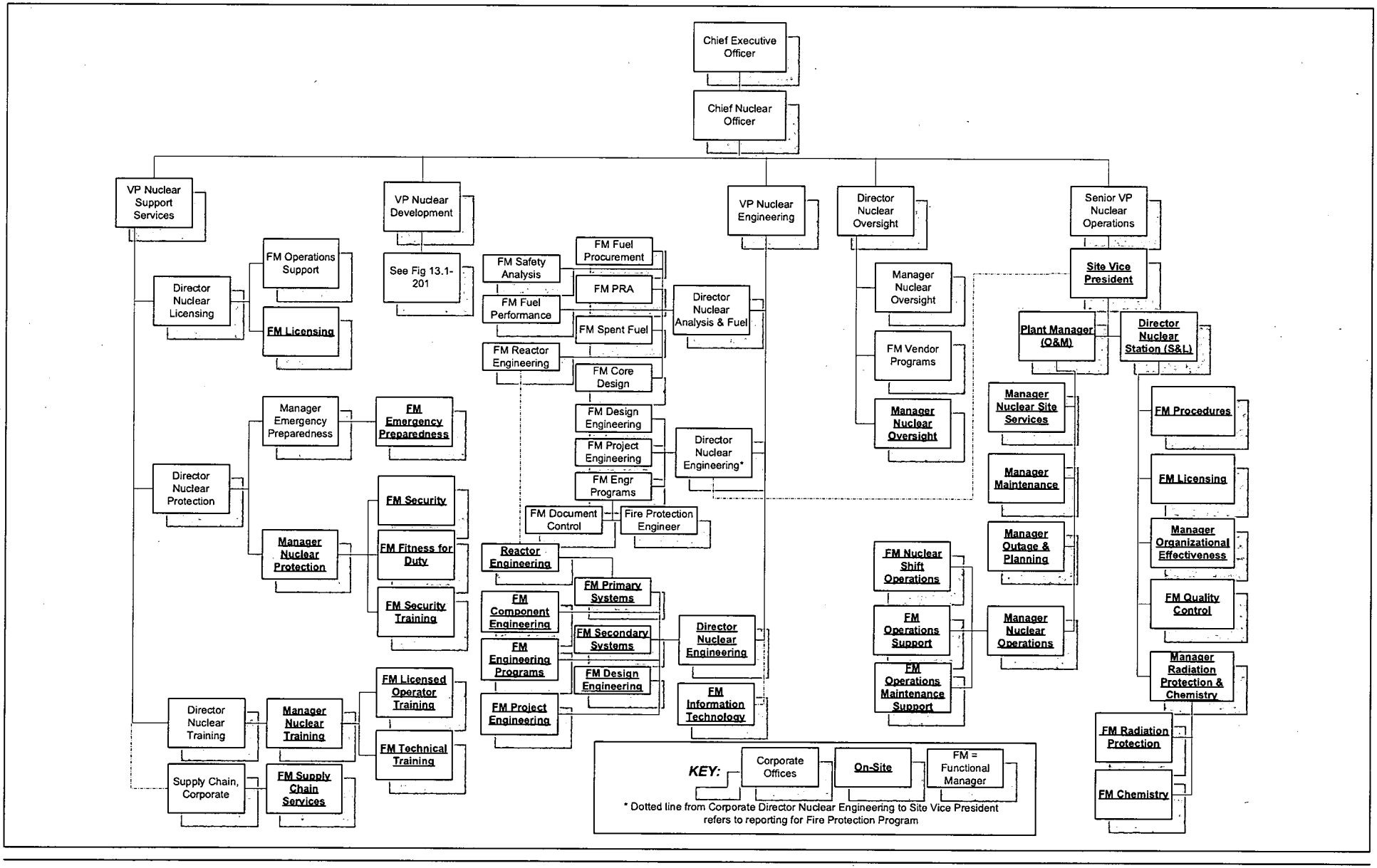
Nuclear plant employees are responsible for reporting problems with plant equipment and facilities. They are required to identify and document equipment problems in accordance with the QA program. QA program requirements as they apply to the operating organization are described in Section 17.5.

NAPS COL 13.1-1-A **Figure 13.1-201 Construction Organization**



NAPS COL 13.1-1-A

Figure 13.1-204 Operating Organization



ENCLOSURE 6

Response to NRC RAI Letter 021

RAI Question 13.01.01-3

NRC RAI 13.01.01-3

Section 13.1.1, Management and Technical Support Organization, includes the statement that Section 17.5 provides high-level illustrations of the corporate organization. Staff review indicates such illustrations are not contained in Section 17.5. Please identify the location of these illustrations in the application.

Dominion Response

Section 13.1.1 is in error. The reference to Section 17.5 will be deleted from Section 13.1.1. Figure 13.1-204, Operating Organization, will be added to the FSAR.

Proposed COLA Revision

FSAR Section 13.1.1 will be corrected and Figure 13.1-204 will be added as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

Chapter 13 Conduct of Operations

The introductory paragraph of this chapter of the referenced DCD is incorporated by reference with no departures or supplements.

13.1 Organizational Structure of Applicant

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

DCD Section 13.1.1, Combined License Information, is renumbered in this FSAR as Section 13.1.4 for administrative purposes to allow section numbering to be consistent with RG 1.206 and the Standard Review Plan.

Replace the first paragraph with the following.

NAPS COL 13.1-1-A

This section describes the organization of Unit 3. The organizational structure is described in this section and is consistent with the Human System Interface (HSI) design assumptions used in the design of the ESBWR as described in DCD Chapter 18. The organizational structure is consistent with the ESBWR HFE design requirements and complies with the requirements of 10 CFR 50.54(i) through (m).

13.1.1 Management and Technical Support Organization

Dominion has over 35 years of experience in the design, construction, and operation of nuclear generating stations. Dominion and its affiliates currently operates seven nuclear units at four sites located in Virginia, Connecticut, and Wisconsin.

Corporate offices provide support for the nuclear stations. This support includes executive level management to provide strategic and financial support for plant initiatives, coordination of functional efforts division-wide, and functional level management in areas such as training, security, emergency planning, and engineering analysis.

~~Section 17.5~~ Figure 13.1-204 provides a high-level ~~illustrations~~ illustration of the ~~corporate~~ nuclear organization. More detailed charts and position descriptions, including qualification requirements and staffing numbers for corporate support staff, are maintained in corporate offices.

Changes to the organization described herein are reviewed under the provisions of 10 CFR 50.54(a) to ensure that any reduction in

commitments in the QAPD (as accepted by the NRC) are submitted to, and approved by the NRC, prior to implementation.

13.1.1.1 Design, Construction, and Operating Responsibilities

The chief nuclear officer (CNO) has overall responsibility for functions involving planning, design, construction, and operation of Dominion's nuclear units. Line responsibilities for those functions are passed to the executives in charge of nuclear operations, engineering and technical services, planning, development, and oversight, who maintain direct control of nuclear plant activities.

The first priority and responsibility of each member of the nuclear staff throughout the life of the plant is nuclear safety. Decision making for station activities is performed in a conservative manner with expectations of this core value regularly communicated to appropriate personnel by management interface, training, and station directives.

Lines of authority and communication clearly and unambiguously establish that utility management directs the project.

At key project milestones, including beginning of construction, fuel load, and commercial operation, senior management will determine if there are sufficient numbers of qualified personnel available to move the project forward.

~~Key executive and corporate management positions, functions, and responsibilities are discussed in Section 17.5.~~ The construction management organization is shown in Figure 13.1-201.

13.1.1.1.1 Design and Construction Responsibilities

This section is included in Appendix 13AA for future designation as historical information.

13.1.1.2 Technical Support for Plant Operations

This section describes the functional groups that will be activated before fuel load. The site executive will establish the organization of managers, functional managers, supervisors, and staff sufficient to perform required functions for support of safe plant operation. These functions include the following:

- Nuclear, mechanical, structural, electrical, thermal-hydraulic, metallurgical and material, and instrumentation and controls engineering

- Plant chemistry
- Radiation protection
- Fueling and refueling operations support
- Maintenance support
- Operations support
- Quality assurance
- Training
- Safety review
- Fire protection
- Emergency organization
- Outside contractual assistance

In the event that station personnel are not qualified to deal with a specific problem, the services of qualified individuals from other functions within the company or outside consultants are engaged. ~~Figures incorporated into Section 17.5 illustrate the management and technical organizations supporting operation of the plant.~~ Figure 13.1-204 illustrates the nuclear operating organization. Table 13.1-201 shows the estimated number of positions required for each function.

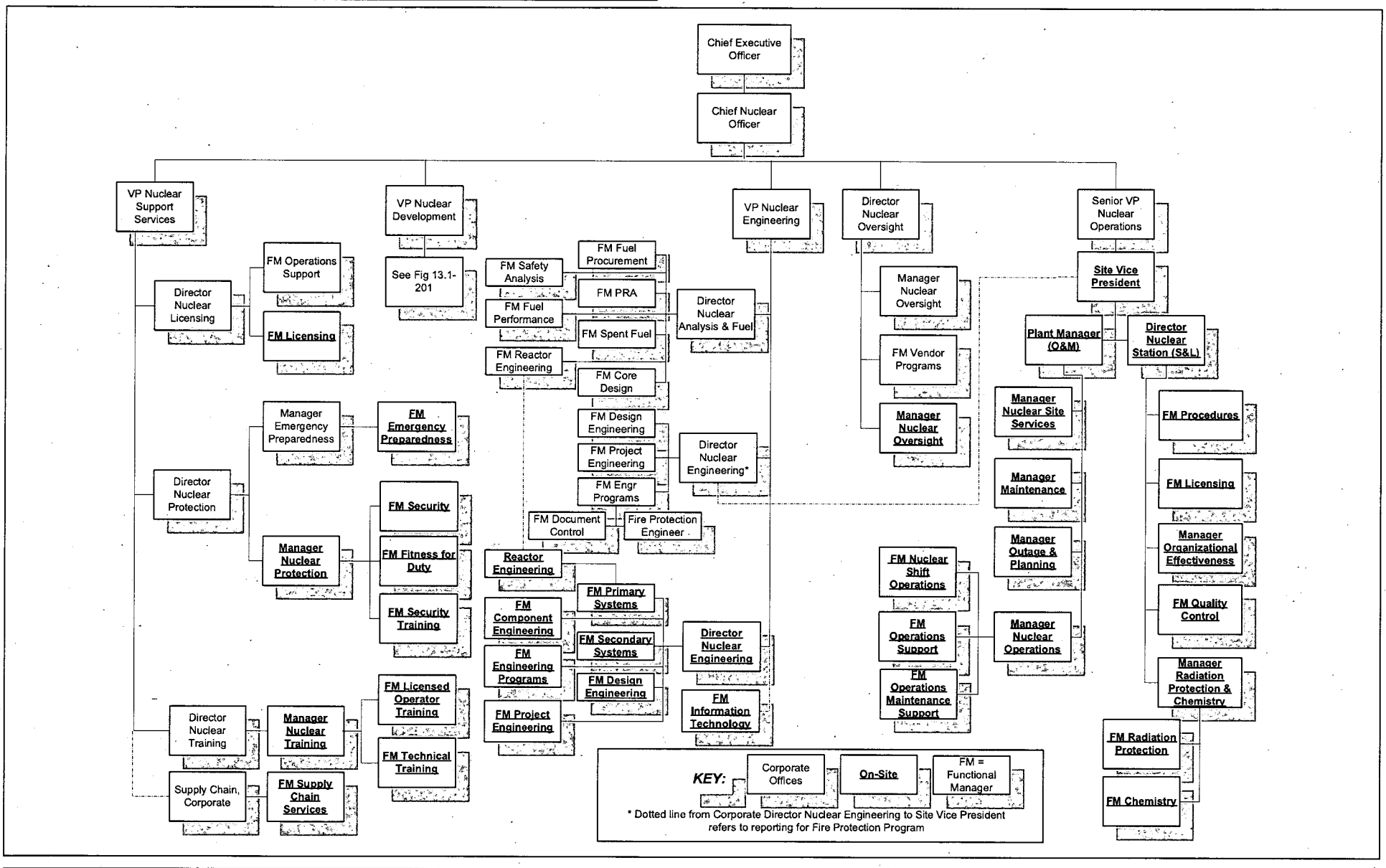
13.1.1.2.1 **Engineering**

The site engineering department consists of system engineering, design engineering, and engineering programs. These groups are responsible for performing the classical design activities as well as providing engineering expertise for programs, such as reactor engineering, fire protection, inservice inspection (ISI), inservice testing (IST), snubbers, and maintenance rule. Corporate engineering provides support for engineering projects, safety and engineering analysis, and nuclear fuels engineering. They are responsible for probabilistic safety assessment and other safety issues, plant system reliability analysis, performance and technical support, core management, and periodic reactor testing.

Each of the site engineering groups has a functional manager who reports to the director in charge of engineering on site or to managers and executives in corporate engineering and technical services.

NAPS COL 13.1-1-A

Figure 13.1-204 Operating Organization



ENCLOSURE 7

Response to NRC RAI Letter 021

RAI Question 13.01.01-4

NRC RAI 13.01.01-4

Standard Review Plan Section 13.1.1, "Management and Technical Support Organization," Section I.1.B.iii requests the applicant describe the development of the plant maintenance programs. Please describe the development of the plant maintenance programs.

Dominion Response

FSAR Section 13.1.2.1.1.3 will be revised to clarify that development of plant maintenance programs is the responsibility of the maintenance manager.

Proposed COLA Revision

FSAR Section 13.1.2.1.1.3 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

13.1.2.1.1.3 Maintenance Manager

Maintenance of the plant is performed by the maintenance department mechanical, electrical, and instrumentation and control disciplines. The functions of this department are to perform preventive and corrective maintenance, equipment testing, and implement modifications as necessary.

The manager in charge of plant maintenance is responsible for the performance of preventive and corrective maintenance and modification activities required to support operations, including compliance with applicable standards, codes, specifications, and procedures. The maintenance manager is responsible for the development of maintenance programs. The maintenance manager reports to the plant manager and provides direction and guidance to the maintenance discipline functional managers and maintenance support staff.

13.1.2.1.1.4 Maintenance Discipline Functional Managers

The functional managers of each maintenance discipline (mechanical, electrical, instrumentation and control, and support) are responsible for maintenance activities within their discipline including plant modifications. They provide guidance in maintenance planning and craft supervision. They establish the necessary manpower levels and equipment requirements to perform both routine and emergency type maintenance activities, seeking the services of others in performing work beyond the capabilities of the plant maintenance group. Each discipline functional manager is responsible for liaison with other plant staff organizations to facilitate safe operation of the station. These functional managers report to the maintenance manager.

13.1.2.1.1.5 Maintenance Discipline Supervisors

The maintenance discipline supervisors and assistant supervisors (mechanical, electrical, and instrumentation and control) supervise maintenance activities, assist in the planning of future maintenance efforts, and guide the efforts of the craft within their discipline. The maintenance discipline supervisors report to the appropriate maintenance discipline functional managers.

13.1.2.1.1.6 Maintenance Mechanics, Electricians, and Instrumentation and Control Technicians

The discipline craft perform electrical and mechanical maintenance and I&C tasks as assigned by the discipline supervisors. They troubleshoot,

ENCLOSURE 8

Response to NRC RAI Letter 021

RAI Question 13.01.01-5

NRC RAI 13.01.01-5

Standard Review Plan Section 13.1.1, "Management and Technical Support Organization," Section I.1.B.viii requests the applicant provide information on the interface with the NSSS and AE organizations. Please describe how NAPS management interfaces with the NSSS and AE organizations.

Dominion Response

The Engineering, Procurement, and Construction (EPC) contractor will fill the roles of the NSSS vendor, the architect/engineer, and the constructor. Dominion will interface with the EPC contractor through the EPC executive. The relationship of the EPC executive with Dominion management is shown on Figure 13.1-201, Construction Organization.

Proposed COLA Revision

None.

ENCLOSURE 9

Response to NRC RAI Letter 021

RAI Question 13.01.01-6

NRC RAI 13.01.01-6

Standard Review Plan Section 13.1.1, "Management and Technical Support Organization," section I.2.B and RG 1.206, section C.I.13.1.1.2, "Organizational Arrangement", request the applicant to provide the relationship of the nuclear-oriented part of the organization to the rest of the corporate organization. Describe where can this relationship be found in the NAPS application?

Dominion Response

Figure 13.1-204, Operating Organization, which shows the relationship of the nuclear-oriented part of the organization to the rest of the corporate organization, will be added to the FSAR.

Proposed COLA Revision

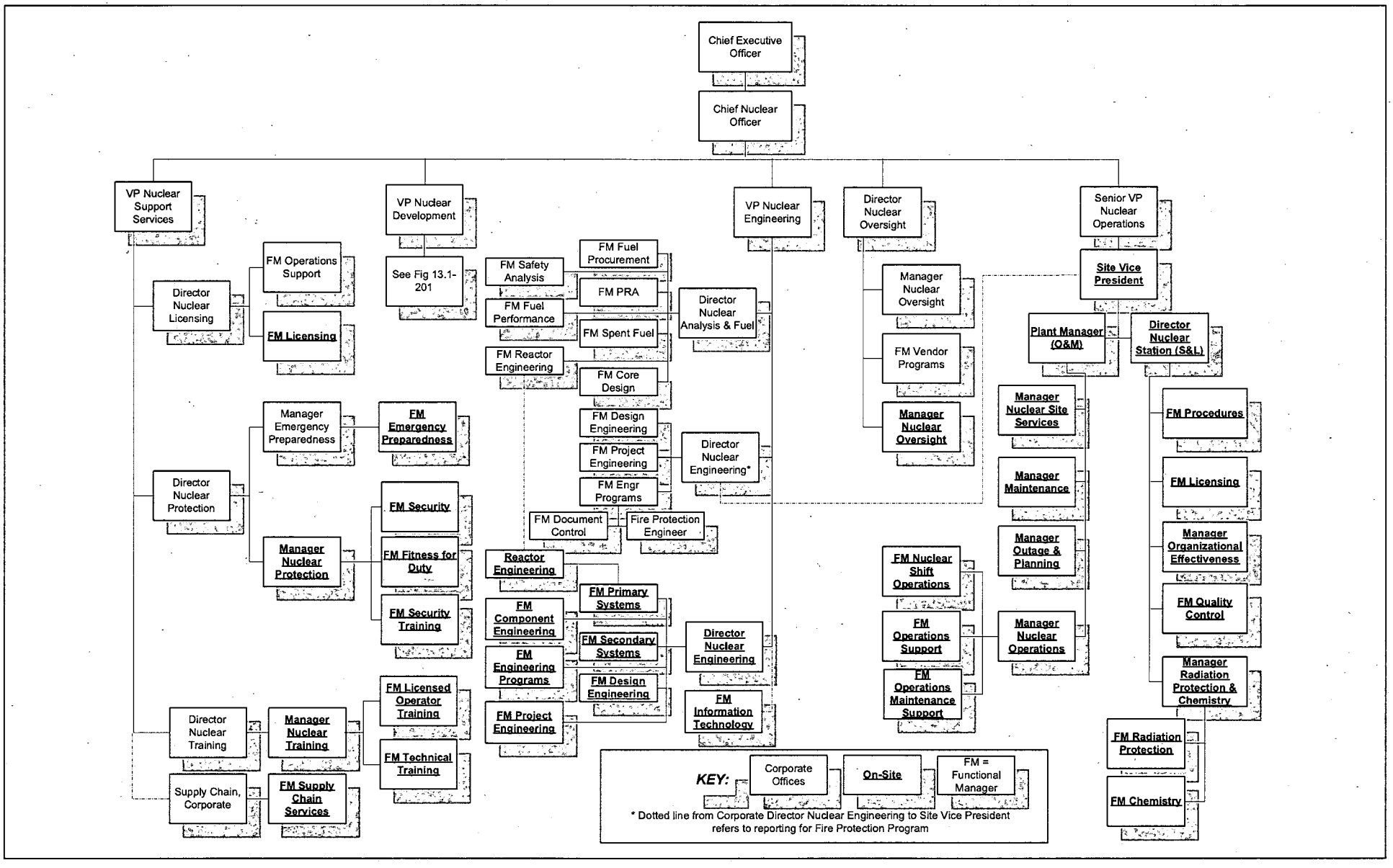
The new FSAR Figure 13.1-204 will be added as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

NAPS COL 13.1-1-A

Figure 13.1-204 Operating Organization



ENCLOSURE 10

Response to NRC RAI Letter 021

RAI Question 13.01.02-13.01.03-2

NRC RAI 13.01.02-13.01.03-2

Standard Review Plan Section 13.1.2 - 13.1.3, "Operating Support Organization," sections I.A.1 and I.a.2 and Regulatory Guide 1.206, section C.I 13.1.2, "Operating Organization" ask for the applicant's commitment to Regulatory Guide 1.33. In Section 13.1.2.1, Plant Organization, of the application, it is stated that the nuclear plant employees are responsible for reporting problems with plant equipment and facilities. These employees are required to identify and document equipment problems in accordance with the QA program. The QA program requirements as they apply to the operating organization are described in Section 17.5. Where are QA program requirements related to identification and documentation of equipment problems found in the application?

Dominion Response

Section 17.5 of the FSAR refers to Appendix 17BB for the Quality Assurance Program Description (QAPD) for the North Anna 3 unit. Section 16 of Part II of the QAPD addresses the reporting of problems or conditions adverse to quality in accordance with the QA Program.

Proposed COLA Revision

None.

ENCLOSURE 11

Response to NRC RAI Letter 021

RAI Question 13.01.02-13.01.03-3

NRC RAI 13.01.02-13.01.03-3

Standard Review Plan Section 13.1.2 - 13.1.3, "Operating Support Organization," Sections I.A.1 and I.a.2 and Regulatory Guide 1.206, section C.I 13.1.2, "Operating Organization" ask for the applicant's commitment to Regulatory Guide 1.33. The statement is made in Section 13.1.2.1, "Plant Organization" that the plant management, technical support, and plant operating organizations are incorporated into Section 17.5 and that additional personnel are required to augment normal staff during outages. Where is this information found in the application?

Dominion Response

In Table 1.9-202, Conformance with Regulatory Guides, Dominion takes exception to conformance with Regulatory Guide (RG) 1.33. The exception states that the Quality Assurance Program Description (Appendix 17BB) topical report identified in Section 17.5 follows NQA-1 rather than the old standards referenced in RG 1.33. Thus, the intent of RG 1.33 is met through implementation of the QA program described in Section 17.5 and Appendix 17BB.

The information requested by the RAI is found in Chapter 13. Section 13.1.2.1 describes the plant operating organization. This section will be corrected to indicate that the plant operating organization is shown in a new figure, Figure 13.1-204. The on-shift organization is shown in Figure 13.1-203. Section 13.1.1.3 is being revised in conjunction with RAI 13.01.01-2 (Enclosure 5), to provide a description of key executive and corporate management positions, functions, and responsibilities.

Proposed COLA Revision

Section 13.1.2.1 will be revised as shown on the attached markup. Please refer to the response to RAI 13.01.01-2 (Enclosure 5) for a markup of Section 13.1.1.3, Organizational Arrangement.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

13.1.2 Operating Organization

13.1.2.1 Plant Organization

The plant management, technical support, and plant operating organizations are ~~incorporated into Section 17.5~~ shown in Figure 13.1-204. The operating organization is described in Sections 13.1.1.3 and 13.1.2. The on-shift organization is shown in Figure 13.1-203. Additional personnel are required to augment normal staff during outages.

Nuclear plant employees are responsible for reporting problems with plant equipment and facilities. They are required to identify and document equipment problems in accordance with the QA program. QA program requirements as they apply to the operating organization are described in Section 17.5.

Rules of practice are met through administrative controls as described in Section 17.5. These controls include:

- Establishment of a quality assurance program for the operational phase
- Preparation of procedures necessary to carry out an effective quality assurance program
- A program for review and audit of activities affecting plant safety
- Programs and procedures for rules of practice

Managers and supervisors within the plant operating organization are responsible for establishing goals and expectations for their organization and to reinforce behaviors that promote radiation protection. Specifically, managers and supervisors are responsible for the following, as applicable to their position within the plant organization:

- Interfacing directly with radiation protection staff to integrate radiation protection measures into plant procedures and designing documents into the planning, scheduling, conduct, and assessment of operations and work.
- Notifying radiation protection personnel promptly when radiation protection problems occur or are identified, taking corrective actions, and resolve deficiencies associated with operations, procedures, systems, equipment, and work practices.

ENCLOSURE 12

Response to NRC RAI Letter 021

RAI Question 13.01.02-13.01.03-4

NRC RAI 13.01.02-13.01.03-4

Standard Review Plan Section 13.1.2 - 13.13, "Operating Organization," section I.A.1 and I.A.2 and RG 1.206, section C.I.13.1.2, "Operating Organization" ask the applicant to describe their commitment to meet the guidelines of Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)" for its operating organization, for onsite review, and rules of practice. Where can this commitment to Regulatory Guide 1.33 be found in the application?

Dominion Response

In Table 1.9-202, Conformance with Regulatory Guides, Dominion takes exception to conformance with Regulatory Guide (RG) 1.33. The exception states that the Quality Assurance Program Description (Appendix 17BB) topical report identified in Section 17.5 follows NQA-1 rather than the old standards referenced in RG 1.33. Thus, the intent of RG 1.33 is met through implementation of the QA program described in Section 17.5 and Appendix 17BB.

Proposed COLA Revision

None.

ENCLOSURE 13

Response to NRC RAI Letter 021

RAI Question 13.02.01-1

NRC RAI 13.02.01-1

FSAR, Section 13.2, Training, Appendix 13BB, Training Program, incorporates by reference NEI 06-13-A, Rev 0, "Technical Report on a Template for an Industry Training Program Description." The staff notes that NEI 06-13-A, Revision 1, which addresses a cold license training program, is now available. There are portions of NEI 06-13-A, Revision 1 that are either partially included in, or not addressed in FSAR Appendix 13BB, including eligibility requirements, licensed operator training and experience requirements, and crew experience requirements. Explain your intent regarding incorporation of NEI-06-13-A, Revision 1, into the FSAR.

Dominion Response

NEI 06-13A, Revision 1 will be incorporated by reference in Appendix 13BB.

Proposed COLA Revision

FSAR Table 1.6-201 and Appendix 13BB will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

NAPS SUP 1.6-1

Table 1.6-201 Referenced Topical Reports

Report No.	Title	Section
NEI 06-13A	Nuclear Energy Institute, "Technical Report on Template for an Industry Training Program Description," NEI 06-13A, Revision 1, March 2008	13BB
NEI 06-14A	Nuclear Energy Institute, "Quality Assurance Program Description," NEI 06-14A, Revision 4, July 2007	17.5
NEI 07-02A	Nuclear Energy Institute, "Generic FSAR Template Guidance for Maintenance Rule Program Description for Plants Licensed under 10 CFR Part 52," NEI 07-02A, March 2008	17.6
NEI 07-03	Nuclear Energy Institute, "Generic FSAR Template Guidance for Radiation Protection Program Description," NEI 07-03, Revision 3, October 2007	12BB
NEI 07-08	Nuclear Energy Institute, "Generic FSAR Template Guidance for Ensuring That Occupational Radiation Exposures Are As Low As Is Reasonably Achievable (ALARA)," NEI 07-08, Revision 0, September 2007	12AA
NEI 07-09	Nuclear Energy Institute, "Generic FSAR Template Guidance for Offsite Dose Calculation Manual (ODCM) Program Description," NEI 07-09, Revision 0, September 2007	11.5
NEI 07-10	Nuclear Energy Institute, "Generic FSAR Template Guidance for Process Control Program (PCP) Description," NEI 07-10, Revision 1, October 2007	11.4
NEI 07-11	Nuclear Energy Institute, "Generic FSAR Template Guidance for Cost-Benefit Analysis for Radwaste Systems for Light-Water-Cooled Nuclear Power Reactors," NEI 07-11, Revision 0, September 2007	11.2

13AA.2.3 Development and Implementation of Staff Recruiting and Training Programs

Staffing plans are developed with input from the reactor vendor for safe operation of the plant as determined by HFE. See DCD Section 18.6. These plans are developed under the direction and guidance of the ~~Site Vice President, the Vice President - Engineering, and the Vice President - Nuclear Support Services~~ Vice President - Nuclear Development (see Table 13.1-201 and Figure 13.1-201). Staffing plans will be completed and manager level positions filled prior to start of preoperational testing. Personnel selected to be licensed reactor operators and senior reactor operators along with other staff necessary to support the safe operation of the plant are hired with sufficient time available to complete appropriate training programs and become qualified and licensed (if required) prior to fuel being loaded in the reactor vessel. See Figure 13.1-202 for hiring and training requirements for operator and technical staff relative to fuel load.

Table 13.1-201 includes the initial estimated number of staff for selected positions that will be filled at the time of initial fuel load. Recruiting of personnel to fill positions is the shared responsibility of the manager in charge of human resources and the various heads of departments. The training program is described in Section 13.2.

13AA.2.4 Transition to Operating Phase

The construction executive (Vice President - Nuclear Development) is responsible for developing and implementing a plan for the organizational transition from the construction phase to the operating phase. The plan is fully implemented and transition completed prior to commencement of commercial operations with operational responsibility then fully under the direction of the Senior Vice President - Nuclear Operations.

Appendix 13BB Training Program

STD SUP 13.2-1
STD COL 13.2-1-A
STD COL 13.2-2-A

NEI 06-13A (Reference 13BB-201), Technical Report on a Template for an Industry Training Program Description, which is under review by the NRC staff, is incorporated by reference.

13BB References

13BB-201 Nuclear Energy Institute (NEI), "Technical Report on a Template for an Industry Training Program Description," NEI 06-13A.

ENCLOSURE 14

Response to NRC RAI Letter 021

RAI Question 13.02.02-1

NRC RAI 13.02.02-1

NUREG-0800, Standard Review Plan Section 13.2.2.I.D.i and ii requires periodic drills during construction and provisions for indoctrination of construction personnel. FSAR Section 13.2.2 refers to section 13.1. Under 13.1 it states the site construction executive is responsible during construction for site fire protection but does not specifically address the above requirements of the SRP. Please revise the FSAR to describe how the requirements for periodic drills and indoctrination of construction personnel are going to occur as identified in the SRP.

Dominion Response

The FSAR will be revised to indicate that construction workers will receive fire protection training as part of their indoctrination to the site, and that periodic fire drills will be conducted for Unit 3 during construction.

Proposed COLA Revision

FSAR Section 13.1.1.2.10 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

department, which is responsible for corrective actions and assessments. The supervisor in charge of SNS ultimately reports to the site executive.

In the event of an unplanned reactor trip or significant power reduction, it is the responsibility of the SNSOC to determine the circumstances, analyze the cause, and determine that operations can proceed safely before the reactor is returned to power.

Personnel resources of the SNS organization are shared between units. A single management organization oversees the site SNS organization.

13.1.1.2.10 **Fire Protection**

The station is committed to maintaining a fire protection program as described in DCD Section 9.5.1.15. The site executive in charge of plant management has overall responsibility for the Fire Protection Program. Assigning the responsibility at that level provides the authority to obtain the resources and assistance necessary to meet Fire Protection Program objectives, resolve conflicts, and delegate appropriate responsibility to fire protection staff. Fire protection for the facility is organized and administered by the ~~functional manager in charge of~~ fire protection engineer. The ~~functional manager in charge of~~ fire protection engineer is responsible for development and implementation of the ~~fire protection program~~ Fire Protection Program, including development of fire protection procedures, ~~site personnel and fire brigade training,~~ and inspections of fire protection systems and functions. The fire protection engineer reports to the functional manager in charge of engineering programs. Functional descriptions for all responsible positions are included in appropriate procedures. Station personnel are responsible for adhering to the fire protection/prevention requirements detailed in Section 9.5.1. ~~The site construction executive will have the lead responsibility for overall construction site fire protection during construction.~~ The fire brigade is described in Section 13.1.2.1.5.

During construction:

- The site construction executive (vice president of nuclear development) is ultimately responsible for fire protection on Unit 3.
- Construction workers will receive fire protection training as part of their indoctrination to the site.
- Periodic fire drills will be conducted on Unit 3.

ENCLOSURE 15

Response to NRC RAI Letter 021

RAI Question 13.05.02.01-2

NRC RAI 13.05.02.01-2

SRP Section 13.5.2.1, states that the group within the operating organization responsible for maintaining the procedures should be identified. The FSAR, Section 13.5, did not identify such group. Identify the group within the operating organization responsible for maintaining the procedures identified in the FSAR, Section 13.5.2.

Dominion Response

The Supervisor of Operations Support is responsible for maintenance of operating procedures. This information will be added to Section 13.1.2.1.2.3.

Proposed COLA Revision

FSAR Section 13.1.2.1.2.3 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

The Operations Support Section is staffed with sufficient personnel to provide support activities for the operating shifts and overall operations department. The following is an overview of the operations organization.

13.1.2.1.2.1 Operations Manager

The operations manager has overall responsibility for the day-to-day operation of the plant. The operations manager reports to the plant manager and is assisted by the supervisors of shift operations, operations support, and operations maintenance advisor. Either the operations manager or the supervisor of shift operations is SRO licensed.

13.1.2.1.2.2 Supervisor of Shift Operations

The supervisor of shift operations, under the direction of the operations manager, is responsible for:

- Shift plant operations in accordance with the operating license, Technical Specifications, and written procedures
- Providing supervision of operating shift personnel for operational shift activities including those of emergency and firefighting teams
- Coordinating with the supervisor of operations support and other plant staff sections
- Verifying that nuclear plant operating records and logs are properly prepared, reviewed, evaluated and turned over to the ~~assistant manager in charge~~ supervisor of operations support

The supervisor of shift operations is assisted in these areas by the on-shift operations manager who directs the operating shift personnel. The supervisor of shift operations may assume the duties of the operations manager in the event of an absence.

13.1.2.1.2.3 Supervisor of Operations Support

The supervisor of operations support, under the direction of the operations manager is responsible for:

- Directing and guiding plant operations support activities in accordance with the operating license, Technical Specifications, and written procedures
- Providing supervision of operating support personnel and operations support activities, and coordination of support activities
- Providing for nuclear plant operating records and logs to be turned over to the nuclear records group for maintenance as quality records

- Supervising operating procedure maintenance

The supervisor of operations support is assisted by the supervisors of work management, radwaste operations, operations procedures group, and other support personnel. In the absence of the operations manager, the supervisor of operations support may assume the duties and responsibilities of this position.

13.1.2.1.2.4 **Operations Shift Manager**

The operations shift manager is a licensed senior reactor operator (SRO) responsible for the control room command function, and is the plant manager's direct management representative for the conduct of operations. The operations shift manager has the responsibility and authority to direct the activities and personnel onsite as required to:

- Protect the health and safety of the public, the environment, and personnel on the plant site
- Prevent damage to site equipment and structures
- Comply with the operating license

The operations shift manager retains this responsibility and authority until formally relieved of operating responsibilities by a licensed SRO. Additional responsibilities of the operations shift manager include:

- Directing nuclear plant employees to report to the plant for response to potential and real emergencies
- Seeking the advice and guidance of the shift technical advisor and others in executing his duties whenever in doubt as to the proper course of action
- Promptly informing responsible supervisors of significant actions affecting their responsibilities
- Participating in operator training, retraining, and requalification activities from the standpoint of providing guidance, direction, and instruction to shift personnel

The operations shift manager is assisted in carrying out the above duties by the on-shift unit supervisors and the operating shift personnel. The shift operations manager reports to the supervisor of shift operations.

13.1.2.1.2.5 **On-Shift Unit Supervisor**

The on-shift unit supervisor is a licensed SRO. The main functions of the on-shift unit supervisor are to administratively support the operations shift

ENCLOSURE 16

Response to NRC RAI Letter 021

RAI Question 13.05.02.01-3

NRC RAI 13.05.02.01-3

NUREG-0800, Section 13.5.2.1, states that the procedures generation package (PGP) should include a description of the process used to develop plant-specific technical guidelines (P-STGs) from the generic technical guidelines (GTGs). The FSAR, Section 13.5.2.1.4, "Emergency Operating procedures," states that the PGP would include the identification of additional equipment beyond that identified in the GTGs, but did not include a description of the process used to develop P-STGs. Provide a description of the process used to develop P-STGs from the GTGs.

Dominion Response

The procedures generation package (PGP) will be revised to include a description of the process used to develop plant-specific technical guidelines (P-STGs) from generic technical guidelines (GTGs). The FSAR will be revised to clarify this point.

Proposed COLA Revision

FSAR Section 13.5.2.1.4 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

STD SUP 13.5-22

13.5.2.1.4 **Emergency Operating Procedures**

EOPs are procedures that direct actions necessary for the operators to mitigate the consequences of transients and accidents that cause plant parameters to exceed reactor protection system or ESF actuation setpoints.

Emergency operating procedures include appropriate guidance for the operation of plant post-72-hour equipment, and are developed as appropriate per the guidance of:

- NUREG-0737, "Clarification of TMI Action Plan Requirements," Items I.C.1 and I.C.9
- The QAPD

STD COL 13.5-3-A

The emergency operating procedure program (e.g., the procedures generation package (PGP)) describes the objectives of the emergency procedure development process, the program for developing EOPs and the required content of the EOPs.

The procedure development program, as described in the PGP for EOPs, is submitted to the NRC at least three months prior to the planned date to begin formal operator training on the EOPs. The PGP includes:

- GTGs, which are guidelines based on analysis of transients and accidents that are specific to the plant design and operating philosophy. The submitted documentation includes: a) a description of the process used to develop plant-specific technical guidelines (P-STGs) from the GTSs, b) identification of significant deviations from the generic guidelines (including identification of additional equipment beyond that identified in the generic guidelines), along with necessary engineering evaluations or analyses to support the adequacy of each deviation, and ~~b)~~c) a description of the process used for identifying operator information and control requirements.
- A ~~generic~~ plant-specific writer's guide ~~(GWG)~~ (P-SWG) that details the specific methods used in preparing EOPs based on ~~GTGs~~ P-STGs. The writer's guide contains objective criteria that require that the emergency procedures developed are consistent in organization, style, content, and usage of terms.
- A description of the program for verification and validation (V&V) of EOPs.

ENCLOSURE 17

Response to NRC RAI Letter 021

RAI Question 13.05.02.01-4

NRC RAI 13.05.02.01-4

NUREG-0800, Section 13.5.2.1, states that the PGP should include a plant-specific writer's guide (P-SWG) that details the specific methods to be used by the applicant in preparing EOPs based on P-STGs. The FSAR, Section 13.5.2.1.4, states that the PGP would include a generic writer's guide. Provide a P-SWG that details the specific methods to be used by the applicant in preparing EOPs based on P-STGs.

Dominion Response

The plant-specific writer's guide (P-SWG) is based on a generic writer's guide described in DCD Reference 18.9-2, NEDO-33274, with additional guidance added to include any specific techniques the plant intends to use in preparing the text and visual aids for the EOPs. SRP Section 13.5.2.1 states that a P-SWG should be submitted with the PGP. The PGP will include a P-SWG that details the specific methods to be used in preparing EOPs that are based on P-STGs. FSAR Section 13.5.2.1.4 will be revised to clarify this point.

Proposed COLA Revision

FSAR Section 13.5.2.1.4 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

STD SUP 13.5-22

13.5.2.1.4 **Emergency Operating Procedures**

EOPs are procedures that direct actions necessary for the operators to mitigate the consequences of transients and accidents that cause plant parameters to exceed reactor protection system or ESF actuation setpoints.

Emergency operating procedures include appropriate guidance for the operation of plant post-72-hour equipment, and are developed as appropriate per the guidance of:

- NUREG-0737, "Clarification of TMI Action Plan Requirements," Items I.C.1 and I.C.9
- The QAPD

STD COL 13.5-3-A

The emergency operating procedure program (e.g., the procedures generation package (PGP)) describes the objectives of the emergency procedure development process, the program for developing EOPs and the required content of the EOPs.

The procedure development program, as described in the PGP for EOPs, is submitted to the NRC at least three months prior to the planned date to begin formal operator training on the EOPs. The PGP includes:

- GTGs, which are guidelines based on analysis of transients and accidents that are specific to the plant design and operating philosophy. The submitted documentation includes: a) a description of the process used to develop plant-specific technical guidelines (P-STGs) from the GTSs, b) identification of significant deviations from the generic guidelines (including identification of additional equipment beyond that identified in the generic guidelines), along with necessary engineering evaluations or analyses to support the adequacy of each deviation, and ~~b)~~c) a description of the process used for identifying operator information and control requirements.
- A ~~generic~~ plant-specific writer's guide ~~(GWG)~~ (P-SWG) that details the specific methods used in preparing EOPs based on ~~GTGs~~ P-STGs. The writer's guide contains objective criteria that require that the emergency procedures developed are consistent in organization, style, content, and usage of terms.
- A description of the program for verification and validation (V&V) of EOPs.

ENCLOSURE 18

Response to NRC RAI Letter 021

RAI Question 14-02-7

NRC RAI 14-02-7

In the FSAR Appendix 14.AA, Description of Initial Test Program Administration, Subsection 14AA.3.4, "Test Procedure Changes," the COL applicant provides guidance on changes to test procedures. Staff review indicates Subsection 14AA.3.4 should include a description of the 50.59-like change control process for evaluating major test procedure changes for test abstracts in the Initial Test Program. The staff notes that in accordance with 10 CFR 50.59(c)(1), "a licensee may make changes to test procedures as described in the FSAR (as updated) without obtaining a license amendment, only if: (i) a change to the technical specifications (TS) incorporated in the license is not required, and (ii) the change, test or experiment does not meet any of the criteria in 50.59(c)(2)." Please include in Subsection 14AA.3.4 the need to evaluate and obtain a license amendment if it is revealed that a major test procedure change could result in a TS amendment in accordance with 10 CFR 50.59(c)(1) and meets any one of eight criteria in 10 CFR 50.59(c)(2)(i) through (viii).

Dominion Response

Changes to site-specific information provided in the FSAR may be changed in accordance with the applicable change process in 10 CFR Part 50 or in the license. If a change to site-specific information also affects information within the scope of the plant-specific DCD, and thus within the scope of the generic DCD, that portion of the change that affects the plant-specific DCD is subject to the applicable change control process given in the design certification rule.

Procedure development and procedure changes (including ITP test procedures) would be subject to the requirements of the regulations cited. The administrative procedure(s) that will govern regulatory reviews of ITP test procedure changes will be developed at least six months prior to fuel load, as stated in FSAR Section 13.5, Plant Procedures. The governing administrative procedure(s) will be consistent with 10 CFR 50.59 and the ESBWR design certification rule.

Regulatory Guide 1.68 does not require that a COLA FSAR contain a summary of the change process regulations applicable to the Initial Test Program test procedures. The described change processes pertain to the FSAR as a whole, not just the initial test program. Restating the regulations in the FSAR is unnecessary. However, a statement will be added to Appendix 14AA.3.4 that summarizes the review criteria used by the test engineer for test procedure changes.

Proposed COLA Revision

FSAR Appendix 14AA.3.4 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

taken to correct any deficiencies. Administrative procedures specify the retention period of test result summaries, and require permanent retention of documented summaries and evaluations.

14AA.3.3 Other Startup Test Procedures

The need for special startup tests may arise due to unplanned conditions. The format and content requirements for preoperational and startup tests apply to these procedures.

14AA.3.4 Test Procedure Changes

If it is determined that procedure corrections (including changes in test sequence) are required before or during the conduct of the test, the test engineer suspends testing and notifies operations and test personnel of the required change. For all such corrections, the test engineer prepares and processes a procedure change request as delineated in a site-specific procedure for processing procedure changes. Revisions are classified into two categories based on the intent of the change. The intent of a procedure is the specific task or goal that is to be accomplished by the procedure.

Intent changes are changes to:

- Purpose.
- Initial conditions (or prerequisites).
- Acceptance criteria or tolerances.
- Scaling or setpoints.
- The method for meeting a commitment identified in the procedure.
- Step verification (independent or concurrent).
- System/component as-left condition(s).
- Reactivity management (changes that impact the operator's ability to monitor, control, or manipulate the reactor).
- Add or delete a subsection.
- Decrease personnel safety or fire protection effectiveness.
- Delete, relocate, or add a hold point.
- Caution or warning statements.
- Startup test procedure testing sequence.

Non-intent changes and revisions do not change the intent of the procedure (e.g., typographical error corrections). Review and approval

requirements for procedure changes that do not change the intent are established in administrative procedures in the SAM.

Procedure changes that change the intent of the procedure receive the same level of review and approval as the original procedure. ~~Review and approval requirements for procedure changes that do not change the intent are established in administrative procedures in the SAM.~~ All test procedure intent changes will be revised against the following criteria (consistent with 10 CFR 50.59 and the design certification rule):

- Departure from Tier 1 information.
- Departure from Tier 2 information that significantly decreases the level of safety in accordance with 10 CFR 50.59(c)(1) and meets any one of eight criteria in 10 CFR 50.59(c)(2)(i) through (viii) or 10 CFR 52, Design Certification Appendix, Section VIII.B.5.b.
- Departure from Tier 2* information.
- Departure from Technical Specifications.

Preoperational test procedure intent changes involving Tier 1, Tier 2*, Technical Specifications, or Tier 2 that require a license amendment must be approved by the NRC prior to procedure completion and approval. Startup test procedure intent changes involving Tier 1, Tier 2*, Technical Specifications, or Tier 2 that require a license amendment must be approved by the NRC prior to procedure use. Timely notification of the NRC is made when procedures are changed that have been sent to the NRC.

14AA.4 Conduct of the Initial Test Program

14AA.4.1 Administrative Controls

ITP conduct is described in DCD Section 14.2.2.3. The SAM governs the ITP and will be issued no later than 60 days prior to the beginning of the pre-operational phase. Testing during all phases of the test program is conducted using approved test procedures.

14AA.4.2 Procedure Verification

Because procedures may be approved for implementation weeks or months in advance of the scheduled test date, a review of the approved

ENCLOSURE 19

Response to NRC RAI Letter 011

RAI Question 13.01.02-13.01.03-1

NRC RAI 13.01.02-13.01.03-1

FSAR Section 13.1.1.2.10 addresses the fire protection organization. Relative to the criteria of RG 1.189, please clarify and describe the responsibilities of the fire protection organization as it pertains to the fire brigade, fire protection functional manager, security functional manager, fire protection site engineer (identified in DCD Rev. 4), fire protection supervisor, and on-duty shift supervisor (manager). Note that RG 1.189 does not require that the fire protection staff member who manages the fire brigade and the fire brigade member who fights the fire be part of the same organization, but they should meet the attributes of RG 1.189. In addition, the manager with direct fire protection program responsibilities should report to an upper level manager who has an oversight responsibility for the fire protection program and this upper level manager should report to a person who has management control over all organizations involved in fire protection activities.

Dominion Response

The Unit 3 construction area is substantially separated from the operating units, both physically and administratively. Therefore, the site executive in charge of construction (Vice President – Nuclear Development) will have overall responsibility for fire protection during construction. Thus, Dominion takes exception to part of Position C.1.1.c of RG 1.189, which states:

> On sites with an operating reactor, as well as ongoing construction, modification, or decommissioning of other units, the superintendent of the operating plant should have the lead responsibility for site fire protection.

Table 1.9-202, Conformance with Regulatory Guides, will be revised to reflect this exception. In addition, FSAR Section 13.1 will be revised to partially conform to RG 1.189 and current industry practices by making the changes indicated in the following table:

NAPS-3 FSAR Revision 0	NAPS-3 FSAR Revision 1
Fire protection supervisor reports to the security organization.	Fire Protection Engineer reports to the functional manager for engineering programs.
No Fire Protection Engineer position identified	The Fire Protection Engineer reports to the functional manager for engineering programs, who reports to the Director Nuclear Engineering, who (for purposes of the Fire Protection Program) reports to the Site Vice President.
The word 'not' was omitted in this sentence in FSAR Section 13.1.2.1.5, Fire Brigade: The fire brigade for Unit 3 does (not) include personnel assigned to Units 1 and 2.	The sentence will be changed to read: The fire brigade for Unit 3 does not include personnel assigned to Units 1 and 2.

Proposed COLA Revision

FSAR Table 1.9-202 and Section 13.1 will be revised as shown on the attached markup.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

NAPS COL 1.9-3-A

Table 1.9-202 Conformance with Regulatory Guides

RG Number	Title	Revision	Date	RG Position	Evaluation
1.189	Fire Protection for Nuclear Power Plants	Rev. 1	Mar-07	General	Conforms with the following exception. ~~Section C.1.1 of the RG states, in part, that the licensee should assign overall responsibility for the FPP to a person who has management control over all organizations involved in fire protection activities. The organization described in Section 13.1 shows separate reporting chains for the fire protection staff and the fire brigade (operations department) up to the level of the CNO.~~ Section C.1.1.c of the RG states that during construction, on sites with an operating unit, the superintendent of the operating plant should have overall responsibility for fire protection. However, due to physical and administrative separation of Unit 3 from the operating units, the on-site executive in charge of construction will have overall responsibility for Unit 3 fire protection during construction.

- Plant chemistry
- Radiation protection
- Fueling and refueling operations support
- Maintenance support
- Operations support
- Quality assurance
- Training
- Safety review
- Fire protection
- Emergency organization
- Outside contractual assistance

In the event that station personnel are not qualified to deal with a specific problem, the services of qualified individuals from other functions within the company or outside consultants are engaged. ~~Figures incorporated into Section 17.5 illustrate the management and technical organizations supporting operation of the plant.~~ Figure 13.1-204 illustrates the nuclear operating organization. Table 13.1-201 shows the estimated number of positions required for each function.

13.1.1.2.1 Engineering

The site engineering department consists of system engineering, design engineering, and engineering programs. These groups are responsible for performing the classical design activities as well as providing engineering expertise for programs, such as reactor engineering, fire protection, inservice inspection (ISI), inservice testing (IST), snubbers, and maintenance rule. Corporate engineering provides support for engineering projects, safety and engineering analysis, and nuclear fuels engineering. They are responsible for probabilistic safety assessment and other safety issues, plant system reliability analysis, performance and technical support, core management, and periodic reactor testing.

Each of the site engineering groups has a functional manager who reports to the director in charge of engineering on site or to managers and executives in corporate engineering and technical services.

The engineering organization is responsible for:

- Support of plant operations in the engineering areas of mechanical, structural, electrical, thermal-hydraulic, metallurgy and materials, electronic, ~~and~~ instrument and control, and fire protection. Priorities for support activities are established based on input from the plant manager with emphasis on issues affecting safe operation of the plant.
- Support of procurement, chemical and environmental analysis, and maintenance activities in the plant as requested by the plant manager
- Performance of design engineering of plant modifications
- Maintaining the design basis by updating the record copy of design documents as necessary to reflect the actual as-built configuration of the plant
- Accident and transient analyses
- Human Factors Engineering design process

Reactor engineering, led by the functional manager in charge of reactor engineering, provides technical assistance in the areas of core operations, core thermal limits, and core thermal hydraulics.

Design work may be contracted to and performed by outside companies in accordance with ~~Section 17.5~~ Appendix 17BB, Sections 2 and 2.2.

13.1.1.2.2 **Plant Chemistry**

A chemistry program is established to monitor and control the chemistry of various plant systems such that corrosion of components and piping is minimized and radiation from corrosion by-products is kept to levels that allow operations and maintenance with radiation doses as low as is reasonably achievable.

The functional manager in charge of chemistry is responsible for maintaining chemistry programs and for monitoring and maintaining the water chemistry of plant systems. The staff of the chemistry department consists of laboratory technicians, support personnel, and supervisors who report to the functional manager in charge of chemistry.

13.1.1.2.3 **Radiation Protection**

A radiation protection (RP) program is established to protect the health and welfare of the surrounding public and personnel working at the plant. The RP program is described in Chapter 12.

department, which is responsible for corrective actions and assessments. The supervisor in charge of SNS ultimately reports to the site executive.

In the event of an unplanned reactor trip or significant power reduction, it is the responsibility of the SNSOC to determine the circumstances, analyze the cause, and determine that operations can proceed safely before the reactor is returned to power.

Personnel resources of the SNS organization are shared between units. A single management organization oversees the site SNS organization.

13.1.1.2.10 **Fire Protection**

The station is committed to maintaining a fire protection program as described in DCD Section 9.5.1.15. The site executive in charge of plant management has overall responsibility for the Fire Protection Program. Assigning the responsibility at that level provides the authority to obtain the resources and assistance necessary to meet Fire Protection Program objectives, resolve conflicts, and delegate appropriate responsibility to fire protection staff. Fire protection for the facility is organized and administered by the ~~functional manager in charge of~~ fire protection engineer. The ~~functional manager in charge of~~ fire protection engineer is responsible for development and implementation of the ~~fire protection program~~ Fire Protection Program, including development of fire protection procedures, ~~site personnel and fire brigade training,~~ and inspections of fire protection systems and functions. The fire protection engineer reports to the functional manager in charge of engineering programs. Functional descriptions for all responsible positions are included in appropriate procedures. Station personnel are responsible for adhering to the fire protection/prevention requirements detailed in Section 9.5.1. ~~The site construction executive will have the lead responsibility for overall construction site fire protection during construction.~~ The fire brigade is described in Section 13.1.2.1.5.

During construction:

- The site construction executive (vice president of nuclear development) is ultimately responsible for fire protection on Unit 3.
- Construction workers will receive fire protection training as part of their indoctrination to the site.
- Periodic fire drills will be conducted on Unit 3.

13.1.1.3.2.8 **Manager of Nuclear Protection**

The manager of nuclear protection is responsible for:

- Implementation and enforcement of security directives, procedures, and instructions received from appropriate authorities.
- Day-to-day supervision of the security guard force.
- Administration of the security program.
- Training the security force.
- Implementing the fitness-for-duty program.

The manager of nuclear protection reports to the vice president of support services via corporate security management.

13.1.1.3.2.9 **Manager of Nuclear Oversight**

The manager of nuclear oversight is responsible for those functions listed in Section 13.1.1.2.7. The manager of nuclear oversight reports to corporate oversight management.

13.1.1.4 Qualifications of Technical Support Personnel

Personnel of the technical support organization meet the education and experience qualifications for those described in ANSI/ANS-3.1 (Reference 13.1-201) as endorsed and amended by RG 1.8.

13.1.2 Operating Organization

13.1.2.1 Plant Organization

The plant management, technical support, and plant operating organizations are ~~incorporated into Section 17.5~~ shown in Figure 13.1-204. The operating organization is described in Sections 13.1.1.3 and 13.1.2. The on-shift organization is shown in Figure 13.1-203. Additional personnel are required to augment normal staff during outages.

Nuclear plant employees are responsible for reporting problems with plant equipment and facilities. They are required to identify and document equipment problems in accordance with the QA program. QA program requirements as they apply to the operating organization are described in Section 17.5.

Rules of practice are met through administrative controls as described in Section 17.5. These controls include:

- Establishment of a quality assurance program for the operational phase
- Preparation of procedures necessary to carry out an effective quality assurance program
- A program for review and audit of activities affecting plant safety
- Programs and procedures for rules of practice

Managers and supervisors within the plant operating organization are responsible for establishing goals and expectations for their organization and to reinforce behaviors that promote radiation protection. Specifically, managers and supervisors are responsible for the following, as applicable to their position within the plant organization:

- Interfacing directly with radiation protection staff to integrate radiation protection measures into plant procedures and designing documents into the planning, scheduling, conduct, and assessment of operations and work.
- Notifying radiation protection personnel promptly when radiation protection problems occur or are identified, taking corrective actions, and resolve deficiencies associated with operations, procedures, systems, equipment, and work practices.
- Training site personnel on radiation protection and providing periodic retraining in accordance with 10 CFR 19 so that personnel are properly instructed and briefed for entry into restricted areas.
- Periodically observing and correcting, as necessary, radiation worker practices.
- Supporting radiation protection management in implementing the radiation protection program.
- Maintaining exposures to site personnel ALARA.

~~The operating organization is further defined in Section 17.5.~~

13.1.2.1.1 Site Executive

The site executive reports to the nuclear operations executive. The site executive is directly responsible for management and direction of activities associated with the efficient, safe, and reliable operation of the nuclear station, except for those functions delegated to the nuclear

engineering executive and the nuclear support services executive. The site executive is assisted in management and technical support activities by the plant manager and the plant safety and licensing (S&L) director. Executive management establishes expectations such that a high level of quality, safety, and efficiency is achieved in aspects of plant operations and support activities through an effective management control system and an organization selected and trained to meet the above objectives.

Additionally, the site executive has overall responsibility for occupational and public radiation safety. Radiation protection responsibilities of the site executive are consistent with the guidance in RG 8.8 and RG 8.10, including the following:

- Providing management radiation protection policy throughout the plant organization
- Providing an overall commitment to radiation protection by the plant organization
- Interacting with and supporting the manager in charge of radiation protection on implementation of the radiation protection program
- Supporting identification and implementation of cost-effective modifications to plant equipment, facilities, procedures and processes to improve radiation protection controls and reduce exposures
- Establishing plant goals and objectives for radiation protection
- Maintaining exposures to site personnel ALARA
- Supporting timely identification, analysis, and resolution of radiation protection problems (e.g., through the plant corrective action program)
- Providing training to site personnel on radiation protection in accordance with 10 CFR 19
- Establishing an ALARA Committee with delegated authority from the site that includes the managers in charge of operations, maintenance, engineering, and radiation protection to help provide for effective implementation of line organization responsibilities for maintaining worker doses ALARA

The site executive is responsible for the site Fire Protection Program through the fire protection engineer.

The succession of responsibility for overall plant instructions or special orders in the event of absences, incapacitation of personnel, or other emergencies is as follows, unless otherwise designated in writing:

1. The site executive
2. The plant manager
3. The operations manager

The succession of authority includes the authority to issue standing or special orders as required.

13.1.2.1.1.1 Plant Manager

The plant manager reports to the site executive, is responsible for safe operation of the plant, and has control over onsite activities necessary for safe operation and maintenance of the plant including the following:

- Operations
- Maintenance and modification
- Outage management

13.1.2.1.1.2 Plant Safety & Licensing (S&L) Director

The plant S&L director reports to the site executive, is responsible for safe operation of the plant, and has control over onsite activities necessary for safe operation and maintenance of the plant including the following:

- Procedures
- Licensing
- Radiation protection
- Chemistry and radiochemistry
- Organizational effectiveness

13.1.2.1.1.3 Maintenance Manager

Maintenance of the plant is performed by the maintenance department mechanical, electrical, and instrumentation and control disciplines. The functions of this department are to perform preventive and corrective maintenance, equipment testing, and implement modifications as necessary.

The manager in charge of plant maintenance is responsible for the performance of preventive and corrective maintenance and modification

programs. This area includes overall operation of the hot lab, cold lab, emergency offsite facility lab, and non-radiological environmental monitoring. The functional manager in charge of chemistry is responsible for the development, administration, and implementation of procedures and programs which provide for effective compliance with environmental regulations. The functional manager in charge of chemistry reports to the plant S&L director via the radiation protection manager and directly supervises the chemistry supervisors.

The functional manager in charge of chemistry is responsible for assuring that a chemistry technician is on site whenever the unit is in modes other than cold shutdown or refueling.

13.1.2.1.1.12 ~~Functional Manager in Charge of Fire Protection~~ **[Deleted]**

~~The functional manager in charge of fire protection is responsible for the following:~~

- ~~Fire protection program requirements, including consideration of potential hazards associated with postulated fires, knowledge of building layout, and system design~~
- ~~Post-fire shutdown capability~~
- ~~Design, maintenance, surveillance, and quality assurance of fire protection features (e.g., detection systems, suppression systems, barriers, dampers, doors, penetration seals, and fire brigade equipment~~
- ~~Fire prevention activities (administrative controls and training)~~
- ~~Fire brigade organization and training~~
- ~~Pre-fire planning, including review and updating of pre-fire plans at least every two years~~

~~The functional manager in charge of fire protection reports to the Vice President – Nuclear Support Services through the security organization (See Figure 13.1-201). Additionally, the functional manager in charge of fire protection works with the operations department to coordinate activities and program requirements with the operations department. In accordance with RG 1.189, the functional manager in charge of fire protection is an individual who has been delegated authority commensurate with the responsibilities of the position and who has~~

~~available staff personnel knowledgeable in both fire protection and nuclear safety.~~

13.1.2.1.2 Operations Department

All operations activities are conducted with safety of personnel, the public, and equipment as the overriding priority. The operations department is responsible for:

- Operation of station equipment
- Monitoring and surveillance of safety- and non-safety-related equipment
- Fuel loading
- Providing the nucleus of emergency and fire-fighting teams

The operations department maintains sufficient licensed and senior licensed operators to staff the control room continuously using a crew rotation system. The operations department is under the authority of the manager in charge of operations who, through the supervisor in charge of shift operations, directs the day-to-day operation of the plant.

Specific duties, functions, and responsibilities of key shift members are discussed in Section 13.1.2.1.2.4 through Section 13.1.2.1.2.8 and in plant administrative procedures and the Technical Specifications. The minimum shift manning requirements are shown in Table 13.1-202.

For activities that do not require an operator's license, resources of the operations organization may be shared between units. These activities may include administrative functions and tagging. To operate or supervise the operation of more than one unit, an operator (SRO or RO) must hold an appropriate, current license for each unit. A single management organization oversees the operations group for the station units. See Table 13.1-201 for expected staffing of the operations department, and Table 13.1-202 for minimum shift staffing.

The Operations Support Section is staffed with sufficient personnel to provide support activities for the operating shifts and overall operations department. The following is an overview of the operations organization.

13.1.2.1.2.1 Operations Manager

The operations manager has overall responsibility for the day-to-day operation of the plant. The operations manager reports to the plant manager and is assisted by the supervisors of shift operations,

procedures as required by TMI Action Plan I.A.1.1 and NUREG-0737, Appendix C. These responsibilities include:

- Monitoring core power distribution and critical parameters
- Assisting the operating shift with technical expertise during normal and emergency conditions
- Evaluating technical specifications, special reports, and procedural issues

The STA contributes to operations safety by independently observing plant status and advising shift supervision of conditions that could compromise plant safety. During transients or accident situations, the STA independently assesses plant conditions and provides technical assistance and advice to mitigate the incident and minimize the effect on personnel, the environment, and plant equipment.

An SRO on shift who meets the qualifications for the combined SRO/STA position specified for Option 1 of Generic Letter 86-04 (Reference 13.1-202) may also serve as the STA. If this option is used for a shift, the separate STA position may be eliminated for that shift.

13.1.2.1.2.9 ~~Nuclear Operations Maintenance Advisor~~ Functional Manager of Operations Maintenance Support

~~The nuclear operations maintenance advisor is a licensed SRO. The primary function of this position is to directly supervise activities by non-licensed personnel outside the control room that could affect safe operation of the plant. These activities include, but are not limited to:~~

- ~~Valve lineups~~
- ~~Equipment tagging~~
- ~~Surveillances or other testing activities~~
- ~~Building rounds~~
- ~~Maintenance activities~~

~~The nuclear operations maintenance advisor reports directly to the manager of nuclear operations.~~

The functional manager of nuclear operations maintenance support is a licensed SRO reporting directly to the manager of nuclear operations. Responsibilities of this position include:

- Valve lineups for maintenance and testing activities.

- Equipment tagging
- Review and authorization of maintenance, surveillance, or other work or testing.
- Keeping the operations shift manager and other operations personnel informed of activities for which they need to be cognizant.
- Verifying that work and testing is safe and appropriate for the existing conditions of the plant.
- Tracking the work and testing to provide assurance that any LCOs or other requirements will not be exceeded.

13.1.2.1.2.10 ~~Nuclear Operations Support Supervisor~~ **Fire Protection Engineer**

~~The nuclear operations support supervisor is a licensed SRO. The primary function of the nuclear operations support supervisor is to review and authorize maintenance, surveillance, or other work or testing activities being performed in the plant. The responsibilities of the nuclear operations support supervisor include keeping the operations shift manager and other operations personnel informed of activities for which they need to be cognizant, verifying that work and testing is safe and appropriate for the existing conditions of the plant, and tracking the work and testing to provide assurance that any LCOs or other requirements will not be exceeded. The nuclear operations support supervisor reports directly to the manager of nuclear operations.~~

The fire protection engineer is responsible for:

- Fire Protection Program requirements, including consideration of potential hazards associated with postulated fires, knowledge of building layout, and system design.
- Post-fire shutdown capability.
- Design, maintenance, surveillance, and quality assurance of fire protection features (e.g., detection systems, suppression systems, barriers, dampers, doors, penetration seals, and fire brigade equipment.
- Fire prevention activities (administrative controls).
- Pre-fire planning, including review and updating of pre-fire plans at least every two years.

The fire protection engineer reports to the site executive through the site director of nuclear engineering. Additionally, the fire protection engineer works with the operations department to coordinate activities and program requirements. In accordance with RG 1.1.89, the fire protection engineer is an individual who has been delegated authority commensurate with the responsibilities of the position, and who has available staff personnel knowledgeable in fire protection and nuclear safety.

13.1.2.1.3 **Conduct of Operations**

Station operations are controlled and coordinated through the control room. Maintenance activities, surveillances, and removal from/return to service of SSCs affecting the operation of the plant may not commence without the authority of senior control room personnel. The rules of practice for control room activities, as described by administrative procedures, which are based on RG 1.114, address the following:

- Position/placement of the workstation for the operator at the controls and the expected area of the control room where the supervisor/manager in charge on shift should spend the majority of on-shift time
- Definition and outline of "surveillance area" and requirement for continuous surveillance by the operator at the controls
- Relief requirements for operator at the controls and the supervisor/manager in charge on shift

In accordance with 10 CFR 50.54 (i), (j), (k), (l), and (m):

- Reactivity controls may be manipulated only by licensed operators and senior operators except as allowed for training under 10 CFR 55
- Apparatus and mechanisms other than controls which may affect reactivity or power level of the reactor shall be operated only with the consent of the operator at the controls or the manager/supervisor in charge on-shift
- An operator or senior operator shall be present at the controls at all times during the operation of the facility
- For each shift, operations management designates one or more SROs to be responsible for directing the licensed activities of licensed operators

- An SRO shall be present at the facility or readily available on call at all times during its operation, and shall be present at the facility during initial start-up and approach to power, recovery from an unplanned or unscheduled shut-down or significant reduction in power, and refueling, or as otherwise prescribed in the facility license
- Minimum shift staffing for operations personnel is shown in Table 13.1-202
- With the unit in modes other than cold shutdown or refueling, there shall be one SRO in the control room at all times. In addition, there shall be one RO or one SRO at the controls whenever there is fuel in the reactor vessel

13.1.2.1.4 Operating Shift Crews

Plant administrative procedures implement the required shift staffing. These provisions establish crews with sufficient qualified plant personnel to staff the operational shifts and be readily available in the event of an abnormal or emergency situation. The objective is to operate the plant with the required staff and to develop work schedules that minimize overtime for plant staff members who perform safety-related functions. Work hour limitations and shift manning requirements defined by TMI Action Plan I.A.1.3 are addressed in station procedures. Shift crew staffing plans may be modified during refueling outages to accommodate safe and efficient completion of outage work in accordance with work hour limitations established in administrative procedures.

The minimum composition of an operating shift depends on the operational mode, as shown in Table 13.1-202. Reporting relationships for these positions are shown in Figure 13.1-203.

NAPS COL 9.5.1-10-H

13.1.2.1.5 Fire Brigade

The plant is designed, and the fire brigade organized, to be self-sufficient with respect to fire fighting activities. The fire brigade is organized to deal with fires and related emergencies that could occur. It consists of a fire brigade leader and a sufficient number of team members to be consistent with the equipment that must be put in service during a fire emergency. A sufficient number of trained and physically qualified fire brigade members are available on site during each shift. The fire brigade consists of at least five members on each shift. Members of the fire brigade are knowledgeable of building layout and system design. The assigned fire brigade members for any shift do not include the operations shift

manager nor any other members of the minimum shift operating crew necessary for safe shutdown of the unit, nor do they include any other personnel required for other essential functions during a fire emergency. Fire brigade members for a shift are designated in accordance with established procedures at the beginning of the shift. The fire brigade for Unit 3 does not include personnel assigned to Units 1 and 2.

The brigade leader and at least two brigade members have sufficient training in, or knowledge of, plant systems to understand the effects of fire and fire suppressents on safe-shutdown capability. The brigade leader has training or experience necessary to assess the potential safety consequences of a fire and advise control room personnel, as evidenced by possession of an operator's license or equivalent knowledge of plant systems. The qualification of fire brigade members includes an annual physical examination to determine their ability to perform strenuous firefighting activities.

13.1.3 Qualification Requirements of Nuclear Plant Personnel

13.1.3.1 Minimum Qualification Requirements

Qualifications of managers, supervisors, operators, and technicians of the operating organization meet the requirements for education and experience described in ANSI/ANS-3.1 (Reference 13.1-201), as endorsed and amended by RG 1.8. For operators and SROs, these requirements are modified in Section 13.2.

13.1.3.2 Qualification Documentation

Resumes and other documentation of qualification and experience of initial appointees to appropriate management and supervisory positions are available for review by regulators upon request after position vacancies are filled.

13.1.4 COL Information

13.1-1-A Organizational Structure

NAPS COL 13.1-1-A

This COL item is addressed in Sections 9.5.1.15.3, 13.1.1 through 13.1.3.

NAPS COL 13.1-1-A

Table 13.1-201 Generic Position/Site Specific Position Cross Reference

Nuclear Function	Function Position (ANS-3.1-1993 section)	Nuclear Plant Position (Site-Specific)	Estimated Numbers of Full Time Equivalents*			
			Design Review Phase	Construction Phase	Pre-op Phase	Operational Phase
design engineering	functional manager (4.3.9)	Supervisor, Design Engineering	1	1	1	1
	design engineer (4.6 – staff engineer)	Design Engineer	3	5	10	15
safety and engineering analysis	functional manager (4.3.9)	Manager, Nuclear Safety Engineering		1	1	1
	analysis engineer (4.6–staff engineer)	Analysis Engineer		1	1	1
engineering programs	functional manager (4.3.9)	~~Manager~~ Supervisor, Engineering Programs		1	1	1
	programs engineer (4.6–staff engineer)	Programs Engineer		6	12	12
reactor engineering	functional manager (4.3.9)	Supervisor, Reactor Engineering			1	1
	reactor engineer (4.6–staff engineer)	Reactor Engineer		1	3	3
Chemistry	functional manager (4.3.2)	Manager, Radiation Protection & Chemistry		1***	1***	1***
	supervisor (4.4.5)	Chemistry Supervisor		1	1	2
	technician (4.5.3.1)	Chemistry Technician		2	6	10

NAPS COL 13.1-1-A

Table 13.1-201 Generic Position/Site Specific Position Cross Reference

Nuclear Function	Function Position (ANS-3.1-1993 section)		Nuclear Plant Position (Site-Specific)	Estimated Numbers of Full Time Equivalents* Design Review Phase	Construction Phase	Pre-op Phase	Operational Phase
Nuclear Protection Services							
~~fire protection~~	~~supervisor~~	~~(4.4)~~	~~Supervisor, Protection Services~~		~~1***~~	~~1***~~	~~1***~~
emergency preparedness	functional manager	(4.3)	Manager, Emergency Planning		1**	1**	1**
	EP planner	(n/a)	EP Specialist		2***	2***	2***
security	functional manager	(4.3)	Manager, Security		1***	1***	1***
	first line supervisor	(4.4)	Supervisor, Nuclear Security		10***	10***	10***
	security officer	(n/a)	Security Officer		100***	100***	100***
Startup testing	supervisor	(4.4.12)	Startup Testing Supervisor		1	3	1
	startup test engineer		Startup Test Engineer		4	10	4
	supervisor	(4.4.11)	Preop Testing Supervisor		2	2	-
	preop test engineer	(n/a)	Preop Test Engineer		8	8	-

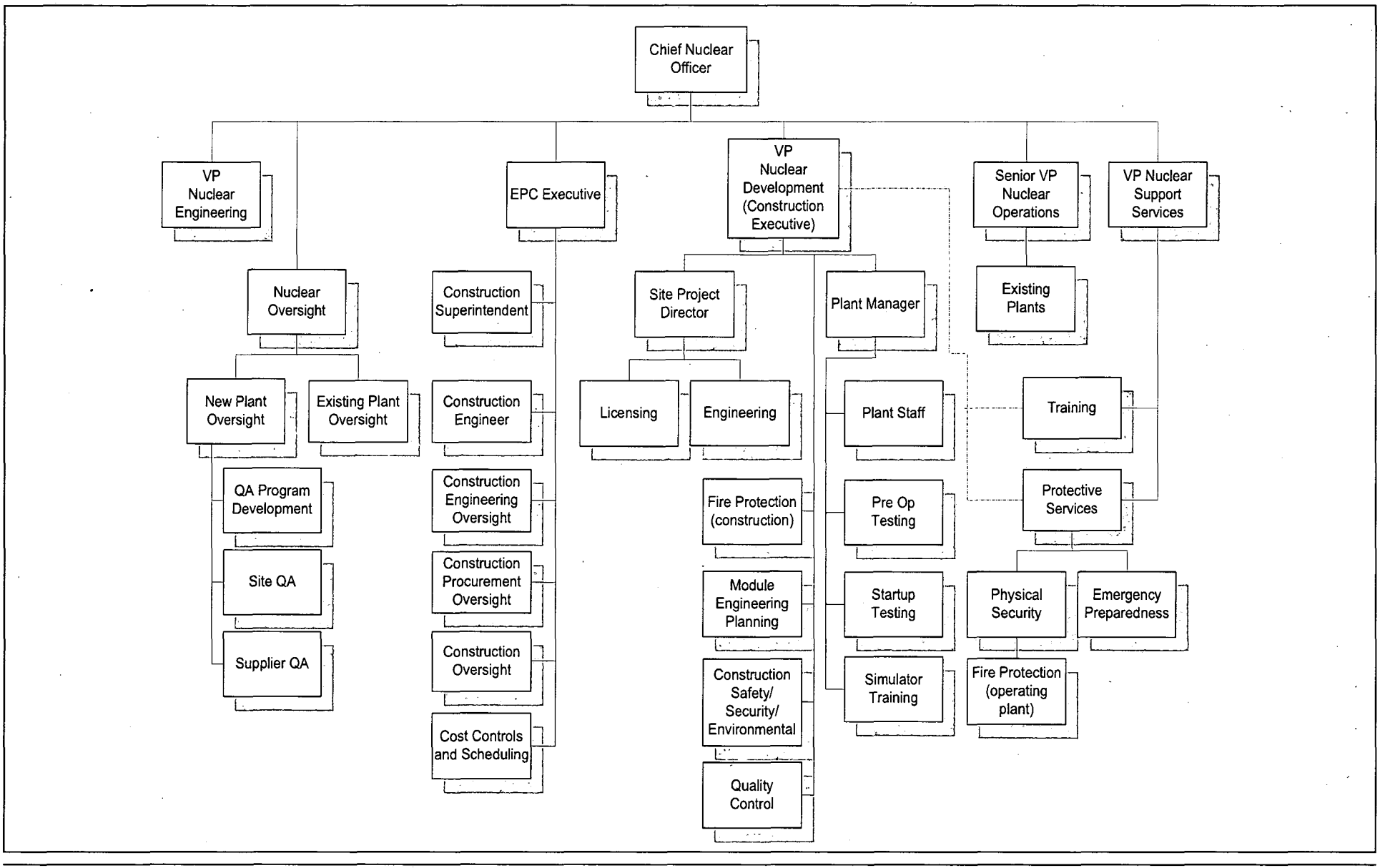
* Unless otherwise noted, the number in each block represents the estimated number of full time equivalents dedicated to the project.

** The number in this block indicates total positions in the nuclear organization.

*** Shared position with other North Anna units.

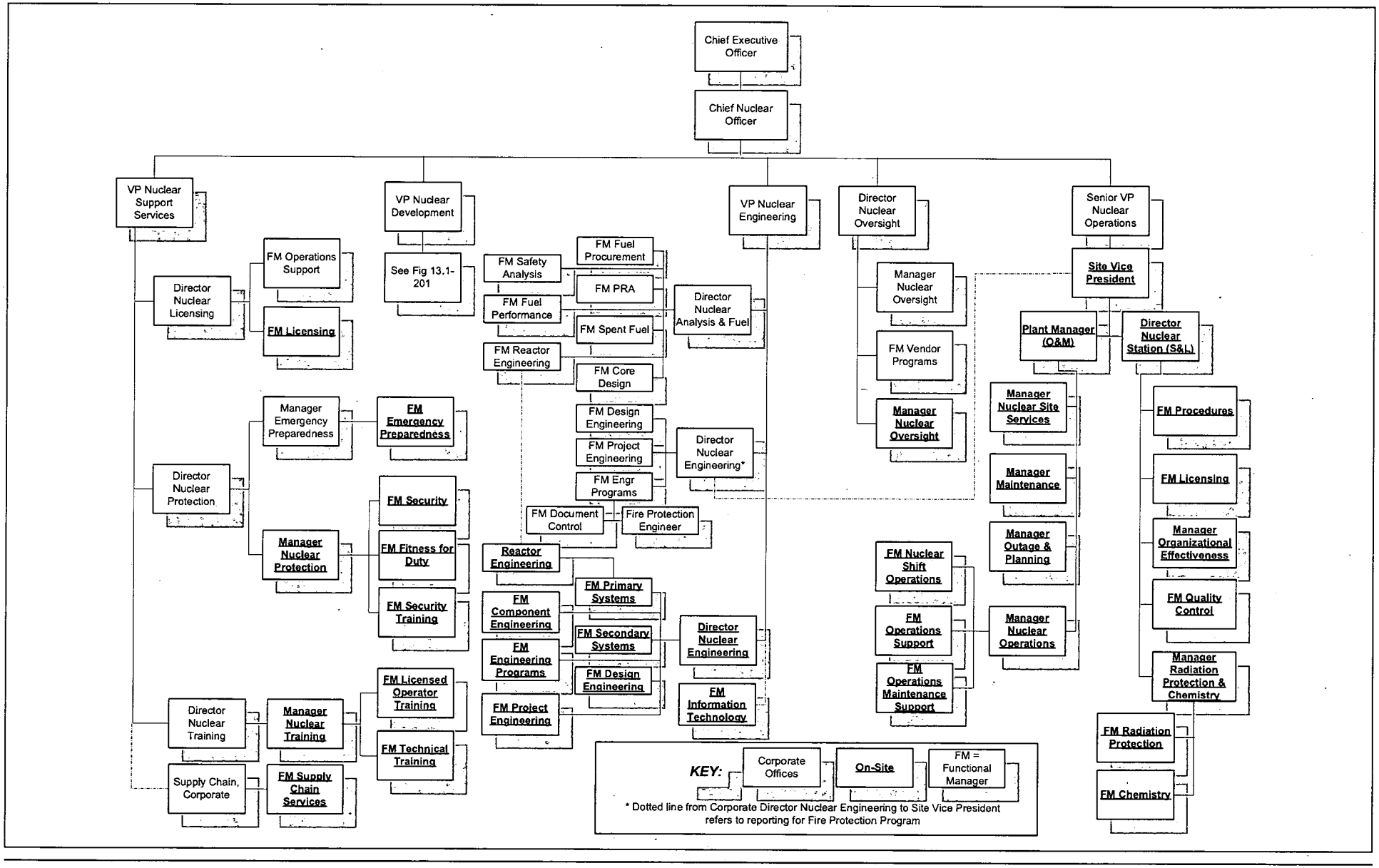
**** A senior reactor operator on shift who meets the qualifications for the combined SRO/STA position specified for Option 1 of Generic Letter 86-04 (Reference 13.1-202) may also serve as the STA. If this option is used for a shift, the separate STA position may be eliminated for that shift.

NAPS COL 13.1-1-A **Figure 13.1-201 Construction Organization**



NAPS COL 13.1-1-A

Figure 13.1-204 Operating Organization



ENCLOSURE 20

Response to NRC RAI Letter 013

RAI Question 17.5-4

NRC RAI 17.5-4

North Anna Power Station Unit 3 Quality Assurance Program Description (FSAR Appendix 17BB). SRP Section 17.5 Section A, "Organization," indicates that the applicant's QAPD should contain an organizational description that addresses the organizational structure, functional responsibilities, levels of authority, and interfaces. The organizational description is to include the onsite and offsite organizational elements that function under the cognizance of the QA program. The NRC endorsed the Nuclear Energy Institute (NEI) QAPD template (NEI 06-14, "Template for an Industry Quality Program Description") as a method for providing a QAPD that meets the requirements of 10 CFR Part 50, Appendix B. The NEI template provides flowcharts (Figures II.1-1 and II.1-2) to delineate the organizational interfaces. Staff review identified that the North Anna Unit 3 QAPD does not provide equivalent flow charts. Please provide a clear illustration in the QAPD of the interrelationships between the North Anna corporate and onsite QA organizations.

Dominion Response

Organization charts depicting the organizational interfaces for North Anna Unit 3 will be added to the QAPD.

Proposed COLA Revision

FSAR Appendix 17BB, Part II, Section 1 will be revised to include the requested organization charts, as shown on the attached markups.

Markup of North Anna COLA

The attached markup represents Dominion's good faith effort to show how the COLA will be revised in a future COLA submittal in response to the subject RAI. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be somewhat different than as presented herein.

PART II QAPD DETAILS

SECTION 1 ORGANIZATION

This Section describes the Dominion NAPS3 organizational structure, functional responsibilities, levels of authority and interfaces for establishing, executing, and verifying QAPD implementation. The organizational structure includes corporate support and onsite functions for NAPS3 including interface responsibilities for multiple organizations performing quality-related functions. Implementing documents assign more specific responsibilities and duties, and define the organizational interfaces involved in conducting activities and duties within the scope of this QAPD. Management gives careful consideration to the timing, extent and effects of organizational structure changes. The Dominion organizations for the NAPS3 construction and operations phases are shown in Figures II.1-1 and II.1-2, respectively.

Dominion NAPS3 management is responsible to size the Quality Assurance organization commensurate with the duties and responsibilities assigned.

The following sections describe the reporting relationships, functional responsibilities and authorities for organizations implementing and supporting the NAPS3 QA Program. Titles used herein are generic functional descriptions, administrative documents are maintained to relate the generic titles to the Dominion specific titles.

1.1 Chief Nuclear Officer (CNO)

The CNO has overall responsibility and authority for the implementation of all activities associated with the safe and reliable design, construction, operation, and decommissioning of Dominion's nuclear facilities. The CNO establishes the NAPS3 quality assurance policy and provides guidance regarding its implementation. The CNO has delegated the responsibility and authority for approval of the QAPD to the senior manager of the group responsible for nuclear oversight. The CNO has the authority to resolve disputes related to implementation of this QAPD for which resolution is not achieved at lower levels within the organization.

1.2 Technical Services

The Dominion technical services group is responsible for implementing QAP requirements applicable to design engineering, technical support for programs such as fire protection, inservice inspection and testing, PRA, and configuration management and records management activities. The technical services organization is also responsible for surveillance and inspection of nuclear fuel suppliers and receipt inspection of nuclear fuel. The executive for the technical services group reports to the CNO.

1.3 New Plant Development

The Dominion new plant development group is responsible for implementing the QAP requirements for activities involved with new nuclear plant engineering, design, procurement, construction, startup and operational development activities. These responsibilities include establishing appropriate interface controls with agents and contractors and the operating units. The executive for new plant development reports to the CNO. The organizational transition from the construction phase to the operating phase is addressed in the NAPS3 FSAR, Chapter 13.

Figure II.1-1 Construction Organization

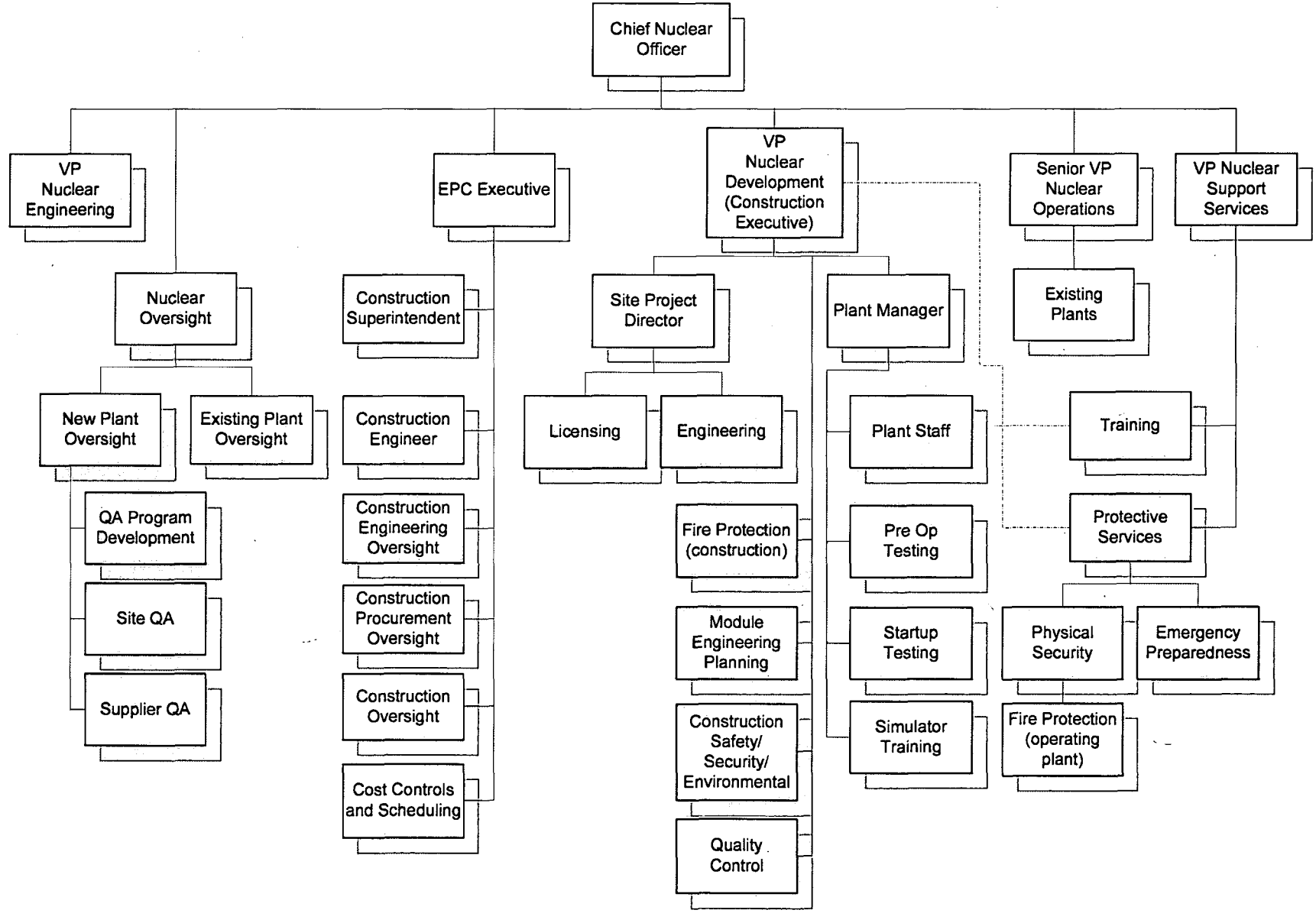


Figure II.1-2 Operating Organization