

North Anna

3

# North Anna 3 COLA Technology Change



June 5, 2013



# Background

- On April 25, 2013, Dominion notified the NRC that it had selected GEH's ESBWR technology for North Anna 3 (NA3)
  - Dominion committed to submit a COLA revision in July 2013
  - The COLA revision would IBR Rev. 9 of the ESBWR DCD
  - The July 2013 submittal would restore the COLA to ESBWR technology and update certain sections of COLA content
  - That same submittal would include an action plan providing a schedule for updating and conforming the remaining COLA content
  - The action plan will commit to updating and submitting all COLA content by December 31, 2013

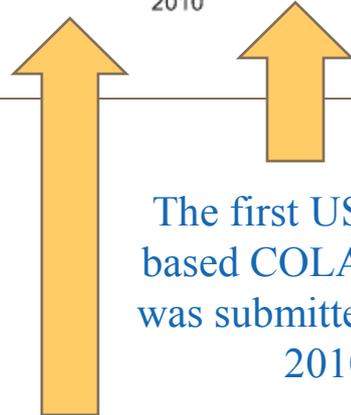
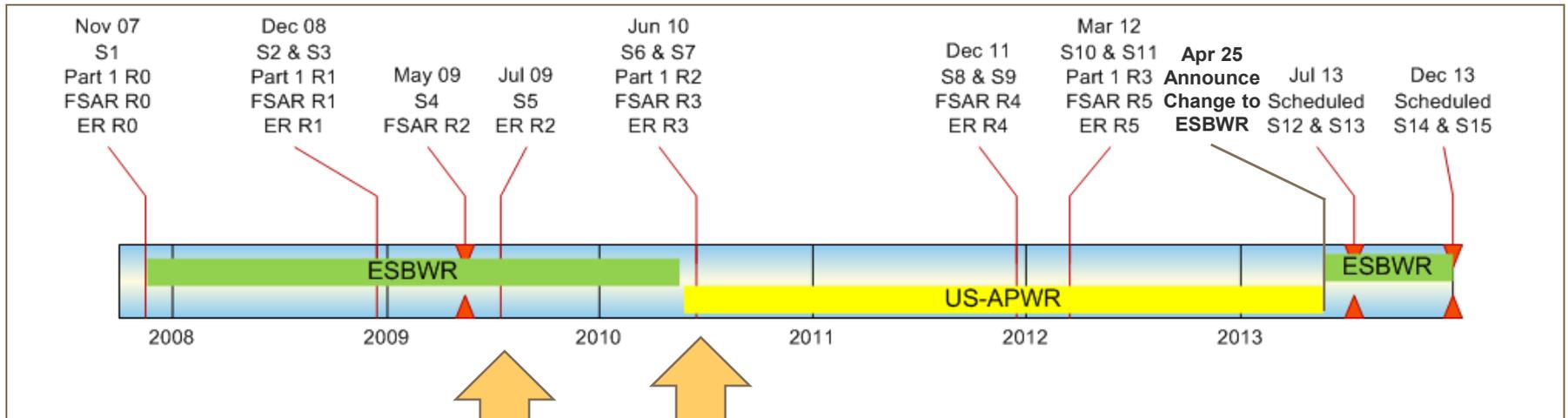
# Purpose of Meeting

- Dominion's assessment is that the remaining licensing review can be completed in a timeframe that supports the company's business objective of receiving a combined license for NA3 in 2015
- The purpose of this meeting is to demonstrate to the NRC that the effort to complete the NA3 COLA licensing review is straightforward
- Today's presentation provides a proposed plan to successfully accomplish Dominion's business objective

# Agenda

- Describe how Dominion is revising the NA3 COLA to return to the GEH ESBWR technology
- Describe how the NA3 COLA revision adheres to the design-centered review approach
- Provide the NRC with an overview of the COLA changes
- Describe Dominion's draft COLA action plan schedule and milestones
- Discuss next steps

# NA3 COLA Timeline



The last ESBWR-based COLA revision was submitted in July 2009

The first US-APWR based COLA revision was submitted in June 2010

# Revision Strategy

- Dominion is designating the application a “COLA”
  - This is intended to minimize confusing cross-references between the Fermi 3 (EF3) and NA3 SERs related to R-COLA and S-COLA
  - From a process perspective, the design-centered review approach will still be used in that EF3 COLA content will be considered and EF3 RAI responses will be evaluated. When appropriate, NA3 COLA content will be revised consistent with the EF3 COLA or RAI response
    - ▶ Information from EF3 RAI responses that doesn't affect COLA content, but which is relied on by the NRC staff, will be added to the NA3 docket
    - ▶ Separately endorsing EF3 RAI responses will not be required
  - From a schedule perspective, the NA3 review can be conducted independent of the EF3 review

## Revision Strategy *(cont.)*

- For COLA content driven primarily by the ESBWR design, the intent, figuratively speaking, is to pick up the review where we left off in 2009
  - For example, Part 2, *FSAR*, Part 4, *Technical Specifications*, Part 7, *Departures, Exemptions and Variances*, and Part 10, *ITAAC/License Conditions*, content is mostly design-driven
  - Dominion is restoring and marking up the last COLA revision that incorporated the ESBWR design (i.e., the 2009 version)
  - This will allow an NRC reviewer to start with the 2009 SER with open items and build on that evaluation to complete the review

## Revision Strategy *(cont.)*

- For COLA content generally independent of the ESBWR design, Dominion is marking up the currently docketed COLA content
  - For example, Part 1, *Administrative Information*, much of Part 3, *Environmental Report*, and portions of Part 8, *Security*, are generally independent of technology
  - The COLA revision will indicate changes to US-APWR COLA content
  - This will allow NRC reviewers to start with the draft US-APWR based SER or environmental evaluations that was being prepared by the Staff

# Revision Strategy *(cont.)*

- Key Objectives
  - Address the previously identified SER open items
  - Address the new or revised COL Items in the four DCD revisions since 2009
  - Disposition the EF3 responses to NRC RAIs submitted after EF3 became R-COLA in 2010

# Revision Strategy *(cont.)*

## ■ Key Objectives *(cont.)*

- Review the legacy RAI responses already on the NA3 docket
  - Pre-2010 Dominion RAI responses related to NA3 ESBWR-based R-COLA
  - Post-2010 Dominion RAI responses related to NA3 US-APWR-based S-COLA
  - Post-2010 Dominion endorsement of Comanche Peak US-APWR R-COLA RAI responses
- Consider emerging issues
  - Fukushima
  - Emergency Plan rulemaking
  - NRC Bulletin 2012-01

# Summary of COLA Changes

- The following slides provide a summary of the changes that will appear in the 2013 ESBWR COLA revision
  - Changes driven by the ESBWR DCD changes since Rev. 5
  - Changes to address SER open items
  - Changes driven by EF3 or NA3 legacy RAI responses
  - Changes to capture US-APWR COLA content, i.e., not design-dependent
  - Other

# Part 1 – Administrative Information

- Starting Point: US-APWR Part 1
- Change Driver: Other

COLA Location	Item	Dominion Assessment
Section 1 , 2, and Attachments	Incorporate use of ESBWR technology, update DVP officers, update cost and financial information	Administrative/financial information change

## **Part 2 FSAR**

Starting Point: ESBWR FSAR

# FSAR Chapter 1 – Introduction and General Description of Plant

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Table 1.10-201	Revise table to address descriptions and updates to COL Item numbers where COL Items are addressed.	Confirmatory change
Appendix 1D	Add section to incorporate by reference (IBR) new DCD Appendix 1D, Summary of Tier 2* Information	Confirmatory change

# FSAR Chapter 1 – Introduction and General Description of Plant *(cont.)*

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
1	OI 01-01	SER for ESBWR design certification application	None	Open	Awaiting ESBWR certification	Awaiting ESBWR certification
2	OI 01-02	Address impact of NA3 construction activities on Units 1 and 2	None	Open	NA3 COLA revision will consider EF3's COLA content as a basis to close the OI	EF3 provided additional information in the COLA
3	OI 01-03	Request for the Department of Energy (DOE) contract number for disposal of high level radioactive waste and spent nuclear fuel	RAI 01-03	<b>Closed</b>	Dominion response to RAI 01-03 submitted on 6/17/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue

# FSAR Chapter 1 – Introduction and General Description of Plant *(cont.)*

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 1.11	Revise Table 1.11-201 to include Generic Issues 201, 202, and 203 (EF3 RAI EF3 RAI 01-10)	Confirmatory change
Section 1.12	Revise Section 1.12 to address safety/security interfaces and insert a reference to Appendix 13AA regarding additional controls during construction (EF3 RAI 01-5)	Confirmatory change related to Open Item 01-02
Table 1.6-201	Revise Table 1.6-201 for updates to referenced topical reports and new NEI reports (EF3 RAI 13.07-1)	Confirmatory change
Appendix 1C	Revise Table 1C-201 to include Generic Letters 07-01 and 81-38(EF3 RAI 01-11)	Confirmatory change

# FSAR Chapter 1 – Introduction and General Description of Plant *(cont.)*

- Other

COLA Location	Item	Dominion Assessment
Section 1.1	Revise milestone schedule dates	Administrative change
Section 1.2	Revise general arrangement figures for Radwaste Storage Building	Confirmatory change.
Section 1.1	Revise Table 1.1-201 to include description of “Consistent with R-COLA (CWR)” left margin annotation (LMA)	Administrative change
Section 1.4	Update information on agents and contractors	Administrative change
Table 1.7-201, 202	Revise Tables 1.7-201 and 202 for new or updated electrical and mechanical system configuration drawings	Administrative change
Tables 1.8-201, 202, 203	Revise Tables 1.8-201, 202, and 203 to reflect changes to departure, variance, or conceptual design information	Administrative change
Tables 1.9-201 through 205	Revise Tables 1.9-201 through 205 to reflect updates to conformance to SRP sections, RGs, RG 1.206, and updates to applicable Codes and Standards or NUREG reports	Confirmatory change

# FSAR Chapter 2 — Site Characteristics

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Section 2.0	DCD Rev. 9 includes new and revised site design parameters	Technical change. Will compare the NA3 site characteristics to those parameters
Section 2.3	Incorporate revised source /receptor locations for short-term X/Q values for control room and TSC	Technical change. Will provide new site-specific X/Q values

# FSAR Chapter 2 — Site Characteristics *(cont.)*

- Changes driven by DCD *(cont.)*

COLA Location	Item	Dominion Assessment
Section 2.4.13	Update radionuclide transport analysis for accidental release of liquid effluents due to revised source terms. Also, the analysis will be based on minimum measured distribution coefficients (Kd) values	Technical change. Will provide new site-specific dose values
Section 2.5	Address changes in Minimum Shear Wave Velocity (SWV) requirements and three additional soil property parameters	Technical change. Will provide new site characteristic values
Appendix 2A	Address changes to source/receptor locations in DCD Rev. 9 Table 2A-3, ARCON96 Design Inputs Used for the Determination of On-Site X/Q Values	Technical change. Will provide new site-specific values
Appendix 2B	IBR DCD Appendix 2B, "Ventilation Stack Pathway Information for Long-term X/Q Values."	Confirmatory change. NA3 X/Q and D/Q values are independent of the App 2B information.

# FSAR Chapter 2 — Site Characteristics *(cont.)*

- Changes for SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
5	OI 2.2.3-5	Provide basis for screening out chemicals as hazards to the control room	RAI 2.2.3-5	Closed	Dominion response to RAI 2.2.3-5 submitted on 5/27/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE received similar RAIs (2.2.3-4, 2.2.3-5, and 2.2.3-6), and provided similar responses. NRC accepted DTE's resolution
6	OI 2.2.3-7	Provide modeling details for calculating toxic chemical concentrations in the control room	RAI 2.2.3-7	Closed	Dominion response to RAI 2.2.3-7 submitted on 6/17/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE received similar RAIs (2.2.3-4, 2.2.3-5, and 2.2.3-6), and provided similar responses. NRC accepted DTE's resolution.
7	OI 2.4.2-2	Provide assurance that locally intense precipitation flood events will not adversely impact NA3's safety-related or RTNSS SSCs	RAI 2.4.2-2	Closed	Dominion response to RAI 2.4.2-2 submitted on 5/27/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue

# FSAR Chapter 2 — Site Characteristics *(cont.)*

- Changes for SER open items *(cont.)*

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
8	OI 2.4.2-3	Provide additional information regarding PMP flows at the Units 1 and 2 plant access road	RAI 2.4.2-3	Closed	Dominion response to RAI 2.4.2-3 submitted on 5/27/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue
9	OI 2.4.12-2	Support the conclusion that the groundwater elevations in the power block area will meet the maximum groundwater level requirement of the DCD over the life of the facility	RAI 2.4.12-2	Closed	Dominion response to RAI 2.4.12-2 submitted on 6/17/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue

# FSAR Chapter 2 — Site Characteristics *(cont.)*

- Changes for SER open items *(cont.)*

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
10	OI 2.4.13-4	Provide results of radioactive transport analysis for comparison with the 10 CFR Part 20 effluent concentration limits	RAI 2.4.13-4	Closed	Dominion response to RAI 2.4.13-4 submitted on 7/29/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue
11	OI 2.5.4-12	Provide additional information on concrete fill properties	RAI 2.5.4-12	Closed	Dominion response to RAI 2.5.4-12 submitted on 8/20/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue
12	OI 2.5.4-13	Describe how backfill properties will be verified to meet the DCD requirements	RAI 2.5.4-13	Closed	Dominion response to RAI 2.5.4-13 submitted on 6/17/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue

# FSAR Chapter 2 — Site Characteristics *(cont.)*

- Changes for SER open items *(cont.)*

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
13	OI 2.5.4-14	Provide minimum SWV for backfill below FWSC	RAI 2.5.4-14	Closed	Dominion response to RAI 2.5.4-14 submitted on 6/17/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue
14	OI 2.5.4-18	Explain differences between ESP and COLA dynamic settlement	RAI 2.5.4-18	Closed	Dominion response to RAI 2.5.4-18 submitted on 6/17/09. NRC PM advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue
15	OI 2.5.4-15	Clarify how concrete fill properties were determined and used in allowable bearing capacity calculation	RAI 2.5.4-15	Closed	Dominion response to RAI 2.5.4-15 submitted on 8/20/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM.	N/A – site-specific issue

# FSAR Chapter 2 — Site Characteristics *(cont.)*

- Changes for SER open items *(cont.)*

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
16	OI 2.5.4-16	Address possibility of local failure of backfill within the backfill layer beneath the concrete mat in the foundation stability analysis	RAI 2.5.4-16	Closed	Dominion response to RAI 2.5.4-16 submitted on 6/17/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue
17	OI 2.5.4-19	Provide details on the load combinations used in the dynamic bearing capacity	RAI 2.5.4-19	Closed	Dominion response to RAI 2.5.4-19 submitted on 6/17/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue
18	OI 2.5.4-17	Clarify the site-specific coefficient of friction used to calculate factor of safety against sliding	RAI 2.5.4-17	Closed	Dominion response to RAI 2.5.4-17 submitted on 6/17/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A – site-specific issue

# FSAR Chapter 2 — Site Characteristics *(cont.)*

- Changes to capture US-APWR S-COLA content

COLA Location	Item	Dominion Assessment
Section 2.2	Add one military air route to the aircraft hazards analysis for ESBWR building layouts	Technical change. Change based on response to RAI 03.05.01.06-1
Section 2.2	Reflect updated Units 1 and 2 chemicals list and site-specific Unit 3 chemical list and include meteorological sensitivity study	Technical change. Updated information and new NRC requirements
Section 2.4	Address the 3 inch increase in normal pool level, flood surcharge, and ESBWR-specific water budget analysis	Technical change. Address mitigating action for the addition of Unit 3
Section 2.4	Clarify that the Design Basis Flood Level results from the Probable Maximum Precipitation (PMP) rather than Probable Maximum Flood (PMF)	Confirmatory change. No changes in US-APWR S-COLA content due to ESBWR design
Section 2.0, 2.4	Incorporate newer data from observation wells for determining hydraulic gradient	Technical change. Data obtained after 2009
Section 2.5	Add data on additional borings	Technical change. Data obtained after 2009

# FSAR Chapter 2 — Site Characteristics *(cont.)*

- Other

COLA Location	Item	Dominion Assessment
Section 2.2	Revise gasoline tanker truck for ESBWR site layout and incorporate methodology in RG 1.91 Rev. 2.	Technical change due to revised analysis methodology
Section 2.0 and 2.5	Revise FIRS and GMRS to reflect utilization of new CEUS-SSC model, new PSHA, RG 1.208 methods, and consideration of the Mineral Earthquake	Technical change. The FIRS exceeds the CSDRS and results in a departure and exemption request. (Fukushima-related)
Section 2.4	Update groundwater flow model to account for changes to finished grade and new hydraulic data	Technical change. Will provide new site-specific groundwater elevation values
Section 2.4	Refine the PMP analysis to reflect expected changes associated with the ESBWR layout and grading. Also, the analysis will address an additional drainage area presented in the North Anna Units 1 and 2 Fukushima local PMP analysis	Technical change. Will provide new site-specific PMP value (Fukushima-related)
Section 2.5	Revise slope stability analysis for new PGA	Technical change

# FSAR Chapter 3 — Design of Structures, Components, Equipment, and Connected Systems

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Section 3.7	Provide results of SSI analyses performed due to FIRS exceeding CSDRS	Technical change. Analyses results will demonstrate acceptable soil-structure interaction
Section 3.8	Provide results of foundation stability calculations	Technical change. Analyses' results will demonstrate acceptable stability margins
Section 3.9	Revise description of reactor internals vibration monitoring program (COL Item 3.9.9.1-A) to reflect DCD revisions	Confirmatory change. Content will be consistent with DCD and EF3 COLA

# FSAR Chapter 3 — Design of Structures, Components, Equipment, and Connected Systems (cont.)

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
19	OI 03.02.01-3	Submit list of SSCs necessary for continued operation following an OBE	RAI 03.02.01-7	Open	Dominion response submitted on 12/9/2009. Dominion will consider EF3's resolution to close OI	North Anna's RAI response was used as a basis to close the issue for EF3 (Note: DTE did add a statement in their FSAR; the North Anna RAI response did not include EF3's FSAR change)
20	OI 03.02.02-2	Identify latest editions of codes and standards for specific SSCs	RAI 03.02.02-2	Open	Dominion response submitted on 9/17/08. Initial feedback from NRC was that the response did not address the open item. NRC was to further investigate. Dominion will consider EF3's resolution to close OI	DTE received a similar RAI (RAI 03.02.02-2), and provided the same response as Dominion. The issue was closed for EF3

# FSAR Chapter 3 — Design of Structures, Components, Equipment, and Connected Systems (cont.)

- Changes to close SER open items (cont.)

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
21	OI 3.07.01-2	Establish site-specific SSE and OBE to be used for determining if a plant shutdown is required following a seismic event	RAI 03.07.01-2	Closed	Dominion response to RAI 03.07.01-2 submitted on 8/24/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	This was a site-specific OI. However, it appears that EF3's FSAR content is consistent with North Anna's RAI response
22	OI 3.09.06-1	Discuss the process for the functional design and qualification of valves and dynamic restraints.	RAI 03.09.06-1	Closed	Dominion response to RAI 03.09.06-1 submitted on 9/11/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE endorsed North Anna's RAI response, which was used to close this OI for EF3
23	OI 3.11-1	Provide information or a schedule related to the EQ Program for safety-related mechanical equipment	RAI 03.11-1	Closed	Dominion response to RAI 03.11-1 submitted on 9/11/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE endorsed North Anna's RAI response, which was used to close this OI for EF3

# FSAR Chapter 3 — Design of Structures, Components, Equipment, and Connected Systems (cont.)

- Changes to close SER open items (cont.)

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
24	OI 3.11-2	Discuss the implementation of the EQ approach	RAI 03.11-2 RAI 3.11-8	Open	Initial Dominion response submitted on 9/11/2009. NRC staff conducted an on-site review of the GEH design and procurement specifications for the ESBWR components to resolve this RAI. One follow-up issue for the COLA regarding transition from initial EQ program to ongoing program. Response to RAI 3.11-8 was not submitted due to the change in technology from ESBWR to US-APWR. Dominion will submit a response to RAI 3.11-8	DTE endorsed North Anna's RAI response, which was used to close this OI for EF3
25	OI 3.10-1	Provide implementation plan for seismic and dynamic qualification program	RAI 03.10-1	Closed	Dominion response to RAI 03.10-1 submitted on 10/28/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE endorsed North Anna's RAI response, which was used to close this OI for EF3

# FSAR Chapter 3 — Design of Structures, Components, Equipment, and Connected Systems (cont.)

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 3.9.6.1.4	Add description of IST for explosively actuated valves (EF3 RAI 03.09.06-1)	Confirmatory change

- Other

COLA Location	Item	Dominion Assessment
Section 3.2	Revise to incorporate zinc injection system	Administrative change. Make content consistent with FSAR Chapter 9

# FSAR Chapter 4 — Reactor

- Changes
  - None

# FSAR Chapter 5 — Reactor Coolant System and Connected Systems

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Section 5.2.1.2	Delete COLA Section 5.2.1.2 due to revision of DCD to address RG 1.192	Administrative change

# FSAR Chapter 5 — Reactor Coolant System and Connected Systems *(cont.)*

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
26	OI 5.3.2-2	Submit PTLR	None	Closed	PTLR was submitted. Dominion submitted responses to follow-up RAIs 05.03.02-3 and 05.03.02-4 on 12/9/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic
27	OI 5.3.2-1	Provide a commitment in the FSAR to submit the P/T limits using plant-specific material properties before fuel loading	RAI 5.3.2-1	Closed	Dominion response to RAI 5.3.2-1 submitted on 8/28/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic

# FSAR Chapter 6 – Engineered Safety Features

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Section 6.2	Delete information that addressed pipe length from containment to the isolation valves in Section 6.2.4.2	Administrative change. DCD deleted COL Item 6.2-1-H

- Changes to capture US-APWR S-COLA content

COLA Location	Item	Dominion Assessment
Section 6.4	Update control room habitability analysis	Technical change. Change to reflect chemicals from Section 2.2 analyses

# FSAR Chapter 7 — Instrumentation and Control Systems

- Changes
  - None

# FSAR Chapter 8 – Electric Power

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Table 8.3-4	Specify the safety-related battery float voltage and equalizing voltage values in Table 8.3-4 (COL Item 8.3.4-1-A)	Confirmatory change. NA3 will utilize the same batteries as the EF3 R-COLA
Section 8.3.3.2	Add requirement to verify that owner yard scope site specific underground or inaccessible power and control cable runs to the PSWS and DG Fuel Oil Transfer System that have accident mitigating functions and are susceptible to protracted exposure to wetted environments or submergence as a result of tidal, seasonal, or weather event water intrusion are adequately identified and monitored for appropriate corrective actions (COL Item 8.3.4-2-A )	Confirmatory change. Add information consistent with EF3 COLA Section 8.3.3.2. (Also related to NA3 US-APWR S-COLA RAI 08.0-47)

# FSAR Chapter 8 – Electric Power *(cont.)*

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 8.2.1.2.3	Revise Section 8.2.1.2.3 to add a description of the routine testing and maintenance for the lightning surge arresters (EF3 RAI 08.02-16)	Confirmatory change
Chapter 8	NRC Bulletin 2012-01, Design Vulnerability in Electric Power System (EF3 RAI 08.02-18)	Resolution of this issue is ongoing (reference GEH presentation to NRC regarding the subject scheduled for June 6, 2013)

# FSAR Chapter 8 – Electric Power *(cont.)*

- Changes driven by EF3 or legacy NA3 RAI responses *(cont.)*

COLA Location	Item	Dominion Assessment
Sections 8.2.1.2.1 and 8.2.2.1	Provide information on over current relays, results of PJM short circuit analysis, and rating information for selected switchyard equipment (disconnect switches, switchyard bus bracing values, etc.) (US-APWR RAI 08.02-43, -60)	Technical change
Table 1.9-202, Section 8.2.1.2.1	Provide discussion on conformance with RG 1.204 (US-APWR RAI 08.02-45 and 08.02-61)	Technical change. NA3 does not fully comply with RG 1.204 because the NA3 switchyard does not fully comply with IEEE C62.23-1995
Section 8.2.1.2.1	Provide details of the switchyard AC/DC station service and grounding (US-APWR RAI 08.02-49)	Technical change. Add additional detail to a similar level of detail as in the EF3 R-COLA
Section 8.2.1.2.2	Identify primary and backup protection scheme for offsite power circuits and transformers (US-APWR RAI 08.02-51)	Technical change. Clarify that only the 500 kV breakers have dual trip coils
Section 8.2.2.1	Provide results and assumptions of system study related to grid stability. (US-APWR RAI 08.02-52, -59)	Technical change. Incorporate results from updated PJM study when available

# FSAR Chapter 9 — Auxiliary Systems

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Section 9.1.5.8	Add information to address use of non-metallic slings	Confirmatory change. Will be consistent with EF3 COLA and EF3 RAI 9.1.5-1
Section 9.3.11	Include zinc injection system option	Technical change. Dominion has elected the zinc injection system option in the DCD
Section 9.5	Add description of Fire Brigade Radio System in accordance with RG 1.189	Technical change. Information added to be consistent with RG guidance

# FSAR Chapter 9 — Auxiliary Systems *(cont.)*

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
28	OI 9.2.1-13	Describe the special treatment QA provisions applicable to supplemental quality class S/N (Special Quality Assurance/Non-Safety Related) for the fiberglass reinforced pipe used in PSWS	RAI 9.2.1-13	Open	Dominion's initial response to RAI 9.2.1-13 submitted on 8/3/09. Item regarding code applicability to fiberglass piping remains open. Dominion will consider EF3's approach to this topic when preparing the COLA revision	N/A - DTE will not use fiberglass pipe for PSWS
29	OI 9.2.1-09	Provide the specific composition or properties of materials to be used in the PSWS	RAI 9.2.1-09	Closed	Dominion response to RAI 9.2.1-09 submitted on 7/8/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	N/A - DTE will not use fiberglass pipe for PSWS

# FSAR Chapter 9 — Auxiliary Systems *(cont.)*

- Changes to close SER open items *(cont.)*

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
30	OI 9.2.1-10	Describe the design of the chemical control system chemical addition system, or water treatment system for the PSWS	RAI 9.2.1-10	Closed	Dominion response to RAI 9.2.1-10 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE received an RAI that was similar to Dominion's, and provided a similar response. The staff closed DTE's RAI response
31	OI 9.2.1-11	Clearly identify the plant specific information in the FSAR that addressed the CDI identified in the ESBWR DCD	RAI 9.2.1-11	Closed	Dominion response to RAI 9.2.1-11 submitted on 7/08/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE did not receive this RAI; however, their FSAR identifies plant-specific information in a manner similar to that used in Dominion's RAI response

# FSAR Chapter 9 — Auxiliary Systems *(cont.)*

- Changes to close SER open items *(cont.)*

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
32	OI 9.2.1-08	Provide additional ITAAC to confirm the PSWS can remove the required BTUs over a period of seven days without active makeup	RAI 9.2.1-08	Closed	Dominion response to RAI 9.2.1-08 submitted on 7/08/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	The EF3 and North Anna ITAAC for this design feature are identical, and there are no Open Items on this topic for EF3
33	OI 9.2.1-12	Provided information on initial testing and design features of PSWS Auxiliary Heat	RAI 9.2.1-12	Closed	Dominion response to RAI 9.2.1-12 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	The EF3 and North Anna FSAR content related to this topic appear to be the same, and there are no Open Items on this topic for EF3

# FSAR Chapter 9 — Auxiliary Systems *(cont.)*

- Changes to close SER open items *(cont.)*

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
34	OI 9.5.4-01	Specify diesel fuel oil inventory margins	RAI 9.5.4-7	Closed	Dominion response to RAI 9.5.4-7 submitted on 8/3/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	The NRC documented acceptance of Dominion's response in the EF3 FSER
35	OI 9.5.4-02	Clarify the corrosion protection methods for the internal and external surfaces of buried DG fuel oil piping and identify the applicable industry standards	RAI 9.5.4-8	Closed	Dominion response to RAI 9.5.4-8 submitted on 8/3/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic

# FSAR Chapter 9 — Auxiliary Systems *(cont.)*

- Other

COLA Location	Item	Dominion Assessment
Section 9A	Revise FHA and figures to reflect Radwaste Building departure	Technical change

# FSAR Chapter 10 — Steam and Power Conversion Systems

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Table 10.4-3R	Revise the Circulating Water flow rate	Administrative change. No safety analysis impact. Circ water flow rate was increased to 684,000 gpm in DCD Rev. 6

# FSAR Chapter 10 — Steam and Power Conversion Systems *(cont.)*

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
36	OI 10.2-1	Update FSAR to reflect bounding turbine missile probability analysis	None	Open	North Anna COLA revision will consider EF3's COLA content as a basis to close the OI	DTE submitted a turbine missile probability analysis to the NRC. DTE has no open items on this topic
37	OI 10.2-2	Update FSAR to incorporate turbine maintenance and inspection frequencies, based on turbine missile probability analysis	None	Open	North Anna COLA revision will consider EF3's COLA content as a basis to close the OI	DTE submitted a turbine missile probability analysis to the NRC. DTE has no open items on this topic

# FSAR Chapter 11 — Radioactive Waste Management

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
38	OI 11.04-3	Describe the facilities and program for long term management and storage of radioactive waste	RAI 11.04-3	Open	North Anna initial response to RAI 11.04-3 submitted on 9/4/08. Dominion will consider the additional information in DTE's COLA when preparing the COLA revision	DTE used Dominion's strategy as a basis to address this topic

# FSAR Chapter 11 — Radioactive Waste Management *(cont.)*

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 11.2.3.2	Add detail to describe LWMS discharges from the Radwaste building (EF3 RAI 12.03-12.04-6)	Confirmatory change

# FSAR Chapter 12 — Radiation Protection

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Section 12.2.2.1, 12.2.2.2, 12.2.2.4	Revise COLA to update liquid and gaseous release and dose calculations	Technical change. Will provide new site-specific concentration and dose values
Section 12.3.1.5	Add new FSAR subsection 12.3.1.5.1 to address compliance with 10 CFR 20.1406 and response to EF3 RAI 12.03-12.04-6	Confirmatory change. Address new DCD COL item 12.3-4-A and close SER Open Item

# FSAR Chapter 12 — Radiation Protection *(cont.)*

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
40	OI 12.03/04-12	Describe the program for monitoring construction site for radiation	RAI 12.03/04-12	Closed	Dominion response to RAI 12.03/04-12 submitted on 8/24/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE received a separate RAI on this topic, and used a different approach to address it
50	NA	Address design objectives and guidance provided in RG 4.21	RAI 12.3-12.4-13	Open	Response to RAI 12.3-12.4-13 was not submitted due to the change in technology from ESBWR to US-APWR. Dominion will submit a response to RAI 12.3-12.4-13, with consideration given to EF3's approach to addressing this topic	EF3 addressed RG 4.21 in the FSAR, and has no OIs associated with the topic. Dominion will consider the latest information in DTE's COLA when preparing the COLA revision

# FSAR Chapter 12 — Radiation Protection *(cont.)*

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 12.2.1.5	Add information associated with radioactive material and special nuclear material, including a table to identify radioactive sources, and describe provisions to meet certain requirements in 10 CFR 30, 40, 70 (EF3 RAI 13.03-62)	Confirmatory change
Section 12.2.1.5	Add information related to radioactive inventory and exposure rate of the condensate storage tank (CST) (EF3 RAI 12.03-12.04-8)	Confirmatory change
Section 12.3.1.4.5	Add supplemental information to provide a more precise description of the process and drain piping that will be arranged to minimize exposure (EF3 RAI 12.03-12.04-9)	Confirmatory change
Section 12.3.1.5.2	Revise description of objectives for minimizing contamination (EF3 RAI 12.03-12.04-4)	Confirmatory change
Section 12.4.7.1	Revise description of construction worker doses (NA3 US-APWR RAIs 12.03-46, -47)	Technical change

# FSAR Chapter 12 — Radiation Protection *(cont.)*

- Other

COLA Location	Item	Dominion Assessment
Sections 12.2,12.3	Revise text, tables and figures to address changes due to the Radwaste Building departure	Confirmatory change. Changes consistent with DTE response to EF3 RAI 12.03-12.04-7
Appendix 12AA	Revise text to refer to the approved NEI Topical Report NEI 07-08A	Administrative change. Change to indicate NRC approval of NEI Topical Report

# FSAR Chapter 13 — Conduct of Operations

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Sections 13.1, 13.4, 13.6, and 13.7	Incorporate administrative changes related to organization, operational programs, and procedures	Confirmatory change. Changes made to address revised DCD COL Items are consistent with EF3 COLA content

# FSAR Chapter 13 — Conduct of Operations

(cont.)

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
41	OI 13.03-3	Submit plans in accordance with the approved NEI template for addressing the four EAL elements	RAI 13.03-3	Closed	Dominion response to RAI 13.03-3 submitted on 9/25/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the strategy that Dominion had developed, and added a license condition for submitting the full set of EALs. Dominion will consider the latest information in DTE's COLA when preparing the COLA revision

# FSAR Chapter 13 — Conduct of Operations

## (cont.)

- Changes to close SER open items (cont.)

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
42	OI 13.03-4	Address the change from 'SPDS function' to 'HSI function' in the TSC and EOF	RAI 13.03-4	Closed	Dominion response to RAI 13.03-4 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no OIs associated with the topic
43	OI 13.03-5	Clarify proposal for EOF location and include all required EOF-related ITAAC in the application	RAI 13.03-5	Closed	Dominion response to RAI 13.03-5 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic. Dominion will consider the latest information in DTE's COLA when preparing the COLA revision

# FSAR Chapter 13 — Conduct of Operations

(cont.)

- Changes to close SER open items (cont.)

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
44	OI 13.03-8	Describe planned location of OSC	RAI 13.03-8	Closed	Dominion response to RAI 13.03-8 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic
45	OI 13.03-6	Provide ITAAC to address onsite exercise	RAI 13.03-6	Closed	Dominion response to RAI 13.03-6 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic
46	OI 13.03-7	Provide ITAAC to address offsite exercise	RAI 13.03-7	Closed	Dominion response to RAI 13.03-7 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic

# FSAR Chapter 13 — Conduct of Operations

(cont.)

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 13.4	Added information to address operational programs and 10 CFR 30, 40, 70 requirements (EF3 RAIs 01-4, 13.03-54, 13.07-1, 13.07-2, and 13.07-4)	Confirmatory change
Section 13.5	Added information related to procedures for refueling cavity integrity, SNM accounting, new fuel shipping, and calibration inspection and test (EF3 RAIs 01-4 and 01-6)	Confirmatory change
Section 13.7	Added information on EPC FFD program (EF3 RAIs 13.07-1, 13.07-2, and 13.07-3)	Confirmatory change
Appendix 13AA	Added information regarding construction organization (EF3 RAI 01-5)	Confirmatory change. Consistent with Dominion QAPD
Appendix 13CC	Added SMN control and accounting program description (EF3 RAI 01-4)	Confirmatory change
Appendix 13DD	Added new fuel shipping plan (EF3 RAI 01-6)	Confirmatory change

# FSAR Chapter 13 — Conduct of Operations

*(cont.)*

- Changes to capture US-APWR S-COLA content

COLA Location	Item	Dominion Assessment
Section 13.1	Organization changes, titles and reporting relationships	Confirmatory change. Make Chapter 13 consistent with Dominion's current organization

# FSAR Chapter 14 — Initial Test Program

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 14.2.8.1.51, 14.2.8.2.18	Add PSWS pre-operational test and performance test information (NA3 RAI 09.02.01-12)	Confirmatory change
Section 14.3A.1	Provide schedule requirements for DAC ITAAC closure in 14.3A (EF3 RAI 14.03.03-1 and NA3 SER Confirmatory Item 14.3A-1)	Confirmatory change

- Other

COLA Location	Item	Dominion Assessment
Section 14.2.9.1.1	Add traveling screens to SWS preoperational test abstract	Confirmatory change. Consistent with EF3 COLA
Appendix 14AA	Revise description of organizations, positions, and responsibilities for consistency with EPC contract and FSAR Chapters 13 and 17	Administrative changes

# FSAR Chapter 15 — Safety Analysis

- Changes
  - None

# FSAR Chapter 16 — Technical Specifications

- See COLA Part 4 for changes

# FSAR Chapter 17 — Quality Assurance

- Starting Point: ESBWR COLA, except App. 17AA (QAPD starting point is US-APWR COLA)
- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
48	OI 17.5-4	Confirm NRC approval of NEI template 06-14 for the QAPD (related to organizational description)	None	Open	NRC approved NEI 06-14A R7. NA3 QAPD has been revised to conform to the staff-approved template	DTE followed the approach taken by Dominion, and has no OIs associated with the topic
49	OI 17.5-5	Confirm NRC approval of NEI template 06-14 for the QAPD (related to citation of correct regulation)	RAI 17.5-5	Open	NRC approved NEI 06-14A R7. NA3 QAPD has been revised to conform to the staff-approved template	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic

# FSAR Chapter 17 — Quality Assurance *(cont.)*

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 17.4.1	Add paragraph regarding D-RAP and site-specific SSCs (EF3 RAI 17.04-2)	Confirmatory change
Section 17.6.4	Add new section to address condition monitoring of underground or inaccessible cables (EF3 RAI 08.02-17 S1)	Confirmatory change

- Other

COLA Location	Item	Dominion Assessment
Appendix 17AA (QAPD)	Revise Section 1 to reflect current position titles and organization names	Administrative change

# FSAR Chapter 18 – Human Factors Engineering

- Changes
  - None

# FSAR Chapter 19 — Probabilistic Risk Assessment and Severe Accidents

- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Appendix 19D	IBR DCD appendix on aircraft impact	Administrative change

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Section 19 AA	Revise wording of site-specific PRA assessment (EF3 RAI 19-1)	Confirmatory change

- Other

COLA Location	Item	Dominion Assessment
Chapter 19	Address CSDRS exceedance resulting from CEUS/SSC incorporation	Technical change

Parts 3, 4, 5, 7, 8 and 10

# Part 3 — Environmental Report

- Starting Point: US-APWR ER
- Changes driven by DCD

COLA Content	Item	Dominion Assessment
Section 2.7	Incorporate revised source term, receptor heights, and some relative angles for dispersion/diffusion coefficient values (content correlates with FSAR Section 2.3)	Technical change
Section 3.0	Evaluate Design Parameters and Site Characteristic values against ESP values	Technical change
Chapter 3	Revise plant description sections for reactor power conversion system, plant water use, PJM study, and transportation of spent fuel	Confirmatory change
Section 5.4	Revise source term & radiological impacts (content correlates with FSAR Chapter 12)	Technical change
Sections 7.1-7.3	Revise design basis and severe accident analysis descriptions and mitigation alternatives (content correlates with FSAR Chapter 19 & DCD tech reports)	Technical change

# Part 3 — Environmental Report *(cont.)*

- Other

COLA Content	Item	Dominion Assessment
Chapter 1	Revise site and additional property layout and utilization figures. Update new & significant information	Confirmatory change
Section 1.2	Update environmental permitting and authorizations information	Confirmatory change
Section 2.6	Add descriptive content due to the 2011 Mineral, VA earthquake (content correlates with FSAR Section 2.5)	Technical change
Chapters 2 & 4	Incorporate minor changes to the large component transport route	Confirmatory change
Chapter 4	Incorporate previous ESBWR water impact content. Update dose to construction workers based on new analysis	Technical change
Section 5.3	Revise SACTI plume analysis and description to reflect ESBWR design (content correlates with FSAR Section 2.3)	Technical change
Section 5.8	Update photos that provide visual impacts information for ESBWR design	Confirmatory change
Chapter 10	Revise roll-up of impacts to resources to reflect ESBWR design. Update project costs information	Confirmatory change

# Part 4 – Technical Specifications

- Starting point: NA3 ESBWR Tech Specs and Bases (DCD Rev. 5)
- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Part 4	Update NA3 ESBWR COLA Part 4 plant-specific TS (PTS) and bases to reflect DCD Rev. 9 GTS and bases content that is IBR	Confirmatory change
Part 4	Address new COL Items requirements	Technical change

# Part 4 – Technical Specifications *(cont.)*

- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	EF3 Approach to Closing Open Item
47	OI 16-1	Completion of COL Items associated with PTS and Bases  Exemption requests for Tech Specs	RAI 16-1	Closed	Issues resolved in DCD Rev. 6. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no OIs associated with the topic

# Part 4 – Technical Specifications *(cont.)*

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Part 4	Address Post-Accident Monitoring (PAM) Instrumentation (EF3 RAI 16-1)	Confirmatory change
Part 4	Identify utilization of float current for determining the fully charged state of the batteries (EF3 RAI 16-2)	Confirmatory change
Part 4	Add NRC approval information for “Setpoint Control Program Methodology and Implementation” (EF3 RAI 16-3)	Administrative change. NRC approved the GEH setpoint methodology described in NEDE-33304P-A
Part 4	Correct typographical errors in the R-COLA Part 4 PTS and bases, some of which are contained in the ESBWR GTS and bases (EF3 RAI 16-4)	Confirmatory change. Similar NA3 ESBWR COLA Part 4 PTS and bases typographical errors have been corrected; however, the errors identified in the ESBWR GTS and bases have been retained so that an exemption to the GTS and bases is not required

# Part 5 — Emergency Plan (EP)

- Starting Point: NA3 ESBWR EP
- Changes driven by EF3 or legacy NA3 RAI responses

COLA Location	Item	Dominion Assessment
Part 5 II.J.7 “Protective Action Recommendation and Bases”	Add text regarding use of prophylactic use of Potassium Iodide (EF3 RAIs 13.03-14 and 13.03-61)	Confirmatory change

# Part 5 — Emergency Plan (EP) *(cont.)*

- Other

COLA Location	Item	Dominion Assessment
Part 5 Section II.E “Notification Methods and Procedures”	Add text regarding route alerting	Confirmatory change. EP rule impact
Part 5 Section II.H “Emergency Facilities and Equipment”	Add text regarding hostile action	Confirmatory change. EP rule impact
Part 5 Section II.N “Exercises and Drills”	Update II.N.1 “Exercises” and II.N.2 “Drills”	Confirmatory change. EP rule impact
Part 5 Appendix 4: Evacuation Time Estimates (ETE) (summary)	Revise to include the Executive Summary from the 2012 North Anna Evacuation Time Estimates report	Administrative change. EP rule impact
Part 5 Supplemental Information “Evacuation Time Estimate Report”	Submit updated 2012 Evacuation Time Estimate Report	Confirmatory change. EP rule impact

# Part 7 — Departures Report: Departures

- Starting Point: NA3 ESBWR Departures Report
- Changes to close SER open items

Item No.	Open Item No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close Open Item	Fermi Approach to Closing Open Item
38	OI 11.04-3	Long term management and storage of radioactive waste	RAI 11.04-3	Open	Dominion initial response to RAI 11.04-3 submitted on 9/4/08. North Anna COLA revision will consider EF3's COLA content as a basis to close the OI	EF3 departed from DCD and reconfigured the RWB to accommodate 10 years of Class B and C, plus 3 months of Class A.

# Part 7 — Departures Report: Departures *(cont.)*

- Other

COLA Content	Item	Dominion Assessment
Part 7 - Departures	FIRS for NA3 SCI structures exceed DCD's CSDRS	Technical change. New departure.
Part 7 - Departures	Main generator circuit breaker in intermediate switchyard	Technical change. New departure.
Part 7 - Departures	Lightning protection for the switchyard - RG 1.204	Technical change. New departure. NA3 does not fully comply with RG 1.204

# Part 7 — Departures Report: Exemption Requests

- Changes driven by DCD

COLA Content	Item	Dominion Assessment
Part 7: Exemption Requests - Bases description for SR 3.7.2.3	Technical Specifications (TS) Bases description for SR 3.7.2.3. The Item in TS 5.5.13.d is no longer a COL Item and is part of the standard design.	Confirmatory change. Delete an existing exemption request

# Part 7 — Departures Report: Exemption Requests *(cont.)*

- Changes driven by EF3or legacy RAI Responses

COLA Content	Item	Dominion Assessment
Part 7: Exemption Requests - TS Bases for SR 3.1.5.1	Expected minimum accumulator pressure value in TS Bases for SR 3.1.5.1	Confirmatory change. Delete an existing exemption request. Will be consistent with EF3 TS.

- Other

COLA Content	Item	Dominion Assessment
Part 7: Exemption Requests	FIRS for NA3 SC I structures exceed DCD's CSDRS	Technical change. New exemption request
Part 7: Exemption Requests	Licensing of special nuclear material under 10 CFR 52	Technical change. New exemption request

# Part 7 — Departures Report: Variances

- Changes driven by DCD

COLA Content	Item	Dominion Assessment
Part 7: Variances NAPS ESP VAR 2.0-5	Distribution coefficients (Kd)	Confirmatory change. Revise to reflect use of minimum Kd values obtained from laboratory testing

# Part 7 — Departures Report: Variances *(cont.)*

- Other

COLA Content	Item	Dominion Assessment
Part 7: Variances NAPS ESP VAR 2.0-1	Long-term dispersion estimates ( $\chi/Q$ and $D/Q$ )	Confirmatory change. Update to identify use of field survey results
Part 7: Variances NAPS ESP VAR 2.0-2	Hydraulic conductivity	Confirmatory change. Update to identify use of maximum value
Part 7: Variances NAPS ESP VAR 2.0-3	Hydraulic gradient	Confirmatory change. Update the maximum value
Part 7: Variances NAPS ESP VAR 2.0-4	Vibratory ground motion	Confirmatory change. Address CEUS, Mineral VA earthquake, GMPE, RG 1.208, etc.
Part 7: Variances NAPS ESP VAR 2.4-1	Void ratio, porosity, and seepage velocity	Confirmatory change. Update seepage velocity value due to increase in hydraulic gradient
Part 7: Variances NAPS ESP VAR 2.5-2	Engineered fill	Confirmatory change. Update due to change in material supporting NA3 Seismic Category I and II structures

# Part 7 — Departures Report: Variances *(cont.)*

- Other *(cont.)*

COLA Content	Item	Dominion Assessment
NAPS ESP VAR 12.2-1 NAPS ESP VAR 12.2-3 NAPS ESP VAR 12.2-4	Gaseous pathway doses Annual liquid effluent releases Existing units' and site total doses	Confirmatory change to assure consistency with FSAR Chapter 12
NAPS ESP VAR 2.4-4	Lake level increase	Confirmatory change. Add variance currently in US-APWR S-COLA

# Part 8 — Security: Physical Security Plan

- Starting Point: US-APWR Physical Security Plan (PSP)

COLA Content	Item	Dominion Assessment
Section 14.5	Provide list of vital areas	Confirmatory change. Consistent with DCD
Section 18	Update numbers of armed responders and armed security officers	Technical change

- Other

COLA Content	Item	Dominion Assessment
References	Update to NEI 03-12, Rev. 7	Administrative change
Figures 3, 6 and 7	Revise Figures 3, 6, and 7 to reflect site layout	Technical change
Section 11.3	Revise location description of NA3 Admin Bldg	Technical change

# Part 8 — Security: App. 8D and 8E

- Starting Point: New
- Changes driven by DCD

COLA Content	Item	Dominion Assessment
Appendix 8D	COL Item 13.6-16-A: Provide figure showing BRE locations and fields of fire	Technical change
Appendix 8E	COL Item 13.6-17-A: Provide site arrangement drawing that provides security features	Technical change

## Part 8 — Security: Cyber Security Plan

- Starting Point: US-APWR Cyber Security Plan
- Changes
  - None

# Part 8 — Security: Mitigative Strategies

## Description and Plans

- Starting Point: New
- Report will be developed
  - EF3's report will be considered

## Part 8 — Security: CAS/SAS Report

- Starting Point: ESBWR CAS/SAS Report
- Changes
  - None

# Part 10 – Tier 1/ITAAC/License Conditions

- Starting Point: ESBWR Tier 1/ITAAC
- Changes driven by DCD

COLA Location	Item	Dominion Assessment
Section 2.2	Add site-specific physical security ITAAC	Confirmatory change. Changes made to address DCD COL Item 13.3-2-A. Consistent with EF3 ITAAC content

## Part 10 – Tier 1/ITAAC/License Conditions (cont.)

- Changes to close SER Open Items

Item No.	OI No.	Description	Related RAI	Status	Closeout Response or Proposed Actions to Close OI	EF3 Approach to Closing OI
32	OI 9.2.1-08	PSWS ITAAC Confirm the PSWS can remove the required BTUs over a period of seven days without active makeup.	RAI 9.2.1-8	Closed	Dominion response to RAI 9.2.1-08 submitted on 7/08/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic
45	OI 13.03-6	Provide ITAAC to address onsite exercise	RAI 13.03-6	Closed	Dominion response to RAI 13.03-6 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic
46	OI 13.03-7	Provide ITAAC to address offsite exercise	RAI 13.03-7	Closed	Dominion response to RAI 13.03-7 submitted on 8/03/09. NRC advised Dominion that this OI was closed via weekly status calls with NRC PM	DTE followed the approach taken by Dominion, and has no Open Items associated with the topic

## Part 10 – Tier 1/ITAAC/License Conditions *(cont.)*

- Changes driven by EF3 or legacy NA3 RAI responses

COLA Content	Item	Dominion Assessment
Section 2.4	Add ITAAC for the Turbine, Radwaste, Service, and Ancillary Diesel buildings that compare soil properties to the site parameters in DCD Tier 1 (EF3 RAI 03.07.02-5)	Confirmatory change
Section 2.4	Add ITAAC for backfill for FWSC (EF3 RAIs 02.04-39 and 40)	Confirmatory change

- Other

COLA Content	Item	Dominion Assessment
License Conditions (LCs)	Add LCs to be consistent with EF3, including LCs to address the requirements of 10CFR30, 40, and 70	Confirmatory change

# Dominion Assessment of COLA Revision

- COLA content will be based on EF3 R-COLA, NA3 US-APWR COLA, and previous NA3 ESBWR COLA:
  - Part 1 – Essentially the same as NA3 US-APWR S-COLA
  - Part 2 – Essentially the same as EF3 R-COLA
  - Part 3 – Essentially the same as US-APWR ER or NA3 ESBWR ER
  - Part 4 – Essentially the same as EF3 R-COLA
  - Part 5 – Essentially the same as NA3 ESBWR EP
  - Part 7 – Summary of departures, variances, and exemptions contained in Part 2
  - Part 8 – Essentially the same as NA3 US-APWR COLA or NA3 ESBWR COLA
  - Part 10 – Essentially the same as EF3 R-COLA

# Dominion Assessment of COLA Revision

- NRC reviews are essentially complete for the base documents for this COLA revision:
  - EF3 R-COLA has FSERs for all chapters except Chapters 1 and 3
  - NA3 has a final supplemental EIS for ESBWR technology
  - NA3 SER with Open Items was issued in 2009
  - NA3 US-APWR COLA review was essentially complete for the content captured in the 2013 COLA revision
  - ESBWR DCD is in rulemaking

# Dominion Assessment of COLA Revision

- This COLA revision:
  - Facilitates Staff review
  - Incorporates latest ESBWR DCWG intelligence
  - Is consistent with the EF3 R-COLA to the extent possible
  - Clearly addresses technical issues
  - Captures and preserves outcomes of years of interaction with the Staff in Part 52 licensing efforts

# COLA Submission

## Targeted for July Submittal:

COLA Part 1, Financial and Administrative Information

COLA Part 2, FSAR:

- Chapter 1 (Except 1.2 and 1.6 thru 1.10)
- Chapter 3 (3.1-3.6, 3.9, 3.13)
- Chapter 4
- Chapter 5
- Chapter 7
- Chapter 13
- Chapter 14
- Chapter 15
- Chapter 16
- Chapter 17
- Chapter 18
- Chapter 19

COLA Part 3, ER:

- Chapters 1 - 5 (Partial)
- Chapter 6
- Chapter 8
- Chapter 9

COLA Part 4, Tech Specs and Bases

COLA Part 5, Emergency Plan

COLA Part 10, ITAAC

COLA Part ,8 Security:

- Physical Security Plan
- Cyber Security Plan
- CAS/SAS Report

# COLA Submission *(cont.)*

## Targeted for December Submittal:

### COLA Part 2, FSAR:

- Chapter 1 (1.2 and 1.6 - 1.10)
- Chapter 2
- Chapter 3 (3.7, 3.8, 3.10, 3.12)
- Chapter 6
- Chapter 8
- Chapter 9
- Chapter 10
- Chapter 11
- Chapter 12

### COLA Part 3, ER:

- Chapters 1- 5 (Complete)
- Chapter 3
- Chapter 7
- Chapter 10

### COLA Part 7, Departures and Variances

### COLA Part 8 Security:

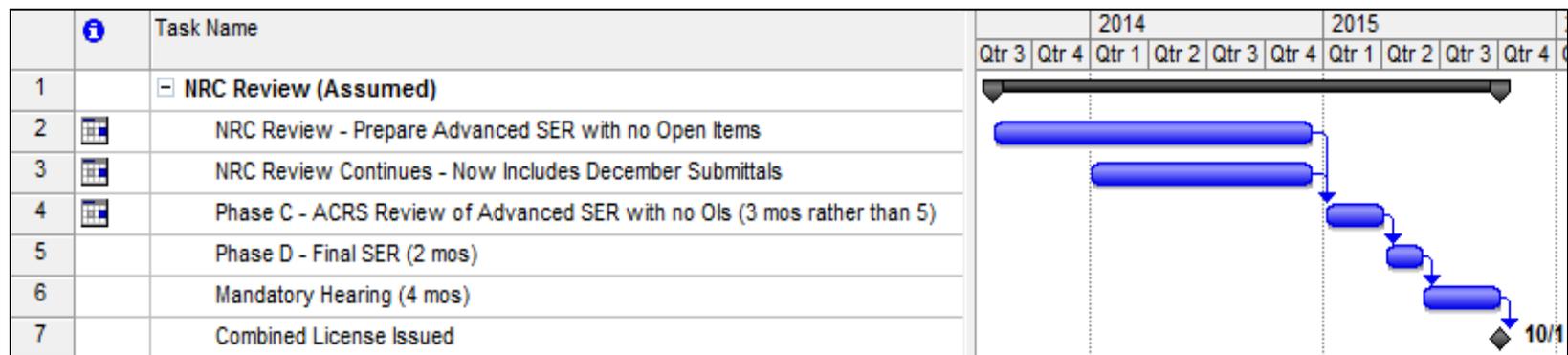
- Mitigative Strategies Description and Plans
- Appendix 8D
- Appendix 8E

### COLA Part 10, License Conditions

# Proposed NRC Review Timeline

Adequate review time exists to support Dominion's objective of receiving the COL in 2015

- Durations based on historic information
- Assumes a combined Phase A/B review



# Next Steps

- Dominion proposes to hold follow-up meetings on specific COLA content or process issues
  - Coordinate through NRC lead project managers
- Dominion proposes to hold another full-scope meeting in August once the NRC has an opportunity to become familiar with the July COLA revision