Bellefonte Nuclear Plant Units 3 & 4

COL Application

Part 7

Departures and Exemption Requests

Revision 0

A. STD and BLN Departures

This Departure Report includes deviations in the Bellefonte COLA FSAR from the information in the applicable Design Change Document (DCD), pursuant to 10 CFR Part 52, Appendix D, section VIII and section X.B.1.

The following Departures are described and evaluated in detail in this report.

Departure Number	Description
STD DEP 1.1-1	Administrative departure for organization and numbering for the FSAR sections
BLN DEP 9.2-1	Service Water System (SWS) blowdown flow path
BLN DEP 18.8-1	Emergency Response Facility locations

Departure Number: STD DEP 1.1-1

Affected DCD/FSAR Sections: 1.1.6.1, 2.1.1, 2.1.4, 2.2.1, 2.2.4, 2.4.1, 2.4.15, 2.5, 2.5.6, 9.2.11, 9.2.12, 9.2.13, 9.5.1.8, 9.5.1.9, 13.1, 13.5, 13.7, 17.5, 17.6, 17.7, 17.8

Summary of Departure:

This FSAR generally follows the AP1000 DCD organization and numbering. Some organization and numbering differences are adopted where necessary to include additional material, such as additional content identified in Regulatory Guide 1.206.

Scope/Extent of Departure:

The renumbered sections associated with this Departure are identified in the FSAR (at the sections identified above).

Departure Justification:

An administrative departure is established to identify instances where the renumbering of FSAR sections is necessary to effectively include content consistent with Regulatory Guide 1.206, as well as NUREG-0800, Standard Review Plan.

Departure Evaluation:

This Departure is an administrative change that affects only section numbering of the indicated FSAR sections. Accordingly, it does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific DCD;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD;
7. Result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific DCD used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific DCD.

Therefore, this Departure has no safety significance.

Departure Number: BLN DEP 9.2-1

Affected DCD/FSAR Sections: 9.2.1.2.1

Summary of Departure:

In the DCD, a small portion of the service water system (SWS) flow is normally diverted to the circulating water system (CWS). This blowdown is used to control levels of solids concentration in the SWS. Alternatively, the blowdown can be diverted to the waste water system. At Bellefonte, this blowdown is directed exclusively to the waste water system.

Extent/Scope of Departure:

This Departure is identified in the FSAR section 9.2.

Departure Justification:

The site-specific design of the service water system (SWS) will not blowdown to the circulating water system (CWS) as described in the DCD because of the long distance between the SWS and the CWS cooling towers. This change is acceptable because it meets the design objective of providing a blowdown path for the SWS. The change does not adversely affect any safety-related system, nor does it conflict with applicable regulatory guidance.

Departure Evaluation:

This Departure is associated with a non-safety-related system. It results in a suitable blowdown path for the SWS and does not adversely impact the SWS, CWS, or waste water system. Accordingly, it does not

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific DCD;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD;
7. Result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific DCD used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific DCD.

Therefore, this Departure has no safety significance.

Departure Number: BLN DEP 18.8-1

Affected DCD/FSAR Sections: 18.8.3.5, 18.8.3.6, 12.5.2.2, 12.3, 9A, 1.2

Summary of Departure:

At Bellefonte, the Technical Support Center (TSC) is not located in the control support (CSA) as identified in DCD Subsection 18.8.3.5; the TSC location is as described in the Emergency Plan. Additionally, the Operations Support Center (OSC) is also being moved from the location identified in DCD Subsections 18.8.3.6 and 12.5.2.2 and as identified on DCD Figure 1.2-18; the OSC location is as described in the Emergency Plan.

Scope/Extent of Departure:

This departure is identified in FSAR Subsections 12.5.2.2, 18.8.3.5, and 18.8.3.6. Additionally, this departure is identified on FSAR Figures 1.2-201, 9A-201, 12.3-201, 12.3-202, and 12.3-203. These figures replace DCD Figures 1.2-18, 9A-3 (Sheet 1 of 3), 12.3-1 (Sheet 11 of 16), 12.3-2 (Sheet 11 of 15), and 12.3-3 (Sheet 11 of 16).

Departure Justification:

The referenced DCD states "The TSC is located in the control support area (CSA)." This is not the case for BLN. The TSC location is moved to a central location such that a single TSC can serve both BLN Units 3 and 4 as identified in the Emergency Plan. The referenced DCD also states "The ALARA briefing and operational support center is located off the main corridor immediately beyond the main entry to the annex building" and indicates that the OSC location is identified on Figure 1.2-18. However, the OSC is being moved to the control support area vacated by the move of the TSC in order to better utilize the now available space.

Departure Evaluation:

This Departure is for a non-safety-related system, and the alternate locations of the TSC and OSC meet applicable requirements. Relocating the TSC and OSC does not adversely affect their function and therefore this Departure does not

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific DCD;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD;
7. Result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific DCD used in establishing the design bases or in the safety analyses.

18.8-1 Departure Evaluation (continued):

This Departure does not affect resolution of a severe accident issue identified in the plant-specific DCD.

Therefore, this Departure has no safety significance.

B. BLN Exemption Requests

TVA requests the following exemptions related to:

1) Fitness for Duty Program Description, and
2) Combined License Application Organization and Numbering

Discussion and justifications for each of these requests is provided in the following pages.

1) Fitness for Duty Program Description (10 CFR Part 26)

Applicable Regulation(s): 10 CFR 52.79(a)(44)

Specific wording from which a schedule exemption is requested:

> (a) The application must contain a final safety analysis report that describes the facility, presents the design bases and the limits on its operation, and presents a safety analysis of the structures, systems, and components of the facility as a whole. The final safety analysis report shall include the following information, at a level of information sufficient to enable the Commission to reach a final conclusion on all safety matters that must be resolved by the Commission before issuance of a combined license:
>
> .
>
> (44) A description of the fitness-for-duty program required by 10 CFR part 26 and its implementation.

Pursuant to 10 CFR 52.7 and 52.93 (as amended and promulgated effective Sept. 27, 2007), the Tennessee Valley Authority (TVA) requests a schedule exemption from the requirement of 10 CFR 52.79(a)(44) to provide a "description of the fitness-for-duty program required by 10 CFR part 26 and its implementation" in its application for a combined operating license for the Bellefonte Nuclear Plant (BLN). TVA proposes to provide the FFD Program description required by 10 CFR 52.79(a)(44) based on the revised 10 CFR Part 26 regulations that are expected to be promulgated and become effective in early 2008 since these are the regulations that are expected to be in effect at the time of implementation of the program.

Discussion:

In an April 17, 2007, affirmation session (ADAMS ML071070361), the Commission approved a final rule amending FFD regulations in 10 CFR Part 26 for both the construction and operating phases for a new nuclear plant. The new and revised Part 26 regulations are expected to be promulgated and become effective in 2008. Implementation of a fitness for duty program at this station is not expected to be required until after 2008.

The construction phase of the Fitness for Duty Program as applied to new plants is not required to be implemented until the commencement of on-site construction of safety or security-related systems, structures and components. TVA will not begin these activities until after the amendments to 10 CFR Part 26 regulations are expected to take effect. The operational phase of the FFD Program is required to be implemented prior to fuel load.

In view of the near-term effectiveness of new FFD regulations, it would be more efficient for both TVA and the NRC to submit the FFD Program description required by 10 CFR 52.79(a)(44) based on the revised Part 26 rules rather than the rules currently in effect. Accordingly, TVA hereby submits a request for a schedule exemption from current Part 52 regulations pursuant to 10 CFR 52.7, "Specific Exemptions," and 10 CFR 52.93, "Exemptions and Variances."

Granting this request, which is authorized by law, would allow the NRC to conduct its acceptance review of the BLN COL application based on the revised rules that will become effective in the near future. TVA does not expect the NRC to issue the requested COL until the revised FFD rules take effect. For this and other reasons, granting this exemption request will not present an undue risk to the public health and safety, and is consistent with the common defense and security.

The pending amendments to Part 26 create "special circumstances," as defined in 10 CFR 50.12 (Specific Exemptions) that warrant granting this exemption. Applying the current Fitness for Duty

regulations in reviewing the FFD Program description required by 10 CFR 52.79(a)(44) would not serve, and is not necessary to achieve, the underlying purposes of the rule. Further, the underlying purpose of 10 CFR 52.79(a)(44) can be satisfied by meeting the requirements of the revised FFD regulations that will become effective in the near future.

Moreover, compliance with the current rule would cause undue hardship for TVA and would also be inefficient and burdensome for the NRC staff. That approach would require TVA to prepare, and NRC to review, information based on Fitness for Duty regulations that will soon be superseded by Part 26 amendments, and then (presumably) complete a similar submittal under the revised FFD rules.

For these reasons, TVA requests approval of the requested schedule exemption from the Part 52 requirements to provide a description (in the FSAR) of the fitness for duty program that meets the current Part 26 Fitness for Duty regulations.

2) Combined License Application Organization and Numbering (Part 52, Appendix D)

Applicable Regulation(s): 10 CFR Part 52, Appendix D, Section IV.A.2.a

Specific wording from which exemption is requested:

> IV. Additional Requirements and Restrictions
> A. An applicant for a license that wishes to reference this appendix shall, in addition to complying with the requirements of 10 CFR 52.77, 52.78, and 52.79, comply with the following requirements:
> 1. Incorporate by reference, as part of its application, this appendix.
> 2. Include, as part of its application:
> a. A plant-specific DCD containing the same type of information and using the same organization and numbering as the generic DCD for the AP1000 design, as modified and supplemented by the applicant's exemptions and departures;

Pursuant to 10 CFR 52.7 and 52.93 (as amended and promulgated effective Sept. 27, 2007), the Tennessee Valley Authority (TVA) requests an exemption from the requirement of 10 CFR 52, Appendix D, Section IV.A.2.a, to include a plant-specific DCD "containing the same type of information and using the same organization and numbering as the generic DCD for the AP1000 design…." While the Bellefonte Nuclear Plant (BLN) plant-specific DCD (i.e., the final safety analysis report) does contain the same type of information and generally follows the same organization and numbering as the generic DCD for the AP1000 design, some limited subsections of the FSAR (as identified in the departures report as item STD DEP 1.1-1) do not follow the "same organization and numbering as the generic DCD for the AP1000 design." TVA proposes to provide the plant-specific DCD (i.e., FSAR) with some administrative revisions to the organization and numbering of the AP1000 DCD.

Discussion:

The AP1000 Design Certification Document (DCD) generally has an organization and numbering format that provides text by subject in general conformance with the Standard Review Plan (SRP) in effect at the time the DCD was written. Generally, Combined License information items are included at the end of a chapter, section, or subsection. In some cases, such as DCD Sections 2.1 and 2.2, the section may consist solely of a short description of topic and the Combined License information item subsection. This organization and numbering does not allow for the detailed discussion of these topics that is to be included in a complete FSAR section. As such, it is necessary to include numerous additional subsections to fully address the topic as identified in the guidance of Regulatory Guide 1.206 and the applicable SRP. In other cases, the organization and numbering must be modified slightly to allow for inclusion of plant-specific discussions within the appropriate section of the FSAR, such as including an additional water system description in Section 9.2. In these cases, the Combined License information item discussions are retained at the end of the DCD corresponding chapter, section, or subsection (to maintain the organization), but the numbering may be different.

These differences are well identified in the FSAR as STD DEP 1.1-1 at each location where the departure is taken and are considered to be purely administrative to support a logical construction of the document. Where the departure from the DCD organization and numbering is taken, the revised organization and numbering generally follows the guidance provided in Regulatory Guide 1.206 and the applicable SRP. As such, there are no significant departures from the expected organization and numbering of a typical FSAR, and the information is readily identifiable to facilitate NRC review.

In view of the above, we believe that it would be less efficient for both TVA and the NRC to comply with the portion of the regulation of 10 CFR Part 52, Appendix D, Section IV.A.2.a, that requires strict

adherence to the "same organization and numbering as the generic DCD for the AP1000 design." Accordingly, TVA hereby submits a request for an exemption from the regulations of 10 CFR 52, Appendix D, Section IV.A.2.a, pursuant to 10 CFR 52.7, "Specific Exemptions," and 10 CFR 52.93, "Exemptions and Variances."

Granting this request, which is authorized by law, would facilitate the NRC review of the BLN COL application. For this and other reasons, granting this exemption request will not present an undue risk to the public health and safety, and is consistent with the common defense and security.

Moreover, compliance with the current rule would cause undue hardship for TVA and would also be inefficient and burdensome for the NRC staff. That approach would require TVA to prepare, and NRC to review, information with an organization and numbering that is unfamiliar and inconsistent with the current guidance for format and content of a combined license application.

Additionally, compliance with Appendix D, Section IV.A.2.a is not necessary to achieve its underlying purpose. Most of the FSAR conforms to the organization and numbering of the referenced DCD. The exceptions are limited and do not lead to confusion regarding the incorporation of the DCD into the FSAR.

For these reasons, TVA requests approval of the requested exemption from current regulations of 10 CFR 52, Appendix D, Section IV.A.2.a, as identified herein and in the application departures report.