

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
PLAN FOR ASSESSMENT OF TENNESSEE VALLEY AUTHORITY REQUEST TO
TRANSITION TO DEFERRED PLANT STATUS

1.0 PURPOSE

The purpose of this document is to establish a plan for the NRC staff's review of Tennessee Valley Authority's (TVA's) request to transition Bellefonte Nuclear Plant (BLN) Units 1 and 2 from "terminated" to "deferred" plant status under the Commission's Policy Statement on deferred Plants.

2.0 BACKGROUND

On September 14, 2006, the NRC granted TVA's request and withdrew the construction permits (CPs) for BLN Units 1 and 2. In letters dated August 26 and September 25, 2008, TVA requested that the NRC reinstate the CPs for BLN Units 1 and 2. In response to TVA's request, by its Order dated March 9, 2009, the NRC reinstated the CPs for the construction of BLN Units 1 and 2, and returned the facilities to "terminated" plant status under Section III.B, "Terminated Plant," of the Commission's Policy Statement on Deferred Plants. The NRC order specified that "[S]hould TVA choose to pursue placement of the facility in a deferred plant status, it shall ensure to the satisfaction of the NRR [Nuclear Reactor Regulation] Director that it has complied with the guidance and provisions under Section III.A, "Deferred Plant," of the Commission's Policy Statement on Deferred Plants. When the results of its evaluation and inspection are satisfactory, the NRR Director may then authorize placement of the facility in a deferred plant status. Should TVA decide to reactivate construction, it shall comply with the provisions for notifying the NRR Director and shall provide the information described in the Commission's Policy Statement on Deferred Plants."

Consistent with the NRC's Order, by letter dated August 10, 2009, TVA requested the NRC to grant "deferred" plant status.

3.0 REVIEW PLAN OBJECTIVES

Pursuant to the NRC's Order, the NRC staff is required to verify that TVA has complied with the guidance and provisions under Section III.A, "Deferred Plant," of the Commission's Policy Statement on Deferred Plants. Accordingly, the staff will evaluate TVA's request to ensure that it has established the necessary programs, policies and procedures to warrant BLN Units 1 and 2 being placed in deferred status consistent with the Policy Statement. This review will address the following requirements as discussed below.

3.1 Requirements of Policy Statement for Deferred Plant:

On November 4, 1987, the NRC issued Generic Letter 87-15, "Policy Statement on Deferred Plants," which was published in the *Federal Register* on October 14, 1987 (52 FR 38077). The Commission's Policy Statement is intended to provide predictability and stability to the NRC's regulatory process for plant deferral and reactivation, to clarify its position on the applicability of new regulatory requirements, and to develop and

implement a regulatory process that can deal effectively with the applicable regulatory issues when construction of deferred plants is reactivated.

The Policy Statement defines a deferred plant to involve the following attributes:

- Ceased construction or reduced activity to a maintenance level
- CP maintained in effect
- No announcement of termination of the plant.

Critical areas of consideration in the Policy Statement that apply to the deferred plant status determination for BLN are:

- Notification of plant deferral
- Extension of CP
- Maintenance, preservation and documentation (MPD) of equipment, including Quality Assurance (QA) program implementation, and corrective actions for any hardware or record deficiencies that occurred during the period that the QA program was cancelled
- Conduct of staff licensing reviews during deferral
- Applicability of new regulatory requirements during deferral

3.2 Additional Considerations

In addition to the requirements of the Policy Statement, the staff's review will address the following considerations.

- Plans for resolving hydrology issue
- Proposed site activities during the period of deferral to ensure that they remain bounded by the environmental impact statement for the CP
- Status of other Federal, State and local government requirements
- Implications for combined license (COL) application review for Units 3 and 4

4.0 STAFF'S REVIEW PLAN

This section establishes considerations for evaluating TVA's request.

4.1 Notification of plant deferral

TVA's request should include the reason for deferral, expected reactivation date, if known, whether CP extension will be submitted, and its plans for fulfilling the requirements of the CP, including MPD. The staff will verify that TVA's plans and activities are consistent with the requirements specified in the CP. The staff's evaluation of MPD is discussed in paragraph 4.3.

Action: Verify that TVA's request addresses the areas required by Section III.A.1 of the Policy Statement and that the stated activities are consistent with the CP.

4.2. Extension of Construction Permit

CP holder should ensure that CP does not expire.

Action: No assessment required.

4.3. Maintenance, Preservation, and Documentation of Equipment, and QA Program Implementation

The Policy Statement addresses the NRC requirements that apply to the verification of construction status, retention and protection of records, reporting of deficiencies and defects, and maintenance and preservation of equipment and materials. The MPD and reporting requirements outlined below are applicable to plants under construction:

- 10 CFR 50.54(a), "Conditions of licenses," and 10 CFR 50.55(f), "Conditions of construction permits," which require that a QA program be implemented
- 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," which establishes QA requirements for safety-related structures, systems, and components (SSCs) and the managerial and administrative controls to assure the quality of plant construction.
- 10 CFR Part 50, Appendices A, "General Design Criteria," and B, which require retention of quality records for the life of the plant
- 10 CFR 50.55(e) for reporting of deficiencies in design, construction, quality assurance
- 10 CFR 50.71, "Maintenance of records"
- 10 CFR Part 21, Reporting of defects and noncompliances"

For plants under "deferred" status, the Policy Statement recognizes that the extent of implementation of above requirements may be limited. In its statement of considerations for the Proposed Policy Statement published in the *Federal Register* dated March 16, 1987 (52 FR 8075), the NRC stated that "[W]hen a plant is deferred, the licensee may continue to follow the approved construction phase quality assurance program or may modify the quality assurance program to reflect anticipated deferral activities. Modified QA programs should focus on the maintenance, preservation, and documentation activities and a cost effective reduction in the licensee and NRC resources."

Accordingly, Section III.A.3 of the Deferred Plant Policy states that licensees may modify its commitments relating to the construction phase quality requirements by developing a quality assurance plan that is commensurate with the expected activities during deferral.

Since the reinstatement of the CPs in March 2009, TVA has revised its QA program to address the current status of BLN Units 1 and 2. The staff will assess TVA's activities under this QA plan including organizational responsibilities; programs and procedural controls that apply to the verification of construction status; maintenance, and

preservation of equipment and materials; retention and protection of QA records; reporting of deficiencies in design, construction, and QA; and reporting of defects and non-compliances during deferral. The staff will determine whether the QA organization provides sufficient independence and authority for performing and controlling critical functions during deferral. The staff will inspect TVA's procedures, requirements and controls demonstrating that quality related activities will be conducted in accordance with the NRC-approved QA Plan that complies with 10 CFR 50.54(a)(3), and 10 CFR Part 50, Appendix B requirements. The inspection effort will validate that plant activities are focused on verification of construction status, maintenance and preservation of the plant, and would not result in any advancement in construction of the plant, as well as, include other areas such as warehousing of equipment.

Implementation of the QA program will be periodically evaluated to determine licensee compliance with commitments and overall program effectiveness. The inspection plan details are discussed in Section 6.0 of this document.

Actions: Assess the development and implementation of the QA program in the above listed areas.

4.4 Conduct of Review during Deferral

The staff has no ongoing operating license reviews for BLN Units 1 and 2. In the event TVA decides to resume active construction, TVA should submit a 120-day letter notifying the NRC, along with the other information listed in Section III.A.6 of the Policy, including key assumptions and detailed regulatory framework for reactivating construction.

There will be no immediate effect on the review status of the COL for Bellefonte Units 3 and 4 if Bellefonte Units 1 and 2 are placed in a deferred status. NRC staff, however, will not issue the draft environmental impact statement for the Bellefonte Units 3 and 4 COL application until after TVA's Board of Directors makes a decision on whether or not to proceed with completion of Bellefonte Units 1 and 2. Any decision to pursue the completion of the unfinished units would impact the scope of the COL licensing review.

Action: No action required.

4.5 Applicability of New Regulatory Requirements during Deferral

Deferred plants should be considered in the same manner as plants under construction with respect to applicability of new regulations, guidance, and policies. New plant-specific staff positions should be applied upon reactivation (emphasis added) of construction subject to 10 CFR 50.109 backfit rule requirements. However, regulations that have integral provisions built into them will be applied to deferred plants without the use of the backfit rule.

Action: An assessment of TVA's determination of applicability of new regulation, guidance, and policy during the period of deferral will be performed when TVA reactivates construction of BLN, should TVA decide to proceed with construction of BLN Units 1 and 2.

5.0 ADDITIONAL CONSIDERATIONS

5.1 Hydrology

TVA's effort to resolve the Probable Maximum Flood (PMF) issue is in progress. However, this issue does not to be resolved before the BLN site can transition to deferred status. Section III.A.6 of the Policy Statement directs that certain information be submitted before construction is resumed (120-day notification). This information should include a list of issues that were outstanding at time of deferral and a description of the resolution or proposed resolution of the issues, including hydrology. TVA has stated that, should it decide to move forward with completion activities, it would follow the notification requirements in the Policy Statement, along with the submittal of listed information.

Action: No action required at this time.

5.2 TVA's proposed site activities during deferral

TVA is committed to perform only maintenance and preservation activities and not undertake any activities advancing the construction of the facility. The staff will verify that TVA has adequate controls to ensure that its proposed site activities do not advance construction and do not affect the conclusions in the environmental impact statement for the CP.

Action: Verify that TVA has adequate controls in place to ensure proposed site activities do not advance construction and do not affect the conclusions in the environmental impact statement for the CP.

5.3 Status of other Federal, State and local government requirements

TVA should confirm that applicable Federal, State and local licenses and permits are current and that renewal processes for such permits are included in the integrated project schedule.

Action: Verify that TVA has confirmed that applicable licenses and permits remain current and a renewal process is included in project schedule.

5.4 Status of Plant Site and Equipment before Reactivation of Construction

TVA's QA program and MPD activities were not implemented throughout the period of termination. If TVA decides to begin construction, a determination of the acceptability of SSCs important to safety should be made. This issue does not need to be resolved before the BLN site can transition to deferred status. Section III.A.6 of the Policy Statement directs that certain information be submitted before construction is resumed to the extent that the information was not submitted to the NRC during the deferral

period. This information should include the current status of the plant site and equipment. Section III.A.7 also directs the staff, when notified of reactivation (emphasis added), to determine the acceptability of SSCs. SSCs that fail to meet the acceptability criteria or current NRC requirements will be dealt with on a case-by-case basis.

Action: None required at this time.

6.0 INSPECTIONS

The Policy Statement specifies that periodic inspections of deferred plants be performed to ensure that applicable regulatory requirements are met. This section discusses near term inspections associated with the return to a deferred plant status and subsequent periodic inspections specified in the policy statement.

6.1 Inspections prior to return to Deferred Plant Status

In October 2005, TVA requested that the CPs be withdrawn and ceased all quality-related activities. After the CPs were withdrawn in 2006, TVA terminated the BLN QA program and started investment recovery (salvage) activities. There were no controls in place to maintain the quality of SSCs. Since CP reinstatement, TVA ceased investment recovery and implemented an NRC-approved QA program. Therefore, the inspections will verify that TVA has properly implemented the NRC-approved QA program, and established associated processes and controls necessary to comply with regulatory requirements associated with the CPs. The inspection will also focus on those activities specified in the Policy Statement for deferred plants.

The inspection plan has the following focus areas:

- (1) QA program and implementing procedures: The inspection will verify procedures have been established to cover those quality activities related to deferred plant status. The adequacy of the procedures will be verified on a sampling bases. Actual procedural implementation will be inspected to ensure work is being performed in accordance with procedural requirements. Areas to be inspected include reporting of construction deficiencies; retention of records; reporting of defects and noncompliance; and other quality programs that are applicable to a plant in a deferred construction status.
- (2) Correction Action Program (CAP): The inspection will determine if an adequate CAP plan and implementing procedures have been developed. The overall adequacy of the problem identification and resolution program will be verified by sampling the initiating threshold, problem evaluation, proposed corrective actions, and overall timeliness goals for issues entered into the CAP. The inspection will review the results of TVA's self-assessments on their readiness for deferred plant status and verify that identified issues and problems were addressed by the CAP.
- (3) TVA efforts to determine current status of the plant: To maintain the existing quality of the facility and ensure no further degradation occurs, TVA should assess the current condition of SSCs and implement appropriate corrective

action. The inspection will review the results of TVA's efforts and perform independent system walkdowns to compare with TVA's results. The inspections will verify that identified deficiencies are entered into the CAP.

- (4) Maintenance and preservation of equipment: The inspection will verify the scope of maintenance and preservative activities are consistent with the description in the BLN QA plan. The adequacy of the processes, procedures and controls for these maintenance and preservation activities will be assessed. Actual implementation will be sampled to ensure applicable requirements are satisfied.
- (5) QA records: In addition to verifying the adequacy of procedures and activities related to maintaining records, the inspection will sample QA records to ensure they are intact and their quality did not degrade during the time period that the BLN QA program was disbanded.

6.2 Inspections after Transition to Deferred Status

Upon returning the plant to a deferred status, NRC inspections will follow the guidance in the Policy Statement. The staff will inspect licensee compliance with commitments and overall program effectiveness. Inspection Procedure (IP) 92050, "Review of Quality Assurance for Extended Construction Delays," requires an inspection upon initial notification of an extended construction delay, and every 6 months thereafter. This IP had been periodically performed at BLN prior to cancellation of the CPs.