COMSECY-08-0041

December 12, 2008

MEMORANDUM TO: Chairman Klein
Commissioner Jaczko
Commissioner Lyons
Commissioner Svinicki

FROM: R. W. Borchardt ***/RA Bruce Mallett for/***
Executive Director for Operations

SUBJECT: STAFF RECOMMENDATION RELATED TO REINSTATEMENT OF THE CONSTRUCTION PERMITS FOR BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2

The staff seeks to obtain Commission authorization for the recommendation to go forward with the review and action on the Tennessee Valley Authority's (TVA's) request as a reinstatement of the construction permits (CP) for Bellefonte Nuclear Plant (BLN) Units 1 and 2, with the concurrent placement of the facility in a deferred plant status. If the Commission agrees with the staff's recommendation, the staff will evaluate TVA's request for reinstatement to determine whether it is supported by good cause, considering the totality of the circumstances. If the staff finds the request acceptable, it will prepare an order granting the request, with conditions, an environmental assessment, and a supporting safety evaluation.

This memorandum provides the basis for the staff's recommendation along with the information requested by the Chairman in his tasking memorandum dated October 30, 2008. The tasking memorandum requested the staff's views and recommendations on the options on whether the U.S. Nuclear Regulatory Commission (NRC) should approve or deny the TVA's request to reinstate the CPs for BLN Units 1 and 2. In considering the options, the staff has identified the environmental, design, safety, security, public participation, and regulatory bases that are relevant to the recommendation.

Enclosure 1 provides the staff's evaluation and the bases for its recommendation. The staff's recommendation reflects (a) the authority for CP reinstatement and (b) the regulatory process and licensing approach that will be followed in considering the acceptability of CP reinstatement. In arriving at this recommendation, the staff considered the following options: (1) reinstatement of the original CPs, (2) denial of reinstatement, and (3) review of an application for new CPs.

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The staff has determined that there are some key issues that would have to be reviewed and resolved at some point in the licensing process if the decision were made to go forward and reinstate the CPs. The staff has determined that these can be resolved during the review of an operating license application and do not have to be addressed during the review of the reinstatement request. Some of these issues are highlighted in the following paragraphs. Enclosure 1 contains a more detailed discussion of the issues. Enclosure 2 presents a different view that some of these should be resolved prior to reinstatement of the CPs.

The staff has concluded that its prior findings in December 1974 regarding the design of the BLN facility (i.e., that it can be constructed at the proposed location without undue risk to the health and safety of the public) would not be affected by reinstatement of the CPs. TVA has not proposed to change the design of the facility as described in the preliminary safety analysis report. The staff finds that its prior determination that there is reasonable assurance that all safety questions will be satisfactorily resolved before completion of construction of the proposed facility would not be affected by the reinstatement of the CPs. The CP only constitutes an authorization to proceed with construction and does not constitute final Commission approval of the safety of any design feature or specification. Information such as the security and other required plans, operating procedures, technical specifications, and the design of the facility, will be evaluated during review of the operating license (OL) application, if TVA proceeds to complete construction of the facility.

Because construction of most of the structures required for BLN as a two-unit nuclear plant has substantially been completed and limited construction remains that would require new land disturbance, the construction impacts discussed in the Final Environmental Statement (FES) have already occurred. Also, the NRC evaluated the environmental impacts in 2003 regarding TVA's request to extend the CPs, and concluded that there was no significant effect on the quality of the human environment associated with continued construction activities up to the extended dates. The proposed CP reinstatement will not allow any work to be performed that is not already allowed by the original CPs. However, the staff will prepare an environmental assessment for reinstatement and determine whether the reinstatement would likely have a significant environmental impact. As appropriate, the staff will prepare an environment impact statement or a finding of no significant impact.

There are several steps in the regulatory process that would allow for public involvement if the CPs are reinstated. The staff intends to follow the precedent that has been established for Watts Bar Nuclear Plant Unit 2 construction and OL review reactivation. If the staff should reinstate the CPs for BLN, the order effecting this decision would offer the public an opportunity for a hearing on whether good cause to reinstate the CPs had been demonstrated. If TVA decides to complete construction and reactivate its OL application, the Commission may choose to direct the staff, as was done for Watts Bar Unit 2, to offer another opportunity for hearing on the OL application. In the event that any new and significant information is identified that could impact the FES, a supplement to the FES could be prepared, and an opportunity would be afforded to the public to comment thereon.

Enclosure 2 provides different views on several of these key issues and additional ones. The different views are presented in a November 20, 2008, statement as part of a non-concurrence. These issues were assessed and factored into the discussion and recommendations in this paper.

The staff recommends that the Commission authorize the staff to go forward with the review and action on TVA's request as a reinstatement of the CPs, with the concurrent placement of the facility in a deferred plant status. If the Commission accepts this recommendation, the staff will evaluate the request, and if found acceptable, it will prepare an order granting the request, with conditions, an environmental assessment, and a supporting safety evaluation. By its authorization, the Commission acknowledges that the staff will:

1. Follow the Commission Policy Statement on Deferred Plants.

2. Determine whether it is supported by good cause, considering the totality of the circumstances.

3. Prepare an environmental assessment, which will be published in the *Federal Register* (FR).

4. If the request is approved, issue an order and cite the FR notice of environmental assessment. The order will provide the public with an opportunity to request a hearing within a 60-day period on whether good cause has been demonstrated.

If reinstatement is approved, the order will include the following conditions:

a. Upon issuance of this Order, TVA shall place BLN Units 1 and 2 in deferred plant status consistent with the Commission Policy Statement on Deferred Plants.

b. If TVA decides to reactivate construction activities, it must fully comply with the actions stated in the Commission Policy Statement on Deferred Plants. In addition, TVA should prepare an environmental evaluation to support any request for reactivation of construction.

The Policy Statement on Deferred Plants recognizes that the structures, systems, and components (SSCs) may not have been preserved and maintained. If construction resumes, the staff will (a) determine whether preservation and maintenance of SSCs require special NRC attention during reactivation; (b) verify that design modifications and changes are done in accordance with the quality assurance program; and (c) address the results of any TVA or NRC baseline inspection regarding the status of the plant site and equipment that may indicate that quality and performance requirements have been reduced below those originally specified in the final safety analysis report.

The staff notes that if the Units 1 and 2 CPs are reinstated, the schedule for review of the combined licensed (COL) application for BLN Units 3 and 4, which is currently under staff review, may be impacted. The staff may have to consider BLN Units 1 and 2 as an alternative source of base load in the staff's review of the COL application for Units 3 and 4. If TVA proceeds to seek an OL for Units 1 and 2, it would have to amend its Units 3 and 4 COL application, because TVA has credited certain partially completed Units 1 and 2 SSCs to support Units 3 and 4. Consideration of these issues would affect the overall review schedule for Units 3 and 4.

The proposed actions to accomplish the activities associated with reinstatement of the CPs do not require significant additional resources for implementation, and specifically the current NRR

budget is sufficient to accomplish the activities. Total resource needs are expected to be less than 0.5 full-time equivalents for Fiscal Year 2009. However, if and when TVA makes a decision to actually reactivate construction and continue with the technical and OL review, NRR and Region II will need to determine the budget implications on licensing and inspection activities and develop their resource requirements. These actions and the required resources will be assessed and requested through NRC's planning, budgeting and performance management process.

The Office of the General Counsel has no legal objection concerning this memorandum.

Enclosure 2 is currently non-public in accordance with Draft Management Directive 10.158, "NRC Non-Concurrence Process," dated November 29, 2006. However, the individual staff member requested that the non-concurring views be made public. As directed on page 2 of Draft Management Directive 10.158, the non-concurrence records will be screened in accordance with all requirements related to the public release of agency records prior to making them publicly available.

SECY, please track.

Enclosures:
1. Staff Evaluation of Options
2. Non-Concurrence by Staff Member

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STAFF EVALUATION OF OPTIONS AND BASES FOR RECOMMENDATION

REGARDING PROPOSED REINSTATEMENT OF CONSTRUCTION PERMITS

BELLEFONTE NUCLEAR PLANT, UNITS 1 AND 2

INTRODUCTION:

On September 14, 2006, the staff of the U.S. Nuclear Regulatory Commission (NRC) granted Tennessee Valley Authority's (TVA's) request to withdraw the construction permits (CPs) for Bellefonte Nuclear Plant (BLN), and stated that it considered the facility licenses terminated. In a letter dated August 26, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082410087), TVA requested that the NRC reinstate the CPs for BLN Units 1 and 2.

TVA stated that reinstatement of the CPs would allow it to (1) return the units to deferred plant status, as described in NRC Generic Letter 87-15, "Policy Statement on Deferred Plants," and resume preservation and maintenance activities as appropriate under the policy statement, and (2) determine, with a relative degree of certainty, whether completion of construction and operation of the units is a viable option.

BACKGROUND:

In June 1973, TVA filed an application to construct BLN Units 1 and 2 in Jackson County, AL. A notice announcing the receipt of the application for the CPs and notice of hearing was published in the *Federal Register* on August 3, 1973 (38 FR 20932). In support of its application, TVA provided technical and design information in a preliminary safety analysis report (PSAR). The Atomic Safety and Licensing Board conducted separate evidentiary hearings on environmental matters, as well as health and safety issues, in July and October 1974. On December 23, 1974, the Board issued its initial decision authorizing issuance of the CPs. On December 24, 1974, the Atomic Energy Commission issued CP Nos. CPPR-122 and CPPR-123 to TVA, authorizing construction of BLN Units 1 and 2, respectively.

On February 1, 1978, TVA filed an application for operating licenses (OLs) for BLN Units 1 and 2. TVA also submitted a final safety analysis report (FSAR) and an OL environmental report. The notice announcing receipt of the operating license application and providing an opportunity for hearing was published in the *Federal Register* on July 17, 1978 (43 FR 30628).

In a letter to TVA dated September 17, 1985, the NRC requested information, and TVA's plans to address a number of deficiencies identified in the operating and construction activities at some of the TVA facilities. However, the NRC did not observe these construction deficiencies at the BLN site, and thus, TVA was not asked to prepare a site-specific nuclear performance plan for BLN.

TVA deferred construction at the BLN site in 1988 in part because of a lower than expected electrical load forecast within the TVA service area. However, in the early 1990s, TVA instituted a series of detailed engineering, construction, and licensing studies that concluded that

completion of BLN as a nuclear plant was viable. This effort included the submittal of 14 position papers to the NRC describing licensing positions on key issues important to the completion of the plant. On March 23, 1993, TVA notified the NRC that it planned to resume completion activities 120 days from the date of its letter. However, TVA first needed to conduct an integrated resource planning process to consider the lowest cost options for providing an adequate supply of electricity to its customers, following the provisions of the Energy Policy Act of 1992. The time required to conduct the resource planning process combined with the delay from the inactivity during the construction deferral meant that TVA was unable to complete construction before the original expiration dates of July 1, 1994, for Unit 1 and July 1, 1996, for Unit 2. In response to a request dated April 19, 1994, the NRC staff extended the construction permit expiration dates for BLN Units 1 and 2 to October 1, 2001, and October 1, 2004, respectively, in an order issued on June 27, 1994.

In a letter dated July 11, 2001, TVA requested another extension of the BLN CP expiration dates. TVA stated that the extension would help TVA to maintain a full scope of competitive energy production choices. TVA's integrated resource plan, Energy Vision 2020, identified the need for a flexible range of options and alternatives to meet, among other things, the region's new base-load power supply needs through the year 2020. In an order dated March 4, 2003, extending the CPs to October 1, 2011, for Unit 1 and October 1, 2014, for Unit 2, the NRC staff noted that there was renewed interest in completing at least BLN Unit 1, possibly with financial assistance from outside parties. NRC inspections had also verified that TVA was appropriately maintaining the units in a condition for continuation of construction and ultimate licensing for operation.

In a letter dated April 6, 2006, TVA requested the NRC withdraw the CPs, in part because of forecasts of lower power demand for the region. TVA also noted that it had previously informed the NRC, in December 2005, that the facility was in a terminated plant status, as defined by the NRC's Generic Letter 87-15, "Policy Statement on Deferred Plants," dated November 4, 1987, and published in the *Federal Register* on October 14, 1987 (52 FR 38077). In addition, TVA noted that project completion activities, including layup, had ceased after October 1, 2005, and that no quality-related activities were ongoing at the site. On September 14, 2006, the NRC staff granted the request and withdrew the CPs. Through the years when BLN Units 1 and 2 were in a deferred status until 2005, the NRC performed periodic inspections of the Bellefonte layup program and documented the inspection results in its inspection reports, which noted that TVA's program was effective and that preservation and lay up activities were being adequately performed; such NRC inspections ceased after September 2006.

In letters dated August 26 and September 25, 2008, TVA requested that the NRC reinstate the CPs for BLN Units 1 and 2. In describing the reasons for its request, TVA indicated that reinstatement would allow TVA to evaluate whether completion of construction and operation of the units was a viable option. TVA stated that power generation economics have changed so that the completion and operation of BLN Units 1 and 2 may now be economically viable; also, the reinstatement will provide a shorter schedule to the start of major safety-related construction and also avoid procurement bottlenecks for heavy forgings and other large components. As a first step in its evaluation of possibly adding BLN Units 1 and 2 to its mix of base-load generating options, TVA requested reinstatement of the CPs. TVA stated that this will provide regulatory certainty for performing more detailed engineering and regulatory analyses and for establishing a regulatory framework and licensing basis that would be used in considering the

viability of completing the units. Upon reinstatement of the CPs, TVA proposed to resume preservation and maintenance activities as described in the Commission's Policy Statement on Deferred Plants. Also, TVA committed to provide the appropriate advance notice to the NRC, of its plan to resume plant construction as specified in the Commission's Policy Statement on Deferred Plants, to allow the NRC time to evaluate the acceptability of reactivation of construction activities.

TVA indicated that, at the time that construction was deferred, BLN Unit 1 was approximately 90% complete and Unit 2 was approximately 58% complete. The FSAR had progressed through Amendment No. 29. If the NRC reinstates the CPs, CPPR-122 for BLN Unit 1 would expire on October 1, 2011, and CPPR-123 for Unit 2 on October 1, 2014, unless extended pursuant to 10 CFR 50.55(b).

DISCUSSION:

The following sections discuss issues related to the staff's recommendation to go forward with reviewing TVA's request as a reinstatement of the CPs. The sections also include a discussion of the bases for the staff's recommendation.

Regulatory Basis for Construction Permits

The regulations at 10 CFR 50.33, "Contents of applications; general information," and 10 CFR 50.34, "Contents of construction permit and operating license applications; technical information," describe the information that an applicant should submit with a CP application.

The regulations at 10 CFR 50.35, "Issuance of construction permits," specify the criteria for the issuance of a CP. The NRC determines whether a proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public. The NRC also determines whether there is reasonable assurance that all safety questions will be satisfactorily resolved before completion of construction of the proposed facility. The CP constitutes an authorization to the applicant to proceed with construction; however, it does not constitute Commission approval of the safety of any design feature or specification unless the applicant specifically requests such approval and such approval is incorporated in the permit. Any CP is subject to the limitation that the Commission will not issue a license authorizing operation of the facility until it completes its review of the FSAR and finds that the final design provides reasonable assurance that the health and safety of the public will not be endangered by operation of the facility in accordance with the requirements of the license and the NRC's regulations.

Further, 10 CFR 50.40, "Common standards," states that in determining whether the agency will issue a CP, the Commission will be guided by the following considerations:

> (a) the processes to be performed, the operating procedures, the facility and equipment, the use of the facility, and other technical specifications, or the proposals, in regard to any of the foregoing collectively provide reasonable assurance that the applicant will comply with the regulations in this chapter, including the regulations in Part 20 of this chapter, and that the health and safety of the public will not be endangered.

(b) the applicant is technically and financially qualified to engage in the proposed activities in accordance with the regulations in this chapter. However, no consideration of financial qualification is necessary for an electric utility applicant for an operating license for a utilization facility of the type described in § 50.21(b).

(c) the issuance of a construction permit will not, in the opinion of the Commission, be inimical to the common defense and security or to the health and safety of the public.

(d) any applicable requirements of subpart A of 10 CFR Part 51 have been satisfied.

The regulations at 10 CFR 50.43(d) state that "[n]othing shall preclude any government agency, now or hereafter authorized by law to engage in the production, marketing, or distribution of electric energy, if otherwise qualified, from obtaining a construction permit or operating license under this part, or a combined license under part 52 of this chapter for a utilization facility for the primary purpose of producing electric energy for disposition for ultimate public consumption."

The regulations at 10 CFR 50.55, "Conditions of construction permits, early site permits, combined licenses, and manufacturing licenses," notes that each construction permit is subject to certain terms and conditions. In particular, 10 CFR 50.55 states that, at or about the time of completion of the construction of the facility, the applicant will file any additional information needed to bring the original application for license up to date, and will file an application for an operating license or an amendment to an application for a license to construct and operate the facility for the issuance of an operating license, as appropriate, as specified in 10 CFR 50.30(d). Section 50.55 also states that if the proposed construction of the facility is not completed by the latest completion date, the CP shall expire and all rights are forfeited. However, upon good cause shown, the Commission will extend the completion date for a reasonable period of time.

The regulations at 10 CFR 51.20, "Criteria for and Identification of Licensing and Regulatory Actions Requiring Environmental Impact Statements," require an environmental impact statement for a major Federal action significantly affecting the quality of the human environment.

In the section entitled "B. Terminated Plants," the Commission Policy Statement on Deferred Plants states that if certain stated provisions regarding a preservation and maintenance program, and documentation, are implemented throughout the period of termination, "a terminated plant may be reactivated under the same provisions as a deferred plant." A "terminated plant" is defined in the policy statement as a nuclear power plant at which the licensee has announced that construction has been permanently stopped, but which still has a valid CP.

Precedent for Reinstatement of CPs

The NRC has previously reinstated a CP after the applicant had allowed it to expire. In that situation, the applicant, Texas Utilities Electric Company (TUEC), failed to request an extension of the CP for Comanche Peak Unit 1 and the CP subsequently expired. The NRC determined that reapplication and issuance of a new CP was not required. TUEC, CLI-86-4, 23 NRC 113 (1986), affirmed, 821 F.2d 725 (D.C. Cir. 1987). Although the circumstances are not exactly the same, the staff evaluated the Comanche Peak situation and found nothing that would

specifically preclude reinstatement. The fact remains that in both the Comanche Peak case and BLN, the CPs were not in force when the staff was making a decision about reinstatement. The staff also notes that the action of withdrawal of the BLN CPs was not taken for cause but rather only at the request of TVA.

Evaluation of Option to Reinstate CPs

*Design*

The original review and evaluation of the proposed design of the facility was reported in the staff's safety evaluation report (SER) supporting issuance of the original CPs.

The BLN facility consists of two individual units sharing certain common structures, systems, and components (SSCs). Each of the proposed Babcock & Wilcox Company (B&W) Model 205 (based on the quantity of fuel assemblies in the core) two-loop pressurized-water reactors (PWRs) were being designed to operate at a thermal power of 3600 megawatts (MWt), with an expected ultimate capability of producing 3763 MWt. The nuclear steam supply system for each unit is housed inside a steel-lined, pre-stressed concrete, cylindrical containment structure which in turn is completely enclosed by a reinforced concrete structure called the secondary containment building.

At the time that the staff's review was progressing, the principal features of the design of BLN were similar to those that the staff was evaluating (e.g., North Anna 3 and 4, Washington Nuclear 1) and had previously approved for construction. To the extent feasible and appropriate, the staff was using the previous evaluation of these plants in its review of BLN. Although none of the B&W Model 205 PWRs were completed in this country, the BLN units are of the same design as the Mulheim Karlich A reactor in Germany, which operated well for three years and proved the design. The plant was ordered shut down due to certain plant siting deficiencies.

TVA provided the technical and design information in the PSAR through amendment no. 12 and the FSAR through amendment no. 29. The staff evaluated the technical and design information and documented its results in the SER and supplement 1 to the SER. As stated in the original SER, this was only the first stage of a continuing review by the NRC staff of the design, construction, and operating features of BLN. The staff specifically noted that it would be reviewing the final design to determine that all of the Commission's safety requirements have been met prior to issuance of an operating license.

TVA has not proposed to change the design of the facility, as described in the PSAR and FSAR. Also, no information has been identified that would invalidate the conclusions presented in the staff's original SER. Because the design information upon which the staff based its previous findings is not changing, the NRC determination about whether the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public would remain valid if the CPs are reinstated.

*Safety*

In its safety evaluation report dated May 24, 1974, and Supplement No. 1 dated August 30, 1974, supporting the granting of the original CPs for the BLN units, the Atomic Energy Commission staff summarized the results of its technical evaluation of BLN Units 1 and 2 and delineated the scope of the technical matters considered in evaluating the radiological safety aspects of the proposed facility. Based on its evaluation, the staff concluded that BLN Units 1 and 2 could be constructed and operated as proposed without endangering the health and safety of the public. In Section 21.0, "Conclusions," the staff detailed its specific findings in concluding that the provisions of 10 CFR Sections 50.35(a) and 2.104(b) were satisfied. In addition, the Advisory Committee on Reactor Safeguards (ACRS) reviewed TVA's application for CPs to construct the BLN site. In its letter dated July 16, 1974, the ACRS stated that certain items can be resolved during construction and that if due consideration is given to issues in its letter, BLN Units 1 and 2 can be constructed with reasonable assurance that it can be operated without undue risk to the health and safety of the public. These findings and conclusions are unaffected by reinstatement of the CPs.

Prior to withdrawal of the CPs, TVA had already begun to provide the technical and design information and to resolve issues identified by the staff. As part of this review, the staff evaluated the information presented in the PSAR through amendment No. 12 and issued its SER and supplement No.1 to support the issuance of the CPs. On February 1, 1978, TVA filed an application for OLs for BLN Units 1 and 2, which in part included an FSAR. The NRC staff reviewed the information in the FSAR and its amendments until TVA notified the staff that it had deferred construction of the facility.

In addition, 10 CFR 50.34(a) requires the submission of other documentation besides the PSAR, such as the quality assurance plan and preliminary plans for training and conduct of operation. TVA provided this documentation with its original application. Should the CPs be reinstated, TVA would need to update these documents before proceeding with any activities governed by the applicable programs, plans, and procedures. This is consistent with the discussion in the Commission's Policy Statement on Deferred Plants about information to be submitted when reactivating. In particular, the policy statement clearly states that deferral, termination, and reactivation will be subject to all applicable current regulations, standards, policies, and guidance.

Because a CP only constitutes an authorization to proceed with construction but does not constitute Commission approval of the safety of any design feature or specification unless the applicant specifically requests such approval and such approval is incorporated in the CP, the NRC staff will review the detailed design information and resolution of any safety issues during the OL application review. This would be no different whether the application was for a new CP or reactivation of a terminated or withdrawn CP.

Therefore, the staff finds that the prior determination that there is reasonable assurance that all safety questions will be satisfactorily resolved before completion of construction of the proposed facility will not be affected by the reinstatement of the CPs. A new or a reinstated CP is subject to the limitation that the Commission will not issue a license authorizing operation of the facility until it completes its review of the FSAR and finds that the final design provides reasonable

assurance that the health and safety of the public will not be endangered by operation of the facility in accordance with the requirements of the license and the regulations.

*Security*

The regulation at 10 CFR 50.34(c), “Physical Security Plan,” states that each application for an operating license for a production or utilization facility must include a physical security plan, which must describe how the applicant will meet the requirements of 10 CFR Part 73. In addition, in 10 CFR 50.34(d), “Safeguards contingency plan,” an application for an operating license that will be subject to Sections 73.50, 73.55, or 73.60, must include a licensee safeguards contingency plan in accordance with the criteria set forth in Appendix C to 10 CFR Part 73. The safeguards contingency plan includes plans for dealing with threats, thefts, and radiological sabotage, as defined in Part 73, relating to the special nuclear material and nuclear facilities licensed under this chapter and in the applicant's possession and control.

Although TVA had submitted these plans at the time that it applied for an operating license at BLN, these plans are not required for issuance of a CP. If TVA decides to request the reactivation of construction and continuation of the staff’s review of its operating license application, TVA would need to provide an amendment to its operating license application. TVA would also be required to submit a description of how any conditions established by the NRC during the deferral have been fulfilled and a listing of new regulatory requirements applicable to the plant since construction was deferred, together with the proposed plans for complying with the requirements. In this regard, the Commission is currently considering major changes to the requirements in 10 CFR Part 73 and new requirements relating to the potential effects of large commercial airplane impact on nuclear facilities.

With regard to the proposed rule on consideration of aircraft impacts for new nuclear power reactors, these requirements would not apply to operating license applications with underlying CPs that were issued before the effective date of the final rule. This is because the original CPs are likely to involve designs which are essentially complete and may involve sites where construction has already taken place. Thus, under the staff's proposal, the BLN facility would not be required to comply with the aircraft impact rule. For other rule changes, TVA will be required to comply with the new regulations or seek an exemption. This and other information such as the security and other required plans, operating procedures, technical specifications, and the design of the facility, will be evaluated during review of the operating license (OL) application, if TVA proceeds to complete construction of the facility.

*Environmental*

The environmental impacts associated with the construction of the facility have been previously discussed and evaluated in the Final Environmental Statement (FES), dated June 1974, which was prepared as part of the NRC staff’s review of the construction permit application. Also, the NRC evaluated the environmental impacts in 2003 regarding TVA’s request to extend the CPs, and concluded that there was no significant effect on the quality of the human environment associated with continued construction activities up to the extended dates (61 FR 3571, (January 24, 2003)).

Because construction of most of the structures required for BLN as a two-unit nuclear plant has already been competed, or substantially started, and limited facility construction remains that would require new land disturbance, the construction impacts discussed in the FES have already largely occurred. Also, the proposed CP reinstatement will not allow any work to be performed that is not already allowed by the original CPs. Therefore, the reinstatement should not have a significant environmental impact. However, if the CPs will be reinstated, the staff will prepare an environmental assessment to determine the need for an environmental impact statement.

Alternatives to Reinstatement

The staff considered alternatives to the reinstatement; namely to deny the request. Neither the withdrawal of the CPs in 2006 nor reinstatement of the CPs adversely affects any environmental bases evaluated when the CPs were originally issued. Denial of reinstatement may affect TVA's future decision about the completion of BLN Units 1 and 2 and force the abandonment of the facility or the submittal of a new CP application. This option would not eliminate the environmental impacts of construction that have already incurred. If construction activities were not resumed, site redress activities would restore some areas to their natural states. However, this would create only a slight environmental benefit, while potentially causing other impacts. Further, the loss of potential generating capability from BLN might ultimately need to be replaced by construction of other costly generating facilities that would result in additional environmental impacts.

The staff recognizes that requiring TVA to file a new application would provide an opportunity for public hearing on the proposed CP. However, the Commission has previously provided a hearing on the CPs, and has fully considered the environmental and health and safety impacts of issuing the CPs. Further, major structures comprising the overall BLN facility have been substantially completed and the majority of the remaining construction activities would occur within these buildings. Moreover, there may be a future opportunity for the public to request a hearing on the operating license application. In addition, the staff would provide an opportunity for hearing if the CPs were reinstated on whether good cause had been demonstrated.

The staff finds that there are no differences in the basis that would be used in making its conclusion regarding the issuance of the original CP and a new CP. The regulation at 10 CFR 50.35(a) in part states that the Commission may issue a CP if it finds that:

(1) the applicant has described the proposed design of the facility, and has identified the major features or components for the protection of the health and safety of the public;

(2) any technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the FSAR;

(3) safety features or components, if any, which require research and development have been described, identified, and will be conducted, to resolve any safety questions associated with such features or components; and

(4) on the basis of the foregoing, there is reasonable assurance that, (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

Therefore, the regulations in 10 CFR 50.35(a) would form the criteria and basis for acceptance of a new CP application, just as they formed the basis for issuance of the original CPs that TVA now seeks to reinstate. In addition, the staff and the ACRS made similar conclusions that supported issuance of the original CPs. The staff has not identified any information that would cast doubt on whether the safety and regulatory findings supporting the original issuance of the CPs would continue to be met if the CPs were reinstated.

The staff believes that the review of a new CP application would duplicate its previous review and would not result in new or different findings that could prevent issuance of a CP. The information that would be submitted with a new application probably would not be substantially different from the information previously submitted.

A CP constitutes an authorization to proceed with construction but does not constitute Commission approval of the safety of any design feature or specification. Therefore, the NRC staff will review the detailed design information and resolution of any safety issues during the OL application review. Since the complete FSAR is submitted to the NRC by amendment to the application before a license authorizing operation can be issued, the staff would not need TVA to update and submit the information before the CP can be reinstated. The provisions in the Commission's Policy Statement on Deferred Plants would govern the submission of other information.

The staff continued to perform routine inspections of the BLN equipment preservation and lay up program until TVA's decision to terminate construction in 2005. The NRC staff documented its inspections in some 15 reports in which the staff found that TVA's program was effective and that preservation and lay up activities were adequately performed up to the time of CP withdrawal. Although TVA has halted these activities and the staff ceased its inspections, reinstatement of the CPs would allow those activities to resume. The staff would resume its inspections to determine whether proper quality, maintenance and preservation, and documentation activities are being performed so as to support any subsequent request for reactivation of the OL application.

<u>Evaluation of Option for Denial of Reinstatement</u>

The staff considered the option of Commission denial of the request for reinstatement of the CPs. If the reinstatement request is denied, TVA may choose to submit a new application for CPs and operating licenses, or to abandon the project.

With respect to requiring a new CP application, a new application under 10 CFR Part 50 would not provide different design information beyond that already contemplated under reinstatement. The proposed design of the BLN Units 1 and 2, the criteria, principles and design arrangements

for systems and components previously submitted in the PSAR through amendment no. 12 and the subsequent information provided in the FSAR will not be different. Information on the important safety items; calculated potential consequences of routine and accidental releases of radioactive material to the environs; scope of the development program that will be conducted; technical competence of the applicant and the principal contractors are not expected to significantly change. Further technical or design information, which can reasonably be left for later consideration, will be provided in the amendments to the FSAR and will be considered at the OL stage.

As a result, the staff's prior conclusions regarding the technical matters considered in evaluating the radiological safety aspects of the proposed facility and the staff's finding that BLN Units 1 and 2 could be constructed as proposed without endangering the health and safety of the public are not expected to be adversely affected. The requirements of 10 CFR Sections 50.35(a) will remain satisfied.

If the Commission authorizes the staff to reinstate the CP, TVA should identify, consistent with the Commission Policy Statement on Deferred Plants, any new regulatory requirements applicable to the plant that have become effective since the plant was deferred and either propose plans for compliance with these requirements or provide a commitment to submit such plans by a specified date. If the Commission denies the request for reinstatement and TVA is required to submit a new application for construction permit for BLN units, certain new regulatory requirements may apply. For example,10 CFR 50.34 (g), "Combustible gas control," states that all applicants for a reactor construction permit or operating license whose application is submitted after October 16, 2003, shall include the analyses, and the descriptions of the equipment and systems required by section 50.44 as a part of their application. More significantly, 10 CFR 50.34(a)(1)(ii)(D)(12) states that on or after January 10, 1997, stationary power reactor applicants who apply for a construction permit, as partial conformance to General Design Criterion 2 of Appendix A to Part 50, shall comply with the earthquake engineering criteria in Appendix S to Part 50, "Earthquake Engineering Criteria for Nuclear Power Plants." Additionally, the Commission is currently considering new requirements relating to potential effects of large commercial airplane impact on new nuclear facilities. These requirements would not apply to operating license applications with underlying CPs that were issued before the effective date of the final rule. This is because the original CPs are likely to involve designs which are essentially complete and may involve sites where construction has already taken place. Thus, under the staff's proposal, the BLN facility would not be required to comply with the aircraft impact rule. For other rule changes, TVA will be required to comply with the new regulations or seek an exemption. This and other information such as the security and other required plans, operating procedures, technical specifications, and the design of the facility, will be evaluated during review of the OL application, if TVA proceeds to complete construction of the facility.

With respect to the environmental impacts, a new application for CP will necessitate a new environmental report and an opportunity for public comment on the environmental impacts of the CP. However, as noted earlier, the major structures comprising the overall BLN facility have been completed. The majority of the remaining construction activities would occur within these buildings. Therefore, public opportunity to question the environmental basis for issuing the CPs would have little impact on a decision to grant or deny a new application because the facility

already exists and the impacts have already occurred. The public will have the opportunity to comment during the operating license review on the environmental impacts of operation.

A review of a new CP application would largely duplicate the reviews conducted previously. Furthermore, TVA has stated that it requests reinstatement as a first step in evaluating the viability of reactivating construction of BLN. Because the NRC can fully accomplish, under the reinstatement approach, its regulatory role in overseeing construction, the staff recommends that the Commission authorize the approach allowing consideration of reinstatement of the CPs.

Opportunities for Public Involvement

It should be noted that the original CP application in 1973 and the OL application in 1978 were noticed in the *Federal Register*. A hearing was held on the CP application, with public participation.

There are several steps in the regulatory process that would allow for further public involvement. The staff intends to follow the precedent that has been established for Watts Bar Nuclear Plant Unit 2 construction and operating license review reactivation. Consistent with the handling of the Comanche Peak permits, if the Commission should authorize the staff to reinstate the CPs for BLN Units 1 and 2, the order effecting this decision would offer the public an opportunity for a hearing on whether good cause to reinstate the CPs had been demonstrated. If TVA decides to complete construction and reactivate its OL application, the Commission may choose to direct the staff, as was done for Watts Bar Unit 2, to offer another opportunity for hearing on the OL application. Under 10 CFR Parts 2 and 50, interested persons would, thus, have the opportunity to raise contentions in an OL application hearing.

It should also be noted that TVA has maintained the other State and local permits necessary to construct the facility. Also, if TVA decides to resume the OL application review process, information would be submitted, if necessary, to revise the ER to support plant operation following the requirements in 10 CFR Part 51.

Concerns Regarding Age or As-Found Condition of Systems, Structures, and Components

TVA stated that reinstatement would allow it to return the units to deferred status and resume preservation and maintenance activities as appropriate under the Deferred Plant Policy. The policy statement notes that an applicant, if planning to maintain the option of plant reactivation, should develop a preservation and maintenance program. It also notes that, if these provisions are implemented throughout the period of termination, a terminated plant may be reactivated under the same provisions as a deferred plant. TVA terminated the implementation of its quality assurance program and the maintenance and preservation program at BLN in 2005. Therefore, special NRC attention may be necessary here on a site-specific basis, beyond these provisions. Because of its plan to place the facility into a deferred plant status, however (rather than resume construction), the need to update and provide information pursuant to the policy statement and implement other programs can be delayed until such time, as appropriate, that TVA notifies the Commission of its intent to reactivate construction.

As required by regulations in 10 CFR Part 50 and/or in the licensing basis commitments in the PSAR or FSAR, TVA will need to comply with the design requirements specified in the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) and other industry codes and standards. In particular, TVA would need to certify and obtain agreement from the underwriters' authorized nuclear inspector that the SSCs governed by the ASME Code meet all requirements. This includes TVA submittal of its plans for restoration of systems and equipment that were affected by the suspension of preservation and maintenance activities. Further, the as-built condition of the facility will be the subject of NRC staff's inspection for compliance with licensing basis requirements. These actions will occur during the review of the operating license application.

CONCLUSION:

The staff concludes that the review of TVA's request as reinstatement of the CPs would not affect the safety, design, security, or environmental considerations for the BLN facility. There are no specific regulations delineating the requirements for reinstatement of a CP. Although there are some distinctions, the Commission has reinstated an expired CP in the Comanche Peak case.

In granting the original CPs for the BLN units, the NRC reached certain conclusions in its safety evaluation, dated May 24, 1974, which satisfied the requirements specified in 10 CFR 50.35(a) and 10 CFR 2.104(b). The staff does not find that reinstatement of CPs would change these conclusions. Even if the staff would review a new application for a CP, the staff is not aware of significant changes to the technical design information that would reasonably prevent issuance of the CP. However, the Commission is currently considering new requirements relating to earthquake engineering and the potential effects of large commercial airplane impact on nuclear facilities. Under the staff's proposal, the BLN facility would not be required to comply with the aircraft impact rule. For other rule changes, TVA will be required to comply with the new regulations or seek an exemption. This and other information such as the security and other required plans, operating procedures, technical specifications, and the design of the facility, will be evaluated during review of the OL application, if TVA proceeds to complete construction of the facility. Requiring TVA to submit a new CP application would not materially aid the NRC's review or provide greater assurance that the staff could make its necessary safety findings. Therefore, the staff concludes reinstatement of the CPs would be acceptable.

The NRC staff has considered the TVA's suspension of preservation and maintenance activities after the CPs were withdrawn and TVA's investment recovery activities. TVA has stated that, upon reinstatement of the CPs, it will implement its Nuclear Quality Assurance Plan relating to deferred plants. Equipment not subject to preventive maintenance under a layup program would be entered into the TVA Corrective Action Program. This equipment will be prohibited from being placed in service without further evaluation and appropriately fully restored or replaced. Systems and components that may have been affected in the course of investment recovery activities would also be entered into the TVA Corrective Action Program and would be prohibited from being placed in service without a full evaluation, or having been restored or replaced. The NRC staff believes that these commitments are consistent with the Commission's Policy Statement on Deferred Plants. Prior to reactivating construction at BLN, TVA will need to comply with requirements in the policy statement.

The action to reinstate the CPs would offer an opportunity for a hearing on whether the good cause to reinstate has been demonstrated. If TVA should submit a request to reactivate construction and to resume the OL review, the Commission may require renoticing the OL application to offer an additional opportunity for a hearing. Also, the process for supplementing the final environmental statement to take into account significant new information for plant operation would offer opportunities for public comment.

If the Commission authorizes the staff to proceed with consideration of whether to grant TVA's request for reinstatement of the CPs, the staff would proceed to grant TVA's request for reinstatement and would then prepare an order, with conditions, an environmental assessment, and a supporting safety evaluation.

STAFF RESOURCE IMPACTS:

Although the staff has no concrete historical information on which to base a cost estimate for reinstatement, the staff believes that a reinstatement review would require less than one full-time equivalent (FTE). In comparison, the staff estimates that the review of a new CP application would occur over approximately 1 year and would require about 5 FTE.