

UNITED STATES NUCLEAR REGULATORY COMMISSIONTENNESSEE VALLEY AUTHORITYDOCKET NOS. 50-438 AND 50-439BELLEFONTE NUCLEAR POWER PLANT, UNITS 1 AND 2ENVIRONMENTAL ASSESSMENT ANDFINDING OF NO SIGNIFICANT IMPACT

[NRC-2009-0093]

The U.S. Nuclear Regulatory Commission (NRC) has prepared this Environmental Assessment (EA) associated with a request by the Tennessee Valley Authority (TVA) to reinstate the construction permits (CPs) CPPR-122 and CPPR-123 for the Bellefonte Nuclear Plant (BLN), Units 1 and 2, respectively. Based on information provided in TVA's letters, dated August 26, September 25, and November 24, 2008, and the NRC staff's independent review of references, the NRC staff did not identify any significant impact associated with the reinstatement of the BLN Units 1 and 2 CPs and the return of the facility to a terminated plant status. The NRC staff is documenting its environmental review in this EA.

ENVIRONMENTAL ASSESSMENTPlant Site and Environs:

BLN Units 1 and 2 are pressurized-water reactor sites that have been partially completed. The units are located on a peninsula between Town Creek and the Tennessee River at River Mile 392 on the west shore of Guntersville Reservoir near Hollywood, Alabama. Most of the 1600 acres of the site have been previously impacted by the near completion of both BLN Units 1 and 2.

Identification of the Proposed Action:

TVA requests reinstatement of the CPs for BLN Units 1 and 2. The Atomic Energy Commission (AEC now, the NRC) issued the Final Environmental Statement (FES) in June 1974 for BLN Units 1 and 2. On December 12, 1974, CPs were issued by the NRC. Much of the construction work for BLN Units 1 and 2 was subsequently completed. On April 6, 2006, TVA submitted a request to withdraw the CPs for BLN Units 1 and 2. On September 14, 2006, the NRC staff withdrew the CPs for BLN Units 1 and 2 based on the request. Subsequently, TVA submitted a request on August 26, 2008, as supplemented by letters dated September 25, 2008, and November 24, 2008, to reinstate the CPs for BLN Units 1 and 2.

The Need for the Proposed Action:

Reinstatement of the CPs for BLN Units 1 and 2 and the return to a terminated plant status may subsequently enable TVA to complete construction of BLN Units 1 and 2.

Environmental Impacts of the Proposed Action:

This EA summarizes the radiological and nonradiological impacts to the environment that may result from the proposed reinstatement of the CPs.

NON-RADIOLOGICAL IMPACTS

Land Use and Aesthetic Impacts:

Land use and aesthetic impacts from the proposed reinstatement of the CPs include impacts from completing the construction of BLN Units 1 and 2. TVA states in its letter of August 26, 2008, that BLN Units 1 and 2 are 90 percent and 58 percent complete in construction, respectively, with most of the infrastructure work completed.

Remaining construction-related activities at BLN Units 1 and 2 include: the potential realignment of the southern entrance road 1200 feet east of its existing location; the construction of the Unit 2 startup and recirculation equipment building on previously disturbed land near the Unit 2 auxiliary building; the installation of a new power stores building; and some

changes to the gatehouse and protected area fencing. Additionally, clay borrow pits would be dug in wooded areas immediately east of the main buildings.

In response to an NRC staff's request for additional information (RAI), TVA noted in its November 24, 2008, letter that few facilities would cause further land disturbance, and that previously disturbed land, existing parking lots, access road, offices, workshops, and warehouses at BLN would be used during the completion of construction. Onsite land use conditions at BLN, including conditions along existing transmission lines corridors (no new lines would be required to complete the two units), switch yards, and substations, would not change. The applicant concluded that any impacts to natural resources from projected site construction activities would remain bounded by the original 1974 FES assessment.

Based on the information provided by TVA, the NRC staff concludes that there would be no significant impact on land use and aesthetic resources in the vicinity of BLN Units 1 and 2. The majority of construction activities have already occurred and the impacts have been assessed and documented in the original 1974 FES.

Historic and Archaeological Resources:

The National Historic Preservation Act (NHPA) requires Federal agencies to consider the effects of their undertakings on historic properties. Historic properties are defined as resources that are eligible for listing on the National Register of Historic Places (NRHP). The criteria for eligibility are listed in the *Code of Federal Regulations* (CFR), under Title 36, "Parks, Forests, and Public Property," Part 60, Section 4, "Criteria for Evaluation" (36 CFR 60.4). The historic preservation review process (Section 106 of the NHPA) is outlined in regulations issued by the Advisory Council on Historic Preservation in Title 36, "Parks, Forests, and Public Property," Part 800, "Protection of Historic Properties" (36 CFR Part 800). Reinstatement of the BLN CPs and completion of construction at the BLN sites is a Federal action that could possibly affect either known or undiscovered historic properties located on or near the plant site and its

associated transmission lines. In accordance with the provisions of the NHPA, the NRC makes a reasonable effort to identify historic properties in the area of potential effect. The area of potential effect for this action is the plant site and the immediate environs.

To assess the environmental impacts to historic and archaeological resources, the NRC staff reviewed information provided by TVA in its 1974 FES, along with supplemental information provided by letters to the NRC dated August 26, 2002, and November 24, 2008. Additional site details were also obtained from reviewing the Environmental Report in TVA's October 30, 2007, application for a Combined License (COL ER) for Bellefonte Units 3 and 4.

In 1936, archaeological salvage excavations were conducted at the Bellefonte site associated with the construction of Guntersville Reservoir. In 1972, TVA funded an archaeological reconnaissance investigation at the Bellefonte site to locate any historic and archaeological sites that would be adversely impacted by the construction of BLN Units 1 and 2. The 1972 survey identified three new prehistoric sites (1JA300 – 302), and located two sites (1JA978 and 1JA112) that were previously recorded during the pre-inundation survey of Guntersville Lake according to the FES 1974. Site 1JA978 was noted in the riverbank and contained both Archaic and Woodland artifacts. Site 1JA112 was primarily inundated; therefore, cultural affiliation could not be determined for this site. A 2006 survey conducted by TVA determined that sites 1JA978 and 1JA112 are located outside of BLN's property boundary. Analysis of artifacts recovered at 1JA300 reveal that the site was occupied during the Archaic, Woodland, and Mississippian cultural periods. Since 1JA300 was going to be adversely impacted by the construction of the plant intake structure and access road, data recovery excavations were conducted on site 1JA300 in 1973 and 1974 by the University of Alabama. Information provided by TVA in its COL ER indicated that a total of 22 features and 9 burials were excavated from the site. One of these features consisted of a small structure footprint, which is indicative of village-level habitation. The human remains are located at the University

of Alabama. By letter dated November 24, 2008, TVA stated that additional archaeological surveys have been conducted. In 2006, TVA conducted a survey to document and evaluate all archaeological resources at BLN. During this survey, it was determined that site 1JA300 was destroyed during construction of the intake structure, and therefore, is no longer eligible for the NRHP.

Site 1JA301 was recorded during the 1972 reconnaissance survey as surficial remains (lithic debris) dating to the Archaic period. Analysis of the lithic debris from this site suggests that it was an intermittent campsite. It was recommended that any further excavation of this site would be unproductive. The 1972 report notes that site 1JA301 was heavily disturbed and reduced to plow zone scatter of prehistoric materials. Additional testing conducted determined that site 1JA301 was destroyed during construction of BLN Units 1 and 2 and is not eligible for inclusion in the NRHP according to the COL ER.

Site 1JA302 was purported to be remotely located to the construction area according to the FES 1974. Artifacts recovered from 1JA302 dated the site to the Woodland period. Limited excavation was proposed, however, further excavations were not conducted. Site 1JA302 lies outside the BLN property boundary. Site 1JA302 was determined to be eligible for inclusion on the NRHP.

Site 1JA111 is an undefined prehistoric occupation site. Additional testing was conducted at the site during the 2006 survey. A total of 93 artifacts were recovered, however, no diagnostic lithic artifacts were recovered to date from the site according to the COL ER. However, a small number of ceramics dating to the Mississippian period were recovered. Based upon the stratigraphic profiles and patterns of artifact recovery, TVA indicated that site 1JA111 appears to contain buried, intact archaeological deposits and has the potential to contribute significant scientific and archaeological information regarding the prehistory of the Gunter'sville Basin according to the TVA report dated October 2007. Site 1JA111 remains

potentially eligible for inclusion in the NRHP. TVA has indicated that the site will be fenced off, and marked on BLN site drawings as an area to be avoided by any future ground disturbing activities according to the TVA letters dated August 26, September 25, and November 24, 2008.

Site 1JA113 is another undefined prehistoric occupation site. Additional testing was conducted at the site in 2006 and yielded a single prehistoric lithic flake, however, site 1JA113 does not meet the criteria of eligibility for the NRHP according to the TVA letters dated August 26, September 25, and November 24, 2008.

One historic site was identified during the 2006 survey. Site 1JA1103 consists of a collapsed structure and associated outbuilding according to the COL ER. The 2006 survey revealed that this site was used as a temporary storage and weather shelter during the construction of BLN Units 1 and 2 according to the TVA letters dated August 26, September 25, and November 24, 2008. Site 1JA1103 has had its archaeological integrity altered by the construction of BLN Units 1 and 2; therefore, the site is not eligible for inclusion in the NRHP. Regardless of the site's eligibility, TVA has indicated that the site will be avoided.

Adjacent to the BLN site was the Town of Bellefonte the former Jackson County seat. The Town of Bellefonte is listed in the Alabama Statewide Plan of Historic Preservation and was determined eligible for inclusion on the NRHP. Among the former town buildings was a tavern that dated to 1845 according to the 1974 FES. This building and other structures associated with the Bellefonte town site were moved in 1974. The town site is not on TVA property, and the buildings were removed by the owners according to the TVA letter dated August 26, 2002.

The BLN site was heavily disturbed by the construction of BLN Units 1 and 2, which began in the 1970s. Reinstatement of the CPs and completing construction of BLN Units 1 and 2 would involve some ground disturbing activities in previously undisturbed areas of the site. The NRC staff anticipates that for areas not previously surveyed, an archaeological investigation would be conducted by a qualified archaeologist prior to any ground disturbing

activities by TVA. Additionally, since TVA is a Federal agency, an NHPA Section 106 review and consultation with the Alabama Historical Commission would be initiated for such activities.

Based on the information provided in the 1974 FES, and TVA's subsequent responses to the NRC staff's RAIs in letters dated August 26, 2002, and November 24, 2008, the NRC staff finds that the potential impacts of reinstating the CPs and completing construction of BLN Units 1 and 2 would have no adverse effect on historic and archaeological resources.

Socioeconomic Impacts:

Socioeconomic impacts from the proposed reinstatement of the CPs and completing the construction of BLN Units 1 and 2 include an increase in the size of the workforce at BLN and associated increased demand for public services and housing in the region.

In its August 26, 2002, response to an RAI, TVA estimated that the number of workers needed to complete the construction of BLN Units 1 and 2 could peak at about 4600 workers; comprised of approximately 2600 construction workers, 900 engineers, 850 plant staff, and 250 start-up testing staff. Most construction workers would relocate temporarily to Jackson County resulting in a short-term increase in population along with increased demands for public services and housing. TVA confirmed this estimate in a letter to the NRC dated November 24, 2008, and provided additional demographic information. Because construction work would be short-term, most construction workers would stay in rental homes, apartments, mobile homes, and camper-trailers. According to 2000 Census information, there were over 46,000 vacant housing units in the 50-mile radius of BLN, including over 2500 vacant housing units in Jackson County, that could potentially ease the demand for local rental housing should construction activities resume.

TVA has acknowledged in its November 24, 2008, letter that completing the construction activities of BLN Units 1 and 2 may require greater than anticipated numbers of construction workers, which could significantly affect the availability of public services (i.e., schools,

transportation, police and fire services, road infrastructure, water supplies, etc.). Reinstatement of the CPs and completing the construction of BLN Units 1 and 2 could, therefore, result in greater socioeconomic impacts than those projected in the 1974 FES. However, these impacts would have a relatively short duration. TVA has also committed to monitor the situation and work with local and state officials to mitigate any unacceptable adverse socioeconomic impacts that might result according to the TVA letter dated November 24, 2008.

Based on a review of the information provided by TVA and relevant census data, the NRC staff concludes that reinstating the CPs and completing the construction of BLN Units 1 and 2 would not result in adverse socioeconomic impacts.

Environmental Justice:

The environmental justice impact analysis evaluates the potential for disproportionately high and adverse human health and environmental effects on minority and low-income populations that could result from reinstating the CPs and completing the construction of BLN Units 1 and 2. Adverse health effects are measured in terms of the risk and rate of fatal or nonfatal adverse impacts on human health.

Disproportionately high and adverse human health effects occur when the risk or rate of exposure to an environmental hazard for a minority or low-income population is significant and exceeds the risk or exposure rate for the general population or for another appropriate comparison group. A disproportionately high environmental impact that is significant refers to an impact or risk of an impact on the natural or physical environment in a low-income or minority community that appreciably exceeds the environmental impact on the larger community. Such effects may include ecological, cultural, human health, economic, or social impacts. Some of these potential effects have been identified in resource areas discussed in this EA. For example, increased demand for rental housing during construction could disproportionately affect low-income populations. Minority and low-income populations are subsets of the general

public residing around BLN, and all are exposed to the same health and environmental effects generated from construction activities at BLN.

Minority populations in the vicinity of BLN — According to 2000 census data, 18.9 percent of the population (approximately 1,083,000 individuals) residing within a 50-mile radius of BLN identified themselves as minority individuals. The largest minority group was Black or African American (157,000 persons or 14.5 percent), followed by Hispanic or Latino of any race (24,000 or about 2.2 percent). About 8.1 percent of the Jackson County population identified themselves as minorities, with Black or African American the largest minority group (3.7 percent) followed by Hispanic or Latino (1.1 percent) according to the U.S. Census Bureau (USCB). According to USCB census data estimates for 2006, the minority population of Jackson County, as a percent of total population, had increased to 9.2 percent.

Low-income populations in the vicinity of BLN — According to 2000 census data, approximately 32,000 families and 143,000 individuals (approximately 10.5 and 13.2 percent, respectively) residing within a 50-mile radius of BLN were identified as living below the Federal poverty threshold in 1999. The 1999 Federal poverty threshold was \$17,029 for a family of four.

According to census data, the median household income for Alabama in 2004 was \$37,062, while 16.1 percent of the state population was determined to be living below the Federal poverty threshold. Jackson County had a lower median household income (\$33,733) and a lower percentage (15.3 percent) of individuals living below the poverty level.

Impact Analysis — Potential impacts to minority and low-income populations due to the reinstatement of the CPs and completing the construction of BLN Units 1 and 2 would mostly consist of environmental and socioeconomic effects (e.g., noise, dust, traffic, employment, and housing impacts).

Since most of the construction work at BLN has been completed, noise and dust impacts would be short-term and limited to onsite activities. Minority and low-income populations

residing along site access roads could experience increased commuter vehicle traffic during shift changes. As employment increases at BLN during completion of BLN Units 1 and 2, employment opportunities for minority and low-income populations may also increase. Increased demand for rental housing during peak construction could disproportionately affect low-income populations. However, according to the latest census information, there were over 46,000 vacant housing units in the 50-mile radius of BLN, including over 2500 vacant housing units in Jackson County.

Based on this information and the analysis of human health and environmental impacts presented in this EA, there would be no disproportionately high and adverse impacts to minority and low-income populations from the reinstatement of the CPs and completing the construction of the BLN Units 1 and 2.

Impacts on Water Resources:

Water resource impacts due to reinstating BLN Units 1 and 2 CPs would be relatively small. Water discharges are governed by the plant's current National Pollutant Discharge Elimination System (NPDES) permit and waste streams controlled by the current Resource Conservation and Recovery Act (RCRA) permit; these permits remain active. TVA would continue to purchase drinking water from the City of Hollywood, Alabama, which is a community public water system that is regulated by the State of Alabama. TVA would continue to route waste water from the BLN Units 1 and 2 to the Hollywood Sewer System.

By letter dated November 24, 2008, TVA confirmed that almost all environmental disturbances related to construction have already occurred, and that any impacts to natural resources, including water resources, would remain bounded by its assessment in the 1974 FES.

Based on the information provided, the staff expects that there would be little or no impact to aquatic resources because the majority of construction activities have already been completed.

Impacts on Air Quality:

Main sources for the potential impacts on air quality due to reinstatement of the CPs for BLN would be fugitive dust from construction activities, associated with the project and exhaust emissions from the motorized equipment and vehicles of workers. The 1990 Clean Air Act amendments include a provision that no Federal agency shall support any activity that does not conform to a state implementation plan designed to achieve the National Ambient Air Quality Standards for criteria pollutants (sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter less than 10 µm in diameter). On November 30, 1993, the U.S. Environmental Protection Agency (EPA) issued a final rule (58 FR [*Federal Register*] 63214) implementing the new statutory requirements, effective January 31, 1994. The final rule requires that Federal agencies prepare a written conformity analysis and determination for each pollutant where the total of direct and indirect emissions caused by proposed federal action¹ would exceed established threshold emission levels in a nonattainment² or maintenance area.³

Construction activities are known to cause localized temporary increases in atmospheric concentrations of nitrogen oxides, carbon monoxide, sulfur dioxide, volatile organic compounds, ammonia and particulate matter PM₁₀ and PM_{2.5} as a result of exhaust emissions of worker's

¹ Federal action means any activity engaged in by a department, agency or instrumentality of the Federal Government, or any activity that a department, agency or instrumentality of the Federal Government supports in any way, provides financial assistance for, licenses, permits, or approves, other than activities related to transportation plans, programs, and projects developed, funded, or approved under title 23 U.S.C or the Federal Transit Act (49 U.S.C 1601 *et seq.*). (40 CFR 51.852)

² An area is designated "nonattainment" for a criteria pollutant if it does not meet National Ambient Air Quality Standards (NAAQS) for the pollutant.

³ A maintenance area has been redesignated by a State from nonattainment to attainment; the State must submit to EPA a plan for maintaining NAAQS as a revision to its State Implementation Plan.

vehicles, diesel generators, and construction equipment. In accordance with the Clean Air Act, Federal agencies are prohibited from issuing a license for any activity that does not conform to an applicable implementation plan (40 CFR Parts 51 and 93). Since the plant is located in a PM_{2.5} nonattainment area, BLN must show conformity to applicable Alabama State Implementation Plans by analyzing vehicles exhaust emissions (using an approved EPA model) that will occur during construction of BLN Units 1 and 2.

During potential construction of BLN Units 1 and 2, some ground-clearing, grading, excavation, and movement of materials and machinery are expected to occur. Ground-clearing, grading, and excavation activities will raise dust, as will the movement of materials and machinery. Fugitive dust may also rise from cleared areas during windy periods. If any open burning is planned then the applicable permits would need to be obtained from the Air Division of the Alabama Department of Environmental Management. Normally, construction activities take place for a limited duration; if reinstated, the expiration completion date for BLN Unit 1 CP is October 1, 2011, and the expiration completion date for BLN Unit 2 CP is October 1, 2014, as specified in an NRC Order dated March 4, 2003. Any impacts on air quality that might occur would be temporary.

Because the NRC staff expects that any potential construction activities at BLN Units 1 and 2 would conform to the Alabama Implementation plans, the NRC staff concludes that the impacts of construction activities on air quality would then be low. For such activities, the NRC staff notes a variety of mitigation measures, such as wetting of unpaved roads and construction areas during dry periods and seeding or mulching bare areas, inspection and maintenance of the gasoline or diesel fuel fired construction equipment to prevent excessive exhaust emissions and shift changes for workforce to reduce the number of vehicles on the road at any given time, that could mitigate potential air quality impacts resulting from the potential reinstatement and construction completion at BLN Units 1 and 2.

Impacts on Aquatic Resources:

In a TVA letter dated September 25, 2008, TVA indicates that TVA proposes “no new ground disturbance,” possibly a small amount of earthwork adjacent to existing building to support air compressors, and possibly “reintroduction” of small amounts of lubricating oil. The TVA letter dated September 25, 2008, does not indicate that the reinstatement of the CPs and construction would result in any activities involving transmission lines, such as maintenance, nor does it indicate any on-site activities other than those listed above. The activities described in the TVA letter, would be of such limited geographic extent and of such removal from aquatic habitats that the NRC staff expects that there would be little to no impact to aquatic resources.

By letter dated November 24, 2008, TVA provided additional information to confirm that most site disturbance has already occurred, and that any impacts to natural resources, including aquatic resources, would remain bounded by the impacts discussed in the 1974 FES.

Based on the information provided, the NRC staff expects that there would be little to no impact to aquatic resources based on the limited geographic extent and area affected.

Threatened and Endangered Aquatic Species:

By letter dated November 24, 2008, TVA updated the list of threatened or endangered species and concluded that except for the gray bat, none of the federally listed species are known to occur at or adjacent to the BLN site. Although threatened and endangered aquatic species are listed as occurring in Jackson County, the NRC staff confirmed with the Alabama State Department of Conservation and Natural Resources (DCNR) that there were no aquatic species listed as threatened or endangered in the immediate vicinity of BLN.

Impacts on Terrestrial Biota:

Since most of the construction has been completed, limited impacts may occur to terrestrial biota related to the potential realignment by 1200 feet (370 meters) of the southern entrance to the plant and by the excavation of borrow pits in a wooded area east of the existing

main power plant buildings. Reinstating the CPs and completing construction of the BLN Units 1 and 2 would remain within the scope of the 1974 FES, assuming that TVA implements the preconstruction and construction monitoring program for both aquatic and terrestrial resources as described in the 1974 FES. This would also cover potential impacts to terrestrial biota from transmission line right-of-way maintenance. The 1974 FES considered all potential impacts associated with the transmission line and noted that TVA's transmission line maintenance and construction methods, particularly overspray during herbicide applications, had resulted in damage to trees located outside of the transmission line corridor. However, current best management practices (BMPs) employed by most industries today would mitigate such environmental impacts from pesticide or herbicide applications.

Assuming that these practices for transmission line right-of-way would be in place if the CPs for BLN Units 1 and 2 were reinstated, the NRC staff anticipates little to no impact on terrestrial biota, including wetland areas. By letter dated November 24, 2008, TVA confirmed that impacts to terrestrial resources would remain bounded by the assessment in the 1974 FES.

Endangered Terrestrial Species:

In a NRC EA dated January 24, 2003 (68 FR 3571), for extension of expiration dates of the BLN CPs, the NRC staff found that the endangered Gray Bat (*Myotis grisescens*) is the only species on the Federal list of endangered species known to occur in the vicinity of the Bellefonte site or within its transmission line corridors. The Gray Bat uses the sloughs and main channel of the Tennessee River near the BLN site to forage according to the NRC EA, dated January 24, 2003, and an Alabama State DCNR letter, dated October 15, 2008. The NRC EA, dated January 24, 2003, found that construction activities planned at that time would not be expected to cause any adverse impacts to the Grey Bat or its habitat.

There is a Bald Eagle (*Haliaeetus leucocephalus*) nest located less than 2 miles (3 kilometers) northeast of the BLN site, but the Bald Eagle was recently removed from the Federal

list of threatened and endangered species. However, the Bald Eagle is still protected under the Federal Bald and Golden Eagle Protection Act.

According to the NRC EA, dated January 24, 2003, population levels of Osprey (*Pandion haliaetus*) have been increasing on Guntersville Lake, and several nests have been observed in the vicinity of Coon and Crow Creeks. Ospreys would use shoreline habitats fronting the BLN site for foraging. While not a species listed as threatened or endangered, the Osprey is protected along with the Bald Eagle under the Alabama State Nongame Species Regulation according to Alabama State DCNR letter, dated October 15, 2008.

Based on this information, and TVA's response to the RAI dated November 24, 2008, the NRC staff concludes that resumption of construction activities at the BLN site are not likely to have any significant adverse effect on any listed species or other species mentioned above, because the majority of ground or river disturbance from construction activities have already been completed.

Nonradiological Impacts Summary:

Reinstatement of the CPs for BLN Units 1 and 2 would not result in a significant change in nonradiological impacts in the areas of land use, water use, waste discharges, terrestrial and aquatic biota, transmission facility operation, social and economic factors, and environmental justice related to resumption of construction operations at the power plants. No other nonradiological impacts were identified or would be expected. Table 1 summarizes the nonradiological environmental impacts of the proposed reinstatement of the CPs for BLN Units 1 and 2.

Table 1: Summary of Nonradiological Environmental Impacts

Land Use	No impact to land use conditions and aesthetic resources in the vicinity of BLN.
Historic and Archaeological Resources	No impact to historic and archaeological resources in the vicinity of BLN.
Socioeconomics	Workforce required to complete BLN could have a profound effect on the availability of public services and rental housing in the vicinity of the plant. TVA is committed to monitoring the situation and to working with local and state officials to mitigate any unacceptable adverse socioeconomic conditions.
Environmental Justice	There would be no disproportionately high and adverse impact on minority and low-income populations in the vicinity of BLN.
Water Use	Water use during completion of construction would be relatively minor. No changes from previous impact evaluations are expected.
Air Quality	Temporary impacts from fugitive dust related to construction and vehicle emissions related to construction workers traveling to and from BLN.
Aquatic Resources	Little to no impact to listed species since most external construction is completed.
Terrestrial Biota	Little to no impact to listed species since most external construction is completed.
Threatened and Endangered Species	Little to no impact to listed species since most external construction is completed.
Transmission Facilities	Little to no impact to terrestrial and aquatic resources if current BMPs are incorporated into management plan.

RADIOLOGICAL IMPACTS

Radioactive Effluent and Solid Waste Impacts:

Nuclear power plants use waste treatment systems designed to collect, process, and dispose of gaseous, liquid, and solid wastes that might contain radioactive material in a safe and controlled manner such that discharges are in accordance with the requirements of Title 10 of 10 CFR Part 20, “Standards for Protection Against Radiation”, and 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities”, Appendix I.

Since construction activities will not involve any radioactive effluent and solid waste, the staff determined that reinstatement of the CPs and construction of BLN Units 1 and 2 would not result in any radiological effluent and solid waste since the BLN Units 1 and 2 would not be operating. Disposal of essentially all of the hazardous chemicals used at nuclear power plants is also regulated by RCRA or NPDES permits.

Occupational Radiation Doses:

Occupational exposures to plant workers conducting activities involving radioactively contaminated systems or working in radiation areas can be exposed to radiation. However, reinstatement of the CPs and construction activities will not involve any radioactive material; the NRC staff determined that occupational doses can be maintained within the limits of 10 CFR Part 20 for the reinstatement of the CPs and construction of BLN Units 1 and 2.

Public Radiation Doses:

Since construction activities will not involve any radioactive material, the staff determined that public radiation doses can be maintained within the limits of 10 CFR Part 100 for the reinstatement of the CPs and construction of BLN Units 1 and 2.

Postulated Accident Doses:

Since construction activities will not involve operation of BLN Units 1 and 2, the staff determined that there will be no postulated accident doses for the reinstatement of the CPs and construction of BLN Units 1 and 2.

Uranium Fuel Cycle and Transportation Impacts:

Since construction activities will not involve operation of BLN Units 1 and 2, the staff determined that there would be no environmental impact of the fuel cycle and transportation of fuels and wastes for the reinstatement of the CPs and construction of BLN Units 1 and 2.

Radiological Impacts Summary:

The proposed reinstatement of the CPs and construction of BLN Units 1 and 2 would not result in an impact associated with radiological effluent and solid waste, or occupational and public radiation exposure, or the uranium fuel cycle and transportation. In addition, TVA confirmed in its response to the RAI dated November 24, 2008, that there are no changes or updates related to radiological impacts, beyond those assessed in the 1974 FES, associated with the proposed reinstatement of the CPs and construction of BLN Units 1 and 2.

Accordingly, the NRC staff concludes that there are no adverse impacts associated with the proposed reinstatement of the CPs and construction of BLN Units 1 and 2. Table 2 summarizes the radiological environmental impacts of the proposed reinstatement of the CPs and construction of BLN Units 1 and 2.

Table 2: Summary of Radiological Environmental Impacts

Occupational Radiation Doses	No adverse impacts.
Public Radiation Doses	No adverse impacts.
Postulated Accident Doses	No adverse impacts.
Uranium Fuel Cycle and Transportation Impacts	No adverse impacts.

Cumulative Impacts:

A cumulative impact is defined in Council of Environmental Quality regulations (40 CFR 1508.7) as “an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” The NRC staff has considered past, present, and reasonably foreseeable future actions in this review for

cumulative impacts on the environment. Should TVA receive approval by the NRC and decide to construct one or two new nuclear power plant units at the Bellefonte site (BLN Unit 1 and/or Unit 2), the cumulative impact would result from construction activities in the immediate vicinity of the site.

The NRC staff has conducted a review of past, present, and the foreseeable future action of reinstatement of the CPs and construction for BLN Unit 1 and 2. The NRC staff determined runoff from the land area around the main construction site drains into an unnamed tributary, wetland, and the intake. Topographical flow gradient is following the natural elevation not planned for land excavation or disturbance. Cumulative impacts of normal construction of the proposed facilities for BLN Units 1 and 2 were evaluated for water resources, air quality, health and safety, waste generation, resource use, and environmental justice including cumulative impacts for water quality, geologic resources, ecological resources, aesthetic resources. These were explicitly addressed and the NRC staff notes direct and indirect impacts to these resources are expected to be negligible. Cumulative impacts from proposed facility construction reinstatement of the CPs and construction activities are not expected to be significant. In addition, the cumulative impacts of the proposed facilities to land development, electricity usage, and water usage would be quite small.

If construction resumes, TVA plans to eventually move (re-route) the first half mile of the south entrance road such that it would still join Jackson County Highway 33, but to an intersection that is about 1200 feet east of the current connection point. This change would improve traffic visibility and, thereby, increase commuter safety. Some new ground would be disturbed for this road but there are no associated significant environmental impacts.

If construction resumes, some new backfill borrow pits may be required to obtain clay. These would likely be made in undisturbed ground east of the main site power plant buildings.

The topsoil would be removed temporarily and replaced to restore the sites after clay removal. Tree cover would be removed in this process.

Meteorological monitoring requirements have changed, which might necessitate construction of a new environmental data station. This new facility could possibly be sited on undisturbed soil.

Construction of the startup and recirculation equipment building for Unit 2 has not been initiated; however, the site for this building is disturbed ground very close to the south side of the Unit 2 auxiliary building. Other potential construction activities on disturbed ground include increasing the size of the construction and administration building (CAB); additional fire protection tanks by the CAB; additional waste tanks adjacent to the Unit 1 reactor building; and completion of the auxiliary feedwater pipe trench near the Unit 2 reactor building. The power stores building may be enlarged, and new plant security requirements may necessitate changes to the gatehouse.

If the CPs are reinstated, the expiration completion date for BLN Unit 1 CP is October 1, 2011, and the expiration completion date for BLN Unit 2 CP is October 1, 2014, as specified in a NRC Order dated March 4, 2003.

Therefore, it is anticipated that the potential cumulative impacts from reinstatement of the CPs and construction of BLN Units 1 and 2 would be small and no mitigation would be required.

One of the considered actions involves an application to build two new nuclear units at the Bellefonte site (BLN Units 3 and 4). By letter dated October 30, 2007, TVA submitted its application for a Combined License (COL) for Bellefonte Units 3 and 4; this application is currently under review by the Office of New Reactors.

On August 27, 2008, TVA legal counsel notified Atomic Safety and Licensing Board Panel, reviewing the matter of BLN 3 and 4, that TVA has requested to reinstate the CPs for BLN Units 1 and 2 in a letter dated August 26, 2008.

At this juncture, the TVA request that the NRC reinstate the CPs for BLN Units 1 and 2 does not constitute a "proposal" that is interdependent with the BLN Units 3 and 4 COL application that is before the agency. The TVA request to reinstate the CP for BLN Units 1 and 2 fails to constitute a "proposal" of the type that would trigger a NEPA cumulative impact analysis regarding Units 1 and 2 in the National Environmental Policy Act (NEPA) analysis for proposed BLN Units 3 and 4. If construction activities resume for BLN Units 1 and 2, TVA would need to assess the BLN Units 1 and 2 construction impacts relative to BLN Units 3 and 4.

Alternatives to the Proposed Action:

There are four possibilities for reinstatement of the CPs and construction: (1) both BLN Units 1 and 2 (the proposed action, which bounds possibilities 2 and 3), (2) BLN Unit 1 only, (3) BLN Unit 2 only, and (4) neither BLN Unit 1 or Unit 2.

A possible alternative to the proposed action of reinstatement of the CPs for BLN Units 1 and 2 would be to reinstate only one CP; this alternative is bounded by the proposed action.

Another possible alternative to the proposed action of reinstatement of the CPs for BLN Units 1 and 2 would be to deny the request of reinstatement of the CPs. This option would not eliminate the environmental impacts of construction that have already occurred, and would only limit the additional construction that has been determined to have little to no impact on aquatic and terrestrial resources including endangered species, to hydrology, archaeology, land use, and transmission line maintenance, and temporary air impacts from fugitive dust and emissions from construction workers traveling to and from the site. If the request was denied, there would be no adverse socioeconomic impacts; there could be an increase in the availability of public services and rental housing in the vicinity of the plant. If the request was denied, there would be

no adverse impacts to environmental justice; the environmental justice impact analysis evaluates the potential for disproportionately high and adverse human health and environmental effects on minority and low-income populations that could result from completing the construction of BLN Units 1 and 2.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the original FES for construction.

Agencies and Persons Consulted:

In accordance with its stated policy, on October 15, 2008, the NRC staff consulted with the Alabama State officials, Mr. Keith Hudson and Ms. Ashley Peters, of the Alabama Department of Conservation and Natural Resources, regarding the environmental impact of the proposed action. The state officials had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the EA, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letters, dated August 16, 2006, September 25, 2008, and November 24, 2008. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland 20852. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management

System (ADAMS) Public Electronic Reading Room on the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff at 1-800-397-4209, or 301-415-4737, or send an e-mail to pdResource@nrc.gov.

Dated at Rockville, Maryland, this 24 day of February 2008.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

L. Raghavan, Chief
Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation