

January 16, 2003

Mr. J. A. Scalice
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: BELLEFONTE NUCLEAR PLANT, UNITS 1 AND 2 - ENVIRONMENTAL
ASSESSMENT FOR EXTENSION OF CONSTRUCTION PERMITS
(TAC NOS. MB2549 AND MB2550)

Dear Mr. Scalice:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for extension of the expiration dates of Construction Permits CPPR-122 and CPPR-123, dated July 11, 2001, as supplemented on August 26, 2002. The proposed action would extend the construction permit for Bellefonte Nuclear Plant, Unit 1, from October 1, 2001, to October 1, 2011, and the construction permit for Bellefonte Nuclear Plant, Unit 2, from October 1, 2004, to October 1, 2014.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Raj K. Anand, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-438 and 50-439

Enclosure: Environmental Assessment

cc w/encl: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSION

TENNESSEE VALLEY AUTHORITY

DOCKET NOS. 50-438 AND 50-439

BELLEFONTE NUCLEAR PLANT, UNITS 1 AND 2

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an extension of the Construction Permit No. CPPR-122 for Bellefonte Nuclear Plant (BLN), Unit 1, and CPPR-123 for BLN, Unit 2, issued to the Tennessee Valley Authority (TVA) (permittee). The facility is located about 6 miles east-northeast of Scottsboro, Alabama, on the west shore of the Guntersville Reservoir at Tennessee River Mile 392, in Jackson County, Alabama. Therefore, as required by 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action:

The proposed action would extend the construction permit expiration date for BLN, Unit 1, from October 1, 2001, to October 1, 2011, and the construction permit expiration date for BLN, Unit 2, from October 1, 2004, to October 1, 2014. The proposed action is in response to TVA's request, dated July 11, 2001.

The Need for the Proposed Action:

The proposed action is needed because construction of BLN, Units 1 and 2, is not yet completed. TVA requested the extension to allow it to maintain the choice of a full range of competitive energy sources. The request was made because of the increase in the electrical demand in the TVA region.

Environmental Impacts of the Proposed Action:

The environmental impacts associated with the construction of the facility have been previously discussed and evaluated in the Final Environmental Statement (FES), June 1974, prepared as part of the NRC staff's review of the construction permit application. Because of the passage of time from the issuance of the FES, the staff requested additional information in a June 5, 2002, letter to TVA to determine if the conclusions reached in the June 1974 FES remain valid. TVA responded to these questions in a letter dated August 26, 2002.

In its August 26, 2002, response, TVA addressed the impact of resumption of construction in the following areas: archaeological sites and historic properties, disturbance of land, socioeconomic impacts, additional cumulative impacts from other projects in the area, and threatened and endangered species. Highlights of TVA's response follow. TVA stated that no additional archaeological sites have been identified in areas that might be affected by the resumption of construction activities. No future disturbance is currently contemplated on or adjacent to known archaeological sites. The NRC staff asked TVA how they responded to the recommendation by the Alabama Historical Commission on adaptive re-use of the 1845 Tavern and Inn. TVA responded that the building has been removed since 1974 when it was determined that site was eligible for placement on the National Register of Historic Places. The 1845 Tavern and Inn is not on TVA property, and the buildings were removed by the owners. Before construction of the existing site facilities, the Alabama State Historic Preservation Office approved the design and indicated that no mitigation would be required.

Regarding disturbance of land, TVA stated that almost all of the construction required for completion of the BLN site as a two-unit nuclear plant has been started and very few facilities remain that would require new land disturbance. TVA stated that the remaining construction that would require new land disturbance are as follows:

1. If construction resumes, it is planned 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 which is about 1200 feet east of the current connection point. The site has completed an

environmental assessment for this change which 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.

2. 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.
3. 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.
4. 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.

The FES evaluated the terrestrial and aquatic impacts due to construction of the BLN, Units 1 and 2. Included in these impacts were development of access corridors (roads), and clearing and excavation for all construction. The FES requires a construction monitoring program to monitor the effect of these activities on the environment. If construction is resumed, these activities will be monitored by the construction monitoring program and, therefore, the conclusions of the FES regarding potential land disturbance remain valid.

The socioeconomic impacts have changed since the 1974 FES was issued. In 1970, the population in the surrounding area was 39,202 and in 2000, the population was 59,926. The 1974 FES estimated a peak workforce of 2,300 people. The actual workforce peaked at 4,600 people prior to construction being suspended in 1988. TVA estimates that the workforce required to complete construction will peak at 4,600. The staff questioned if these changes to the demographics of the region may lead to significant socioeconomic impacts different from those previously evaluated in the FES. Examples of these impacts are demands on the local

schools, hospitals, public facilities, utilities (e.g., water use), transportation infrastructure, and construction worker shortages. TVA responded that:

The FES addressed both temporary impacts to community facilities and services which would occur during the construction period and those which would occur from the permanent workforce. Significant impacts were not expected in either case, but the FES concluded that facilities and services such as schools would unavoidably be stressed by construction and operation of BLN. Consequently, TVA committed to monitoring the situation and to working with local and state officials to mitigate any unacceptable adverse conditions which might result.

The currently larger projected construction workforce will likely result in greater socioeconomic impacts that [sic] those projected in the FES. Two more recent Environmental Impact Statements analyze potential impacts at higher levels than those in the FES. The first of these analyzed potential impacts of converting and operating the Bellefonte site as a fossil-fueled power plant (*Final Environmental Impact Statement for the Bellefonte Conversion Project*, Tennessee Valley Authority, October 1997). The second analyzed the impacts associated with the production of tritium at various TVA nuclear sites, including the BLN site (*Final Environmental Impact Statement for the Production of Tritium in a Commercial Light Water Reactor*, U.S. Department of Energy, DOE/EIS - 0288, March 1999). Impacts of a peak construction employment level of 4,500, almost the same as now projected, were analyzed in the latter report. Based on these analyses, we would anticipate that about 1,500 workers would move into the area at peak construction (at sometime during the fourth year of construction). Of these, about 1,100 are likely to move to Jackson County, and the remainder to surrounding counties. This number of movers would result directly in a population increase in Jackson County of about 3,000 persons or less at peak construction. The maximum impact on Jackson County schools is estimated to be somewhat less than 1,000 additional students, roughly a ten percent increase. This level of impact, however, would be only for a short time with lesser impacts leading up to this peak and following it. Impacts on other public services, such as hospitals, transportation, and utilities are discussed in more detail in the documents referenced above. They would be significant at or near peak, but the higher levels would have a relatively short duration. Possible impacts on construction worker shortages would depend on the magnitude of other construction projects in the larger area around the BLN site. The labor market area for construction workers is much larger than for most other types of work, and construction workers typically move around within large areas thereby decreasing the likelihood of significant problems for other construction projects. All of these impacts would occur gradually, as the construction workforce builds up to its peak during the fourth year. If construction resumes, TVA will work with state and local officials and civic groups mitigate possible adverse socioeconomic impacts caused by activities undertaken to complete construction of BLN or to operate the plant after its completion.

Based on TVA's response, and the recent environmental impact statements cited above, the NRC staff concludes that, while the impacts will be larger if construction resumes, the

mitigative actions will be commensurate with the larger impacts and, therefore, the conclusions reached in the FES remain valid.

The staff questioned if there were any projects or activities occurring or planned for the area that may lead to additional cumulative impacts to the surrounding population or to the natural environment. TVA responded that, in general, this growth has consisted of numerous small-to-medium size changes rather than one or a few very large events, except for the starting and stopping of TVA nuclear construction. The projected construction employment would be a major addition to the economy of Jackson County. However, many of the workers would live elsewhere in the labor market area, including some who would temporarily relocate. Within the construction labor market area, the employment increase at peak construction would be about 46 to 50 percent of the recent annual increase in employment. During most of the construction period, however, the level would be smaller. In contrast to construction at or near peak, operating employment levels would be small compared to the normal growth of the area. In the 1974 FES, TVA committed to work with state and local officials and civic groups throughout the construction and operation of the BLN site to mitigate the possible socioeconomic impacts. Based on the above commitment contained in the FES, the conclusion of the FES remains valid.

Regarding threatened and endangered species, the NRC staff, in its June 5, 2002, letter, asked if any biota has been added to or removed from the list of threatened or endangered species for the BLN site environs (including transmission line rights-of-way) based on field studies or revisions to the threatened and endangered species list since the 1974 FES. TVA responded that no species indigenous to the BLN site have been added to the federal or state lists of threatened or endangered species since the original FES. The Peregrine Falcon has been delisted. Two species, the Bald Eagle and Indiana Bat, are currently listed as threatened or endangered for Jackson County, Alabama, by the Environmental Protection Agency. Osprey, *Pandion haliaetus*, is not federally listed, but is listed as threatened by the

State of Alabama. Population levels of osprey have been increasing on Guntersville Lake, and several nests have been observed in the vicinity of Coon and Crow Creeks. This species would use shoreline habitats fronting the BLN site for foraging. The current list of federally threatened or endangered species for Jackson County, Alabama, contains several species which were not identified or discussed in the original FES for BLN. However, none of these except the Gray Bat are known to occur at or adjacent to the BLN site, including transmission line rights-of-way, and none of these were added based on field studies at the BLN site. Gray bats forage in the sloughs and main channel of the Tennessee River. However, because of the nature of the activities undertaken at the plant and the distance of these plant activities from the foraging area, Gray Bats would not be adversely impacted by the proposed actions.

The staff also questioned if there were any known potential adverse impacts to any listed or candidate species that might result from the resumption of construction at BLN. TVA responded that resumption of construction activities at BLN would not be expected to cause adverse impacts to any Federal or State-listed or candidate species or their habitats. This is primarily because almost all ground or river disturbance construction activities have long since been completed. Therefore, resumption of construction is unlikely to have any significant effect on threatened or endangered species at BLN.

Since almost all of the construction required for completion of BLN as a two-unit nuclear plant has already been, at least, started, very few facilities remain that would require new land disturbance; therefore, most of the construction impacts discussed in the FES have already occurred. This action would extend the period of construction as described in the FES. It does not invalidate any of the conclusions reached in the 1974 FES. The proposed extension will not allow any work to be performed that is not already allowed by the existing construction permit. The extension will grant TVA more time to complete construction in accordance with the previously approved construction permit. In addition, it is the policy of the Commission that a licensee will notify the NRC at least 120 days before plant construction is expected to resume.

Based on the foregoing, the NRC staff has concluded that the proposed action would have no significant environmental impact. Because this action would only extend the period of construction activities described in the FES, it does not involve any different impacts or a significant change to those impacts described and analyzed in the FES. Consequently, an environmental impact statement addressing the proposed action is not required.

Environmental Impacts of the Alternatives to the Proposed Action:

A possible alternative to the proposed action would be to deny the request. This would result in expiration of the construction permit for BLN, Units 1 and 2. This option would require submittal of another application for construction in order to allow the permittee to complete construction of the facility with no significant environmental benefit. The environmental impacts of the proposed action and alternative action are similar.

Alternative Use of Resources:

This action does not involve the use of resources not previously considered in the FES for BLN, Units 1 and 2.

Agencies and Persons Contacted:

In accordance with its stated policy, the staff consulted with the Alabama State Official, Mr. David Walter of the Alabama Office of Radiation Control, regarding the environmental impact of the proposed action. The State official had no comments.

For further details with respect to this action, see the licensee's request for extension dated July 11, 2001, and its response to the staff's request for additional information dated August 26, 2002.

FINDING OF NO SIGNIFICANT IMPACT

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

Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area 01-F21, 11555 Rockville Pike, Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at 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 by telephone at 1-800-397-4209 or 301-415-4737, or by e-mail to pdrr@nrc.gov.

Dated at Rockville, Maryland this 16th day of January 2003

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Allen G. Howe, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Mr. J. A. Scalice
Tennessee Valley Authority

BELLEFONTE NUCLEAR PLANT

cc:

Mr. Karl W. Singer, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Mark D. Phillippe, Manager
Licensing
Bellefonte Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Hollywood, AL 35752

Mr. James E. Maddox, Acting Vice President
Engineering & Technical Services
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Chairman
Jackson County Commission
Jackson County Courthouse
Scottsboro, AL 35768

Mr. Nicholas C. Kazanas, General Manager
Bellefonte Nuclear Plant
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

State Health Officer
Alabama Dept. of Public Health
RSA Tower - Administration
Suite 1552
P.O. Box 303017
Montgomery, AL 36130-3017

General Counsel
Tennessee Valley Authority
ET 11A
400 West Summit Hill Drive
Knoxville, TN 37902

Director
Alabama Emergency Management Agency
P.O. Drawer 2160
Clanton, AL 35045-5160

Mr. Robert J. Adney, General Manager
Nuclear Assurance
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Heinz Mueller [5]
Environmental Review Coordinator
US EPA Region 4
61 Forsyth Street, SW.
Atlanta, Georgia 30303-3104

Mr. Mark J. Burzynski, Manager
Nuclear Licensing
Tennessee Valley Authority
4X Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801