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**Project Number:** 2006-20

## FINAL ENVIRONMENTAL ASSESSMENT

# **BELLEFONTE NUCLEAR PLANT REDRESS**

**Jackson County, Alabama**

TENNESSEE VALLEY AUTHORITY  
JANUARY 2006

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**JACKSON COUNTY, ALABAMA**

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**The Proposed Decision and Need**

The United States Nuclear Regulatory Commission (NRC) issued the construction permits for both units of the Tennessee Valley Authority's (TVA) Bellefonte Nuclear Plant (BLN) in December 1974. By 1988, Unit 1 was approximately 90 percent complete, and Unit 2 was about 58 percent complete. On July 29, 1988, TVA notified NRC that BLN was being deferred as a result of a lower load forecast for the near future. The plant remained in deferred status until March 23, 1993, when TVA notified NRC of plans to complete BLN Units 1 and 2. TVA's decision to complete BLN came after three years of extensive studies that concluded completion of the facility as a nuclear power plant was viable. Subsequently, in December 1994, the TVA Board of Directors (Board) announced that BLN would not be completed as a nuclear plant without a partner and put further construction activities on hold until a comprehensive evaluation of TVA's power needs was completed. In June 2005, the Board approved amortizing TVA's investment in the deferred BLN nuclear generating units' costs over 10 years, and in November 2005, contingent upon notification of NRC approved the cancellation of the BLN construction project.

The BLN plant site now is also under consideration as the location of an advanced technology nuclear plant. Canceling construction of the existing facility and withdrawal of the construction permits is necessary in order to close out the existing BLN project. These actions also facilitate the consideration of other possible uses of the BLN site. A letter notifying the NRC that TVA has placed BLN Units 1 and 2 in terminated status was sent in December 2005.

**Other Environmental Reviews and Documentation**

- Tennessee Valley Authority, *Energy Vision 2020, Integrated Resource Plan Environmental Impact Statement*, Volumes 1-3, dated December 21, 1995
- Tennessee Valley Authority, *Final Environmental Impact Statement, Bellefonte Nuclear Plant, Units 1 and 2*, Volumes 1 and 2, dated May 24, 1974
- Tennessee Valley Authority, *Review of Final Environmental Impact Statement, Bellefonte Nuclear Plant Units 1 and 2*, dated March 1993
- Tennessee Valley Authority, *Final Environmental Impact Statement, Bellefonte Nuclear Plant Conversion Project*, dated October 1997

## **Alternatives and Comparison**

TVA considered two alternatives in this EA: (1) the No Action Alternative (Alternative A) and (2) the Action Alternative (Alternative B), to cancel construction of the existing facility, seek the withdrawal of the construction permits, and redress the BLN site.

Under Alternative A, TVA would seek to retain BLN's existing construction permits. TVA would also continue to seek a partner for the completion of BLN Units 1 and 2 as an industrial nuclear plant facility. It has been more than 10 years since TVA announced that it would consider completing BLN if a partner could be found to share in the cost and financial risks of doing this and TVA has yet to receive a reasonable, financially viable proposal. Consequently, the viability of this alternative has become increasingly doubtful and TVA no longer considers this to be a reasonable alternative. If this alternative is chosen, however, any potential impacts of completing BLN in accordance with its existing licenses have already been addressed by the above referenced environmental reviews.

Under Alternative B, TVA would cancel construction of the existing facility, TVA would seek the withdrawal of the construction permits, and TVA would redress the BLN site as described herein. Because there is other ongoing activity on the BLN site (i.e., training centers for the Transmission Service Organization and the Tennessee Valley Public Power Association) and because the switchyard at BLN is utilized as a substation for system operations in the region, TVA would not withdraw existing environmental permits or remove equipment associated with these other activities. Because so much of the site will be maintained, the general activities associated with the present decision involving redress of the site are relatively minor in nature and would include the following:

- Identifying equipment and structures that are necessary for other site activities and environmental permits associated with other activities at the site.
- Equipment or structures not identified necessary for other site activities would have the power disconnected and would either be sold for reuse or abandoned in place.
- Any unwanted construction material or waste associated with disposition of equipment/structures would be properly disposed of in accordance with pertinent federal, state, and local laws, regulations and ordinances, as well as TVA processes and procedures.

## **Affected Environment and Evaluation of Impacts**

### Site Description

BLN is located on an approximately 1,600-acre site adjacent to the Tennessee River near Hollywood, Alabama. See Attachment 1 for a location map. By 1988 when TVA deferred completion of the plant, Unit 1 was approximately 90 percent complete, and Unit 2 was about 58 percent complete. As the plant did not become operational, no nuclear fuel or waste is on site. The only radioactive material to be disposed of would result from removal of smoke detectors and exit signs from various buildings to be sold, demolished, or abandoned in place.

The current environmental status of BLN is as follows:

Air - Minor Source Status granted June 24, 1996, by the Alabama Department of Environmental Management (ADEM). There is no expiration date for a minor source permit.

Toxics - There are no polychlorinated biphenyl (PCB) transformers on site; however, there are other PCB-containing items/equipment/articles on site but not in service. All PCB information is reported annually in the *PCB Annual Document Log*.

Wastes (Environmental Protection Agency Identification Number AL5640090002):

Hazardous - Small Quantity Generator

Solid - Presently disposed of off site by contract at an ADEM-permitted facility

Wastewater (National Pollutant Discharge Elimination System [NPDES] Permit Number AL0024635) - Construction and permanent sewage currently routed to Hollywood Sewer System. Current NPDES permit expires on November 30, 2009.

Water - Drinking water is purchased from the city of Hollywood, a community public water system regulated by the state.

Potential Impacts

TVA would keep and maintain BLN in regulatory compliance regardless of the termination of the NRC permits. Compliance activities would include NPDES permits, division monitoring reports, demolition permits (10 day notifications), and air permits that are applicable to the entire site. These measures would continue as long as TVA has ownership of the BLN site. Maintaining and complying with these existing permits and regulations would ensure the stability of the site, until such time that TVA may decide, if or how the site would be alternatively utilized. Such a future decision would be subjected to the appropriate environmental review at that time.

Most of the minor environmental impacts resulting from redress would be associated with removal of equipment or structures not identified as necessary for other site activities. Materials and structures removed would be above grade or in areas that have experienced substantial previous ground disturbance for the original construction of the plant. TVA currently plans to maintain such major components as the intake and discharge facilities, cooling towers, wastewater system, and transmission switch yards. Under current plans, the existing containment, turbine, and auxiliary buildings would not be demolished. The other structures not identified as necessary would be sold, taken apart, and removed from the site, abandoned in place, or demolished. These structures, most of which are metal and wood warehouses located to the western portion of the site, are as shown to the right of the cooling towers in the photograph included with Attachment 1. Any demolition wastes generated would be disposed of in appropriately permitted solid waste or other disposal facilities.

Equipment identified as unnecessary would have the power disconnected and would either be reused by other TVA facilities, sold for reuse, or abandoned in place. Such items may include, but are not limited to: valves; strainers; battery boards and chargers;

transfer switches; vent fans; motors; cabinet panels; breakers; power systems; shop equipment such as lathes, air compressors, and dryers; as well as other miscellaneous equipment. Additional materials may include, but are not limited to items such as: piping, tubing, and conduit; cable; instrumentation; and general construction materials. TVA would continue to conduct periodic site inspections to ensure that none of the equipment or materials are causing environmental, health, or safety problems.

Redress would involve the removal of diesel generator fuel (approximately 45,000 gallons per generator) and lube or control fluids from the main turbine lube oil tanks (16,500 gallons each), feedwater pump lube oil tanks (1500 gallons each), RX coolant pump motors (400 gallons each), control fluid tanks (1200 gallons each), and diesel generator lube oil sumps (1500 gallons each). Fuel and lubricant would be removed and storage containers would be closed in accordance with all applicable federal, state, or local laws and regulations.

TVA has both agency and site processes and procedures in place to safely handle the demolition and removal the identified equipment, structures, and fuels or lubricants in an environmentally sound manner. The details of the environmental impacts of redress are identified in the CEC shown as Attachment 2. If there were any changes to the redress plan beyond the scope of this EA, TVA would perform an evaluation to determine if a further NEPA review needed to be performed.

### **Cumulative Impacts**

Because the redress activities at the BLN site would constitute minor, insignificant, routine activities, there would be no cumulative impacts associated with the redress activities.

### **Mitigation Measures**

There would be no additional mitigation measures other than the routine mitigation measures, i.e., best management practices, listed in the CEC.

### **Preferred Alternative**

TVA's preferred alternative is Alternative B, to cancel construction of the existing facility, to seek the withdrawal of the construction permits, and to redress the BLN site.

### **TVA Preparers**

Diedre Nida and Bruce Yeager, Senior NEPA Specialists, EA preparer

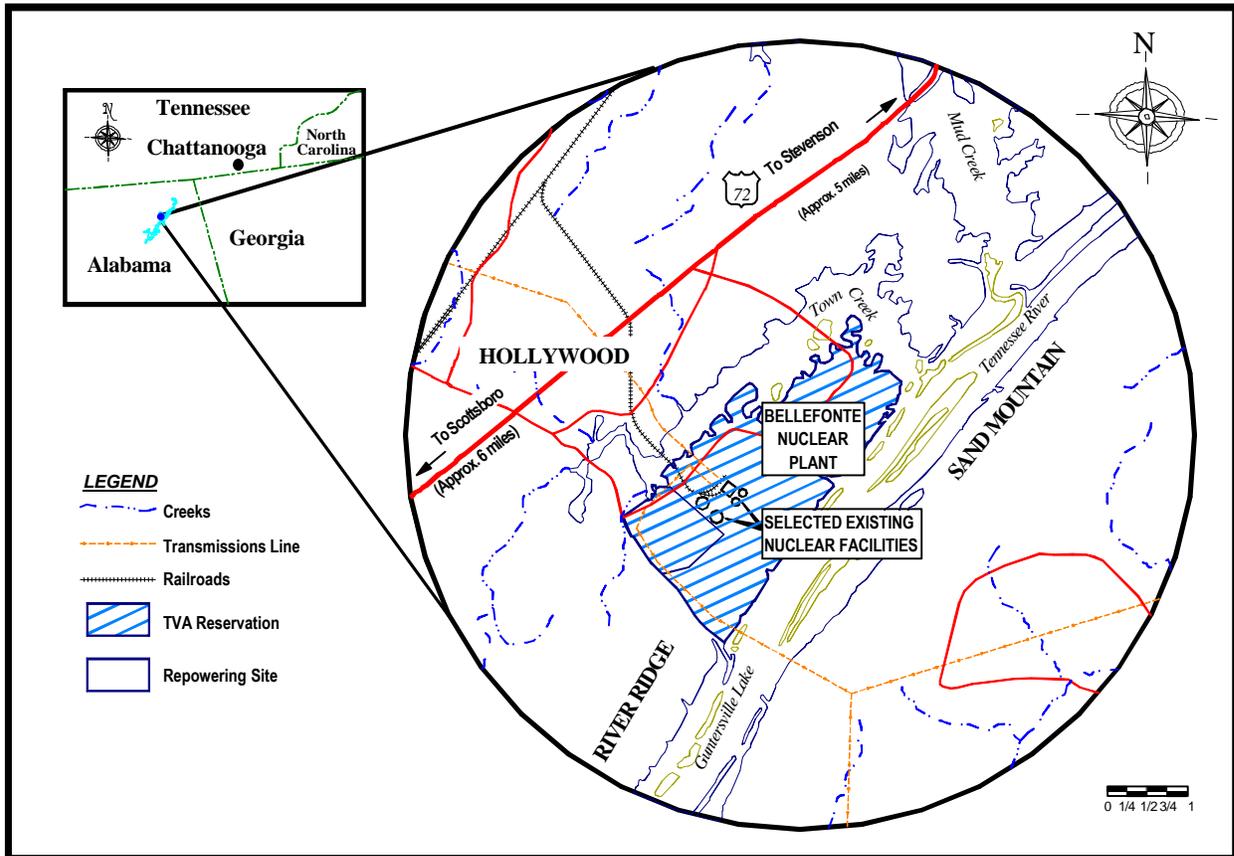
Casey Cothran, Facilities Management Environmental Program Administrator, CEC preparer

### **Attachments**

Attachment 1 - Location Map and Aerial Photo of Site

Attachment 2 - Categorical Exclusion Checklist 11066

# Attachment 1 - Location Map and Aerial Photograph of Site



## Attachment 2 - Categorical Exclusion Checklist 11066

### Categorical Exclusion Checklist for Proposed TVA Actions

<b>Categorical Exclusion Number Claimed</b>	<b>Organization ID Number</b>	<b>Tracking Number (NEPA Administration Use Only)</b> 11066	
<b>Form Preparer</b> Casey B. Cothron	<b>Project Initiator/Manager</b> Aaron B. Nix	<b>Business Unit</b> Facilities Management	
<b>Project Title</b> Bellefonte Nuclear Plant Redress			<b>Hydrologic Unit Code</b>
<b>Description of Proposed Action (Include Anticipated Dates of Implementation)</b> <input checked="" type="checkbox"/> <b>Continued on Page 3 (if more than one line)</b> For Proposed Action See Attachments and References			
<b>Initiating TVA Facility or Office</b>		<b>TVA Business Units Involved in Project</b>	
<b>Location (City, County, State)</b> Bellefonte Nuclear Plant, AL			

Parts 1 through 4 verify that there are no extraordinary circumstances associated with this action:

#### Part 1. Project Characteristics

Is there evidence that the proposed action---	No	Yes	Information Source
1. Is major in scope?	X		Cothron C. B. 10/08/2005
2. Is part of a larger project proposal involving other TVA actions or other federal agencies?	X		Cothron C. B. 10/08/2005
*3. Involves non-routine mitigation to avoid adverse impacts?	X		Cothron C. B. 10/08/2005
4. Is opposed by another federal, state, or local government agency?	X		Cothron C. B. 10/08/2005
*5. Has environmental effects which are controversial?	X		Cothron C. B. 10/08/2005
*6. Is one of many actions that will affect the same resources?	X		Cothron C. B. 10/08/2005
7. Involves more than minor amount of land?	X		Cothron C. B. 10/08/2005

\* If "yes" is marked for any of the above boxes, consult with NEPA Administration on the suitability of this project for a categorical exclusion.

#### Part 2. Natural and Cultural Features Affected

Would the proposed action---	No	Yes	Per- mit	Com- mit- ment	Information Source for Insignificance
1. Potentially affect endangered, threatened, or special status species?	X		No	No	Cothron C. B. 10/08/2005
2. Potentially affect historic structures, historic sites, Native American religious or cultural properties, or archaeological sites?	X		No	No	Cothron C. B. 10/08/2005
3. Potentially take prime or unique farmland out of production?	X		No	No	Cothron C. B. 10/08/2005
4. Potentially affect Wild and Scenic Rivers or their tributaries?	X		No	No	Cothron C. B. 10/08/2005
5. Potentially affect a stream on the Nationwide Rivers Inventory?	X		No	No	Cothron C. B. 10/08/2005
6. Potentially affect wetlands, water flow, or stream channels?	X		No	No	Cothron C. B. 10/08/2005
7. Potentially affect the 100-year floodplain?	X		No	No	Cothron C. B. 10/08/2005
8. Potentially affect ecologically critical areas, federal, state, or local park lands, national or state forests, wilderness areas, scenic areas, wildlife management areas, recreational areas, greenways, or trails?	X		No	No	Cothron C. B. 10/08/2005
9. Contribute to the spread of exotic or invasive species?	X		No	No	Cothron C. B. 10/08/2005
10. Potentially affect migratory bird populations?	X		No	No	Cothron C. B. 10/08/2005
11. Involve water withdrawal of a magnitude that may affect aquatic life or involve interbasin transfer of water?	X		No	No	Cothron C. B. 10/08/2005
12. Potentially affect surface water?	X		No	No	Cothron C. B. 10/08/2005
13. Potentially affect drinking water supply?	X		No	No	Cothron C. B. 10/08/2005
14. Potentially affect groundwater?	X		No	No	Cothron C. B. 10/08/2005
15. Potentially affect unique or important terrestrial habitat?	X		No	No	Cothron C. B. 10/08/2005
16. Potentially affect unique or important aquatic habitat?	X		No	No	Cothron C. B. 10/08/2005

### Part 3. Potential Pollutant Generation

Would the proposed action potentially (including accidental or unplanned)---	No	Yes	Per- mit	Commit- ment	Information Source for Insignificance
1. Release air pollutants?	X		No	No	For comments see attachments
2. Generate water pollutants?	X		No	No	Cothron C. B. 10/06/2005
3. Generate wastewater streams?	X		No	No	Cothron C. B. 10/06/2005
4. Cause soil erosion?	X		No	No	Cothron C. B. 10/06/2005
5. Discharge dredged or fill materials?	X		No	No	Cothron C. B. 10/06/2005
6. Generate large amounts of solid waste or waste not ordinarily generated?		X	No	No	For comments see attachments
7. Generate or release hazardous waste (RCRA)?		X	No	No	For comments see attachments
8. Generate or release universal or special waste, or used oil?		X	No	No	For comments see attachments
9. Generate or release toxic substances (CERCLA, TSCA)?	X		No	No	Cothron C. B. 10/06/2005
10. Involve materials such as PCBs, solvents, asbestos, sandblasting material, mercury, lead, or paints?		X	No	No	For comments see attachments
11. Involve disturbance of pre-existing contamination?	X		No	No	Cothron C. B. 10/06/2005
12. Generate noise levels with off-site impacts?	X		No	No	Cothron C. B. 10/06/2005
13. Generate odor with off-site impacts?	X		No	No	Cothron C. B. 10/06/2005
14. Produce light which causes disturbance?	X		No	No	Cothron C. B. 10/06/2005
15. Release of radioactive materials?		X	No	No	For comments see attachments
16. Involve underground or above-ground storage tanks or bulk storage?	X		No	No	Cothron C. B. 10/06/2005
17. Involve materials that require special handling?	X		No	No	Cothron C. B. 10/06/2005

### Part 4. Social and Economic Effects

Would the proposed action---	No	Yes	Commit- ment	Information Source for Insignificance
1. Potentially cause public health effects?	X		No	Cothron C. B. 10/06/2005
2. Increase the potential for accidents affecting the public?	X		No	Cothron C. B. 10/06/2005
3. Cause the displacement or relocation of businesses, residences, cemeteries, or farms?	X		No	Cothron C. B. 10/06/2005
4. Contrast with existing land use, or potentially affect resources described as unique or significant in a federal, state, or local plan?	X		No	Cothron C. B. 10/06/2005
5. Disproportionately affect minority or low-income populations?	X		No	Cothron C. B. 10/06/2005
6. Involve genetically engineered organisms or materials?	X		No	Cothron C. B. 10/06/2005
7. Produce visual contrast or visual discord?	X		No	Cothron C. B. 10/06/2005
8. Potentially interfere with recreational or educational uses?	X		No	Cothron C. B. 10/06/2005
9. Potentially interfere with river or other navigation?	X		No	Cothron C. B. 10/06/2005
10. Potentially generate highway or railroad traffic problems?	X		No	Cothron C. B. 10/06/2005

### Part 5. Other Environmental Compliance/Reporting Issues

Would the proposed action---	No	Yes	Commit- ment	Information Source for Insignificance
1. Release or otherwise use substances on the Toxic Release Inventory list?		X	No	For comments see attachments
2. Involve a structure taller than 200 feet above ground level?	X		No	Cothron C. B. 10/06/2005
3. Involve site-specific chemical traffic control?	X		No	Cothron C. B. 10/06/2005
4. Require a site-specific emergency notification process?	X		No	Cothron C. B. 10/06/2005
5. Cause a modification to equipment with an environmental permit?	X		No	Cothron C. B. 10/06/2005
6. Potentially impact operation of the river system or require special water elevations or flow conditions??	X		No	Cothron C. B. 10/06/2005

Description of Proposed Action (Include Anticipated Dates of Implementation)	<input type="checkbox"/> Continued from Page 1
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Parts 1 through 4: If "yes" is checked, describe in the discussion section following this form why the effect is insignificant. Attach any conditions or commitments which will ensure insignificant impacts. Use of non-routine commitments to avoid significance is an indication that consultation with NEPA Administration is needed.

An  EA or  EIS will be prepared.

Based upon my review of environmental impacts, the discussions attached, and/or consultations with NEPA Administration, I have determined that the above action does not have a significant impact on the quality of the human environment and that no extraordinary circumstances exist. Therefore, this proposal qualifies for a categorical exclusion under Section 5.2, \_\_\_\_\_ of TVA NEPA Procedures.

Project Initiator/Manager Aaron B Nix		Date 11/07/2005
TVA Organization ADMIN	E-mail abnix@tva.gov	Telephone

**Site Environmental Compliance Reviewer**

**Final Review/Closure**

\_\_\_\_\_  
Signature

Diedre B Nida 11/28/2005  
\_\_\_\_\_  
Signature

**Other Review Signatures (as required by your organization)**

Casey B. Cothron 11/28/2005  
\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

**Attachments/References**

Description of Proposed Action

An environmental and safety review is being conducted to identify equipment which is vital to the plant in regards to safety and environmental permit compliance. Equipment not identified as vital would have the power disconnected. The equipment would then either be sold for reuse or abandoned in place. If sold or donated, transportation of equipment/material would comply with all associated DOT Regulations. Any waste would be disposed of according to state and federal regulations. TVA is attempting to sell several warehouses onsite. The warehouses are composed of metal and wood. Some of the warehouses contain insulation which has been tested and is non-asbestos. The warehouses would be completely empty prior to demolition. Once sold, the buyer would take apart the warehouse and remove wanted construction material from site. Any unwanted construction material would be disposed of accordingly. A 10 day notification of demolition shall be submitted to the State of Alabama prior to any demolition.

CEC Comment Listing

Part 3 Comments

1. ADEM will be notified 10 days prior to start of demolition of sheds.  
By: Lynne MKoby 10/13/2005
6. Solid waste will be contained in a rolloff and disposed of accordingly.  
By: Casey B Colthron 10/06/2005
7. Any chemicals which cannot be reused and considered hazardous waste will be disposed of according to state and federal regulations.  
By: Casey B Colthron 11/14/2005
9. If equipment being transported contains fluid it shall be drained prior to transportation. Used oil and fluorescent lighting shall be recycled.  
By: Casey B Colthron 11/14/2005
8. All bulbs inside the warehouse are incandescent and shall be thrown in trash prior to demolition. The bulbs outside will need to be recycled. Contact PAE for proper handling.  
By: Casey B Colthron 10/06/2005
10. Any ballasts removed shall be recycled. Any asbestos removed shall be done by certified personnel.  
By: Casey B Colthron 11/14/2005
15. Any smoke detectors or exit signs removed shall be sent to an NRC approved recycler.  
By: Casey B Colthron 11/14/2005

Part 5 Comments

1. Total amount of scrap metal shall be provided to PAE  
By: Casey B Colthron 10/06/2005