

September 17, 2008

MEMORANDUM TO: William Burton, Branch Chief  
Environmental Projects Branch 1  
Division of Site and Environmental Reviews

FROM: Mallecia Hood, Project Manager **/RA/**  
Environmental Projects Branch 1  
Division of Site and Environmental Reviews

SUBJECT: TRIP REPORT – BELLEFONTE COMBINED LICENSE APPLICATION  
ALTERNATIVE SITE AUDIT MAY 2008

The U.S. Nuclear Regulatory Commission (NRC) staff and its contractor Pacific Northwest National Laboratory (PNNL) met May 12 through May 15, 2008, to visit the alternative sites proposed by the Tennessee Valley Authority (TVA) in their application for a combined operating license (COL) at the Bellefonte Nuclear Plant Site. The team visited three alternative sites during this trip. The team also visited the Clinch River Site in Tennessee because the NRC may consider this site in addition to those proposed by TVA. The other alternative site proposed by TVA was the Murphy Hill Site. The team visited this site during the Bellefonte Site audit in April 2008. There are five alternative sites discussed in this trip report. The sites discussed in this report are Phipps Bend, Tennessee; Hartsville, Tennessee; Yellow Creek, Mississippi; Murphy Hill, Alabama; and Clinch River, Tennessee. Enclosures 1 thru 5 of this report contain site specific information for each of these 5 sites.

The purpose of the alternative site visits was to hold discussions with TVA concerning the alternative sites, tour the alternative sites and surrounding areas, and collect information that may aid NRC in writing the Environmental Impact Statement (EIS).

Docket Nos.: 52-014 and 52-015

Enclosures: As stated

Contact: Mallecia Hood, NRO/DSER RAP 1  
301-415-0673

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**ADAMS ACCESSION NUMBER: ML082320522 \*See previous concurrence**

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DATE	09/ 15 /08	09/ 15 /08	09/ 17 /08

**OFFICAL RECORD COPY**

Alternative Site Audit Trip Report  
Bellefonte Nuclear Plant, Units 3 and 4 COL  
Tennessee Valley Authority

May 12 – May 15, 2008

**Overview**

Pacific Northwest National Laboratory (PNNL) staff convened with U.S. Nuclear Regulatory Commission (NRC) staff on the morning of May 13, 2008, at the hotel in Kingsport, Tennessee. The team met with Tennessee Valley Authority (TVA) and Enercon staff to participate in a tour of each alternative site. NRC staff expressed interest in touring the Clinch River Site in Tennessee as a potential additional site to be considered as an alternative site. All staff returned home on Thursday, May 15, 2008.

**Daily Summary**

The NRC and PNNL personnel attending the Bellefonte combined license (COL) alternative site audit are listed below, along with each individual's role in the site audit.

**NRC Team**

- Mallecia Hood                      Team Lead
- Tomeka Terry                      Backup and Principal Support
- Michael Masnik                      Aquatic Ecology

**PNNL Team**

- Bob Bryce                              Team Lead and Hydrology
- Becky Krieg                              Aquatic Ecology
- Katie Cort                              Socioeconomics, Environmental Justice, Land Use, Alternatives

Schedule of Activities

**Monday, May 12, 2008**

- Fly into Knoxville, TN
- Drive to Kingsport, TN

Tuesday, May 13, 2008

- Drive to Phipps Bend site
- Tour Phipps Bend site
- Drive to Clinch River site
- Tour Clinch River site

Wednesday, May 14, 2008

- Drive to Hartsville site
- Tour Hartsville site
- Drive to Counce, Tennessee

Thursday, May 15, 2008

- Drive to Yellow Creek site in Mississippi
- Tour Yellow Creek site
- Fly home from Nashville, TN or Huntsville, TN

Alternative Sites Summary

Phipps Bend, Tennessee

NRC and PNNL staff met with TVA and their contractor staff at the Tennessee Technology Center on the Phipps Bend Site on May 13, 2008. Tommy Olterman, responsible for economic development for TVA and Lynn Lawson, responsible for economic development of the local industrial park met with the team and presented an overview of the current status of the Phipps Bend Site. TVA sold much of the Phipps Bend Site to a local economic development commission owned by the City of Kingsport and Hawkins County. TVA retains ownership of the land until all of it is sold for economic development. The land was expected to be sold over a period of twenty years, however, business lots are not selling as rapidly as anticipated.

The total site area is comprised of approximately 1280 acres, of which TVA has retained approximately 100 acres for its own use as a transmission substation. Of the remaining 1180 acres, roughly 200 acres are occupied by businesses or industries and 450 acres are available as commercial lots (including some existing structures left over from the original Phipps Bend construction). Currently, about 530 acres of the site remain undeveloped, composed of forested and vegetated land, wetlands and floodplains. The site has relatively flat topography, making it attractive as an industrial park.

The site is currently occupied by over a dozen industries and the Tennessee Technology Center. Industries housed on the site include: Cooper Standard Automotive (pressure lines and fluid lines); Mundet, Inc. (cigarette paper); Boxworx (biodiesel); Techni-Glass; and Dalton Stamp (printing material). Approximately 1850 people are currently employed by the companies on the site. Roughly 60 percent of these employees live in the Kingsport area, while the remaining employees live in Surgoinsville, Rogersville, and areas beyond.

The Phipps Bend Site is connected to the Surgoinsville Municipal Water System and the sewer system is connected to the Church Hill Municipal Sewer System. These systems have excess capacity to accommodate the planned expansion to the industrial park. The Eastman Chemical Company, located upstream, uses a significant amount of water from the South Fork of the Holston River for cooling. However, consumptive losses do not appear to be significant enough to be of concern. There are currently no industries that are part of the Phipps Bend industrial park that use surface water from the Holston River for industrial processes. A rail spur services the Phipps Bend Site and Boxworx has plans to upgrade the rail spur to accommodate biodiesel production. The site is serviced by Highway 11W, which is in good condition with no apparent traffic congestion issues in the vicinity of the site.

Managed hunting has been permitted on the site for one week per year. The wetlands on the site have not been actively managed. Terrestrial species observed include a herd of deer and an indigo bunting (a bird).

After reviewing available information and visiting the site, the staff did not identify any factors that would preclude the Phipps Bend Site from further consideration as an alternative site.

#### Hartsville, Tennessee

Danny Luna from TVA provided an orientation to the Hartsville Site. The Hartsville Site is 1377 acres located off of Highway 25, east and slightly south of the town of Hartsville. The cooling tower from the original Hartsville nuclear plant construction is clearly visible from the highway. The site is partially located in Smith County (about one-third of the site) and partially located in Trousdale County. It was unclear whether there were any zoning or land-use requirements specific to these counties and related to site activities. The original Hartsville Nuclear Site was comprised of 1931 acres. In the year 2002, approximately 550 acres of the site were sold to the Four Lake Authority for regional economic development purposes. These 550 acres are now known as the Powercom Industrial Center and are located in the middle of the Hartsville Site. The 1377 acres that TVA retained on the site are comprised of partially developed land (including warehouses, cooling tower shell, and other unfinished structures), some roads, forested land, shrubs and grass, wetlands, ponds, and flood plains.

The 550 acres that are the Powercom Industrial Center are under development. Construction is currently ongoing for a privately funded maximum security prison that is designed to house 2000 prisoners (construction began in the year 2008) in the middle of the site. The prison will be operated by CCM, which has contracted with the State of Tennessee to house maximum security inmates for the State at a negotiated per bed fee. The prison is expected to employ 300 to 400 people. Another current tenant in the Industrial Center is General Springs Manufacturing. The barge slip is owned by Powercom, although Powercom provided TVA access to the barge slip as well.

In the year 2002, Louisiana Energy Services considered using the Hartsville Site to construct a uranium enrichment facility. These plans were met with some opposition in the region, but according to Bruce Yeager from TVA, there were no particular outstanding environmental concerns regarding the siting of an enrichment facility on the Hartsville Site. Opposition to the

facility was in regards to the enrichment process and the transportation of uranium. Eventually Louisiana Energy Services decided to construct the facility in New Mexico.

The Hartsville Site is serviced by Trousdale County Municipal Water and Sewer System. Highway 25 is in good condition with no apparent traffic congestion issues in the vicinity of the site. The team questioned the estimated 400 miles of transmission lines needed to service the Hartsville Site and TVA representatives agreed to provide feedback on the issue. TVA representatives also agreed to provide feedback on the land-use categories for the 1377 acres, land-use zoning in the area, and whether the state of Tennessee or the counties would have any development restrictions adjacent to a prison facility.

After reviewing available information and visiting the site, the team determined that the Hartsville Site is a currently viable site.

#### Yellow Creek, Mississippi

Kerry Milligan, Manager of the Tri-State Commerce Park provided an orientation and tour of the Yellow Creek Site. The original Yellow Creek Nuclear Site consisted of approximately 1150 acres in Tishomingo County, Mississippi. TVA currently owns 13 acres of this site. The remainder of the site has been transferred to NASA, which used the site for construction of solid rocket boosters. In the year 1996, NASA transferred the land to the State of Mississippi who subsequently transferred the land to Tishomingo County, which operates the site as the Tri-State Commerce Park. The Tri-State Commerce Park is comprised of the 1136 acres of the original Yellow Creek Site as well as an additional 2360 contiguous acres that it has purchased from the State of Mississippi. If TVA were to use this site to construct a nuclear plant, it would not only purchase back a portion of the former site but also additional Tri-State Commerce Park property to the north of the former site.

The Tri-State Commerce Park currently has about ten industrial tenants, including ATK (rocket segments), Miltek (defense contractor), Waterway Inc. (fiberglass), and Metal Exports (melting aluminum). Approximately 1168 acres of the Tri-State Commerce Park are developed, including the portion of the park that houses the remaining structures from the Yellow Creek Nuclear Plant construction. The Tri-State Commerce Park is actively pursuing additional tenants and is equipped to expand. There are approximately 200 to 300 employees on the site. These employees live in various locations throughout the region including Luka, Counce (Tennessee), Corinth, and places beyond Corinth. There is some new residential development taking place around Pickwick Lake, primarily around Counce, Tennessee.

The site includes an active railroad spur and has an onsite sewage treatment plant to handle wastewater from the site. The site also has a functional barge slip. The Yellow Creek Site is located just off Highway 25 north of Luka. Highway 25 is in good condition with excess capacity in the vicinity of the site. The site is located where Yellow Creek empties into Pickwick Reservoir on the Tennessee River. It is also located near the end of the Tennessee – Tombigbee Waterway (a canal that connects the Tennessee River to the Tombigbee River

which eventually empties into the Gulf of Mexico). The intake structure for the original Yellow Creek Power Station was built on Yellow Creek. It is unclear where the discharge was to be placed, either on Yellow Creek or across the peninsula on the Tennessee River portion of Pickwick Reservoir.

After reviewing available information and visiting the Yellow Creek Site, the staff did not identify any factors that would preclude the site from further consideration as an alternative site.

#### Murphy Hill, Alabama

The team visited the Murphy Hill Site during the Bellefonte environmental site audit on April 1, 2008. This site is a Greenfield Site approximately 20 miles downriver from the Bellefonte Nuclear Plant Site. This site is now one of TVA's conservation zones with limited access. The tour included the potential location of power plant facilities, an existing barge slip and a jetty that extends into Guntersville Reservoir in the vicinity of a potential water intake structure. TVA staff identified the location of a proposed Memphis, TN to Atlanta, GA freeway corridor that would be adjacent to the southern boundary of the Murphy Hill Site.

After reviewing available information and visiting the site, the staff did not identify any factors that would preclude the Murphy Hill Site from further consideration as an alternative site.

#### Clinch River, Tennessee

Mark Mcready of TVA provided an overview of the Clinch River Site and a guided tour of the site. The Clinch River Site is essentially a Greenfield Site. Although construction of a breeder reactor was initiated on the site, the only evidence that remains from the construction project is several acres of cleared land that are grown over with vegetation (grasses, shrubs, and small trees), an excavated pit (covered in vegetation), and one remaining concrete slab adjacent to the pit.

The Clinch River Site is just a few miles from Interstate 40 and can be accessed by either Highway 95 or 58 just off a minor road (Bear Creek Road), which currently services 5 or 6 businesses or industries. Highway 95 is in good condition. Although Bear Creek Road is narrow and winding, it also appears to be in good condition.

After reviewing available information and visiting the site, the staff did not identify any factors that would preclude the Clinch River Site from further consideration as an alternative site.

Table 1. Attendees at Bellefonte Combined License Application Alternative Site Audit

<b>NAME</b>	<b>AFFILIATION</b>
<b>Staff Participating in All Visits</b>	
Mallecia Hood	NRC
Michael Masnik	NRC
Tomeka Terry	NRC
Katherine Cort	PNNL
Rebekah Krieg	PNNL
Robert Bryce	PNNL
Bruce Yeager	TVA
James H. Eblen	TVA
Jim Chardos	TVA
John Baxter	TVA
Francine Beck	Enercon
Neil Haggerty	NuStart
<b>Additional Staff at Alternative Sites</b>	
<b>Phipps Bend</b>	
Lynn Lawson	Hawkins County/ City of Kingsport Joint Venture- Phipps Bend Industrial District
Rebecca Hayden	TVA
Tommy Olterman	TVA
<b>Clinch River</b>	
Mark Mcready	TVA
<b>Hartsville</b>	
Danny Luna	TVA
<b>Yellow Creek</b>	
Kerry Milligan	State of Mississippi/ Tri-State Commerce Park