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## SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

**BLUE RIDGE MOUNTAIN ELECTRIC MEMBERSHIP  
CORPORATION PROPOSED SUBSTATION**  
Chatuge Reservoir  
Towns County, Georgia

**PREPARED BY:**  
TENNESSEE VALLEY AUTHORITY

APRIL 2009

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## SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

### BLUE RIDGE MOUNTAIN ELECTRIC MEMBERSHIP CORPORATION PROPOSED SUBSTATION CHATUGE RESERVOIR TOWNS COUNTY, GEORGIA

TENNESSEE VALLEY AUTHORITY

APRIL 2009

#### **The Proposed Decision and Need**

In March 2009, the Tennessee Valley Authority (TVA) issued a final environmental assessment (FEA) relating to a request by Blue Ridge Mountain Electric Membership Corporation (BRMEMC) for TVA fee property and a permanent easement located within TVA Tract XCHR-12R (also known as Parcel 52) on Chatuge Reservoir in Towns County, Georgia (TVA 2009). BRMEMC is experiencing increased demands for electric power on its existing transmission line (TL) system. Without additional substation capacity, reliability of electric power in the cities of Hiawassee and Young Harris and the Towns County, Georgia, area will be increasingly at risk for service disruptions and possible physical impacts to other transformers.

Prior to submitting the land request to TVA, BRMEMC evaluated seven potential alternative substation locations and three alternative TL routes in the Hiawassee area. Additionally, BRMEMC worked with the Towns County Homeowners Association (TCHA) in cooperation with area government officials to evaluate two other possible sites identified by TCHA. These two additional potential substation sites are located along U.S. Highway 76 (US 76) approximately 0.2 mile north of Parcel 52 (Site 5). The nine alternative substation site locations and three TL routes were discussed in the March 2009 FEA (TVA 2009).

BRMEMC determined that Substation Sites 1-4, 6, and 7 and TL Routes 2 and 3 did not meet the needs of the project or would not be financially feasible. In the FEA, TVA indicated that the sites identified by TCHA were too small for a proposed substation or had other issues that made their use infeasible. Since the completion of the March 2009 FEA, TVA has learned that some of the site description details in the FEA are erroneous. TVA has prepared this supplemental environmental assessment (SEA) to correct errors regarding TCHA Site 2.

#### **Other Environmental Reviews and Documentation**

On March 11, 2009, TVA issued an FEA and finding of no significant impact (FONSI) for the proposal by BRMEMC (TVA 2009). These documents are incorporated by reference herein.

TVA is developing a *Mountain Reservoirs Land Management Plan* (Plan). In the Plan, TVA will identify the most suitable and appropriate use for each parcel of TVA-managed public land along nine mountain reservoirs: Apalachia, Blue Ridge, Chatuge, Fontana, Hiawassee, Nottely, Ocoee 1 (Parksville), Ocoee 2, and Ocoee 3. On August 6, 2008, TVA released a

draft environmental impact statement (EIS) for public comment on the anticipated effects of implementing the Plan (TVA 2008).

### **Public Involvement**

Several public comment periods associated with the proposed action have occurred. TVA accepted public comments during scoping for the draft Plan and EIS and the BRMEMC Substation FEA. Additionally, TVA released the draft Plan and EIS and the BRMEMC Substation draft environmental assessment (DEA) for public comment.

The March 2009 FEA contains responses to the substantive comments TVA received during scoping and the public review of the DEA. All public scoping comments pertaining to the BRMEMC proposal and TVA's responses are located in Attachment B of the FEA. The BRMEMC Substation DEA comments were very similar to comments received during the BRMEMC public scoping comment period. A transcribed version of these comments and TVA's responses thereto are in Attachment D of the FEA. TVA considered the comments on the draft Plan and EIS related to the substation proposal and determined that the issues were encompassed by similar comments received during EA scoping and the DEA comment period, for which responses are provided, or are addressed by analyses in the FEA.

During the numerous public comment periods, various petitions were submitted to TVA pertaining to the BRMEMC proposal and the draft Plan and EIS. Most of the petitions were either titled "Petition to Leave Parcel 52 in 'Recreational' Status" or "Mountain Reservoirs Land Management Plan – We urge TVA to protect, in their present state, Parcels #10, #77 and #52 on Chatuge Reservoir, and not grant development." TVA received 592 signatures on the various petitions in opposition to the BRMEMC proposal.

Lastly, BRMEMC initiated a public input process to inform stakeholders of the need to construct a new substation and upgrade TLs. The BRMEMC public input process began after TVA's public scoping comment period ended. TVA continued to receive and evaluate additional comments received as a result of the BRMEMC public input process. In the FEA, TVA concluded that no new issues were raised by the BRMEMC public input process.

On March 30, 2009, the president of TCHA contacted TVA and BRMEMC regarding the FEA and FONSI. The TCHA president indicated that TCHA had reviewed the FEA on the BRMEMC Substation proposal and had concerns regarding the accuracy of TVA's description of the amount of site preparation necessary for TCHA Site 2 to accommodate a substation. TCHA requested that TVA issue an amendment to the FEA correcting the misinformation. The SEA and FONSI serve to revise the TCHA Site 2 information in the March 2009 FEA. In response to these concerns, TVA determined that a correction to the FEA's description of TCHA Site 2 was warranted, and the SEA and FONSI serve to revise the TCHA Site 2 information in the March 2009 FEA.

### **Alternatives and Comparison**

The scope of this SEA is limited to revising the description and analysis of TCHA Site 2. Since completion of the FEA, additional site information acquired from both BRMEMC and TCHA has become available indicating an SEA is necessary.

In the SEA, as in the FEA, TVA examines the potential impacts of selling at public auction approximately 1.4 acres of property, of granting the successful bidder a permanent easement, of issuing Section 26a approval for fill, and of constructing and operating the resulting substation and new TL. In addition to the alternatives discussed above in connection with the BRMEMC siting process, the alternatives considered in this SEA are the No Action Alternative and the Action Alternative.

#### BRMEMC Proposed Sites

In the FEA, alternative substation sites and TL routes identified by BRMEMC were considered in the section titled *Substation Locations and Transmission Line Routes*. Prior to submitting the land request to TVA, BRMEMC reviewed several other potential substation locations and TL routes in the Hiwassee area (TVA 2009, Attachment F). BRMEMC completed a construction cost analysis for each alternate substation location. The cost analysis included the costs of the property, TL construction, and site preparation that consisted of grading, fence installation, and substation construction. Other evaluation criteria used by BRMEMC included engineering and construction feasibility, total length of the TL route, length of new and upgraded TL, and overall project costs.

In addition, TVA used the following criteria to further evaluate the alternative substation locations and TL routes: potential environmental effects; topography; land use/land cover; number of stream or reservoir TL crossings; and proximity to schools, residential areas, churches, and cemeteries.

Based on reviews of the aforementioned criteria of alternate substation sites and TL routes, BRMEMC determined that Substation Sites 1, 2, 3, 4, 6, and 7, and TL Routes 2 and 3 either did not meet the needs of the project or would not be financially feasible.

#### Towns County Homeowners Association Proposed Sites

Although several substation sites and routes were under consideration by BRMEMC, the TCHA presented BRMEMC with two additional sites to be taken into consideration. Subsequent to issuance of the DEA, BRMEMC worked with the TCHA in cooperation with area government officials to identify and evaluate these other possible sites.

In the *Preferred Site Identification* subsection of the FEA, two additional substation sites, TCHA Site 1 and TCHA Site 2, were considered (TVA 2009, Attachment G). The FEA concludes that because TCHA Site 1 is only 1.0 acre, it would be too small to construct the proposed substation and would not meet the needs of BRMEMC. TCHA Site 2 was also dismissed from consideration due to the extensive site preparation necessary. However, after the FEA and FONSI were issued, it was determined that the description of TCHA Site 2 was not completely accurate; therefore, information regarding TCHA Site 2 warrants correction. Specifically, the following sentence in the FEA misstates the size and elevations of TCHA Site 2:

“Extensive site preparation of TCHA Site 2 would be required to change the elevations of the two levels into a usable area large enough to accommodate substation construction.”

The FEA states that TCHA Site 2 is approximately 2 acres. TCHA Site 2 is more accurately described as a 1.7-acre portion of a larger 2.7-acre commercial tract (Attachments A, B, and C). The 2.7-acre tract does have substantial changes in elevation and is divided into an upper tier and a lower tier, but both levels would not have to be combined in order to

accommodate the proposed substation. Therefore, extensive site preparation of TCHA Site 2 would not be required to change the elevations of the two tiers into a usable area large enough to accommodate substation construction. TCHA Site 2 is located on the upper tier; the lower tier is not under consideration for the proposed substation site. TCHA Site 2 would be large enough to construct a substation.

With the exception of the significant elevation change delineating the upper tier from the lower tier, neither level has a substantial elevation change within its respective lot. In order to place a substation on TCHA Site 2, extensive grading would not need to occur. The elevation miscalculation in the FEA is noteworthy because additional grading translates into additional cost, and cost is one of the criteria BRMEMC considered when selecting the substation site and TL routes.

Based on current TCHA Site 2 information, site preparation costs would not be extensive. However, other additional costs that are largely correlated to the associated TL improvements would be associated with the selection of this site.

BRMEMC would need to acquire right-of-way across the lower tier to gain access to the upper tier. The existing TL right-of-way is located on the southbound lane of US 76 and is not on the side adjacent to TCHA Site 2. In order for the TL to enter TCHA Site 2, BRMEMC would need to engineer a 90-degree turn in the TL. The 90-degree turn would require the installation of additional down guys<sup>1</sup> (Attachment D). The down guys would be located outside the existing TL right-of-way. BRMEMC estimates that an additional 40-foot by 90-foot right-of-way (0.08 acre) would be required to accommodate the down guys. Furthermore, there would also be additional engineering costs to build the TL in and out of the site due to the elevation change between TCHA Site 2 and the lower tier.

In the FEA, site-specific cost analyses related to TCHA Site 2 were not provided to TVA; however, BRMEMC determined that TCHA Site 2 was not a financially feasible alternative location. Since the publication of the FEA in March 2009, BRMEMC contacted the owner of the commercial tract and requested a cost estimate to purchase the 1.7-acre TCHA Site 2. The property owner provided BRMEMC an estimate of \$570,000. In addition, the 0.08-acre tract of additional property needed for the 40-foot by 90-foot right-of-way associated with the 90-degree TL turn would cost \$595,000 (purchase price for entire approximate 0.74-acre tract). Additional right-of-way would also be needed for the TL to cross the lower tier adjacent to TCHA Site 2. Furthermore, there would also be additional engineering expense to build the TL in and out of the site due to the elevation change of TCHA Site 2. Because of the substantial costs associated with purchasing this site and the necessary rights-of-way, BRMEMC determined that TCHA Site 2 was not a financially feasible alternative location.

#### Preferred Site Identification

As described in the *Preferred Site Identification* subsection of the FEA, BRMEMC has selected Site 5 on TVA's Parcel 52 as the preferred substation site because the substation would be located near existing TL routes and BRMEMC's load center. BRMEMC estimated

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<sup>1</sup> A guy is a brace or cable fastened to the pole to strengthen it and keep it in position. Down guys are used whenever the wires tend to pull the pole out of its normal position, such as in a 90-degree angle turn, to counteract the unbalanced force imposed on the poles when there is a directional change in the transmission or distribution line.

the site preparation costs to be approximately \$65,000, and TVA has established the minimum bid for the 1.4-acre property at approximately \$177,257. Therefore, BRMEMC's overall costs for Site 5 would be a minimum of approximately \$242,257. In addition, Site 5 avoids the potential significant visual impacts associated with some of the other evaluated sites, and none of the other sites are clearly environmentally superior to Site 5.

BRMEMC chose TL Route 1 as the preferred TL route location because of the route length and overall cost of TL improvements. Approximately 4.3 miles of improvements would be necessary for TL Route 1, and the costs for these improvements were estimated at \$2.8 million. TL Route 1 would involve upgrading an existing TL except for the small part on the requested easement area, and the potential impacts would be reduced compared to constructing a new TL.

TVA has determined that the evaluation criteria used in BRMEMC's analyses of alternative site locations are adequate. They compare appropriate costs and identify environmental effects that vary among alternatives. The substation location and TL route alternatives chosen by BRMEMC appear to be reasonable from a cost-comparison perspective.

Additionally, a representative from BRMEMC attended TCHA's board meeting on April 9, 2009. At the meeting, BRMEMC explained to the board all of BRMEMC's research and conclusions considered in selecting the substation site and why TCHA Site 2 was not selected as the preferred substation site. Furthermore, BRMEMC explained that in order to construct a substation on TCHA Site 2, the following issues must be addressed:

- BRMEMC would need to acquire an additional 0.08 acre for right-of-way for down guys.
- BRMEMC would need to complete additional engineering for the change in elevations from the existing TL to the TCHA Site 2.
- BRMEMC would need to acquire TCHA Site 2.
- BRMEMC would need to request that the Georgia Department of Transportation grant a variance and allow access to US 76.

BRMEMC has selected TVA Parcel 52 as the better choice due to price and overall suitability. Once the facts were explained, TCHA agreed that BRMEMC has made the only decision possible. Furthermore, TCHA indicated that it is convinced that a reasonable effort was made to complete the evaluation of TCHA Site 2. TCHA no longer opposes the selection of Parcel 52 and supports BRMEMC's selection of Parcel 52 as the preferred substation site.

### **Preferred Alternative**

The preferred alternative specified in the FEA remains unchanged. In the FEA, TVA examined the potential impacts of selling at public auction approximately 1.4 acres of TVA property, of granting the successful bidder a permanent easement on approximately 0.2 acre of the property, of approval of a Section 26a permit, and of the resulting construction and operation of the proposed new substation and associated TL.

TVA's preferred alternative is the Action Alternative. This alternative best meets the purpose and need for BRMEMC's request to TVA, securing a site for a new substation at the best cost that can be tied into its distribution system with limited impacts.

## **Cumulative Impacts**

The cumulative impacts specified in the FEA remain unchanged. TVA has determined that there will be insignificant cumulative impacts associated with selling the requested land and granting a permanent easement and Section 26a approval.

## **Mitigation Measures**

The development commitments and the environmental commitments specified in the FEA remain unchanged. The commitments will be listed in the warranty deed, easement instrument, and/or Section 26a permit. Additionally, the environmental commitments would be entered into TVA's electronic database and tracking system used to record environmental reviews.

## **TVA Preparers**

Kelly R. Baxter, Preparer, NEPA Specialist, NEPA Compliance and Document Preparation  
Heather L. Montgomery, NEPA Specialist, NEPA Compliance and Document Preparation

## **References**

- Tennessee Valley Authority. 2008. *Mountain Reservoirs Land Management Plan, Chatuge, Hiwassee, Blue Ridge, Nottely, Ocoees 1, 2, 3, Apalachia, and Fontana Reservoirs, Georgia, North Carolina, and Tennessee Draft Environmental Impact Statement*. Knoxville, Tenn.: TVA, Office of Environment and Research, Environmental Services and Programs, NEPA Resources. Available at <http://www.tva.gov/environment/reports/mtnres/index.htm>.
- . 2009. *Tennessee Valley Authority Blue Ridge Mountain Electric Membership Corporation Proposed Substation Final Environmental Assessment and Finding of No Significant Impact*. Knoxville, Tenn.: TVA, Office of Environment and Research, Environmental Services and Programs, NEPA Resources. Available at [http://www.tva.gov/environment/reports/BRMEMC\\_Substation/index.htm](http://www.tva.gov/environment/reports/BRMEMC_Substation/index.htm).

## **Attachments**

- Attachment A – Exhibit Map of TCHA Sites 1 and 2
- Attachment B – Aerial Photo of TCHA Sites 1 and 2
- Attachment C – Tax Map with TCHA Site 2 Polygon
- Attachment D – Illustration of a Down Guy

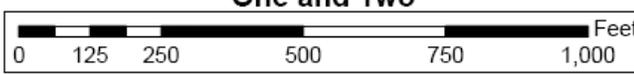
Attachment A



**Exhibit Map**  
**Chatuge Reservoir**  
**Towns County Homeowners**  
**Association (TCHA)**  
**Alternative Substation Sites:**  
**One and Two**



Transmission Lines  
Route #1-US78  
substations



Environmental Stewardship  
and Policy

Feb 25, 2009

**Attachment B**





Attachment D

