

**Appendix B-2 – TVA Responses to Comments Received on the
Rutherford-Williamson-Davidson Power Supply Improvement
Project**

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Appendix B-2 - Public Comments and Responses on the Draft Environmental Impact Statement for the Rutherford-Williamson-Davidson Power Supply Improvement Project in Rutherford, Williamson, and Maury Counties, Tennessee

Introduction

The draft environmental impact statement (DEIS) for the Rutherford-Williamson-Davidson Power Supply Improvement Project in Rutherford, Williamson, and Maury Counties, Tennessee, was distributed for comments in September 2007. Members of the public and interested agencies provided written or oral comments on the DEIS at a public meeting held on October 30, 2007, in Eagleville, Tennessee, or by surface or electronic mail during the comment period. Almost all comments were received by the end of the comment period on November 20, 2007.

TVA received a total of 20 sets of comments on this DEIS from 10 individuals, one organization, and eight interested agencies. Comments and requests for more specific information were received by phone, regular mail, and by e-mail, via a TVA site. The list of individuals and their organizational affiliation are listed below.

Names of persons providing comments and those attending the public meeting are listed alphabetically below (Table B-1 and B-2). The names of individuals making a particular comment are listed in parentheses following the comment.

Table B-1. List of Individuals Providing Comments or Requesting Additional Information

Commenters	Affiliation or Organization Represented	City, State
Lee A. Barclay, Ph.D.	U.S. Fish and Wildlife Service	Cookeville, Tenn.
Bob Biddix	Southeastern Cave Conservancy Inc.	Christiana, Tenn.
Brad Bishop	U.S. Army Corps of Engineers	Nashville, Tenn.
Matthew Chapman		Not Given
Debbie Creech		Rockvale, Tenn.
Geralyn Cross		Rockvale, Tenn.
Jeffrey Duncan	National Park Service	Chattanooga, Tenn.
Sam H. Edwards	Greater Nashville Regional Council	Nashville, Tenn.
Keith Filson	Southeastern Cave Conservancy Inc.	Murfreesboro, Tenn.
Karen Hopper		Rockvale, Tenn.
Kathleen J. Kuna	U.S. Army Corps of Engineers	Nashville, Tenn.
Regan McGahen	Tennessee Department of Environment and Conservation	Nashville, Tenn.
E. Patrick McIntyre, Jr.	Tennessee State Historic Preservation Officer	Nashville, Tenn.
Larry R. Mims		Not Given
Terry Moore		Not Given
Katie Morris		Not Given
Heinz J. Mueller	U.S. Environmental Protection Agency	Atlanta, Ga.
Bill Overton	Southeastern Cave Conservancy Inc.	Pegram, Tenn.
Kristin Pendergraft		Spring Hill, Tenn.

Commenters	Affiliation or Organization Represented	City, State
Robert M. Todd	Tennessee Wildlife Resources Agency	Nashville, Tenn.
Floyd White		Not Given
Bryan Young		College Grove, Tenn.

Table B-2. Attendees of the Public Meeting Held on October 30, 2007 in Eagleville, Tennessee

Attendees	Affiliation or Organization Represented	City, State
Lawrence Bailey		Rockvale, Tenn.
Steven Bailey		Rockvale, Tenn.
Bob Biddix	Southeastern Cave Conservancy Inc.	Christiana, Tenn.
Amy Brand		Franklin, Tenn.
Ernest Burgess		Murfreesboro, Tenn.
Alvin Burns		College Grove, Tenn.
Pam Burns		College Grove, Tenn.
Karen Carr		Murfreesboro, Tenn.
Danny Coffey		Eagleville, Tenn.
Robert Crawfield		Franklin, Tenn.
Debra Crawfield		Franklin, Tenn.
Corrinne Douglas		Eagleville, Tenn.
Leo G. Edwards		LaVergne, Tenn.
Virginia Edwards		LaVergne, Tenn.
Alfred Elmore		Eagleville, Tenn.
Keith Ensey		Christiana, Tenn.
John Giles		Rockvale, Tenn.
Ann Hall		Rockvale, Tenn.
Kent Hall		Rockvale, Tenn.
Mary C. Hayes		Rockvale, Tenn.
Mark Hoepker		Murfreesboro, Tenn.
Aaron Holmes	Williamson County Planning Commissioner	Franklin, Tenn.
Turner Hutchens	Daily News Journal	Murfreesboro, Tenn.
Keith Jenkins		Rockvale, Tenn.
Darryl Lewis		Christiana, Tenn.
Bill Overton	Southeastern Cave Conservancy Inc.	Pegram, Tenn.
Barbara Reavis		Rockvale, Tenn.
Joe Reavis		Rockvale, Tenn.
Lorie Sisk		Rockvale, Tenn.
John Thomason		College Grove, Tenn.
Ann Trimble		Rockvale, Tenn.
David Trimble		Rockvale, Tenn.
Bryan Young		College Grove, Tenn.

TVA has reviewed and considered all substantive comments. Responses to these comments appear either as changes in text or below. Comments and respective responses have been placed into categories and are presented in an order similar to the organization of the EIS. These comments were not paraphrased and are presented below exactly as they were received by TVA.

Category: Alternative Considerations

Comment #1: Per NEPA, the environmentally preferable alternative should be identified in the Final EIS. Based on EPA's review, the "upgrade" alternative should be a candidate for a detailed EIS. TVA may wish to re-consider the benefits and limitations of this alternative during FEIS development. (USEPA)

Response: TVA will identify the environmentally preferred alternative in the Record of Decision as is required by NEPA procedures. The Rutherford alternative was the only electrical solution that was considered viable. It is therefore TVA's preferred alternative. During the initial project evaluations, the Pinhook, Brentwood, and conservation solutions were all eliminated because they would not meet the current electrical need in the project area, which is the need to be met here. Reasons for this are described in Section 2.3. Among other reasons, neither the Pinhook nor the Brentwood alternatives could be completed in the necessary time frame because of constraints on the timing of taking lines out of service for upgrading. Likewise, the conservation solution would neither meet the in-service time frame nor the electrical load reduction needed to relieve the overloading. The potential impacts of the Pinhook and Brentwood solutions were considered during the alternative screening process using the best information available at that time.

Following is a list of environmental resources identified through this screening process along or in the vicinity of the 134 miles of transmission lines and at the substation site for the Pinhook solution. The listing for the Brentwood solution would be similar.

- *Approximately 192 watercourses*
- *One hundred seventy-four wetlands including 103 linear (lakes, streams, creeks, branches), 35 depressional features, and 36 other wetland areas (comprising 127 acres)*
- *Two globally rare wetland communities and 11 managed or ecologically significant sites*
- *Approximately 23 archaeological sites and an additional 27 areas that have a high potential for archaeological resources*
- *Of the 26 federally listed and 157 state-listed species listed as endangered, threatened, or of other conservation concern known from within the eight-county area, five federally and 86 state-listed species have a reasonable potential of occurring in or adjacent to the transmission line rights-of-way (ROWS).*

All of the transmission lines to be upgraded as part of the Pinhook and Brentwood solutions are existing and are on regularly maintained ROWs. Because existing access roads would generally be used and there would be little new ground disturbance, the potential impacts of upgrading the transmission lines would likely not affect some resources such as land use and environmental justice and would likely have short-term and insignificant impacts on other resources including most other affected resources such as water quality, vegetation, and wildlife. Impacts to endangered and threatened species and cultural resources could likely be avoided.

The expansion of the existing Pinhook Substation would not affect land use and, due to the nature of the site, would likely have an insignificant impact on most other resources. The construction of the new substation for the Brentwood solution could have impacts greater than those anticipated to result from construction of the Rutherford Substation due to its location in a densely populated urban-suburban area.

Comment #2: Review conservation incentives offered by TVA to include peak-load conservation incentives, green power options, home electricity generation with the option to sell excess power to TVA as well as references to any information available on the TVA website. (USEPA)

Response: TVA's current Energy Efficiency Initiatives can be found in Appendix C. TVA's Board of Directors approved a TVA Strategic Plan on May 31, 2007. As part of this, TVA is currently assessing the existing energy efficiency and demand response programs and exploring the potential of new programs. TVA has recently set as a goal reducing its electrical load by 1,200 MW by 2013 and is developing a strategy to achieve this goal. TVA has a strong track record in promoting and demonstrating the wise use of energy. TVA and power distributors have aggressively pursued such programs as part of their role as leaders in public power. As part of the Strategic Plan, TVA anticipates new programs to begin rolling out in late 2008 and early 2009.

Through its Green Power Switch Generation Partners Program, TVA purchases 100 percent of the renewable energy generated by consumer-installed solar (photovoltaic) and wind systems. The current buyback rate for residential and commercial customers is \$0.15 per kilowatt-hour (kWh) (roughly double the average retail rate); for demand-metered accounts, the rate is \$0.20 per kWh. As of January 24, 2008, there are 41 active installations with a combined generating capacity of 229.45 kilowatts (kW).

The interruptible pricing options for commercial and industrial customers that TVA offers are peak-load conservation incentives. Do-it-yourself home energy audits and energy saving tips and tools also are available at <http://www.energyright.com> for residential and small commercial customers. Technical assistance programs are available through local power distributors for large commercial and industrial customers.

Category: Consideration of Other Solutions

Comment #3: Section 2.3.4 Load Management and Conversation as a Solution. I believe this section is completely unsupported (see comments on Section 2.2.4). Other studies have suggested a load reduction of up to 33% by load management and conversation in Williamson County. (Reference Synapse Energy Economics, Inc. http://harpethriver.org/studies_energy_efficiency_synapse.html). (Bryan Young)

Response: The Synapse Study assumes voluntary implementation of 65 percent of all viable efficiency improvement to achieve this number and that this number is projected to be reached by 2020. As a result of population growth, the demand for electricity is expected to exceed the capacity of the three substations now serving the area by 2010, 10 years before the 2020 date in the Synapse Study. The Synapse Study supports the determination that load management and conservation are not viable solutions to the need here.

Comment #4: Section 2.4 Description of Alternatives. Due to the massive damage done to threatened and endangered species as detailed in Chapter 4, this section should include the other viable alternatives of expansion of the existing Pinhook substation, construction of the new Brentwood substation, and load management and conservation as alternatives to be seriously considered. All of these alternatives involve the reuse of existing Rights of Way and thus are significantly less environmentally, culturally, and socially damaging. (Bryan Young)

Response: The Pinhook, Brentwood, and conservation alternatives were evaluated, and all were eliminated as viable solutions for the current electrical need in the project area. Reasons for this are discussed in Section 2.3. Among other reasons, neither the Pinhook nor the Brentwood alternatives could be completed in the time frame needed to address the overloading of the three existing 500-kV substations and transmission lines in the project area. Likewise, the conservation alternative would neither meet the in-service time frame nor the electrical reduction needed to relieve the overloading. See the response for Comment #1.

Comment #5: Table 2-4 Comparisons of Alternatives Table. Given that no additional rights of way are required for the Pinhook, Brentwood, and conservation alternatives, the adverse affects detailed here on federally and state listed species, on Indian Mountain State Natural Area, the William Allison house, the limestone glades, the Harpeth River and the Smithson-McCall farm are completely unacceptable. The other alternatives should be pursued. (Bryan Young)

Response: See the response for Comments #1, #4, and #38.

Category: Effects to Surface Water, Groundwater, and Geology

Comment #6: While EPA agrees with the use of BMPs, the FEIS should more importantly discuss stream bank avoidance i.e., could streams and stream bank vegetation be spanned by transmission lines to avoid clearing these sensitive areas? If unavoidable, stream-bank clearing should be minimized and quickly revegetated for soil erosion control. (USEPA)

Response: The siting process TVA uses is formulated to avoid stream bank crossings. Section 2.5.3.3 discusses the constraint model used in identifying a transmission

line route. One of the criteria considered when evaluating routes is the total number of stream crossings with higher numbers of crossing providing a less favorable ranking. Thus, designing routes to avoid stream crossings leads to more favorable ranked routes. As described in Section 2.7.2.1, streamside management zones (SMZs) would be established and vegetation removal within SMZs would be restricted to trees tall enough, or with the potential to grow tall enough, to interfere with conductors. This section also references Appendices F through H, which describe the standard procedures implemented regarding the revegetation of SMZs. Additional details are included in Muncy 1999, referenced in many sections throughout the document. This document includes TVA's standard procedures for transmission line stream crossing including the procedures to minimize stream bank clearing and implementation of prompt stabilization and revegetation. Section 4.2.2 discusses that precautions are taken in the design, construction, and maintenance of transmission lines to minimize impacts, and we have added further clarification that streams are avoided to the extent possible during the route design phase.

Comment #7: Manual/Mechanical methods should replace herbicide use near waterways and karstic geologic features such as caves and sinkholes that may flood. (USEPA)

Response: Comment noted. During construction clearing, all riparian areas or SMZs use manual and appropriate mechanical equipment according to the Construction Guidelines Near Streams (Muncy 1999) and standard procedures as outlined in Appendices F through H (see Sections 2.7.2.1, 2.9, 4.2.2, and 4.3.2). Maintenance methods will be mechanical (by hand) in SMZs or may use USEPA-registered herbicides in accordance with label directions. Similar commitments are in place also for caves and sinkholes and are described in Sections 2.9, 4.1.2, and 4.5.2.5.

Comment #8: If 303(d) waterbodies should be crossed and impacted, FEIS should disclose 303(d) pollutants of concern and avoid exacerbation. (USEPA)

Response: This information is included in Section 3.2.

Comment #9: Some sections of the Snail Shell cave system have minimal overburden. Locate all known cave passages and span the passages rather than build on top of them. (Keith Filson)

Response: Comment noted. TVA has coordinated with the Southeastern Cave Conservancy Inc. (SCCI) to identify these areas and determined that the proposed transmission line would cross one passage of the Snail Shell Cave System. TVA would avoid placing a pole at this crossing, and if any poles must be placed within 500 feet of this crossing, drilling instead of blasting would be used.

Comment #10: Runoff may enter Roeland Pit TRU 49 (354749/863455) and Winrow Stick cave TRU 78 (354825/863442) which are proven insurgencies to the Snail Shell cave system. Substrata especially near Nana cave is thin. In these cases, long spanning and hand clearing would be necessary. (Bob Biddix)

Response: TVA has coordinated with Southeastern Cave Conservancy Inc. (SCCI) to identify these areas. Using the given coordinates, Roeland Pit is 0.2 mile from the nearest proposed transmission line, and Windrow Stick Cave is 0.5 mile away. Both of these distances are far enough away that the proposed actions, and any resulting runoff, would not impact these features. TVA recognizes the importance of Nanna Cave and its proximity to the proposed Christiana Transmission Line, and in order to protect this entrance has placed a 500-foot buffer around the cave entrance restricting the herbicide spraying and mechanical clearing of vegetation during all construction and maintenance activities within the buffer area (Sections 2.9 and 4.5.2.5). This mitigation measure also prohibits blasting for any poles that must be placed in the 500-foot buffer. TVA has worked with the SCCI to draft these mitigation measures.

Comment #11: Section 4.1.2.2 Groundwater-Maury Transmission Line. Paragraph 2 references Allisona Road, yet Allisona Road is not crossed by the Maury Transmission line. Perhaps this should be Arno Allisona Road. (Bryan Young)

Response: This error has been corrected in the final environmental impact statement (FEIS).

Comment #12: Section 2.9, Page 52, Groundwater Bullet 3. The Draft EIS states that no herbicides with groundwater protection warnings will be used within 500 feet of the entrance to Nanna Cave. The karstic nature of the area is noted throughout the Draft EIS, and any material applied to the ground infiltrates directly and very rapidly into the aquifer. Because the Nanna Cave water drains into Snail Shell Cave, we are concerned that any herbicide use may degrade the water quality and stream habitat of the protected species in Snail Shell. For vegetation maintenance and control, TVA should use only hand-clearing methods in this area with no chemical use allowed. (Bill Overton)

Response: Comment noted. TVA uses construction drawings called plan and profile sheets during construction and maintenance activities along transmission line ROWs. These plan and profile drawings show environmental features such as stream locations and sections of ROW where special protection measures apply. For the ROW in this karst area, the areas with commitments that are outlined in the FEIS in Sections 2.9, 4.1.2.4, 4.5.2.5, and 4.9.2.4 will be shown on TVA's plan and profile sheets for the appropriate transmission line sections.

Comment #13: In conversation with TVA Senior NEPA Specialist Anita Masters we were assured if any additional groundwater conduits were discovered due to herbicides being introduced into the groundwater and being discovered in the stream at Snail Shell Cave or Nanna Cave, maintenance techniques would be altered or changed to hand-clearing methods. This would include the entire recharge area for the Snail Shell and Nanna Caves and would be included in the final NEPA when released. (Bill Overton)

Response: This is correct. Should groundwater conduits be discovered within the TVA transmission line ROW that affect the stream at Snail Shell Cave or Nanna Cave, TVA would modify its construction and maintenance procedures to eliminate herbicide use in the conduit areas.

Category: Effects to Vegetation

Comment #14: To determine the magnitude of the project's deforestation, the FEIS should discuss if these areas are silvicultural (monocultural) or truly reforested/afforested areas with diverse forest species. (USEPA)

Response: Section 4.4.2.2 has been revised to address this issue.

Comment #15: Appendix I, Section 3.0, Pages 246-7, Paragraphs G, H, and I. The Draft EIS provides tables of herbicides used on TVA right-of-ways. We are unable to locate Material Safety Data Sheets (MSDS) or manufacturer's other information for the following herbicides in the lists: Garlon (Triclopyr/Liquid), Roundup (Glyphosate/Liquid), Sahara (Diuron/Imazapyr), and TGR (Flurprimidol). (Information is available for various species of Garlon and Roundup, but not those listed herein.) If these herbicides are part of TVA's vegetation control program, please provide us with the MSDS's for these products. (Bill Overton)

Response: This information has been provided to SCCI and can be obtained from TVA upon request.

Category: Effects to Terrestrial Wildlife

Comment #16: Section 4.5.2.1 Wildlife-Rutherford 500kv substation. In Section 3.5.1 the second paragraph notes that the nearest cave is 0.5 miles from the site. This section should include descriptions of the effects of blasting and other construction methods on these caves. (Bryan Young)

Response: The closest known cave from the substation site is 0.5 mile away, and the closest passage of the Snail Shell Cave System is 2.8 miles away. Blasting would be used to construct the Rutherford 500-kV Substation, but the expected level of disturbance would not disturb geologic features at these distances. The potential effects of the construction and operation of other project components on area caves are described elsewhere in Chapter 4 of the FEIS.

Comment #17: Section 4.5.2.2 Wildlife-Maury Transmission Line. The second paragraph indicates the discovery of a previously unreported cave. Further study and documentation needs to be included in this section to ensure the public that it is not a biologically or geologically significant formation. (Bryan Young)

Response: The Snail Shell Cave System, which is managed by the Southeastern Cave Conservancy Inc. is located in the project vicinity. The previously unreported cave discovered during field surveys along the proposed Maury Transmission Line route is described in Section 3.5.2. It is possible that geologically this cave could link to this system. TVA, however, does not map cave systems so the geological significance was not established. TVA's standard best management practices and mitigation measures summarized in Section 2.9 for protection of groundwater would be used and would provide adequate protection for this cave.

Category: Effects to Wetlands and Floodplains

Comment #18: The FEIS should discuss how ROW wetlands impacts would be addressed and any nationwide or individual permit requirements pursuant to Section 404 of the CWA. (USEPA)

Response: Impacts to wetlands is located in Section 4.7. Section 4.7 has been revised to clarify that wetlands would be spanned by the transmission lines. Permit requirements are described in Sections 1.7 and 4.7.

Comment #19: ROW design must also consider minimizing impacts to wetlands and other sensitive areas along ROW's consistent with CWA and EO 11990. (USEPA)

Response: As described in Section 2.5.2, existing data from within the study area is collected and then analyzed using a geographic information system, which allows a multitude of factors of the study area to be examined simultaneously (including environmental considerations such as wetlands). These data are used to develop and evaluate numerous options and scenarios to determine the sites that would best meet project needs, including avoiding or reducing potential environmental impacts. Therefore, wetland impacts would be minimized to the extent possible first by avoidance in the route planning phase and second by then spanning those wetlands that could not be avoided. ROW clearing would convert approximately 2 to 3 acres of forested wetlands to scrub-shrub wetlands, but basic wetland functions would be preserved.

Comment #20: Proposed work would require a Dept of the Army (DA) permit. TVA should provide details of all proposed impacts to wetlands and the waters of the U.S. along with a location map. (USACE)

Response: Comment noted. This information has been provided and a Nationwide 12 permit has been issued. See Section 1.7, Necessary Permits or Licenses. In addition, see Sections 4.2.2 and 4.3.2 for impacts to waters of the U.S. and Section 4.7.2 for details regarding impacts to wetlands. Descriptions of watercourses and protection level categories (as defined in Appendix H) can be found in Appendix J - Watercourse Crossings Along the Proposed Transmission Line Routes and the Proposed Rutherford Substation Site.

Comment #21: Avoid where possible impacts to wetlands and streams with the alignment and construction plan and to the extent possible impacts to floodplains and riparian vegetation. (USACE)

Response: Comment noted. See the response to Comment #19.

Comment #22: Compensatory mitigation and BMPs should be implemented to compensate for the loss of function and values due to the conversion of forested wetlands to emergent/scrub-shrub wetlands. (TWRA)

Response: The total area of forested wetlands that would be converted to emergent/scrub-shrub would be 2.19 acres that are classified as of moderate quality and 0.10 acre that is classified as of high quality. These wetland areas would be spanned by the transmission lines and would not be filled, thus resulting in minimal loss of function and value. TVA has determined that the impacts of the loss of function

and value would not be significant and that compensatory mitigation is unnecessary. Due to the nature of the proposed actions, USACE has issued a Nationwide 12 permit for the proposed project actions and did not require compensation.

Category: Effects to Managed Areas

Comment #23 Section 4.9.2 Managed Areas. A thorough treatment of the expected impact on the Snail Shell Cave system, one of the most biologically diverse cave systems in North America, should be included in this section. (Bryan Young)

Response: The Snail Shell Cave System diversity and impacts are discussed in Sections 3.5.4, 4.5.2.4, and 4.5.2.5. TVA is aware of the biological significance of the Snail Shell Cave System (see Section 3.5.4). TVA has worked with the Southeastern Cave Conservancy to better define the location of components of the cave system relative to the proposed facilities and to develop measures to avoid and minimize impacts to the cave system. Modifications were made to transmission line routes to avoid this cave system to the extent possible, and the routes as currently proposed, along with mitigation measures outlined in Sections 2.9, 4.5.2.4, and 4.5.2.5, ensure that this cave system would not be impacted.

Comment #24: Section 4.9.2.2 Managed Areas-Maury Transmission Line. Paragraph 1 mentions that the Harpeth River is part of the NRI and that the outstanding and publicly frequented sections of the river lie downstream to the northwest. This section should include additional detail into the impact of this project on these more critical downstream sections of the Harpeth River. (Bryan Young)

Response: Section 4.9.2.2 of the FEIS has been revised to better describe the potential project impacts to NRI-listed streams crossed by the transmission line routes.

Comment #25: Section 4.9.2.3 Managed Areas- Almadillo Transmission Line. This section indicates a section of the line will encroach upon the Indian Mountain State Natural Area. This encroachment on a protected area is unacceptable. This line should be rerouted. (Bryan Young)

Response: The potential impacts of the proposed action on the Indian Mountain State Natural Area and the associated Braun's rock-creep population and designated critical habitat are described in Sections 4.9.2.3 and 4.6. The proposed Almadillo Transmission Line has been designed to minimize impacts to the Indian Mountain area to the extent feasible, and TVA has determined that the impacts to the state natural area, Braun's rock-creep, and critical habitat would not be adverse. The U.S. Fish and Wildlife Service has concurred with TVA's determinations on the Braun's rock-creep and critical habitat (see Appendix B-1).

Category: Effects to Visual and Aesthetic Quality

Comment #26: Visual impacts can be lessened by siting new transmission lines to maximize screening by mature trees and rolling landscapes or collocated with other lines. FEIS should address what type of line poles will be used (esp 500-kV lines) and if metallic poles will be colored or left as metallic. (USEPA)

Response: Comment noted. Visual effects are addressed in Section 4.12. In the siting of ROWs, TVA tries to avoid locating along ridge lines or other high visibility areas. In addition, parts of the proposed ROW are collocated with existing transmission lines. Structure types for the 500-kV transmission line can be found in Section 2.7.2.4 and for 161-kV transmission lines in Section 2.7.2.5. Additional details regarding structure types have been included in Section 3.12.2. The structures would have the standard silver-gray metallic finish.

Comment #27: Have any surveys been done regarding public preference as to which color is considered to blend best with environmental landscapes and backgrounds? (USEPA)

Response: TVA's experience has been that there is no consensus as to pole color. Black and dark brown poles have been used in some instances, but the response from the public has not been conclusive. Our experience with laced-steel structures is that the relatively small profile of the structural members limits the effect of color on public perception. The structures for this project would have the standard silver-gray metallic finish.

Comment #28: What is the predominant landscape in the project area? (USEPA)

Response: The predominant landscape in the proposed project area cannot be generalized. It is composed of a mosaic of different landscapes, which are described for the different areas of the project in Section 3.12.

Comment #29: Section 3.12.2 Visual Resources-Maury Transmission Line. It should be properly noted in this section the route crosses U.S. 31, I-65, U.S.431, U.S.31A, and U.S.41A in that order. This section erroneously indicates that U.S 41 is crossed between U.S.31 and U.S.431. (Bryan Young)

Response: Comment noted. This has been corrected in the FEIS.

Comment #30: Section 4.12.2 Visual Resources-Maury Transmission Line. See comments on section. 3.12.2 (Bryan Young)

Response: See the response to Comment #29.

Category: Effects to Archaeological and Historic Resources

Comment #31: Section 4.13.2.2 Cultural Resources-Maury Transmission Line. The impacts on the William Allison House and the Smithson-McCall farm are completely unacceptable. This line should be rerouted to avoid impacts to these historic and culturally relevant areas. (Bryan Young)

Response: TVA executed a memorandum of agreement (MOA) with the Tennessee State Historic Preservation Officer (SHPO) and the property owners regarding these two historic properties. This document can be found in Appendix B-1. Mitigation measures to minimize or mitigate adverse effects to the William Allison house and the Smithson-McCall farm are described in Sections 2.9 and 4.13 and include the following.

- *In order to avoid adverse effects to archaeological site 40WM35, TVA would not place transmission line structures within the site or cause other ground disturbance*

of the site. If impacts to the site cannot be avoided in this manner, TVA would conduct further Phase II archaeological testing to identify locations for structure placement that would not adversely affect the site.

- *Archaeological sites 40RD280 and 40RD281 would be avoided by the rerouting of a section of the Christiana Transmission Line.*
- *TVA would minimize, to the extent practicable, the number and height of transmission line structures within the line-of-site of the William Allison house and the Smithson-McCall farm and use, where possible, vegetative screening measures at the landowners' request.*

Category: Environmental Justice Effects

Comment #32: DEIS states there is potential for EJ impacts especially in Maury and Williamson counties where project areas along the ROW have higher EJ concentrations than the county. FEIS should provide numeric comparison (using U.S. Census data) between project areas and larger encompassing areas (block groups, counties, etc). A final determination of any EJ impacts should be provided in the FEIS for potential EJ areas of concern and any offsets for impacts as appropriate. (USEPA)

Response: Comparisons to the relevant block groups are made in Section 3.15. Additional information and analysis has been included in Section 4.15. This analysis supports the conclusion that there would be no significant disproportionate impacts to disadvantaged populations.

Category: Health Effects

Comment #33: Recommend that ROW's be of adequate breadth to account for potential EMF impacts. (USEPA)

Response: For the planning of new transmission line ROWs, TVA's transmission line route selection team uses a constraint model that places a 300-foot-radius buffer around occupied buildings, except schools, for which a 1,200-foot buffer is used. The purpose of these buffers is to reduce potential land use conflicts with yard trees, outbuildings, and ancillary facilities, reduce potential visual impacts, and reduce exposure to the magnetic field produced by the transmission line. Application of these constraints typically requires trade-offs and balancing, and TVA can and does deviate from the constraints. These constraints are not applied to the use of existing transmission line ROWs. Property owners are free to build houses and other structures up to the edge of TVA's ROWs within these constraint distances. Although, no federal standards exist for maximum electric and magnetic field (EMF) strengths for transmission lines, two states (New York and Florida) do have such regulations. Florida's regulation is the more restrictive of the two with field levels being limited to 150 milligauss (mG) at the edge of the ROW for lines of 230-kV and less. The expected magnetic field strengths at the edge of both the proposed action alternative and the "upgrade" alternative would fall well within these standards. Additional discussion regarding EMF is included in Section 4.16.1.

Comment #34: Disclose valley state EMF ROW standards for minimum width and attenuation of EMF strengths at those distances from the centerline. (USEPA)

Response: Tennessee does not have standards addressing this issue. See the response to Comment #33.

Comment #35: FEIS should also verify that there are no industry or other guidelines or standards regarding minimum ROW widths for various line magnitudes (esp 500-kV) and would these standards be satisfied by existing ROWs associated with the “upgrade” alternative. (USEPA)

Response: There are NESC (National Electrical Safety Code) standards for minimum clearance distances between conductors and any grounded object (trees, buildings, vehicles, roads, railroads, etc.). These minimum clearances vary with voltage. TVA’s existing ROWs meet NESC standards and new ROW widths are selected to ensure that the conductors are always within the ROW and that the minimum clearances, including an additional safety margin, are maintained under all foreseeable conditions including high winds and icing.

Category: Environmental Effects (General)

Comment #36: Noise and air emissions should be briefly addressed in the FEIS for project construction and operation. Basic noise levels for construction equipment should be provided and can be located and cited from the literature. Length of construction time should be estimated to help define the magnitude of construction impacts. Any significant operational noise beyond the fenceline of the proposed substation should be disclosed as well as number of nearby residents. (USEPA)

Response: These issues are addressed in Section 4.16 and Appendix O - Noise During Transmission Line and Substation Construction and Operation. Additional specifications are included in Appendices E, F, and G.

Comment #37: Minimize construction air emissions by reducing idling practices, using cleaner fuels and emission retrofits. (USEPA)

Response: TVA makes every effort to reduce emissions from all sources and to comply with all existing environmental regulations. Currently, TVA as well as contractors employed by TVA follow recommended idling practices suggested by equipment manufacturers. These recommendations include limiting idling to 5-10 minutes during start up or shut down of the engine. Long periods of idling are not recommended because of wasted fuel and emissions as well as increased engine wear.

Much of the heavy equipment used by TVA and its contractors has an Engine Idle Management System (EIMS), which maximizes fuel efficiency and provides flexibility in managing idle speeds based on application requirements. TVA and its contractors will also comply with federal regulations on the use of low-sulfur diesel fuel that went into effect on June 1, 2007. These and additional specifications are included in Appendices E, F, and G.

Category: Miscellaneous Issues

Comment #38: Section 2.5.3.5 Identification of Preferred Transmission Routes. This section indicates in paragraph 4 that a database was created to capture public comments. This

database should be made available to the public via the internet and the uniform resource locator for accessing it should be referenced in this paragraph. (Bryan Young)

Response: A correction was made to this section. No actual database was formed that captured comments. During the open house meeting to involve the public as part of the planning process, TVA received comments (described in Section 2.5.3.5) in the form of information marked directly on maps that were presented at the open house, as well as by hard copy or electronic submissions by the public in regard to the proposed scope of the project. These comments are solicited before actual field review has been completed and are used by TVA to add to the knowledge regarding the project area before a preferred route has been chosen. Information gathered at this meeting influenced the evaluation of a 500-kV substation site by adding four additional sites to consider and later the final transmission line route proposed between the Christiana Substation and the chosen 500-kV substation site. This section of the FEIS captures all public comments.

Comment #39 Given the massive amount of environmental damage during construction and maintenance as evidenced by Chapter 4, sufficient detail should be included to assure the public that no other viable alternatives exist. (Bryan Young)

Response: Sections 1.1 and 2.2 detail the need and TVA's process of evaluating alternatives to meet the identified electrical need. Following the identification of the Rutherford Substation solution, the study area for this alternative was further evaluated to identify the best location for a new 500-kV substation given acreage needed, the constraints connecting to existing transmission lines, and a route utilizing as much existing transmission line ROW as possible (Section 2.5.1). For substation site locations, areas were evaluated as discussed in Sections 2.5.3.2, 2.6.1, and 2.6.2. For the areas where new ROW would be needed to connect to substations, combinations of various transmission line segments were evaluated as discussed in Sections 2.5.3.4 and 2.5.3.5. Based on the initial evaluation and public input, Section 2.6.2 details the rankings of these sites and routes, and Section 2.6.3 describes how TVA chose the preferred site and routes. Further environmental field evaluations were conducted (detailed in Chapter 3) to identify any issues at the substation site and along the routes. To the extent possible, TVA avoided impacting resources and where this was not feasible, Section 2.9 details the mitigation measures that could be taken during the construction, maintenance, and operation of the proposed project.

Comment #40: TVA has yet to release the necessary documentation to prove this project is necessary. This section should include such detailed information as load studies and forecasts used to identify the need for this project. They should include information on the rated capacity of each of the transformers and transmission lines TVA claims will be overloaded as well as historical load data and load forecasts from the previous 5 years for that same equipment. (Bryan Young)

Response: The need for the project is included in the Background, Section 1.1.

Comment #41: Section 2.2.4 This section references a study by Pacific Energy Associates, 2002, which is not provided. This study should be included as an appendix or released to

the public by the internet. The uniform resource locator or appendix should be referenced in this section. (Bryan Young)

Response: Pertinent information from this report has been provided in this EIS and the report is available upon request. At the time of the planning phases for this project, it was the most recent data available. See also the response to Comment #2.

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