

FACT SHEET

TRANSMISSION LINE PREFERRED ROUTE ALGOOD, TENNESSEE

Based on preliminary environmental review, engineering surveys, and public input, TVA has selected transmission line alternative route 1 as the preferred route for the new transmission line that will power Upper Cumberland EMC's upgraded Algood Substation. TVA will conduct field studies, as required under the National Environmental Policy Act (NEPA), on the preferred transmission line route.

Evaluation Criteria

TVA uses several tools to evaluate alternative routes for new transmission lines and to identify a preferred route:

- Information from property owners, open house participants, interest groups, elected officials, subject matter experts and others
- Topographic maps
- Aerial photography
- Geographic Information System (GIS) constraint maps
- Field reconnaissance surveys
- Professional experience

Ultimately, in making the final decision, TVA weighs and balances public input and all pertinent environmental, engineering, land use, and cultural considerations. The final decision may not always be the shortest or least expensive route, and though individual property owners may feel significantly affected, the objective of the process is to ensure that the project objectives are realized and that overall project impacts, as well as impacts to the community at large, are minimized.

Assessment of Alternative Routes

Eighteen route segments were identified for the Algood project. Seventeen alternative route corridors were developed from the segments as shown below. These alternative routes can also be seen on the map (see www.tva.com/power/projects/index.htm).

<u>Alternative Route</u>	<u>Segments</u>	<u>Alternative Routes</u>	<u>Segments</u>
1	1	14	2,3,5,7,11,14,18
2	2,3,5,6,8,13,16	15	2,3,5,7,11,15,18
3	2,4,5,6,8,13,16	16	2,4,5,7,11,14,18
4	2,3,5,6,8,13,17	17	2,4,5,7,11,15,18
5	2,4,5,6,8,13,17		
6	2,3,5,6,9,12,13,17		
7	2,3,5,6,9,12,13,16		
8	2,4,5,6,9,12,13,16		
9	2,4,5,6,9,12,13,17		
10	2,3,5,7,10,12,13,16		
11	2,3,5,7,10,12,13,17		
12	2,4,5,7,10,12,13,16		
13	2,4,5,7,10,12,13,17		

Each alternative offers different opportunities and constraints for power line construction. Opportunities include characteristics such as open land, areas less suitable for development and lack of sensitive environmental areas and land use conflicts. The assessment of the opportunities and constraints for these seventeen alternative routes are summarized in table 1 (see page 5) by engineering, environmental, land use, and cultural impacts.

Environmental

Environmental resources include archaeological sites, caves, cemeteries, historic areas, historic structures, or sensitive environmental areas.

From the initial environmental review, we found no threatened or endangered species along any of the alternative route corridors. The major environmental constraint for alternative routes 2-17 relate to wetlands -- Booger Swamp, in particular. Booger Swamp is managed cooperatively by the property owners and Tennessee Department of Environmental and Conservation. Booger Swamp may qualify as an *Exceptional Tennessee Water*. In general, these characteristics are streams with good water quality, important ecological values, valuable recreational uses, and outstanding scenery. These areas should be avoided if possible.

Engineering

After evaluating the alternative routes for the number of road crossings, railroad crossings, and/or existing transmission lines affected, no significant constraints were found along any of the alternative routes. The existence of underground utilities in line segment No. 5, which is common to alternative routes 2-17, makes these routes less desirable than alternative route 1. This is due to potential conflicts between pole locations and underground utilities, constraints to line location, and proximity of the line to nearby homes.

Land Use

Parks, schools, and dwellings are considered to be constraint features; however, none of the alternative routes are in close proximity to these features.

TVA looks at the total number of parcels affected, as well as the number of residential and commercial properties affected by the alternative routes. The results show these constraints to be more prevalent on route alternatives 2-17. By making adjustments to route 1, the number of affected parcels can be reduced from 46 to 32. Since alternative route 1 goes through a less developed area, the number of affected property owners has been reduced to approximately 25. This makes alternative route 1 more desirable than alternative routes 2-17.

Cultural

Cultural resources include features such as archaeological sites, cemeteries, historical sites, historic structures, churches, and recreational areas. At this point in the evaluation process TVA has not identified any known archeological or historical sites within any of the alternative route corridors. None of the alternative routes fall within the buffer zones for churches, cemeteries, or recreational areas.

Preferred Route

Table 2 below ranks the results of the top six alternative routes based on the features shown in table 1.

Table 2
Alternative Route Ranking

Alternative Route	Rankings by Criteria			
	Engineering	Environmental	Land Use	Cultural
1	2	1	2	1
11	1	4	3	3
12	3	4	1	3
14	2	2	5	2
15	2	3	5	2
16	4	2	4	2

Based on the information evaluated, alternative route 1 presents the greatest opportunities and fewest constraints of all the alternative routes considered. As a result, route 1 has been identified as TVA's preferred route. Even though route 1 is ranked second with respect to overall engineering and land use, it is still preferred as a result of the following route characteristics. Route 1:

- Is within the 50- to 300-foot buffer of fewer homes
- Crosses fewer land parcels
- Affects fewer property owners
- Avoids the environmentally sensitive Booger Swamp area
- Avoids impact to wetland areas
- Avoids conflicts with other utilities such as pipelines

Improvements to the Preferred Route

Alternative route 1 has been modified from its original path in an effort to further minimize overall project and community impacts. The modifications were based on comments received from property owners, public officials and subject matter experts, along with field surveys and available data sources. TVA's proposed route includes the following adjustments, which reduces the total number of property owners and parcels that are affected:

- adjusting route 1 away from an existing AM radio tower to minimize possible transmission interference
- adjusting route 1 to minimize impacts to new residential construction on Parragon Road
- adjusting route 1 to minimize impacts to developable residential parcels
- adjusting route 1 to minimize impacts to existing residential properties (reduced from 46 parcels to 32 parcels)

The presence of several caves and sinkholes was noted within the study area. Based on TVA experience with these types of features, they should not be a barrier to transmission line construction nor result in any environmental impacts. During construction, TVA would ensure that standard design and Best Management Practice (BMP) techniques are implemented, as well as any specific state or federal requirements.

BMP techniques consist of practices and procedures used during construction to minimize impacts to the environment. These measures would also minimize impacts to ground water. However, any effects on ground water should be insignificant and temporary.

Other Possible Adjustments

TVA will conduct a detailed environmental review of the proposed route. During the review, onsite environmental data will be collected and analyzed as part of the decision-making process. This may lead to further minor modifications of the route to minimize impacts.

The preferred route begins at the tap point which is on the South Cookeville-Monterey transmission line just north of interstate I-40 and east of Popular Grove road. The route runs north crossing Popular Grove road and continues along Mount Pleasant road for approximately 3/4 of mile before leaving the road where it then crosses Buck Mountain road approximately 3/4 of a mile west of the intersection of Buck Mountain, Mount Pleasant, and Parragon road. From there the route continues northeast crossing Parragon road before continuing north for approximately 3/4 of a mile. The route then turns northeast, crossing Parragon road and the White Plains Plantation & Golf Course subdivision before heading due east to the Algood Substation.

**Table 1
Assessment of Alternative Routes***

CRITERIA																								
Engineering									Environmental								Land Use						Cultural	
Alternative Routes	Length of Route - Miles	Road Crossings - roads/streets	Pipeline Parallel -Length	Transmission Line Underbuild	Transmission Line Parallel	Water Main Parallel-Length	Slope 20%-Acres	Slope 30%-Acres	Right of Way-Acres	Forest Acres	Floodplain Crossing-Acres	Stream Crossings	River Crossings	Wetland-Acres	Special Protected Areas-Acres	Natural Areas-Acres	Houses within 300 ft.	Houses within 200 ft.	Houses within 100 ft.	Houses within 50 ft.	Barns within ROW	Commercial within 300 ft.	Parcels Crossed	Caves within 300 ft.
1	4.9	11.0	0.0	0.0	0.0	0.0	10.7	9.5	59.6	26.0	1.6	2	1	0.0	0.0	0.5	11	7	1	1	0	0	46	1
2	3.8	21.0	0.4	0.78	0.37	0.3	5.3	0.8	46.3	14.1	0.0	0	0	4.8	2.6	2.6	49	36	5	2	0	0	59	1
3	3.8	21.0	0.4	0.99	0.55	0.4	5.3	0.8	45.8	14.1	0.0	0	0	6.7	2.6	2.6	45	32	5	2	0	0	59	1
4	3.9	19.0	0.7	0.78	0.37	0.3	5.3	0.8	46.9	15.0	0.0	0	0	6.7	2.6	2.6	49	36	5	2	0	5	59	1
5	3.8	19.0	0.4	0.99	0.55	0.4	5.3	0.8	46.4	15.0	0.0	0	0	6.7	2.6	2.6	46	32	5	2	0	5	59	1
6	3.9	17.0	0.7	0.92	0.37	0.3	4.9	1.2	47.1	16.3	0.0	1	0	7.6	5.4	5.4	48	31	4	2	0	5	55	1
7	3.8	19.0	0.4	0.92	0.37	0.3	5.0	1.2	46.5	15.4	0.0	1	0	7.6	5.4	5.4	47	31	4	2	0	0	55	1
8	3.8	19.0	0.4	1.13	0.55	0.4	5.0	1.2	45.9	15.3	0.0	1	0	9.4	5.4	5.4	44	27	4	2	0	0	55	1
9	3.8	17.0	0.7	1.13	0.55	0.4	4.9	1.2	46.5	16.3	0.0	1	0	9.4	5.4	5.4	43	27	4	2	0	5	55	1
10	3.8	14.0	0.7	0.27	0.37	0.3	4.9	1.2	46.4	16.1	0.0	1	0	8.3	5.4	5.4	30	19	0	0	0	0	44	1
11	3.9	12.0	0.3	0.27	0.37	0.3	4.8	1.2	47.0	17.1	0.0	1	0	8.3	5.4	5.4	30	19	0	0	0	5	44	1
12	3.8	14.0	0.5	0.48	0.55	0.4	4.9	1.2	45.9	16.1	0.0	1	0	10.2	5.4	5.4	24	15	0	0	0	0	44	1
13	3.8	12.0	0.5	0.48	0.55	0.4	4.8	1.2	46.4	17.1	0.0	1	0	10.2	5.4	5.4	26	15	0	0	0	5	44	1
14	4.1	11.0	0.3	0.27	0.37	0.3	0.2	0.1	49.9	9.1	0.0	1	0	8.4	5.4	5.4	32	19	0	0	0	1	53	0
15	4.2	11.0	0.3	0.27	0.37	0.3	0.4	0.3	50.3	10.9	0.0	1	0	8.4	5.4	5.4	36	22	0	0	0	0	53	0
16	4.1	11.0	0.5	0.48	0.55	0.4	0.2	0.1	49.4	9.1	0.0	1	0	10.2	5.4	5.4	28	15	0	0	0	1	53	0
17	4.1	11.0	0.5	0.48	0.55	0.4	0.4	0.3	49.7	10.9	0.0	1	0	10.2	5.4	5.4	32	18	0	0	0	0	53	0
Proposed Route (Preferred route with adjustments)																								
1	5.2	11.0	0.0	0.0	0.0	0.0	11.8	9.3	63.2	31.6	1.6	2	1	0.0	0.0	0.5	11	8	0	0	1	0	32	1

*This table reflects the major considerations which affected the final site rankings.