

CHAPTER 4

4. ENVIRONMENTAL CONSEQUENCES

4.1. Introduction

Chapter 4: Environmental Consequences presents the results of TVA's analyses of potential impacts on environmental and cultural resources. These analyses rely on information about existing conditions presented in Chapter 3: Affected Environment.

4.2. Effects of Alternative 2: Construct a Transmission Line from Calpine's Morgan Energy Center to General Motors Substation

4.2.1. Groundwater

Because of the extensive limestone aquifer in the project area, this project could result in adverse impacts to groundwater if appropriate protective measures are not implemented.

Contaminated and turbid water are problems that can plague the users of water from wells and springs in limestone aquifers. Sinkholes are sometimes used to dispose of solid and liquid wastes. Water that recharges limestone aquifers through waste-filled sinkholes can transport contaminants into the aquifer, and the contaminated water can spread rapidly through a system of interconnected solution openings until it reaches wells or springs. Solution features such as swallow holes in streambeds allow sediment-laden storm runoff to enter the aquifers directly. Contamination and turbidity problems can become worse during periods of prolonged, intense rainfall. If, however, appropriate BMPs were implemented as described in Muncy (1999), the impacts to groundwater would be insignificant.

4.2.2. Surface Water

Soil disturbances associated with access roads or other construction activities can potentially result in adverse water quality impacts. Erosion and sedimentation can clog small streams and threaten aquatic life. Removal of the tree canopy along stream crossings can result in increased water temperatures and adverse impacts to aquatic biota. Improper use of herbicides to control vegetation could result in runoff to streams and subsequent aquatic impacts.

Precautions would be included in the project design, construction, and maintenance to minimize these potential impacts. Permanent stream crossings would be made so as not to impede runoff patterns and the natural movement of aquatic fauna. Temporary stream crossings and other construction and maintenance activities would comply with appropriate state permit requirements and TVA requirements as described in Muncy (1999). Canopies in all SMZs would be left undisturbed unless there is no practicable alternative. Right-of-way maintenance would employ only USEPA-registered herbicides used in accordance with label directions.

4.2.3. Vegetation

Some disturbance of existing plant communities would occur in conjunction with the addition of new transmission lines. Approximately 41 acres, of which approximately 12 acres are forested, would be cleared for the new proposed right-of-way section. Another 11.5 acres would be cleared on existing right-of-way. No uncommon terrestrial communities or otherwise unusual vegetation would be affected. Potential impacts from the spread of invasive plant species would be minimized by replanting disturbed areas with native species or non-invasive, non-native species. Impacts to vegetation are expected to be insignificant.

4.2.4. Wildlife

The transmission line section proposed for installation within an existing right-of-way predominantly crosses heavily disturbed agricultural areas that offer limited wildlife habitat. These areas of farmland are occasionally interspersed with small patches of forest that provide higher quality habitat for terrestrial animals. Because this addition of the 161-kV transmission line would not require right-of-way expansion, no impacts to terrestrial animals along this section of the transmission line are expected.

The remaining approximate 4 miles proposed for new transmission line predominantly consist of open agricultural areas. Construction would require clearing approximately one-third mile strips through hardwood-dominated forests of Swan Creek and Pryor Branch. Each of these areas contains aquatic habitat, woody debris, and other microhabitats suitable for a variety of terrestrial animals. The portion of Pryor Branch transected by the proposed right-of-way lies within the boundaries of Wheeler Reservation. The area is used for small game and waterfowl hunting, and serves as important breeding and foraging habitat for a variety of other terrestrial species. The presence of a transmission line in this area is not expected to reduce the habitat suitability for these animals, nor is it expected to impede the movement of migrating waterfowl. The transmission line transects through Swan Creek, and its adjoining forested habitat occurs adjacent to an existing railroad track. Because clearing in this area would parallel the railroad right-of-way, impacts to terrestrial animal habitat would be minimized. Effects to terrestrial animals as a result of transmission line construction are therefore expected to be temporary and insignificant.

The amount of forest clearing required for the proposed project is minimal, and the forests immediately surrounding the project area were previously fragmented. Potential clearing for the project is therefore not expected to contribute significantly to the spread of exotic or invasive terrestrial animals. Similarly, adverse impacts to migratory bird habitats are not anticipated as a result of project implementation.

4.2.5. Aquatic Ecology

Watercourses in the project area considered to only convey surface water during storm events (i.e., wet-weather conveyances or ephemeral streams) would be protected by standard BMPs as identified in Muncy, 1999. These BMPs are designed to minimize erosion and subsequent sedimentation in streams.

The intermittent and perennial streams and their riparian habitats that occur within the project area would qualify for Standard Stream Protection (Category A) as designated by TVA Transmission Construction Guidelines Near Streams (Muncy, 1999). The Standard Stream Protection designation is based on the variety of species and habitats that exist in

intermittent and perennial streams and the state and Federal requirements to avoid harming them. Criteria for the Standard Stream Protection designation included evidence of aquatic life and/or the presence of a well-defined channel with rock or soil substrate. SMZ width is determined by category and slope of land adjacent to the stream (Muncy, 1999).

Streams identified for Standard Stream Protection along the proposed transmission line right-of-way and the SMZ boundaries as determined from the surveyed project centerline are noted in Table 4-1. Because of local topography, SMZs would extend 50 feet on either side of the proposed crossing (measured from the edge of the stream), but may extend further based on SMZ guidelines as outlined in Muncy (1999). Normally, structures are not located within designated SMZs. However, the location of structures within the designated SMZ of Pryor Branch (extent of water 779+76 – 788+73 in Table 4-1) would be considered acceptable. This is because the structures as planned would be located well away from the Pryor Branch channel and water levels (and therefore the edge of the SMZ) may fluctuate independent of Wheeler Reservoir elevation because of impoundment by beaver activity. Under these changing water level conditions, implementation of Standard Stream Protection at Pryor Branch would reduce impacts to the current wooded conditions.

Table 4-1. Approximate Locations and Levels of Protection for Watercourses Within the Right-of-Way of the Proposed Transmission Line

Crossing Number	Approximate Watercourse Location/Station Nos.	Watercourse Type*	Commitments	SMZ Widths (feet)
1	10+49	WWC	Standard BMPs	N/A**
2	45+77	WWC	Standard BMPs	N/A
3	104+29	WWC	Standard BMPs	N/A
4	124+25 – 128+24 (pond and wetland)	Pond	Category A SMZ	50
5	168+43	Wheeler Reservoir	Category A SMZ	75
6	261+34	Wheeler Reservoir	Category A SMZ	50
7	308+50	WWC	Standard BMPs	N/A
8	316+70	WWC	Standard BMPs	N/A
9	329+74	WWC	Standard BMPs	N/A
10	333+50	WWC	Standard BMPs	N/A
11	357+15	WWC	Standard BMPs	N/A
12	363+60 – 370+80	WWC in right-of-way	Standard BMPs	N/A
13	409+60	WWC	Standard BMPs	N/A
14	411+60	WWC	Standard BMPs	N/A
15	413+50	WWC	Standard BMPs	N/A

Crossing Number	Approximate Watercourse Location/Station Nos.	Watercourse Type*	Commitments	SMZ Widths (feet)
16	415+80	WWC	Standard BMPs	N/A
17	420+94	Island Creek	Category A SMZ	75
18	422+91	Island Creek	Category A SMZ	50
19	436+62 – 437+02	Perennial	Category A SMZ	50
20	463+16	WWC	Standard BMPs	N/A
21	478+18	WWC	Standard BMPs	N/A
22	502+80	WWC	Standard BMPs	N/A
23	504+20	WWC	Standard BMPs	N/A
24	507+20	WWC	Standard BMPs	N/A
25	507+62	WWC	Standard BMPs	N/A
26	509+20	Perennial	Category A SMZ	50
27	510+85	Perennial	Category A SMZ	50
28	513+40	WWC	Standard BMPs	N/A
29	536+80	WWC	Standard BMPs	N/A
30	555+29	Perennial	Category A SMZ	50
31	575+45	WWC	Standard BMPs	N/A
32	591+60	WWC	Standard BMPs	N/A
33	592+98	Perennial	Category A SMZ	50
34	597+20	WWC	Standard BMPs	N/A
35	641+32	WWC	Standard BMPs	N/A
36	645+75	WWC	Standard BMPs	N/A
37	654+80	Intermittent	Category A SMZ	50
38	669+70	Spring Creek	Category A SMZ	50
39	693+20	WWC	Standard BMPs	N/A
40	707+63 – 708+90	Swan Creek	Category A SMZ	50
41	721+61 – 722+47	Perennial	Category A SMZ	50
42	752+00 – 757+00	WWC in right-of-way	Standard BMPs	N/A
43	760+00 – 768+00	WWC in right-of-way	Standard BMPs	N/A
44	769+85	WWC	Standard BMPs	N/A
45	779+76 – 788+73	Pryor Branch	Category A SMZ	50
46	828+16	WWC	Standard BMPs	N/A

*WWC = wet-weather conveyance **N/A = not applicable

By following the appropriate stream protection requirements on streams and impounded waters identified in Table 4-1, the construction and maintenance of the proposed project would not result in significant impacts to aquatic life. Support structures are normally located as far as possible from surface waters to minimize water-related impacts. All construction and maintenance work, especially near streams, would be conducted following the requirements and recommendations presented in TVA's guidelines for environmental protection during transmission line construction and maintenance (Muncy, 1999).

Road access to transmission line and substation construction sites would be planned and constructed to minimize erosion and sedimentation effects. Use of existing access points on the existing right-of-way would reduce access-related impacts. If no practicable alternative exists, trees along streams within the transmission line corridor and danger trees adjacent to the corridor would be cut; however, their stumps would not be removed and understory vegetation would be disturbed as little as possible. These initial clearing/felling activities (including danger trees) within SMZ areas along streams would be accomplished by using either hand-held equipment or other appropriate clearing equipment (e.g., feller-buncher), which would result in minimal soil disturbance and damage to low-lying vegetation. During transmission line maintenance activities, trees and other vegetation within the SMZ would be controlled with backpack-applied, spot-use herbicide to remove tree seedlings and other regrowth. Maintenance activities along streams would be by mechanical cutting or by selective use of USEPA-registered herbicides. Permanent and temporary stream crossings would comply with appropriate Federal and state permitting requirements as well as any applicable designations and BMPs. Where herbicides are used, these chemicals would be applied following USEPA label restrictions and TVA BMPs.

4.2.6. *Endangered and Threatened Species*

4.2.6.1. Plants

No federally or state-listed plant species are known to occur in the project area. Therefore, no impacts to such plant species are expected to result from the construction and operation of the proposed transmission line.

4.2.6.2. Terrestrial Animals

The proposed project area does not meet the specialized habitat requirements for most of the species listed in Table 3-3. If red milk snakes occur along the proposed transmission line corridor, construction may temporarily displace them; however, no significant impacts to their populations are anticipated. No impacts to any federally or any other state-listed terrestrial animal are expected to result from the construction and operation of the proposed transmission line.

Based on current records and recent field surveys, right-of-way maintenance activities along the proposed route are not expected to affect federally or state-listed terrestrial animals, caves, or heron colonies.

4.2.6.3. Aquatic Animals

One federally listed and three state-listed aquatic animal species are known from streams that could potentially be impacted by construction, operation, and maintenance activities on the proposed transmission line. Suitable habitat for these species is not present in the

project area except in the main channel of the Tennessee River (Wheeler Reservoir). The proposed transmission line segment crossing the Tennessee River, however, would parallel an existing transmission line and would require no new right-of-way. All construction and maintenance activities on this proposed transmission line would be conducted in accordance with standard BMPs and Standard Stream Protection (Muncy, 1999). No impacts to populations of the state-listed pink papershell mussel or any other protected aquatic animal species or their habitats in the Tennessee River are anticipated as a result of construction, operation, or maintenance of the proposed transmission line.

No suitable habitat for the federally listed slender campeloma or state-listed spring pygmy sunfish and *Ameletus* darter is present in Round Island Creek, Pryor Branch, or any other streams crossed by the proposed transmission line. No impact to these species or their required habitats is expected as a result of construction or maintenance of this transmission line. Regardless, all perennial crossings on this route would be designated Standard Stream Protection (Category A) as outlined in Muncy (1999).

4.2.7. Natural Areas

Activities related to the proposed transmission line include construction and maintenance. While construction would occur once, the transmission line maintenance operation would be an ongoing action for the duration of the transmission line and possibly beyond.

The proposed transmission line would utilize existing right-of-way that is adjacent to Mallard-Fox Creek WMA. Construction and maintenance of the transmission line would not impact this area, especially because access is limited. Right-of-way maintenance and reclearing would follow recommendations protecting the wetland in the right-of-way that connects through the WMA, avoiding impacts related to those activities.

The transmission line would also require new right-of-way that crosses Pryor Branch and Swan Creek WMA. The ADCNR's management objectives for small game and waterfowl would not be affected by the construction and maintenance operation of the transmission line and may actually promote diversity by creating new open-water habitat (S. Bryant, ADCNR, personal communication, July 2003). Right-of-way maintenance and reclearing would be done in cooperation with ADCNR.

Pryor Branch TVA HPA is 1 mile upstream of the proposed right-of-way crossing on Pryor Branch. The construction, operation, and maintenance would not impact this area because the distance is sufficient.

Wheeler National Wildlife Refuge is upstream of the proposed project area and at a sufficient distance that this area and its resources would not be impacted by project activities. Streams listed on the National Rivers Inventory are also at an ample distance from the proposed project area. Therefore, with these considerations, no significant effects to Natural Areas are anticipated as a result of the construction and maintenance operation of the proposed transmission line.

4.2.8. Wetlands

The proposed transmission line would cross 15 separate wetland areas identified as potential Federal jurisdictional wetlands and one non-jurisdictional wetland (W3) with a total of about 16.5 acres within the proposed project area. Of this area, approximately 4.6 acres (W4 and W5) are located in new right-of way. The remaining area occurs in existing right-

of-way that has not had the entire width maintained in TVA's standard maintenance program.

Impacts to the emergent wetlands (W1, W8, W9), emergent/scrub-shrub wetlands (W2, W3, W12), emergent wetland portions of W4, W5, W7, W12, W14, and W15, forested wetland W10, and the forested wetland portion of W4 are expected to be minor and insignificant with implementation of BMPs (Muncy, 1999), TVA Environmental Quality Specifications, minimization of vehicle or equipment entry into the wetlands, and compliance with Federal and state permits.

Potential impacts by converting Wetland W10 were determined to be insignificant because of the small size of the area of impact (approximately 0.01 acre), most of which is the open water of a stream backwater channel. Potential impacts of forested wetland conversion in Wetland W4 in the Pryor Branch bottomland were determined to be insignificant because of the past conversion of the forested wetland bottomland (as indicated by the National Wetland Inventory) to emergent wetland and open water as a result of beaver impoundment. This has resulted in the death of most of the bottomland trees, leaving a narrow margin (0.3 acre) of wetland trees on the edge of the impoundment. This area and the trees are vulnerable to mortality with impoundment increases and to drying up and conversion to upland if the impoundment is drained.

The proposed transmission line would result in new and continued incremental erosion of the forested wetland edge and would thereby contribute to the cumulative loss of forested wetlands.

The potential impacts of the incremental erosion of the forested wetland edge include:

- A reduction in available forest wildlife species habitat.
- A reduction in the width and subsequent ecological functions of wildlife corridors.
- The spread of invasive exotic species further into the remaining forested wetland and floodplain areas (their presence in periodically flooded areas increases their ability to spread into new areas downstream).
- Increased access for motorized vehicles.
- Decreased water quality functions.
- Potential permanent loss or degradation of the wetland if the landowner subsequently expands agricultural use into the cleared area.

The individual, local impacts resulting from the proposed project's conversion of an estimated 6.24 acres of forested wetlands (in W5, W6, W7, W13, W14, W15, and W16) to scrub/shrub wetlands are expected to contribute to the cumulative impacts resulting from the loss of forested wetlands habitat and functions in the southeastern U.S. It would also add to the cumulative losses resulting from TVA activities in the TVA Power Service Area and receiving watersheds. The forested portion of Wetland W5 would be cleared for the proposed new right-of-way. The remainder of the forested wetland clearing would consist of clearing a 70- to 100-foot-wide area of existing right-of-way that has never been cleared and is adjacent to the cleared portion of the right-of-way.

While TVA complies with and takes action consistent with requirements to protect wetlands, and has been successful in avoiding and minimizing wetland impacts, some clearing and conversion of forested wetlands is unavoidable, especially for the expansion of the transmission system. Although the most recent new transmission line construction projects have resulted in a small acreage of unmitigated forested wetland conversion (less than 3.0 acres in fiscal year 2003), these projects will add to the potentially thousands of acres of cumulative forested wetland loss and conversion that has resulted from reservoir impoundment and past transmission line right-of-way construction.

Not all forested wetlands perform all functions at the same level. Many factors taken together (i.e., hydrologic regime, watershed location, habitat quality) are important in determining the functional level and relative ecological and social value of a forested wetland. Functional losses in individual areas may not be significant when viewed as a separate and single event; however, cumulatively, these events could result in a Finding of Significant Impact for seemingly small individual areas of loss or conversion.

For the proposed project, the conversion of forested wetlands would incrementally contribute to the cumulative impacts to forested wetlands in the region, but it is not expected to be considered a significant loss. With the implementation of BMPs (Muncy, 1999), TVA Environmental Quality Specifications, and minimizing entry of vehicles or equipment into the wetlands, these individual and cumulative impacts are expected to be insignificant. A Nationwide Permit for the proposed project was issued by the USACE on August 12, 2003. This permit did not identify any significant wetland issues associated with this project's proposal.

4.2.9. Floodplains

The proposed right-of-way is located within the 100-year floodplains of the Tennessee River and several other streams. Under EO 11988, an overhead transmission line and related support structures are considered to be a repetitive action in the 100-year floodplain. The construction of the support structures for the transmission line would not be expected to result in any increase in flood hazard as a result of either increased flood elevations or changes in flow-carrying capacity of the streams. To minimize adverse impacts on natural and beneficial floodplain values, the right-of-way would be revegetated where natural vegetation is removed and the removal of unique vegetation would be avoided. BMPs would be used during construction activities. The TVA subclass review criteria for transmission line location in floodplains would be followed to ensure floodplain impacts would be minimized.

4.2.10. Navigation

The recommended minimum vertical clearances on navigable waters for Wheeler Reservoir are 81 feet above the normal summer pool elevation 556 or 71 feet above the 100-year flood elevation 557.3, whichever provides the greater clearance. Provided the proposed new transmission line meets the minimum requirements for vertical clearances on mainstream navigable waters, no impacts would occur to the Navigation Program.

4.2.11. Recreation

Any impacts to public recreation resources, facilities, and activities are anticipated to be temporary and insignificant. Cumulative effects of the proposed action are also anticipated to be insignificant.

4.2.12. Visual Resources

Visual consequences are examined in terms of visual changes between the existing landscape and proposed actions, sensitivity of viewing points available to the general public, their viewing distances, and visibility of proposed changes. Scenic integrity indicates the degree of intactness or wholeness of the landscape character. These measures help identify changes in visual character based on commonly held perceptions of landscape beauty and the aesthetic sense of place. The foreground, middleground, and background viewing distances were previously described in the Affected Environment Section.

Visual/Aesthetic impacts from the construction, operation, and maintenance of the proposed 161-kV transmission line would be insignificant. Additional poles and new locations would increase the number of adversely contrasting elements seen in the landscape. These incremental changes would contribute to reduced visual coherence and harmony. However, these changes are not individually significant.

Employees in the mostly industrial area west of Finley Island Road would have foreground views of the new transmission line as it leaves the Morgan Energy Center Switching Station. The new poles and transmission lines would be visually similar to existing industrial structures seen in the landscape now. As the proposed transmission line crosses the Tennessee River on the vacant side of the existing and modified transmission towers, recreation users along the river, Mallard Creek WMA, and Round Island Recreation Area would perceive little change in the vertical structures that dominate the landscape now. There would be an increase in discordant contrast during the construction period due to an increase in personnel and equipment along the existing route on the Tennessee River. However, this would be temporary.

North of the Tennessee River, motorists along Cow Ford Road, a few area residents, and recreation users within the Swan Creek WMA would have foreground views of the proposed transmission line, which would have little discernible contrast with transmission lines and structures currently seen in the area. Turning southeast, the transmission line route would be in the foreground of a few area residents and would pass over Round Island Creek, Vanzille Lane, Lindsay Road, Ripley Road, and Lucas Road before turning south parallel with the Louisville and Nashville Railroad. Motorists along these routes would have views of the transmission line that are similar to transmission lines and structures currently seen in the landscape.

Following the right-of-way of the Louisville and Nashville Railroad, the transmission line would cross Ingram Road. Traffic is light in this area and there are few homes. Farther south, the new transmission line and associated right-of-way would cross Swan Creek. Recreation users along this tailwater section would have brief foreground views of the transmission line and towers, mainly between structures. The transmission line would continue through open, relatively flat countryside and cross Harris Station Road farther south and parallel Sandy Road. Entering the GM Substation, the proposed transmission line and towers would be visually similar to other transmission line structures currently seen in the immediate area by local residents and workers.

Operation, construction, and post-construction maintenance activities such as right-of-way clearing and structure and transmission line maintenance for the proposed transmission line would be visually insignificant. There may be some minor visual discord during the construction and subsequent post-construction maintenance period due to an increase in

personnel and equipment and the use of the construction assembly areas. These minor visual obtrusions would be temporary until the existing right-of-way, proposed 100-foot right-of-way, and laydown areas have been restored through the use of TVA standard BMPs (Muncy, 1999). Therefore, no visual impacts are anticipated as a result of the proposed project.

4.2.13. Cultural Resources

A historic properties survey of the proposed project area identified one archaeological site (1LI568) and three historic structures (HS-5, HS-6, HS-7) eligible for listing on the NRHP. TVA submitted these findings to the Alabama State Historic Preservation Officer (SHPO) on July 9, 2003. The three eligible historic structures would not be adversely affected. The proposed project could adversely affect the eligible archaeological site; in order to minimize this adverse effect, TVA would take certain mitigation measures as outlined in Section 2.6, Summary of TVA Commitments and Proposed Mitigation Measures, and in a Memorandum of Agreement executed between TVA and the Alabama SHPO (Appendix I). These measures would mitigate the impacts of the proposed action on cultural resources to a level of insignificance under the National Environmental Policy Act.

4.3. Post Construction Impacts

4.3.1. Electric and Magnetic Fields

TVA recognizes there is public concern about whether any adverse health effects are caused by electric and magnetic fields (EMF) that result from generation, transmission, distribution, and use of electricity. Many scientific research efforts and other studies examining the potential health and other effects of EMF have been and are being done. TVA is aware of, and ensures that it stays aware of, published research and study results and directly supports some of the research and study efforts.

Studies, interpretations, and research to date are far from conclusive about potential associations between EMF and possible health impacts. A few studies have been interpreted as suggesting a weak statistical relationship between EMF and some rare forms of cancers. During the summer of 2001, the International Association for Research on Cancer (Association) reviewed available epidemiological studies and concluded that childhood leukemia appears to be associated with magnetic fields but that there was not a cause-and-effect relationship. It was concluded that the risk is small but may in some circumstances of higher exposure result in one type of childhood leukemia. The Association also concluded that electric fields do not have an association with cancer.

However, equal or greater numbers of similar studies show no association or cannot reproduce data interpreted as demonstrating an association. No laboratory research has found cause and effect health impacts from EMF and certainly none that are adverse. Neither has any concept of how these fields could cause health effects achieved scientific consensus.

There is also no agreement in the scientific or EMF-research community as to what if any electric or magnetic field parameters might be associated with potential health effects. There are no scientifically or medically defined safe or unsafe field strengths, although state regulatory bodies in Florida and New York have established edge of right-of-way magnetic field strength limits for 230-kV and larger power transmission lines.

TVA has analyzed and continues to analyze the fields associated with its typical line designs using the best available models and has measured actual fields for a large number of locations along its transmission line easements. Both model data and measurements show that the field strengths for TVA transmission lines are well within Florida and New York limits. Based on such models, expected field strengths for the proposed lines discussed in this document would also be within those existing state guidelines.

TVA's standard location practice has the effect of minimizing continuous public exposures to transmission line EMF. The transmission line route selection team uses a constraint model that places a 300-foot radius buffer around occupied buildings, except schools, for which a 1200-foot buffer is used. The purpose of these buffers is to reduce potential land use conflicts with yard trees, outbuildings, and ancillary facilities and potential visual impacts as well as exposures to EMF. Though not absolute location constraints, these buffers weigh heavily in location decisions, influencing selection of route options and alignments. Because EMF diminishes quickly with distance from the conductors, the routing of transmission lines using constraint buffers effectively reduces potential continuous public exposure to EMF. Crossing under lines or otherwise being near them for short periods may increase overall EMF exposure but only minutely.

4.3.2. Other Impacts

No significant impacts are expected to result from the relatively short-term activities of construction, such as noise, solid waste, etc. Appendices II and III contain procedures for dealing with these issues.

4.4. Irreversible and Irretrievable Commitment of Resources

The materials used for construction of the proposed facilities would be committed for the life of the facilities. Some materials, such as ceramic insulators and concrete foundations, may be irrevocably committed, but the metals used in equipment, conductors, and supporting steel structures could be recycled. The useful life of steel pole transmission structures is expected to be at least 60 years.

The rights-of-way used for the transmission lines would not be irreversibly committed and could be returned to other uses upon retirement of the line. In the interim, compatible uses of the right-of-way could continue.

Forest products and related wildlife that might have grown on the presently forested portions of the right-of-way would be lost for the life of the project. No locally or regionally significant lost forest or agricultural production would be expected.

4.5. Unavoidable Adverse Effects

As previously stated, clearing for this transmission line would result in the removal of less than 10 acres of forest. After completion of the transmission line, trees would not be permitted to grow within the right-of-way or to a determined height adjacent to the right-of-way that would endanger the transmission line.

Clearing and construction would result in the disruption of some wildlife, but no permanent habitat changes would occur except in the wooded areas previously described.

Any burning of cleared material would result in some, short-term air pollution.

Clearing, tree removal, and excavation for pole erection would result in a small amount of localized siltation.

Transmission line visibility would be minimized through the location and use of dark-colored structures; however, there would be some degree of visual effect on the landscape in the project area.

4.6. Relationship Between Local Short-Term Uses of the Environment and Long-Term Productivity

The construction and operation of the proposed transmission line would provide an interconnection to Calpine's Morgan Energy Center. This would be accomplished by a localized shift of a small amount of land to use for electric power transmission. If, during the useful life of the transmission line, it is no longer needed or technology renders it obsolete, it can be removed with relatively little difficulty. The land encumbered by the right-of-way could be returned to its previous use or used for other purposes.

The principal change in short-term use of the right-of-way would be the exclusion of trees and permanent structures. The amount of forest being lost is small, less than 10 acres within the right-of-way area, and areas removed from production are dispersed along the length of the line. The right-of-way cannot support building construction for the life of the project, but the social and economic benefits of the project should outweigh this small loss.