

## **CHAPTER 1.0 DESCRIPTION OF THE PROPOSED ACTION AND PURPOSE AND NEED**

### **1.1 INTRODUCTION**

On February 5, 2004, Ameren Energy Generating Company (applicant, or AEGC), a wholly owned subsidiary of Ameren Corporation (Ameren), filed with the Surface Transportation Board (Board) a petition for exemption under 49 U.S.C. 10502 from the prior approval requirements of 49 U.S.C. 10901 for AEGC to construct and operate one of two rail lines near Walshville, Illinois. The proposed rail line would connect Ameren's Coffeen Power Plant near Coffeen, Illinois, with the Union Pacific Railroad Company (UP) and The BNSF Railway (BNSF).<sup>4</sup> The Board's Section of Environmental Analysis (SEA) has prepared this Environmental Assessment (EA) in response to AEGC's petition, which was designated as Finance Docket No. 34435.

### **1.2 BOARD'S OBLIGATIONS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT**

In response to AEGC's petition for exemption, the Board instituted a proceeding under 49 U.S.C. 10502(b) on May 5, 2004. Review of the environmental impacts of the proposed action is an integral part of the Board's consideration of this matter. Pursuant to the National Environmental Policy Act (NEPA) and the Board's environmental rules, SEA has prepared this EA to evaluate the potential environmental impacts of the proposed project.

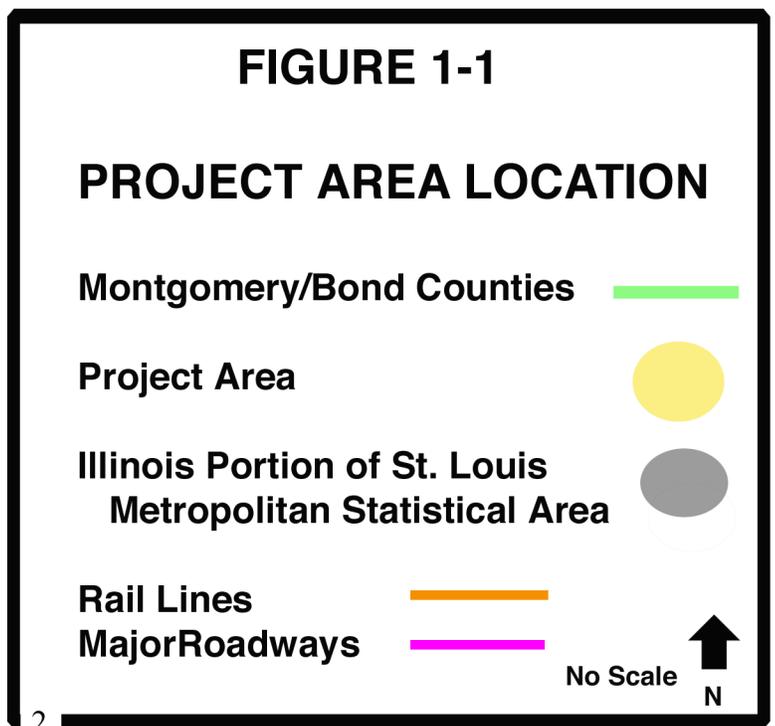
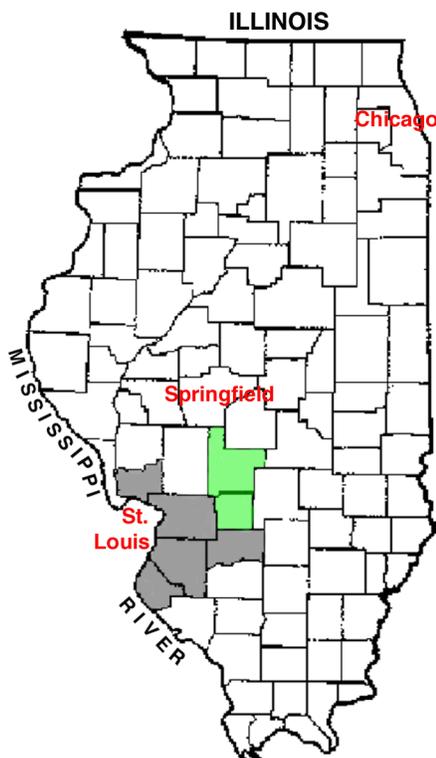
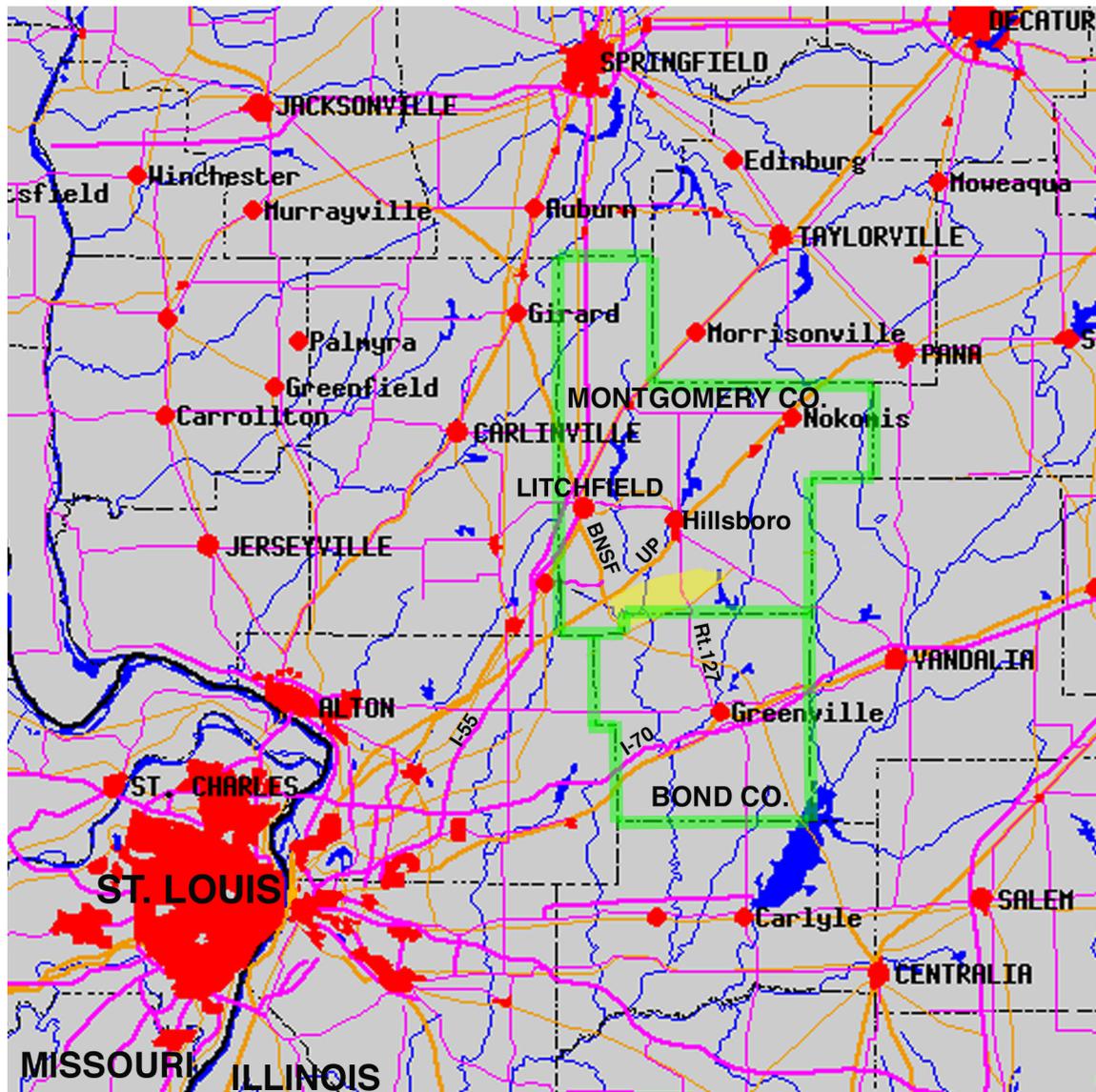
### **1.3 DESCRIPTION OF THE PROPOSED ACTION**

The general project area location is shown in Figure 1-1. AEGC's two proposed routes for the new rail line are shown in Figure 1-2. Route A would require 13.5 miles of new rail line construction in Montgomery County, Illinois. AEGC's second route for the proposed rail line is shown as Route B in Figure 1-2. Route B would require 4.6 miles of new rail line construction in Montgomery and Bond counties, Illinois. Route B would also involve the Norfolk Southern Railway (NS) voluntarily selling, leasing or otherwise allowing AEGC to use its isolated and existing 12-mile Sorento to Coffeen track. This existing NS line is currently used to ship coal to the Coffeen Power Plant and already connects with a BNSF rail line near Sorento. Figures A-1 through A-8 provide a more detailed view of the locations of proposed Routes A and B.

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<sup>4</sup> The rail line would be constructed and operated by the Coffeen and Western Railroad Company (CWRC), a wholly owned subsidiary of AEGC. For simplicity, this EA refers to AEGC, the applicant, in the balance of this document.

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**FIGURE 1-2**  
**Proposed AEGC Rail Line Construction**

Route A   
Route B   
Existing Rail Lines 

No Scale 



AEGC's preference is to construct and operate Route B because of its shorter length and smaller construction costs. However, if NS would not voluntarily agree to sell, lease or otherwise allow AEGC to use its isolated Sorento to Coffeen track, which would be required for Route B to be feasible, AEGC would construct and operate Route A.

Route A would cross the NS Sorento to Coffeen line. AEGC would like to reach a voluntary crossing agreement with NS. However, if it becomes necessary, AEGC would file for crossing authority at the Board under 49 U.S.C. § 10901(d). AEGC states that it expects to enter into a trackage rights agreement with UP and/or BNSF to provide rail service over the proposed rail line.

#### **1.4 PURPOSE AND NEED FOR THE PROPOSED ACTION**

Coal would be the primary commodity carried over the proposed rail line, although other shippers may in the future request service. The Coffeen Power Plant currently receives most of its coal via NS, which accesses its Sorento to Coffeen line via trackage rights over BNSF's Litchfield to Sorento rail line. The proposed rail line construction would provide the power plant with alternative rail access for transporting coal. AEGC states that the proposed line would also increase the coal mine options from which it could receive its coal.

#### **1.5 SEA'S ENVIRONMENTAL REVIEW PROCESS**

SEA prepared this EA to comply with the National Environmental Policy Act (NEPA) of 1969, as amended,<sup>5</sup> the Board's environmental regulations,<sup>6</sup> and other applicable rules and/or regulations. SEA is responsible for conducting the Board's environmental review of the proposed action. The Board's environmental regulations govern the environmental review process and outline procedures for preparing environmental documents. SEA reviewed the proposed action and determined that activities associated with the proposed action are not expected to result in significant environmental impacts, and an EA would be appropriate.

SEA analyzed the proposed action and other information the applicant supplied to the Board. SEA prepared the EA based on its independent analysis of the proposed action, which included verification and analysis of the projected rail operations, land use, habitat, surface water and wetland surveys, site visits, and information obtained in the written comments that have been received to date, as well as consultations with Federal, state and local agencies. SEA also considered pertinent Federal statutes, regulations, and Executive Orders.

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<sup>5</sup> 42 U.S.C. 4321 et.seq.

<sup>6</sup> 49 C.F.R. Part 1105.

In addition, SEA visited the proposed rail line construction site to document the existing conditions and assess the potential effects of the proposed action on the environment. SEA also initiated contact with the various Federal, state, and local agencies and jurisdictions that might have an interest or a regulatory oversight role in the project, and their comments and concerns are reflected in this EA. Appendix B contains the agency responses to the consultation process. After comments on the EA are received, SEA will prepare final environmental documentation. The Board will then issue a decision addressing the environmental aspects of the proposal and deciding whether to allow the exemption to become effective.

This EA assesses the environmental effects of the proposed action and alternatives. Chapter 1 introduces the proposed action and describes its purpose and need. Chapter 2 describes the proposed action and alternatives, Chapter 3 describes the affected environment in the project area, Chapter 4 identifies the potential environmental impacts of the proposed action, Chapter 5 describes the agency consultation and coordination process, Chapter 6 addresses mitigation, and Chapter 7 contains SEA's preliminary conclusion and request for comments. The Board has served the EA on the public, which has been invited to submit comments on the document.

## **CHAPTER 2 ALTERNATIVE ACTIONS CONSIDERED**

### **2.1 NO-ACTION ALTERNATIVE**

The no-action alternative would not result in construction of track and would not provide the Coffeen Power Plant with alternative rail service. Under the no-action alternative, NS would continue to move coal trains to and from the Coffeen Power Plant via trackage rights over BNSF's Litchfield to Sorento line, and over NS's Sorento to Coffeen line.

### **2.2 BUILD ALTERNATIVES**

#### **2.2.1 ROUTE A**

##### **Construction**

Route A would begin at the power plant, travel less than one-half mile southwest before making a new crossing of Coffeen Lake, near the existing NS lake crossing. For approximately one mile Route A would roughly parallel the existing NS line, before veering away somewhat to cross the NS line at-grade. It would then head west, closely following an existing transmission line corridor. Approximately nine miles west of its beginning, Route A would split into two segments. One segment would proceed in a northerly direction for approximately 1.5 miles to connect with an existing UP rail line. The other segment would turn southwest, follow the transmission line corridor for another two miles and then head west for approximately one mile to connect with an existing BNSF rail line. In addition to the Coffeen Lake crossing, Route A would cross numerous perennial and intermittent waterways, the existing NS rail line, a number of light duty roads, and one secondary highway.

AEGC does not anticipate any borrow pits or spoil sites for Route A. The exact location of haul roads and staging areas is unknown at this time. AEGC expects that the railroad embankment would be the primary choice to use for hauling and/or staging of materials, if needed. Materials that are hauled from off-site sources would travel on interstate highways, state highways, and county and local roads, pursuant to the posted weight limitations. AEGC estimates that staging areas may be best situated, if necessary, somewhere along the midpoint of Route A, potentially to the west of Illinois Route 127. It is possible that haul roads would be constructed to access the east and west sides of Coffeen Lake.

Figures A-1 through A-5 show the proposed Route A centerline, station numbers, and grading limits. Route A would connect to the UP line at UP Mile Post (MP) 240.90 and to the BNSF line at BNSF MP 74.04. Route A would cross the NS line at NS MP 398.37. Table 2-1 shows Route A design specifications. The minimum and maximum right-of-way (ROW) widths would be 90 and 300 feet, respectively. The typical ROW width would be 100 feet.

**TABLE 2-1  
PROPOSED AEGC RAIL LINE DESIGN SPECIFICATIONS  
ROUTES A AND B**

<b>Maximum grade</b>	UP prefers a 0.8 percent maximum grade for lines connecting to the UP; however, the maximum grade may vary from this level based on further construction cost estimates
<b>Weight of rail</b>	115 lbs. minimum (possibly up to 141 lbs).
<b>Length of ties</b>	9 feet
<b>Grade of ties</b>	American Railway Engineering and Maintenance of Way Association (AREMA) 7 inch grade crossties
<b>Ties per mile</b>	3,250 ties per mile
<b>Top ballast depth</b>	12 inches below ties
<b>Sub-ballast depth</b>	12 inches
<b>Subgrade width</b>	32 feet without road; 43 feet with road
<b>Minimum depth of drainage ditch</b>	2 feet
<b>Minimum width, drainage ditch bottom</b>	5 feet
<b>Minimum distance, ditch centerline to track centerline</b>	22.5 feet
<b>Slope of cuts and fills</b>	2:1
<b>Depth of maximum cut</b>	<b>Route A:</b> ± 30 feet; <b>Route B:</b> ± 48 feet
<b>Height of maximum fill</b>	<b>Route A:</b> ± 45 feet; <b>Route B:</b> ± 55 feet

The basic steps in the proposed Route A construction process would be as follows:

1. Clearing and preparation of ROW (these steps would begin simultaneously):
  - From the beginning of Route A on the existing AEGC lead track to the NS rail crossing, continuing on to Illinois Route 127.
  - East side of Shoal Creek working toward Illinois Route 127.
  - West side of Shoal Creek working to the BNSF/UP common turnout up to the UP.
  - Working from the BNSF to the BNSF/UP common turnout.
2. Roadbed construction, including subballast and seeding (these steps would begin simultaneously):
  - Beginning of Route A to the NS, including “shot rock” placement in Coffeen Lake, then moving to the west end and working from Lake Fork to the BNSF.
  - East side of Shoal Creek working toward Bearcat Creek, Illinois Route 127 on to the NS.
  - West side of Shoal Creek working toward the BNSF/UP common turnout up to the UP.
3. Structures/bridges construction (the following sites would be worked on simultaneously): Coffeen Lake, Shoal Creek, Lake Fork, Bearcat Creek, and Laughlin Lane.
4. Track Placement (these steps would be worked on simultaneously):
  - Construct UP mainline turnout, construct BNSF mainline turnout, construct and place BNSF/UP common turnout, construct and place turnout in existing AEGC lead track, then construct and place rail crossing in NS line.
  - Construct track from NS track to the existing AEGC lead track, working east then move to the common BNSF/UP turnout and work to the UP mainline.
  - Work from the NS track to Bearcat Creek then move to the common BNSF/UP turnout and work to the BNSF mainline.
  - Work from Bearcat Creek to the common BNSF/UP turnout.
5. Signaling and grade crossings

AEGC does not expect to need any structures for ancillary activities at this time. AEGC’s selected contractor would obtain the necessary burning permits to dispose of vegetation and other debris cleared from the ROW.

Construction of Route A would take approximately eleven months, with the major construction activities as follows:

- |                                     |               |
|-------------------------------------|---------------|
| • Clearing and preparation of ROW   | Months 1 - 2  |
| • Construction of roadbed           | Months 1 - 5  |
| • Bridge and structure construction | Months 1 - 8  |
| • Placement of tracks               | Months 2 - 11 |

More detailed information on the proposed construction process is presented, as appropriate, in Chapter 4, Environmental Impacts. Rail operations over the proposed line would begin in Month 12.

## **Operation and Maintenance**

**Operations.** The primary material to be shipped over the proposed rail line would be inbound coal to the Coffeen Power Plant. AEGC states that, at a later date, slag (bottom ash), flyash, turbine parts, transformers, or limestone could be shipped over the line. AEGC states that it is not aware of any other potential users of rail service over the line. AEGC is also not aware of any potential for hazardous materials to be shipped over the proposed line.

The Coffeen Power Plant currently receives approximately three million tons of coal per year: 2.5 million tons from Exxon's Monterey Mine near Carlinville, IL, and close to 0.5 million tons from the Powder River Basin in Wyoming. The Monterey Mine coal travels south from the mine toward St. Louis on NS and then north on NS to a connection with BNSF at Litchfield, IL. At Litchfield, NS runs over BNSF trackage rights to Sorento, IL, where NS picks up its own track again for the last 12 miles to the Coffeen Power Plant. The Powder River Basin coal currently comes from Wyoming via UP to East St. Louis and then via NS to the plant. The proposed construction would not be expected to cause a change in the coal source, location, or characteristics. However, AEGC expects that its inbound coal shipments would gradually increase to 3.4 million tons per year, not to exceed 4 millions tons per year for the foreseeable future.

Inbound coal trains would consist of three locomotives and 115 railcars carrying approximately 116 tons of coal per car. There would be a maximum of 300 loaded coal trains into the plant each year for the foreseeable future, with an equal number of empty outbound trains. This total of 600 loaded and empty trains per year would result in approximately 12 total train trips per week. The Coffeen Power Plant burns coal 24 hours a day, 365 days a year and AEGC expects that trains could operate any day of the week at various times throughout the day.

Typical train length for a 115-car train would be 6,400 feet. Maximum train operating speed over Route A would be 45 mph.

AEGC would enter into a trackage rights agreement with UP and/or the BNSF to provide rail service over the proposed line. AEGC would also consider giving NS trackage rights as may be warranted. AEGC would retain its residual common carrier obligation.

**Maintenance.** AEGC would select a contractor to perform all maintenance and inspections in compliance with Federal Railroad Administration (FRA) standards. AEGC would take necessary measures to ensure that appropriate vegetation control is followed and that any herbicides applied are approved by the U.S. Environmental Protection Agency (USEPA). AEGC would also ensure that the herbicide spraying company is licensed. AEGC currently expects spraying to be done twice a year. In order to prevent the potential disbursement of sprayed

substances to adjacent drainageways and wetlands, spraying would not be undertaken on days with high winds. On marginally windy days, an additive may be used to minimize any potential impact.

## **2.2.2 ROUTE B**

### **Construction**

AEGC also identified a second possible route for alternative rail access, shown as Route B in Figure 1-2. This route would involve NS voluntarily selling, leasing or otherwise allowing AEGC to use its Sorento to Coffeen track. Should NS do this, AEGC would also construct an approximately 4.6-mile rail line to connect the NS line near Sorento with the existing UP rail line near Walshville, IL.

Route B would begin on the NS line approximately one mile northeast of central Sorento. It would proceed due west for less than one-half mile, then would turn to proceed northwest, roughly paralleling the BNSF line at a distance of less than a mile east of that line. Route B would connect with the UP line approximately 270 feet east of the UP/BNSF crossing. Although the beginning of the route passes near the northern outskirts of Sorento, the line itself primarily crosses cultivated farmland and occasional wooded drainageways. Route B would cross several intermittent or perennial drainageways as well as light-duty roads.

AEGC expects no borrow pits or spoil sites for Route B. The proposed rail embankment would be the primary choice for hauling and/or staging of materials, if needed. If necessary, staging areas would probably be located near Route B's midpoint, in the Singer Trail area. Materials brought in from off-site sources would travel on the regional and local road system, pursuant to the posted weight limitations. AEGC does not anticipate that any additional haul roads would be required for Route B.

Figures A-6 through A-8 show the proposed Route B centerline, station numbers, and grading limits. Route B would connect to the UP at UP MP 243.03 and to the NS at NS MP 405.71. Table 2-1 shows Route B design specifications. The minimum and maximum ROW widths would be 90 and 300 feet, respectively. The typical ROW width would be 100 feet.

Basic steps in the Route B construction process would be as follows:

1. Clearing and preparation of ROW (these steps would begin simultaneously):
  - Working from Grove Branch to the UP mainline.
  - Working from the NS near Sorento toward Grove Branch.
2. Roadbed construction, including subballast and seeding (these steps would begin simultaneously):
  - Work from NS toward Grove Branch.
  - Work from UP toward Grove Branch.
3. Structures construction
4. Track placement

- Construct UP mainline turnout, construct NS mainline turnout, then begin at NS turnout and work toward Grove Branch.
  - Construct track from UP mainline toward Grove Branch.
5. Signaling and grade crossings

This route would require no structures for ancillary activities. The construction contractor would obtain the necessary burning permits to dispose of vegetation and other debris cleared from the ROW.

The construction of Route B would take approximately eleven months, with the major construction activities as follows:

- |                                   |               |
|-----------------------------------|---------------|
| • Clearing and preparation of ROW | Months 1 - 2  |
| • Construction of roadbed         | Months 1 - 5  |
| • Structure construction          | Months 1 - 4  |
| • Placement of tracks             | Months 2 - 11 |

Rail operations over Route B would begin in Month 12.

### **Operation and Maintenance**

Operation and maintenance procedures for Route B would be the same as for Route A except that the maximum operating speed over Route B would be 40 mph. In addition, AEGC's operation and maintenance procedures over the existing Sorento to Coffeen line under the Route B alternative would be similar to NS's current procedures over that segment of rail line.

## **2.3 OTHER ALTERNATIVES PREVIOUSLY CONSIDERED**

### **2.3.1 RAIL**

AEGC states that one of the first alternatives it considered was to obtain the use of the existing NS Sorento to Coffeen line by either purchase or trackage rights, but that NS declined the offer. Should NS agree to such an arrangement, AEGC would construct Route B and not Route A.

AEGC states that it also initially considered a third rail route as a construction possibility. This route, Route C, would have been located to the east of the project area. It would have proceeded from the Coffeen Power Plant due south over 20 miles to connect with the BNSF southbound line to Centralia. AEGC dismissed this route from further consideration because of its greater length, higher construction costs, increased number of road crossings, and greater potential for adverse impacts to residences and other sensitive land uses than either Routes A or B.

### **2.3.2 NON-RAIL**

AEGC indicates that, prior to initiating this proceeding, it considered all possible alternatives that might provide greater fuel flexibility, increase plant reliability and ultimately reduce the Coffeen Power Plant's total cost of operation. Barging of coal is not an option because the Coffeen Power Plant is not located on a navigable waterway. Similarly, an overland conveyor is not an option because there are no active coal mines located in proximity to the plant. The nearest coal mine, Exxon Monterey #1, is approximately 30 miles away.

Trucking was considered and coal has been trucked at times to the Coffeen Power Plant. However, while trucking coal has been accomplished on a limited basis, attempting to truck the amount of coal needed to keep the Coffeen Power Plant running would significantly impact the communities and roads in the vicinity. Trucking three to four million tons of coal per year would require 329 to 438 trucks per day, every day of the year, to drive into the plant, unload and drive out. This alternative is not practicable and trucking coal would not be as environmentally efficient as moving the coal by train. Furthermore, the amount of coal needed now and in the future cannot be economically trucked due to the distances of available coal resources.

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## **CHAPTER 3.0 DESCRIPTION OF AFFECTED ENVIRONMENT**

The purpose of this chapter is to provide a brief overview of the affected environment in the project vicinity. Potential environmental impacts of the proposed action are discussed in Chapter 4.

### **3.1 TRANSPORTATION AND TRAFFIC SAFETY**

As shown in Figure 1-1, the project area is located in southcentral Illinois, in Montgomery and Bond counties. Figure 1-1 shows that Montgomery and Bond counties are located just northeast of the Illinois portion of the St. Louis Metropolitan Statistical Area and south of the Illinois state capital city of Springfield.

As Figure 1-1 shows, most of the primary rail and road transportation corridors in the project vicinity radiate out from the St. Louis metropolitan area. Figures 1-1 and 1-2 show that the project area is bounded by three rail lines: on the north by UP's line to St. Louis, on the south by a now isolated NS line that formerly led to St. Louis, and on the west by BNSF's southbound line to Centralia. The project area is located approximately 8 miles east of Interstate 55, which connects St. Louis, Springfield, Chicago and points beyond, and is approximately 12 miles north of Interstate 70, a major east-west route through the region. The primary roadway within the project area itself is Illinois Route 127. The other roadways within the project area are secondary local and county roads. Transportation and traffic safety impacts of the proposed action are presented in Chapter 4, Section 4.2.

### **3.2 LAND USE AND RECREATION**

Figure 1-2 shows that proposed Route A would be located entirely in southern Montgomery County. Proposed Route B would be located primarily in southern Montgomery County, and to a more limited extent in extreme northern Bond County. Both Routes A and B would be located in the unincorporated area. Montgomery County occupies 704 square miles and Bond County 380 square miles.

The project area is basically rural. Land use is primarily agricultural interspersed with wooded drainageways. Farmland in the area is mainly used for growing corn and soybeans. Several small communities are located on the periphery or within the general project area: Sorento, Coffeen, Walshville, Panama, and Donnellson (see Figure 1-2). These communities range in population from 89 people at Walshville to 709 people at Coffeen (from the 2000 Census of Population). Figures A-1 through A-8 provide a closer view of the area.

At the eastern edge of the project area is AEGC's Coffeen Power Plant. The facility is located adjacent to Coffeen Lake, which serves as its cooling water source. Transmission lines from the power plant traverse the project area. Coffeen Lake State Fish & Wildlife Area

occupies fifty miles of shoreline around the lake and is administered by the Illinois Department of Natural Resources (IDNR). IDNR indicates that this recreational area is Montgomery County's premier fishing spot, in part because the heat generated by the power plant enables year round fishing (south of the existing NS crossing of the lake the water temperature is modified by the discharge from the power plant's cooling water facility).

### **3.3 TOPOGRAPHY, GEOLOGY AND SOILS**

The project area is characterized by:

- Broad, flat uplands mostly converted to agriculture (row crops, etc.). Much of the upland plain was prairie before settlement, but none of the prairie remains within the study area;
- Steep forested slopes near the major streams and in some high gradient, small tributary streams; and
- Bottomlands in the major stream valley floodplains (e.g., Shoal Creek, Lake Fork, Bearcat Creek, and Grove Branch). The broad, flat floodplains of these stream valleys were historically forested, with some prairie inclusions; however, the floodplains are currently used predominantly for agriculture.

Much of both Bond and Montgomery counties is underlain by bituminous coal, and there are several inactive deep underground shaft mines in the project area. Route A in Montgomery County would be adjacent to an underground shaft mine that operated between the years 1906 and 1934. Route A would be adjacent to the north edge of the mine (between proposed station numbers 330+00 and 335+00) and would not cross over it. Route B in Bond County would cross over an underground shaft mine (between proposed station numbers 20+00 and 55+00) that operated between the years 1884 and 1911. Herrin is the name of the coal seam mined for both mines.

Relief in the area is relatively low and elevations range from 520 feet to 660 feet above sea level. Soils belong to the Oconee-Piasa-Cosden and Hosmer-Stoy-Weir associations. The project area is drained by Shoal Creek and its tributaries. Shoal Creek flows south into the Kaskaskia River, which discharges to the Mississippi River.

The project area has a continental climate typical of the central part of Illinois. The temperature varies greatly throughout the year, often dropping below zero degrees F in winter and rising to 100 degrees F or higher in summer. Total annual precipitation is approximately 39 inches.

### 3.4 WATER RESOURCES

This section describes water resources in the project area.<sup>7</sup> Potential impacts on these resources are presented in Chapter 4, Section 4.5.

The Illinois Environmental Protection Agency's (IEPA) Bureau of Water indicates that there are no public water supply recharge zones in or adjacent to the project area. A search of the Illinois State Geological Service (ISGS) database found no public or private water supply wells within the current design grading limits of either Route A or B.

The project area is located within the Shoal Creek watershed, a tributary basin of the Kaskaskia River. The Kaskaskia River watershed covers a total of approximately 5,800 square miles in southern Illinois and the Kaskaskia River discharges to the Mississippi River near St. Louis. Shoal Creek has a drainage area of 916 square miles and is the largest tributary to the Kaskaskia River. In the vicinity of the project area, Shoal Creek is divided into west and east forks. Most of the project area drains to the west fork of Shoal Creek, including the named tributaries: Bearcat Creek, Lake Fork, and Grove Branch. Only Coffeen Lake and adjacent areas at the eastern end of the project area drain to the east fork of Shoal Creek. The description of surface water resources in the project area focuses on three categories: streams; wetlands and ponds; and floodplains.

#### 3.4.1 STREAMS

Project area streams can be divided into three broad groups:

- Large perennial streams with well developed floodplains;
- Medium-sized, typically intermittently flowing streams; and
- Small ephemeral streams.

The large perennial streams in the study area consist of Lake Fork, Grove Branch, Shoal Creek, Bearcat Creek, and an unnamed tributary of Bearcat Creek. These streams typically have low gradients, silt/sand substrates, and well-developed sand bars and riffle/pool complexes. The adjacent floodplains typically contain farmland and bottomland forests.

The intermittent streams typically have higher gradients, silt/sand/gravel substrates and contain flowing water only seasonally or in response to rain events. Most of these streams have

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<sup>7</sup> The discussion in this section is based in part on the *Preliminary Jurisdictional Determination Report for the Proposed Coffeen Power Plant Rail Build-Out Project* (August 27, 2004). This report was prepared by MACTEC Engineering and Consulting, Inc. for AEGC, and was used by AEGC to support its Clean Water Act Section 404 permit application to the U.S. Army Corps of Engineers. SEA conducted an independent review of this report prior to its use in this EA. The water resource names and number designations in this EA are the same as those used in the MACTEC report.

limited riparian corridors, and usually run through upland forests. Many of these streams receive stormwater runoff from agricultural land, which has resulted in incised or deep channels.

The ephemeral streams consist of upland drainages that contain flowing water only in response to precipitation events. They may, however, contain standing water pools for longer time periods. The ephemeral streams are surrounded by upland forest or crop land.

IEPA maintains a list of impaired waters within the state to fulfill the requirements set forth in Section 303(d) of the Federal Clean Water Act(CWA) and the Water Quality Planning and Management regulations at 40 CFR Part 130. According to the draft 2004 Illinois 303(d) listing, the following designated uses for listed project area waterways were:

- Coffeen Lake – Overall Use (Partially Supporting); Aquatic Life (Fully Supporting); Fish Consumption (Fully Supporting); Primary Contact (swimming) (Partially Supporting); Secondary Contact (recreation) (Partially Supporting); Public Water Supply (Not Designated);
- Shoal Creek: Aquatic Life (Fully Supporting); Primary Contact (swimming) (Partially Supporting); Public Water Supply (Partially Supporting).

Grove Branch, Lake Fork, and Bearcat Creek are nonlisted streams; however, Shoal Creek is the receiving stream for these other streams.

### **3.4.2 WETLANDS AND PONDS**

Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The project area wetlands consist of farmed wetlands and palustrine wetlands, as defined below. The project area wetlands that would be impacted by the proposed rail construction are briefly described below.

#### **Farmed Wetlands**

The Natural Resource Conservation Service (NRCS) has jurisdiction over farmed wetlands, which consist of active row crop or pasture. These areas meet the hydric soil and wetland hydrology criteria but are currently used for agriculture. The NRCS has several classifications within this group including prior converted wetlands (PC), farmed wetlands (FW), and wetland pastures (WP). Farmed wetlands typically are not cultivated every year due to excess moisture, and they typically have lower plant diversity and other functional values compared to other wetland types. The “prior converted” designations are used to describe former wetlands that have been manipulated and drained and are no longer considered to be jurisdictional wetland areas. Jurisdictional wetlands are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA.

There are five FW sites that would be affected by the proposed rail construction; all are along Route A. These sites are all mapped by NRCS as non-wetlands but have not been officially certified as such by that agency (they are only certified as such at the request of the landowner). AEGC has stated that it would pursue certification of farmed wetlands with the NRCS at the appropriate time. The sites are listed in the order in which they are encountered from the beginning of proposed Route A near the Coffeen Power Plant to its end. The station numbers of the sites correspond to those shown for Route A in Figures A-1 through A-5.

- Wetlands 10-3-FW (0.12 impacted acres), 10-2-FW (0.2 impacted acres), and 10-1-FW (0.07 impacted acres) [station numbers 297+50, 300+30, and 301+80] consist of two small drainage swales and a low depression in an active cornfield in the Bearcat Creek floodplain. The areas were delineated based on the presence of stressed or sparse corn. Some areas contained sediment deposits, sparse wetland plant communities (i.e., sedges and smartweed), and no corn.
- Wetland 9-FW (4.19 impacted acres) [station numbers 431 to 444] consists of farmed depressional areas in the Shoal Creek floodplain. The dominant water source appears to be the ponding of direct precipitation, although Shoal Creek reportedly overbanks several times a year. This wetland contained depressions that were devoid of vegetation due to inundation with water after heavy rains.
- Wetland 3-FW (0.52 impacted acres) [station numbers 574+90 to 579+60, BNSF lead track] consists of an active (partly inundated) farm field with a small wetland fringe in the Lake Fork floodplain. The fringe vegetation includes drooping bulrush, green bulrush, and spikerush. The water source is direct precipitation and possibly overbank flooding of Lake Fork.

### **Palustrine Wetlands**

According to the classification system of the U.S. Fish and Wildlife Service (USFWS, 1979), palustrine wetlands cover less than 20 acres, lack active wave-formed or bedrock shoreline features, and have water depths at low water of less than 6 feet. Palustrine wetlands are subsequently classified according to dominant vegetation:

- Palustrine Unconsolidated Bottom (PUB) wetlands are characterized by a substrate composed of particles smaller than stone and a vegetative cover less than 30 percent. This classification is typically applied to small pond-like wetlands.
- Palustrine Emergent (PEM) wetlands are characterized by a dominance of herbaceous (non-woody) plants. Emergent wetlands are also known as marshes, meadows, fens, etc.
- Palustrine Scrub-Shrub (PSS) wetlands are characterized by a predominance of woody vegetation that is less than 19.6 feet tall.
- Palustrine Forested (PFO) wetlands are characterized by a predominance of woody vegetation that is 19.6 feet tall or taller.

Palustrine wetlands that are located along Route A include the following:

- Wetland 15 (0.03 impacted acres) [station number 47+10] is a small PEM community along the shore of Coffeen Lake. The probable water source is fluctuating lake water levels but local runoff also supplies some water. Wetland 15 vegetation was sparse due to frequent inundation but did contain touch-me-nots, false nettle, smartweed, and lady fern.
- Wetland 14 (0.01 impacted acres) [station number 59+00] is a larger PEM community. Vegetation includes false nettle, touch-me-not, and several sedge species.
- Wetland 13-NJ (non-jurisdictional) (0.001 impacted acres) [station number 61+30] is a PEM wetland consisting of a small seep just below a spring house.<sup>8</sup> The soil was saturated. Plant life includes clearweed and mosses but also grasses (fescue) from nearby fields. Wetland 13 is not within or adjacent to a jurisdictional stream, therefore, it is not considered a jurisdictional resource.
- Wetland 12-NJ (0.15 impacted acres) [station number 62+00] is a PEM wetland with a common reed monoculture in a small non-jurisdictional drainageway; and therefore, is not considered a jurisdictional resource.
- Wetland 11 (0.01 impacted acres) [station number 71+20] consists of a small PEM community adjacent to an intermittent stream. Vegetation includes cut-leaf coneflower, touch-me-not, deer tongue, and stiff dogwood. Wetland 11 is surrounded mostly by upland forest.
- Pond 5-NJ (0.05 impacted acres) [station number 407+60] consists of an excavated/impounded upland pond and is not considered jurisdictional. This pond acts as a sediment trap for an adjacent larger pond used for recreation. Pond 5-NJ is approximately half open water (OW) and half PEM. Vegetation includes green bulrush, spikerush, drooping bulrush, narrow leaf cattail, and miscellaneous sedges.
- Wetland 8 (3.04 impacted acres) [station numbers 451 to 462] consists of a large forested wetland (PFO) in the Shoal Creek floodplain. This wetland has a variety of habitat types: mudflats that contain occasional open water, mature wetland forest, and intermittently flowing streams. The water sources include direct precipitation, local runoff, and (apparently) overbank flooding of Shoal Creek. Two intermittent streams flow through the western side of the wetland. The vegetation included cottonwood, box elder, sycamore, silver maple, American elm, stinging nettle, touch-me-not, and cut-leaf coneflower. This is the largest and likely the highest quality wetland in the study area.
- Pond 4-NJ and Pond 3-NJ (0.04 and 0.09 impacted acres) [station numbers 468+00 and 472+00] are small ponds classified as OW and consist of impounded,

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<sup>8</sup> Wetlands must be hydraulically connected or adjacent to jurisdictional “waters of the United States” in order to be classified as jurisdictional wetlands subject to regulation under the CWA. Watercourses classified as waters of the United States are regulated by the USACE under Section 404 of the CWA.

non-jurisdictional drainages in the uplands. They are surrounded by typical upland forest and contain no wetland vegetation communities.

- Wetland 6 (0.05 impacted acres) [station number 558+30, BNSF connection] is located in a small and narrow (approximately 25-foot wide) valley of a tributary that flows to Lake Fork. A stream fed by five small springs or seeps runs through this wetland and provides its water. Wetland 6 is classified as PFO due to the dense canopy cover, but most of the wetland vegetation consists of herbaceous species including clearweed, touch-me-nots, and sedges. One sycamore and a few box elders were also present.
- Wetland 4 (0.01 impacted acres) [station number 571, BNSF connection] consists of a side channel of Lake Fork. This channel carries water during high water events but contains some standing water pools under low water conditions. The habitat types include PSS, OW, and PFO. Vegetation includes peach-leaved willow, black willow, and cottonwood. The PFO section contains sparse herbaceous vegetation due to frequent inundation.
- Wetland 2 (0.09 impacted acres) [station numbers 578 to 580, BNSF connection] is a PFO community consisting of a broad ditch-like swale in the Lake Fork floodplain at the base of a hill. Direct precipitation and local runoff appear to be the principal water sources. The vegetation included black willow, box elder, and sedges.

Coffeen Lake, which would be crossed by proposed Route A, is in the OW zone of a lacustrine (deep water habitat) water body and by definition is not a wetland.

Palustrine wetlands that are located along Route B include the following (station numbers correspond to those shown in Figures A-6 through A-8):

- Pond 2 and associated wetlands (0.42 impacted acres) [station numbers 123 to 125]. A stream connects Pond 2 to Grove Branch. Pond 2 (OW) consists of an impounded stream with wetland fringe communities developed where two tributary streams enter the pond. Pond 2-Wetland 1 (PFO) consists of a seasonally inundated mud flat with sparse vegetation. The limited vegetation was dominated by monkey flower with a minor component of touch-me-not and false nettle. Pond 2-Wetland 2 also includes a seasonally inundated mud flat but contains more vegetation and a forested component (PFO). Vegetation included sycamore, American elm, touch-me-nots, false nettle, and swamp milkweed. Both of the Pond 2 fringe wetlands receive water from fluctuations in pond water levels but also receive water from the intermittent streams that flow into the pond.
- Stream 9-Wetland 1 (0.02 impacted acres) [station number 138+00] consists of a small side channel of Grove Branch. This channel carries water only during high water events, but did exhibit wetland soil and vegetation characteristics. The vegetation in this PFO wetland included box elder, sycamore, stinging nettle, false nettle, raccoon grape, and hop tree.
- Pond 1 and Wetland 1 (0.34 impacted acres) [station numbers 224+00 and 229 to 235+00] are adjacent to and hydraulically connected to an intermittent stream.

Pond 1 (OW) consists of an excavated and impounded open waterbody with no mappable wetland fringe. Aquatic vegetation includes duckweed. Wetland 1 (PEM) consists of a monoculture of common reed (*Phragmites australis*). It is located in a broad upland drainage swale surrounded by active farm fields and the intermittent stream.

### 3.4.3 FLOODPLAINS

River and stream floodplains are important resources that are recognized as providing natural and beneficial values. One primary function is to diminish flooding impacts downstream by dissipating excess water over a large area. Floodplains decrease soil erosion by reducing flow velocity and retaining water-carried silt. Since vegetation and soil trap sediments, pollutants, and excess nutrients, floodplains also enhance water quality by acting as a natural water filtration system.

Undisturbed floodplains can contain relatively diverse habitat types and distinct vegetation and animal communities. Consequently, natural floodplain ecosystems are areas of high diversity that provide a number of fish and amphibian species with spawning areas and migratory birds with resting, feeding, and nesting habitats.

Federal Emergency Management Agency (FEMA) and Federal Highway Administration (FHWA) guidelines have identified the base (100-year) flood as the flood having a 1 percent probability of being equaled or exceeded in any given year. The base floodplain is the area of 100-year flood hazard within a county or community. The regulatory floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood streamflow can be conveyed without increasing the base flood elevation more than a specified amount. FEMA Flood Insurance Rate Maps (FIRM) for the project area show that the 100-year floodplains (Zone A) in the project area are associated with Grove Branch, Lake Fork, Shoal Creek, Bearcat Creek, and Coffeen Lake.

## 3.5 BIOLOGICAL RESOURCES

Existing biological resources in the project area were assessed by mapping land cover types within a 1,000-foot wide corridor centered along both Routes A and B, describing terrestrial and aquatic communities that may occur in or were observed during field inspections of those corridors, and identifying state or Federally listed species (rare, threatened or endangered) that may potentially occur within the area.<sup>9</sup> Discussion of potential impacts of the

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<sup>9</sup> The discussion in this section is based in part on the *Natural Resources Analysis Technical Memorandum for the Proposed Coffeen Power Plant Rail Build-Out Project* (October 14, 2004). This report was prepared by MACTEC Engineering and Consulting, Inc. for AEGC. SEA conducted an independent review of this report prior to its use in this EA.

proposed rail construction on the existing biological resources is presented in Chapter 4, Section 4.6.

### 3.5.1 LAND COVER

Composition of the combined Routes A and B study corridors by land cover type is as follows: almost two-thirds of the land in the study corridors is used for row crops/pastureland; approximately 25 percent is forested; less than 4 percent is built upon; around 3 percent is “old fields”; less than 2 percent is wetlands/ponds; and around 1 percent is open water.

### 3.5.2 TERRESTRIAL COMMUNITIES

#### Terrestrial Vegetation

The following is a discussion of the characteristic vegetation of the land cover types. Table C-1 in Appendix C is a detailed listing of plant species identified in the study area during field activities, along with the scientific names of the species.

**Row crops/pasture.** Approximately 61.1 percent of the study area is row crops (i.e., corn, soybeans, etc.) and approximately 4.3 percent is pasture (typically dominated by fescue). Such habitats are generally considered to be of low quality due to their high frequency of disturbance.

**Old field.** This cover type accounts for around 3 percent of the study area and typically consists of former farm fields in the early stages of succession and is dominated by herbaceous species. This cover type also includes utility corridors (principally overhead power lines) that are subject to periodic maintenance. Typical plant species include goldenrods, ragweeds, blackberry, Queen Anne’s lace, partridge pea, sumac, lespedeza, and tick trefoil. Prairie dock and compass plant were observed at one location each. The old fields, in general, have the highest floral diversity of the cover types in the study area.

**Forests.** The forest cover types within the project area are represented by woodlots of varying sizes and configurations that generally are associated with steeper slopes and stream valleys. This dissected forest land has been encroached upon by agricultural uses and is primarily upland or bottomland forest, constituting 21.8 and 2.8 percent of the study area, respectively.

- **Upland forests**

The principal tracts of upland forest are located south of Grove Branch, east of Lake Fork, west of Shoal Creek, in the vicinity of Route A Station Numbers 266, 319, and 214 to 236, and near Coffeen Lake. Upland forest types include dry, dry-mesic, and mesic communities. The dry upland forests typically occur on ridge crests and upper slopes with south and southwest-facing aspects. Characteristic dry forest species include white oak, black oak, post oak, shagbark

hickory, and mockernut hickory. In some areas, the forest canopy is sparse, which allows for the development of a more extensive herbaceous layer. These areas could be described as barrens or open woods.

The dry-mesic upland forest community is the most common forest community in the study area. Species present include white oak, northern red oak, chinkapin oak, mockernut hickory, shagbark hickory, black walnut, slippery elm, persimmon, and sassafras.

The characteristic vegetation of the mesic upland forests include sugar maple, hackberry, slippery elm, basswood, paw paw, and bladdernut. The mesic upland forests typically include a variety of ferns (Christmas fern, etc.), jack-in-the-pulpit, wild ginger, and false Solomon's seal. Herbaceous species occasionally or rarely found in the mesic upland forests include Solomon's seal, and goldenseal. The Twayblade orchid was observed at two upland forest locations.

- **Bottomland Forest**

The principal tracts of bottomland forest within the study area are located on the floodplains of Grove Branch, Lake Fork, Shoal, and Bearcat creeks. Characteristic species include sycamore, cottonwood, green ash, hackberry, basswood, and box elder. Many of the bottomland forest tracts also include typical upland forest species: northern red oak, white oak, and hickories. The vegetation in the wetter bottomland forests is similar to forested wetlands.

**Wetlands.** Wetland vegetation was described in Section 3.4. As noted therein, the FW wetlands are actively farmed and had little to no vegetation or stressed crops, the PEM wetlands are dominated by herbaceous species, and the PFO wetlands are dominated by trees exceeding 20 feet in height.

## **Terrestrial Wildlife**

**Mammals.** Because of the nature and variety of terrestrial and aquatic habitats in the study area, potential wildlife occurring in such habitats is also likely to be variable. Table C-2 lists mammals (and their scientific names) potentially occurring within the project area, including such commonly occurring species as white-tailed deer, raccoon, opossum, striped skunk, gray squirrel, eastern cottontail, and white-footed mouse. More secretive, but likely to occur species include various bat species, short-tailed shrew, southern flying squirrel, red fox, mink, and bobcat.

River otter, recently removed as a state threatened species, may also be present in the project area, as it was re-introduced into Shoal Creek as part of the recovery plan for this species. The river otter was officially delisted on September 1, 2004.

**Amphibians/Reptiles.** Reptile and amphibian species known or likely to occur in the study area are listed in Table C-3, along with their scientific names. Although many of the species occupy more than one habitat type, each species is grouped below into primary or preferred habitat types.

Representative taxa may include generalist species such as eastern garter snake and American toad as well as those species more closely associated with particular habitats. Typical forest-dwelling species may include eastern box turtle, fence lizard, five-lined skink, broad headed skink, and black rat snake. Gray tree frog and spring peeper occupy primarily forest habitat but require woodland pools, roadside ditches and other temporary bodies of water for breeding. Species occurring in the study area that are restricted primarily to grassland habitats are the prairie kingsnake and Fowler's toad.

The preferred habitat of the ornate box turtle in Illinois is reported to be prairie and open fields in former prairie, although in neighboring Missouri the ornate box turtle lives in prairies and open brushy areas and may also occur in pastures, open woods, and glades. Two ornate box turtles were observed in a wetland and Shoal Creek and five ornate box turtles were observed near Coffeen Lake.

Many reptile and amphibian species are dependant on wetland and aquatic habitats. For most amphibian species, wetland or aquatic habitats are necessary for reproduction. Common water-dependant species within the study area include the cricket frog, leopard frog, chorus frog, bullfrog, northern water snake, common snapping turtle, painted turtle, false map turtle, red-eared slider, and spiny softshell turtle. These latter species are likely to be associated with permanent aquatic habitats such as Coffeen Lake, Shoal Creek, and larger, permanent ponds.

**Birds.** Common species likely to occur in the study area include blue jay, American crow, American goldfinch, barn swallow, tufted titmouse, Carolina chickadee, downy woodpecker, northern flicker, eastern wood pewee, and red-eyed vireo (see Table C-4).

Many species of neotropical migrant songbirds are likely to use a variety of habitats throughout the site.<sup>10</sup> Neotropical migratory species that were observed on the site include Eastern wood pewee, wood thrush, common yellowthroat, and yellow throated vireo. Other neotropical migrants may utilize the site during spring and fall migration; however, the existing forest fragmentation in the area probably limits the number of forest-dwelling neotropical migrants that may utilize such areas.

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<sup>10</sup> Neotropical songbirds are those species that spend approximately eight months of the year wintering in Central and South America and the remaining months on their breeding grounds in North America's temperate latitudes. Currently, the USFWS classifies 11 of the 96 neotropical songbird species as endangered, threatened, or being of management concern and another 65 neotropical songbird species show measurable population declines.

### 3.5.3 AQUATIC COMMUNITIES

#### Habitat Description

The study area aquatic habitats are divided into five categories:

- Mid-sized perennial stream (Shoal Creek);
- Smaller perennial streams (Lake Fork, Grove Branch, Bearcat Creek, and a stream at Route A station number 236+05);
- Intermittent streams;
- Ponds; and
- Coffeen Lake.

Shoal Creek at the proposed Route A crossing is approximately 54 feet wide at the ordinary high water mark (OHWM) and the channel is incised approximately 10 feet below the adjacent floodplain. The stream gradient is relatively low. Typical water depths are in the 2- to 5-foot range and the substrate is predominantly silt/clay with some sand. The normally clear water becomes very turbid and deep following rain events due to the high percentage of agricultural (row crop) land in the watershed.

The smaller perennial streams have a higher percentage of sand/gravel in the substrates and higher water clarity than Shoal Creek. These streams have higher gradients and (in some areas) well developed pool/riffle complexes. These streams also become turbid after rain events. These streams have sufficient flow year-round to provide aquatic habitat for fish and macroinvertebrates.

Intermittent streams in the study area have relatively high gradients and predominantly sand/gravel with some silt/clay substrates. These streams typically flow only seasonally and, therefore, do not provide a perennial aquatic habitat. Fish may migrate to these headwater streams while they are flowing, and isolated small water pools may remain for most of the year and support macroinvertebrate and fish populations.

Small upland ponds within the study area provide a perennial water source. These ponds are manmade excavated and/or impounded water courses. Most of the ponds had limited wetland vegetation fringes with the exceptions of Ponds 2 and 5. Pond 2 is a larger pond and does support fish populations. Most of the other ponds are small and appear to lack fish populations.

Coffeen Lake provides habitat to a variety of fish; it is approximately 22 feet deep at the proposed Route A crossing.

#### Fish species

Common fish species expected to occur in the study area are shown in Table C-5, along with their scientific names. Throughout the Shoal Creek watershed these include the central stoneroller, red shiner, bigmouth shiner, sand shiner, silverjaw minnow, bluntnose minnow,

creek chub, blackstripe topminnow, bluegill, green sunfish, largemouth bass, Johnny darter, and white sucker. The smaller, more gravelly tributaries are likely to be dominated by creek chubs, silverjaw minnows, bigmouth shiners, bluntnose minnows, sand shiners, red shiners, sunfish (bluegill, longear sunfish), Johnny darters, and central stonerollers. Species observed during the study in Grove Branch include central stonerollers, creek chubs, bluegill, and blackstripe topminnows. Larger stream habitats, such as Shoal Creek, are likely to be dominated by gizzard shad, common carp, smallmouth buffalo, bullhead catfish, channel catfish, bluegill, largemouth bass, and freshwater drum. Common fish species in Coffeen Lake are common carp, channel catfish, yellow bullhead, green sunfish, bluegill, longear sunfish, largemouth bass, white crappie, white bass, and striped bass.

### **3.5.4 THREATENED OR ENDANGERED SPECIES**

The IDNR indicated that there are no known occurrences of listed species in the project vicinity (Appendix B, Attachment 7). The USFWS noted only one Federally endangered species in the project vicinity: the Indiana bat (*Myotis sodalis*), previously reported from Bond County (Appendix B, Attachment 1). The Illinois Natural Heritage Database contains 14 state-listed plant/animal species, including the Indiana bat, for Bond and Montgomery counties, Illinois (Table C-6).

IDNR's Kaskaskia River Area Assessment indicates recent summer records of Indiana bats from only one location – the East Fork of Shoal Creek in Bond County. IDNR indicates that it captured two lactating females along Shoal Creek in Bond County during 1986 and two lactating females and three juveniles in the same area during 1987. This indicates the presence of a maternity colony at this location.

The river otter was included in the state-listed species potentially occurring in Bond and Montgomery counties. However, as previously noted, the river otter has been delisted.

None of the state-listed species shown in Table C-6 were observed within the study area during field investigations.

### **3.6 AIR QUALITY**

The USEPA has established National Ambient Air Quality Standards for six principal air pollutants, called “criteria” pollutants: ozone, lead, carbon monoxide, sulfur dioxide, nitrogen dioxide, and respirable particulate matter. The standards were established to protect the public from exposure to harmful amounts of pollutants. When the pollutant levels in an area have caused a violation of a particular standard, the area is classified as “nonattainment” for that pollutant. Likewise, if emissions do not exceed the maximum allowed levels, the region is an “attainment area” for the specific pollutant. The designations are pollutant-specific, which means that an area may fall into both categories for different pollutants. Montgomery and Bond counties are in attainment for all of the criteria pollutants.

Amendments to the Federal Clean Air Act also provide for the establishment of “Class I” areas for pristine air quality. Class I air quality areas are commonly associated with national parks and wilderness areas. The project area is not in or near a Class I area.

### **3.7 NOISE**

The project area is primarily agricultural. In most of this area the major noise source would be traffic on local roads. However, near the existing BNSF, UP, and NS rail lines there is also some noise contribution from existing rail operations. Operations at the Coffeen Power Plant also contribute to noise levels near the eastern end of the project area. Existing day-night sound levels ( $L_{dn}$ ) around agricultural crop land are expected to be around 44 decibels (dB).<sup>11</sup> However, ambient noise levels along the proposed rail routes are probably higher around road crossings, near the existing rail lines, and near the power plant.

### **3.8 ENERGY**

As noted in Chapter 2, the Coffeen Power Plant currently receives all of its coal by rail. Most of this comes from Exxon’s Monterey Mine near Carlinville, Illinois, with additional tonnage from the Powder River Basin in Wyoming.

### **3.9 HAZARDOUS MATERIALS/WASTE SITES**

ISGS conducted an historical review of the proposed rail line routes for the purpose of determining the presence of potential hazardous material or waste sites of concern. Table 3-1 lists the identified sites; only two of which (gas pipeline crossings at sites 3 and 7) are near either proposed rail route. Potential impacts on these sites are discussed in Chapter 4.

### **3.10 SOCIOECONOMIC SETTING**

Tables 3-2 and 3-3 show selected socioeconomic data for Montgomery and Bond counties. Table 3-2 shows that Bond County population grew twice as fast between 1990 and 2000 as did the state of Illinois, while Montgomery County suffered a small loss in population. The proportion of the population aged 65 and older is 40 percent higher in Montgomery County than in the state as a whole, while in Bond County it is 22 percent higher. Montgomery County has a much smaller non-white percentage of its population than does the state, 5.1 percent, compared to 26.5 percent for the state; Bond County has 9.3 percent non-white. Per capita income in 2000 was 30 percent less in Montgomery County than for Illinois as a whole, while it

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<sup>11</sup> Source: USEPA, *Protective Noise Levels, Condensed Version of EPA Levels Document*, 1978.

**TABLE 3-1**

**ILLINOIS STATE GEOLOGICAL SURVEY POTENTIAL SITES OF CONCERN, PROPOSED AEGC RAIL LINE CONSTRUCTION**

<b>Site</b>	<b>Distance from Route A (ft)</b>	<b>Distance from Route B (ft)</b>	<b>Description</b>
1	1240	20694	EPA regulated facilities site: Country Grain Elevator, Inc., USEPA ID # 110007056247
2	1432	23339	Landfill/special waste site: Carrol Wright, IEPA ID #1358050001
3	0	25795	Pipeline site: Illinois Power, Gas pipeline crossing, 850#, 8" system 1997
4	5779	24925	Hazardous waste handler: Propellex Corp., USEPA ID #110007544069
5	6294	49429	Landfill/BOL/IEMA incident/TRI site: CIPS Landfill, IEPA BOL
6	6294	49429	Landfill/BOL/IEMA incident/TRI surface impoundment/underground injection control site: Ameren CIPS UIC, IEPA BOL #0431205094
7	15451	0	Pipeline site: Illinois Power, Gas pipeline crossing, IP 850#, 2" system 1997
8	6981	49156	Former UST site: Hillsboro Mine/Coffeen Power Plant, OSFM UST #5004966
9	4171	46965	Spill site: Ameren CIPS spill site, IEMA BOL #770177
10	25096	25924	Possible UST site: Laurence Group, Inc., OSFM # 6030515
11	7674	25070	LUST site: Carter & Grimsley Attorney at Law, IEMA # 979567, LPC #1354365001
12	2937	50580	BOL site: US Minerals LLC, IEPA #1350155005
13	6981	49156	Former UST site: Fillmore Grain Co., OSFM #5004966
14	6751	1805	Archived CERCLIS site: USEPA # ILD981952526, (distance shown to quarter section corner)
15	14197	6474	SRP Site: Norfolk & Western Railway Co.

**TABLE 3-2  
SELECTED 2000 PROJECT AREA SOCIOECONOMIC PARAMETERS<sup>a</sup>**

	Population					Per Capita Income	Percent Persons below poverty
	Total	Percent Change from 1990	Persons 65 years & older as Percent of Total	Percent White Persons	Percent Other Races		
<b>Illinois</b>	12,419,293	8.6	12.1	73.5	26.5	\$23,104	10.7
<b>Montgomery County</b>	30,652	-0.2	17.0	94.9	5.1	\$16,272	13.4
<b>Bond County</b>	17,633	17.6	14.7	90.7	9.3	\$17,947	9.3

<sup>a</sup> Source: U.S. Census Bureau: *State and County Quick Facts*

**TABLE 3-3  
FARM AND NON-FARM EMPLOYMENT BY PLACE OF WORK<sup>a</sup>**

<b>Illinois</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>
Total Employment	5,143,836	5,687,999	6,439,873	7,416,309
Farm	149,116	146,386	111,007	101,167
Percent of Total	2.90	2.57	1.72	1.36
Non-farm	4,994,720	5,541,613	6,328,866	7,315,142
Percent of Total	97.10	97.43	98.28	98.64
<b>Montgomery County</b>				
Total Employment	12,260	14,257	14,143	15,841
Farm	1,901	1,865	1,447	1,232
Percent of Total	15.51	13.08	89.77	7.78
Non-farm	10,359	12,392	12,696	14,609
Percent of Total	84.49	86.92	89.77	92.22
<b>Bond County</b>				
Total employment	5,071	5,736	5,440	6,929
Farm	1,027	1,091	843	760
Percent of Total	20.25	19.02	15.5	11.0
Non-farm	4,044	4,645	4,597	6,169
Percent of Total	79.80	81.0	84.50	89.03

<sup>a</sup> Source: Iowa State University, Office of Economic and Trend Analysis, available at [www.seta.iastate.edu/](http://www.seta.iastate.edu/).

was 22 percent less in Bond County. Bond County had a poverty rate slightly less than the state, while Montgomery County had a poverty rate of 13.4 percent, compared to 10.7 percent for the state. Table 3-3 shows the importance of agriculture to both counties. In Montgomery County in 2000, the proportion of people working in farm-related jobs was almost 6 times the rate for the state as a whole, while in Bond County the proportion was 8 times higher than the state. However, comparison with the rates for previous years shows a substantial decline in the rate of farm employment for both counties as well as the state, a decline of approximately 50 percent since 1970.

A study completed in 2003 by the University of Illinois and funded by the Illinois Department of Commerce and Community Affairs predicts that, in the next five years, Montgomery County is likely to continue to experience population decline and erosion of buying power because of low incomes. The study notes that planning needs to be done to reverse long-term structural changes in the local economy and work force.

### **3.11 CULTURAL RESOURCES**

Pursuant to the requirements of Section 106 of the National Historic Preservation Act (NHPA) and the Board's regulations at 49 CFR 1105.8, SEA contacted the Illinois Historic Preservation Agency (State Historic Preservation Office, or SHPO) to initiate the process of reviewing and documenting the cultural and historic resources in the project area. The SHPO responded that the project area had not been surveyed and may contain prehistoric/historic archaeological resources. The agency stated that a Phase I archaeological reconnaissance survey to locate, identify, and record all archaeological resources within the project area would be required (Appendix B, Attachment 9). Accordingly, at SEA's direction, a Phase I survey of the project area was conducted.<sup>12</sup>

#### **3.11.1 METHODOLOGY**

Prior to initiation of field work, a records search and a review of the extant literature and published maps were conducted to determine whether the project area contained any known cultural resources. No previously recorded archaeological sites, no sites currently listed on the National Register of Historic Places (National Register), and no sites pending nomination for the National Register were found to be within the project area. A review of the early maps and atlases indicated a nineteenth-century cane mill and several houses were once located within the project area.

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<sup>12</sup> *Phase I Archaeological Survey and Assessment for the Proposed Ameren CIPS Coffeen Power Plant Rail Line, Montgomery and Bond Counties, Illinois* (October 2004), prepared by American Resources Group, Ltd. for Dawkins Environmental Consulting [third-party contractor to SEA].

The field survey was accomplished through a combination of systematic visual inspections of the ground surface and systematic screened shovel testing within the ROW of both Routes A and B. As the ROW was not staked, the survey occasionally extended beyond the project boundaries resulting in the collection of artifacts outside the project area. Per archaeological survey guidelines established by the SHPO, cultivated areas with at least 25 percent ground surface visibility were investigated by a visual examination of the ground surface conducted along parallel transects spaced 5 meters (m) apart. Subsurface testing was only conducted where the ground surface visibility was less than 25 percent (e.g., wooded areas, pasture, or fallow fields). In these areas, shovel tests were excavated at 15-m intervals and the soil screened through ¼-inch mesh. Shovel tests are holes, approximately 40 centimeters (cm) in diameter, dug to a depth sufficient to observe culturally undisturbed soils, and subsequently backfilled. When cultural material or structures were encountered, the grid was collapsed to 5 m and shovel tests were dug in cardinal directions from each positive shovel test or feature until two consecutive negative shovel tests were encountered.

Site boundaries within the ROW were determined by the location of surface artifacts and/or positive shovel tests, topography, and the presence of features and structures. A sketch map was prepared for each site. All cultural material was collected except brick, sandstone, limestone, coal, clinkers,<sup>13</sup> and cracked rock; these were mapped but not collected. Photographs were taken of all structures within the ROW.

Following the completion of fieldwork, the artifacts were washed, sorted, catalogued, and temporarily curated. Artifacts were identified according to material, manufacture, and function. Temporally diagnostic material was identified and dated using appropriate references. After completion of the cultural resource evaluation process, all artifacts and survey records will be submitted for permanent curation to the Illinois State Museum in Springfield, Illinois, unless the landowners from whose property they were removed wish to retain them.

### **3.11.2 Phase I Survey Results**

A total of 22 archaeological sites (18 within proposed Route A and four within proposed Route B) and two find spots were identified and investigated within the project area.<sup>14</sup> The

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<sup>13</sup> A clinker is a fragment of incombustible matter left after a wood, coal, or charcoal fire.

<sup>14</sup> The “find spots” are locations where artifacts were discovered in a secondary context, the result of displacement from their original location by water or soil erosion. They do not represent archaeological sites. The two find spots were both identified in stream beds within the Route A ROW. Find Spot 1 consisted of a scatter of historic artifacts typical of late nineteenth- and twentieth-century farms and an isolated projectile point probably dating to the Late Archaic period. Find Spot 2 consisted of one piece of chert debitage (flint flakes) and a Saratoga Expanding Stem point (a projectile point type) that is diagnostic of the Late Archaic to Early Woodland periods.

archaeological sites include 14 prehistoric sites, five historic sites, and three sites with both prehistoric and historic components. Tables 3-4 and 3-5 summarize the data for the archaeological sites. The Phase I survey report analyzed information gathered during the survey to evaluate eligibility for listing on the National Register. This evaluation determined that portions of three sites (11MY137, 11MY138, and 11MY141) located within the Route A ROW and one site (11MY150) located within the Route B ROW are potentially eligible for listing on the National Register. The Phase I survey report recommended that these four sites be formally evaluated through Phase II archaeological testing if avoidance of the sites is not feasible. The survey report concluded that the remaining 18 archaeological sites and the two find spots are ineligible for the NRHP and that no further investigation of those sites is needed.

The SHPO has reviewed the Phase I survey report and identified an additional site on Route B (11MY135) that may be eligible for listing on the National Register (Appendix B, Attachment 10). This site would also need to be formally evaluated through Phase II archaeological testing if avoidance of the site is not feasible. The SHPO concurs with the findings of the Phase I report regarding potential eligibility or ineligibility of the remainder of the identified cultural resource sites. The applicant has stated that site avoidance is not feasible and has voluntarily agreed to proceed with appropriate Phase II investigations.

Potential impacts on cultural resources are discussed in Chapter 4, Section 4.12.

**TABLE 3-4 SUMMARY EVALUATION OF ROUTE A ARCHAEOLOGICAL SITES INVESTIGATED DURING THE PHASE I SURVEY**

Site Number	Site Type	Identified Components	Site (m <sup>2</sup> ) Within Project Area	Artifact Density	Artifact Diversity	Site Integrity	National Register	Recommendation
11MY136	Unknown Prehistoric	Unknown Prehistoric	109	Very Low	Low	Moderate Damage	Not Eligible	No Further Work
11MY137	Field Camp	Unknown Prehistoric	1,981	Moderate	High	Moderate Damage	Potentially Eligible	Avoidance/Phase II Testing
11MY138	Field Camp	Unknown Prehistoric	4,041	Moderate	High	Moderate to Severe Damage	Potentially Eligible	Avoidance/Phase II Testing
11MY139	Limited Activity	Unknown Prehistoric	Isolated Find	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY140	Field Camp	Unknown Prehistoric	1,094	Low	Low	Moderate Damage	Not Eligible	No Further Work
11MY141	Field Camp Farmstead/Possible Cane Mill	Unknown Prehistoric Early 19th to Mid 20th Century	4,656	Moderate High	Moderate High	Moderate Damage	Potentially Eligible	Avoidance/Phase II Testing
11MY142	Limited Activity	Unknown Prehistoric	818	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY143	Farmstead/Rural Household	Late 19th Century	2,612	Moderate	Moderate	Moderate Damage	Not Eligible	No Further Work
11MY144	Limited Activity	Unknown Prehistoric	374	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY145	Limited Activity	Unknown Prehistoric	478	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY146	Limited Activity	Unknown Prehistoric	Isolated Find	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY147	Field Camp Dump/Discard Area	Unknown Prehistoric 20th Century	1,425	Low Very Low	Low Very Low	Severe Damage	Not Eligible	No Further Work

11MY148	Field Camp	Unknown Prehistoric	686	Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY151	Limited Activity	Unknown Prehistoric	2,207	Very Low	Low	Severe Damage	Not Eligible	No Further Work
11MY152	Limited Activity	Unknown Prehistoric	928	Very Low	Low	Moderate Damage	Not Eligible	No Further Work
11MY153	Limited Activity	Unknown Prehistoric	1,004	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY154	Farmstead/Rural Household	Mid- to Late 19th Century	1,098	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY155	Farmstead/Rural Household	Late 19th to Late 20th Century	4,014	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work

**TABLE 3-5 SUMMARY EVALUATION OF ROUTE B ARCHAEOLOGICAL SITES INVESTIGATED DURING THE PHASE I SURVEY**

Site Number	Site Type	Identified Components	Site (m <sup>2</sup> ) Within Project Area	Artifact Density	Artifact Diversity	Site Integrity	National Register	Recommendation
11B142	Farmstead/Rural Household	Late 19th to Early 20th Century	666	Moderate	Moderate	Moderate Damage	Not Eligible	No Further Work
11MY135	Farmstead/Rural Household	Mid- to Late 19th Century	1,972	Moderate	Moderate	Moderate Damage	Potentially Eligible <sup>a</sup>	Avoidance/Phase II Testing <sup>a</sup>
11MY149	Limited Activity	Unknown Prehistoric	Isolated Find	Very Low	Very Low	Moderate Damage	Not Eligible	No Further Work
11MY150	Field Camp	Unknown Prehistoric	1,829	Low	Low	Moderate Damage	Potentially Eligible	Avoidance/Phase II Testing
	Famstead	Early 19 <sup>th</sup> to Late 20 <sup>th</sup> Century		High	High		Potentially Eligible	

<sup>a</sup> The Phase I cultural resources survey report concluded that site 11MY135 was not potentially eligible for the National Register and required no further investigative work; however, the SHPO determined that the site is potentially eligible and should be subject to Phase II testing if avoidance is not possible.

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## CHAPTER 4 ENVIRONMENTAL IMPACTS

### 4.1 INTRODUCTION

This chapter addresses potential environmental impacts of constructing and operating over Routes A and B. Issues raised by the various respondents to the consultation process are discussed in the appropriate sections of this chapter. Chapter 6 presents AEGC's proposed and SEA's recommended mitigation.

### 4.2 TRANSPORTATION AND TRAFFIC SAFETY

Construction and operation of either proposed Route A or B could affect transportation and traffic safety in the following ways:

- Construction of the rail line could affect local transportation (including utility) infrastructure.
- Operations over the proposed rail line could impact operations over other rail lines crossed at grade.
- Operations over the proposed rail line could cause delays of vehicular traffic at grade crossings.
- Operations over the proposed rail line could cause train-vehicular accidents at grade crossings.
- Operations over the proposed rail line could involve train derailments.

#### 4.2.1 ROUTE A

##### Construction

**Rail Lines.** As previously noted, Route A would cross NS's isolated Sorento to Coffeen rail line. The Coffeen Power Plant is the only shipper served via this line and it has been years since any other traffic has moved over the line. NS can only access the line from one direction via trackage rights over the BNSF. AEGC states that it hopes to reach a voluntary agreement with NS to cross its line, but that if it becomes necessary, AEGC would file for crossing authority from the Board under 49 U.S.C. § 10901(d). AEGC would coordinate with NS, as necessary, regarding construction of the proposed crossing in order to prevent interference with NS operations to and from the Coffeen Power Plant.

**Roadways.** Table 4-1 lists the proposed Route A road crossings and indicates AEGC-proposed crossing protections; reference is also given to the aerial photo in Appendix A where the proposed crossing would be located, by station number. As the table shows, Route A would cross 11 public and seven private roadways. With the exception of Illinois Route 127, all of the public roads that would be crossed are local or county roads. Ten of the public road crossings

**TABLE 4-1  
PROPOSED ROUTE A AND B ROAD CROSSINGS**

**Route A**

<b>Road</b>	<b>Type</b>	<b>Station Number</b>	<b>Crossing Method</b>	<b>AEGC Proposed Crossing Protection</b>	<b>ADT*</b>
Dirt road on Coffeen Power Plant property accessing Coffeen Lake	Private	24+80 (Figure A-1)	At grade	Crossbucks	N/A
Brackett (property access)	Private	67+00 (Figure A-1)	At grade	Crossbucks	N/A
CR 400 - N. 4 <sup>th</sup> Ave.	Public	115+37 (Figure A-1)	At grade	Crossbucks	225
CR 1375 - Arrow Trail	Public	130+74 (Figure A-1)	At grade	Crossbucks	25
CR 1275 - Buckeye Trail	Public	187+36 (Figure A-2)	At grade	Crossbucks	75
IL Rte 127, CR 1125	Public	257+47 (Figure A-2)	At grade	Flashers/Gates	2500
CR 1025 <sup>a</sup> - Pheasant Trail	Public	334+96 (Figure A-3)	At grade	Crossbucks	25**
Property access	Private	307+08 (Figure A-3)	At grade	Crossbucks	N/A
Fox Hunt Trail	Public	366+88 (Figure A-3)	At grade	Crossbucks	200**
Property access	Private	389+00 (Figure A-3)	At grade	Crossbucks	N/A
Laughlin Lane	Private	401+65 (Figure A-3)	Grade separated <sup>1</sup>	N/A	N/A
CR 650/10 - Long Bridge Trail	Public	525+32 (Figure A-4)	At grade	Crossbucks	<500**
CR 350 - Loew Ave.	Public	529+75 BN*** (Figure A-4)	At grade	Crossbucks	450
CR 625, Old Brushy Road	Public	541+46 BN*** (Figure A-4)	At grade	Crossbucks	100
CR 300 - N. 3 <sup>rd</sup> Avenue	Public	575+25 BN*** (Figure A-5)	Grade separated <sup>2</sup>	NA	100
Weiss (property access)	Private	581+25 BN*** (Figure A-5)	At grade	Crossbucks	N/A
CR 425 - Elm Trail	Public	529+90 UP*** (Figure A-5)	At grade	Crossbucks	<500
Property access	Private	553+00 UP*** (Figure A-4)	At grade	Crossbucks	N/A

**TABLE 4-1 (cont'd)  
PROPOSED ROUTE A AND B ROAD CROSSINGS**

**Route B**

<b>Road</b>	<b>Type</b>	<b>Station Number</b>	<b>Crossing Method</b>	<b>AEGC Proposed Crossing Protection</b>	<b>ADT</b>
Property access	Private	19+50	At grade	Crossbucks	N/A
CR 9 - Panama Ave.	Public	33+15 (Fig. A-6)	At grade	Flashers/Gates	550
CR 625 - Old Brushy Rd.	Public	61+09 (Fig. A-6)	At grade	Crossbucks	275
CR 575 - Singer Trail Rd.	Public	117+00 (Fig. A-7)	At grade <sup>3</sup>	Crossbucks	<75**
CR 300 - N. 3 <sup>rd</sup> Ave.	Public	199+46 (Fig. A-8)	At grade	Crossbucks	100
Property access	Private	216+00 (Fig. A-8)	At grade	Crossbucks	N/A
Roads crossed by existing NS line	10 Public 3 Private		At grade	Various	

\* ADT = Average Daily Traffic

\*\* ADT volumes are not published for these roads. Instead, the number shown reflects the highest ADT volume of surrounding roads.

\*\*\* The "BN" or "UP" designation next to certain station numbers indicates whether the location is for the BN or UP connection portion of Route A as applicable.

<sup>1</sup> This crossing is proposed as grade separated in order to accommodate the area topography.

<sup>2</sup> This crossing is proposed as grade separated to accommodate the crossing of Lake Fork.

<sup>3</sup> There would be a realignment for this crossing.

would be at-grade and one would be grade-separated [the crossing of County Road (CR) 300 would be separated to accommodate the proposed crossing of Lake Fork]. The private road crossings would provide access to property severed by the proposed rail line. Six of the private crossings would be on land owned by individuals; the other private crossing would be on Coffeen Power Plant land. Six of the private crossings would be at-grade and one, Laughlin Lane, would be grade-separated in order to accommodate area topography. Figures A-9 and A-10 in Appendix A are diagrams of the proposed grade-separated crossings of Laughlin Lane and CR 300, respectively. AEGC has filed a permit application with the Illinois Commerce Commission (ICC) for the proposed Route A public road crossings listed in Table 4-1. The ICC will coordinate with the Illinois Department of Transportation (IDOT) regarding the proposed at-grade crossing of Illinois Route 127. AEGC states that the ICC may consult with the affected townships prior to issuing a decision on the permit application. AEGC has agreed to install, at its cost, the necessary signage, lighting, and safety warnings for all at-grade crossings as approved and permitted by the ICC.

In order to minimize delays of vehicular traffic during construction of the road crossings, AEGC states that it would schedule the work so that construction of the roadway approaches would be completed before construction work within the roadway occurs. In addition, to the extent applicable, AEGC would require the track contractor to pre-build track panels for the grade crossings. AEGC would also place detour signs and detour traffic around work sites as applicable. At least one month before road crossing construction would begin, AEGC would notify and provide information to the nearest fire department and emergency response units and notify the County, ICC and IDOT of the planned roadway construction schedule.

AEGC intends to minimize potential impacts to school bus traffic during grade crossing construction. AEGC states that, if all regulatory permits are completed in time to undertake road crossing construction during the summer recess, it would construct the proposed grade crossings during the summer months when school is out of session. If road crossing construction cannot occur during the summer months, AEGC would, at least one month before road crossing construction is scheduled to begin, notify and provide information to the applicable school districts regarding the days and times that road construction is planned. AEGC would consider school bus schedules in planning and executing the necessary road work.

**Utilities.** Table 4-2 shows the utility crossings that would be made by proposed Route A. The table shows that most of the affected utility infrastructure is overhead electric transmission/distribution lines, although there are also buried communication cables and water and gas lines. AEGC states that it is working with Illinois Power (IP) and other utilities in the project area to determine the appropriate modifications of the affected utilities, if any, and would enter into an agreement regarding such modification, if necessary. AEGC indicates that it would bear the financial responsibility of making any needed utility modifications.

**Conclusion.** Construction of Route A should not adversely affect the existing transportation infrastructure, as AEGC would utilize the road-crossing method prescribed by the ICC, would take steps to minimize traffic disruption during the road crossing construction process, and would install, and pay for, any needed modifications of utilities crossed.

**TABLE 4-2  
AFFECTED UTILITIES, ROUTES A AND B**

<b>ROUTE A</b>		
<b>Station</b>	<b>Company</b>	<b>Description</b>
<b>Common Track<sup>a</sup></b>		
41+55	Illinois Power	138 KV Line 1626 overhead electric transmission line
114+87	Illinois Power	12 KV Circuit 811 overhead electric distribution line
±115+87	Frontier Communications	12 wire- 24 gauge buried cable
±130+06	Frontier Communications	Type 12-fiber buried fiber optic
130+87	Illinois Power	138 KV Line 1626 overhead electric transmission line
156+19	Illinois Power	345 KV Line 4551 overhead electric transmission line
±187+00	Water District	Buried water line
187+60	MJM Electric Cooperative	Overhead electric distribution line
±187+73	Frontier Communications	Buried 25 wire- 19 gauge & 6 wire- 24 gauge buried cable
204+43	Illinois Power	138 KV Line 1466 overhead electric transmission line
±256+85	Frontier Communications	50 wire- 22 gauge buried cable
±256+95	Water District	Buried water line
±258+00	Illinois Power	850#, 8" System 1997 buried gas line
258+36	Illinois Power	34 KV Line 3333 overhead electric sub-transmission line (upper), & 12 KV Circuit 811 overhead electric distribution line (lower)
348+49	MJM Electric Cooperative	Overhead electric distribution line
±366+40	Frontier Communications	25 wire- 24 gauge buried cable
±366+50	Water District	Buried water line
366+69	MJM Electric Cooperative	Overhead electric distribution line
401+81	MJM Electric Cooperative	Overhead electric distribution line
±402+55	Frontier Communications	6 wire- 22 gauge buried cable
±404+33	Water District	Buried water line
<b>BNSF Connection<sup>b</sup></b>		
±525+55	Frontier Communications	25 wire- 22 gauge buried cable
±529+46	Frontier Communications	26 wire- 22 gauge buried cable

±530+20	Frontier Communications	Type 4-fiber buried fiber optic
±541+10	Frontier Communications	Type 12-fiber buried fiber optic, 18 wire- 22 gauge & 6 wire- 19 gauge buried cable
541+19	MJM Electric Cooperative	Overhead electric distribution line
551+32	Illinois Power	138 KV Line 1446 overhead electric transmission line
±575+59	Frontier Communications	25 wire- 22 gauge buried cable
±581+42	Frontier Communications	6 wire- 19 gauge buried cable
±575+79	MJM Electric Cooperative	Overhead electric distribution line
±581+86	MJM Electric Cooperative	Overhead electric distribution line
602+58	Illinois Power	345 KV Line 4551 overhead electric transmission line
<b>UP Connection<sup>c</sup></b>		
500+57	Illinois Power	345 KV Line 4551 overhead electric transmission line
529+68	MJM Electric Cooperative	Overhead electric distribution line
<b>ROUTE B</b>		
<b>Station</b>	<b>Company</b>	<b>Description</b>
±18+55	Illinois Power	850#, 2" System 1997 buried gas line
32+92	Southwestern Electric Cooperative	Overhead electric distribution line
68+52	Southwestern Electric Cooperative	Overhead electric distribution line
113+31	Southwestern Electric Cooperative	Overhead electric distribution line
182+30	Illinois Power	345 KV Line 4551 overhead electric transmission line
215+68	Illinois Power	138 KV Line 1446 overhead electric transmission line

<sup>a</sup> Common Track” refers to that portion of the proposed rail Route A between the beginning of the proposed line and the point at which the line would split, with one section proceeding toward a connection with the UP and the other section proceeding toward a connection with BNSF.

<sup>b</sup> “BNSF Connection” refers to the section of the proposed rail Route A between Station Number 490+65.00 on the common track and the proposed Route A connection with the BNSF.

<sup>c</sup> “UP Connection” refers to the section of the proposed rail Route A between Station Number 490+65.00 on the common track and the proposed Route A connection with the UP.

## Operations

There would be approximately 600 total annual train movements (loaded and empty) over Route A, for an average of around 1.6 train movements per day. Trains would consist of three locomotives and 115 cars. The proposed rail line is not expected to carry hazardous materials.

Trains would operate over the proposed line at any time of day. The line would be built to FRA Class 4 standards which would permit a maximum operating speed of 60 mph; however, AEGC expects the maximum operating speed on Route A to be as follows:

- 25 mph between stations 00+00 (the Coffeen Power Plant track connection) and 165+00
- 45 mph between stations 165+00 and 490+65
- 40 mph between stations 490+65 and 647+74 (the connection with BNSF)
- 40 mph between stations 490+65 and 570+47 (the connection with UP).

**At-Grade Crossing of Other Rail Lines.** Route A would require one crossing of NS's Sorento to Coffeen rail line. Currently the only shipper NS serves over this rail line is the Coffeen Power Plant, and there are no indications that other shippers intend to locate on the NS line. Because the principal purpose of the proposed rail line is to provide the Coffeen Power Plant with alternative rail access for transporting coal, it is unlikely that both the NS line and Route A would be moving coal trains at the same time. Therefore, rail crossing delays or interference are not expected. However, in the event that NS begins serving new shippers on the Sorento to Coffeen line, or both the NS line and proposed Route A are unexpectedly moving coal traffic at the same time, AEGC has stated that it would coordinate with NS in order to avoid interference with NS operations.

**Delay.** Train movements through an at-grade crossing involves the potential for delay of vehicular traffic. The time during which a roadway would be blocked by a train passing through an at-grade rail crossing depends on how long the train takes to clear the crossing, as well as how far in advance of the train's actual arrival at the crossing vehicular traffic begins to stop and wait for the train to pass. A 115-car train with 3 locomotives would be 6,400 feet long. A 6,400-foot train traveling at 25 mph (i.e., the lowest proposed train speed) would take approximately 2.9 minutes to clear a crossing. If vehicular traffic began to stop at the crossing 30 seconds in advance of the train's arrival at the crossing, the train's approach and passby would block the crossing for approximately 3.4 minutes. Approximately 1.6 train movements per day would block the crossing for less than 5.5 minutes per day. A train traveling at a faster speed would block the crossing for less time. The number of vehicles that might be delayed at each passby of a train through at-grade crossings on Route A would depend on the amount of vehicular traffic on that road at the time of the train passby. As Table 4-1 shows, Illinois Route 127 has average daily traffic of 2,500 vehicles; the remainder of the affected roads are lightly traveled.

**Grade-Crossing Accidents.** The proposed crossing of Illinois Route 127 would be equipped with flashing lights and gates; the remainder of the Route A at-grade crossings would be protected by crossbucks. The expected low level of rail traffic over the proposed line, plus the relatively low level of vehicular traffic on these roads, should minimize the potential for train-vehicular accidents. The proposed use of flashing lights and gates on Illinois Route 127 should further minimize the potential for accidents at this crossing.

**Derailment.** Any instance of train operation over a rail line involves at least a limited potential for derailment. However, track safety inspections would be conducted according to FRA standards contained in 49 CFR Part 213.

**Conclusion.** Due to the small amount of time during which the at-grade crossings on the proposed line would be blocked, and the lightly traveled nature of most of the roads that would be crossed at-grade, rail operations over Route A should not have significant grade crossing delay impacts. As noted above, the low vehicular traffic levels and low expected train traffic levels would minimize the potential for collisions. AEGC's proposed inspection program should detect any potential problems with the physical condition of the line at an early stage, minimizing derailment potential. Also, AEGC has expressed willingness to coordinate with NS, should the need arise, to prevent interference with operations on NS's Sorrento to Coffeen line.

#### **4.2.2 ROUTE B**

##### **Construction**

**Rail Lines.** Route B would cross no other rail lines.

**Roadways.** Route B would require four new public road crossings and two private road crossings (to provide property access) [see Table 4-1]. At three of the public road crossings, AEGC has proposed crossbucks. At the fourth crossing, CR 9/Panama Avenue, AEGC proposes to add flashers/gates as part of its voluntary mitigation to accommodate a request from the Bond County Engineer. Route B would cross Singer Trail Road at station number 117+00, which would require this road to be realigned somewhat to the north of its current location (Figure A-7); AEGC would pay for the road relocation. AEGC would install, at its cost, the crossing protection approved and required by the ICC.<sup>15</sup>

Route B would be used in conjunction with the NS Sorrento to Coffeen line, which has a total of 13 existing grade crossings (10 public and three private). The existing NS crossings

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<sup>15</sup> The ICC allows authorization to be requested for only one route. At this time, AEGC has elected to file for authorization for Route A; however, should circumstances allow construction of proposed Route B, AEGC has stated an intent to file for ICC authorization for Route B at the appropriate time. It should be noted, however, that AEGC's decision to file for ICC authorization for Route A was done at its own risk. In making its final decision on this exemption, the Board may deny (or alternatively approve) either or both Routes A and B.

consist of two private crossings with no crossing protection, two public crossings with flasher lights, one public crossing with flasher lights and gates, while the remainder have cross buck signs. Route B coal trains moving over this NS line would not represent additional traffic on the line, as coal trains to the power plant currently move over this line. AEGC would implement the same steps noted for Route A to minimize delay of vehicular traffic during the construction of new road crossings.

**Utilities.** Table 4-2 also shows the proposed Route B utility crossings, which consist of one buried gas line and the remainder overhead electric lines. AEGC would bear the financial responsibility of making any needed modifications to these facilities.

**Conclusion.** Construction of Route B should not adversely affect the existing transportation infrastructure, for the same reasons cited above for Route A. In addition, because AEGC's operations over the existing Sorrento to Coffeen line under the Route B alternative would be similar to NS's current operations over that segment of rail line, changes in vehicular delays and the occurrence of accidents at existing public and private road crossings would not be expected.

## **Operations**

**Delay and Accidents.** The number of train trips over proposed Route B would be the same as previously described for Route A. Maximum operating train speed over Route B would be 40 mph. Train approach and passby at 40 mph would block a crossing for 2.3 minutes. With 1.6 average daily train movements, any given crossing would be blocked 3.7 minutes daily. Table 4-1 shows that the roads which would be crossed at-grade by Route B are lightly traveled. The expected low level of rail traffic over the proposed line, plus the relatively low level of vehicular traffic on these roads, should minimize the potential for train-vehicular accidents. The proposed use of flashing lights and gates on CR 9 should further minimize the potential for accidents at this crossing.

**Conclusion.** Rail operations over Route B would not have significant adverse transportation and traffic safety impacts, for the same reasons as cited for Route A. In addition, because AEGC's operations over the existing Sorrento to Coffeen line under the Route B alternative would be similar to NS's current operations over that segment of rail line, changes in vehicular delays and the occurrence of accidents at existing public and private road crossings would not be expected.

## 4.3 LAND USE AND RECREATION

### 4.3.1 ROUTE A

#### Land Use

The potential for land use impacts from construction of a rail line generally arises from acquisition of land for the ROW and associated uses, as well as impacts on properties adjacent to the ROW due to such things as restriction of access. The extent to which such impacts actually occur depends on the circumstances of the particular case.

AEGC indicates that approximately 163 acres of land from a total of 25 different landowners would be needed for the construction of Route A.<sup>16</sup> AEGC currently has agreements with 15 of the landowners, accounting for approximately 50 percent of the needed land. AEGC hopes to conclude voluntary agreements with all of the landowners. Most of the land to be acquired is in agricultural use for row crops or pastureland; however, some of the land is forested and a small amount is built upon. Approximately 0.5 acre, near Illinois Route 127, is owned by the IDOT. The proposed ROW would not be fenced.

Table 4-3 shows that there are seven residences within 500 feet of the proposed Route A centerline. The distance ranges from 84 feet to 477 feet to the centerline. The location of these homes is shown in Figures A-1 through A-5. At this time, AEGC expects to relocate one of these residences, located near station number 406+69, adjacent to Laughlin Lane (Figure A-3). This residence is a manufactured home partially located within the proposed ROW. AEGC states that it is working with the landowner regarding the placement of the residence for relocation.

The NRCS, when notified of the proposed rail construction, requested more information to facilitate making a determination if the project would result in conversion of important farmland to other uses (Appendix B, Attachment 2). NRCS subsequently determined that, although Route A would cross several prime farmland soil map units and convert agricultural land to non-agricultural use, its construction would not adversely affect the project area's agricultural land (Appendix B, Attachment 3).

AEGC indicates that it is working with private landowners to minimize property severance impacts. It states that it is proposing a second bridge structure at Shoal Creek, in part, to provide landowner access to severed property. As noted in Section 4.2.1 and listed in Table 4-1, AEGC proposes to build six private road crossings on land owned by individuals to provide access to property that would be severed by proposed Route A. AEGC also states it would work

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<sup>16</sup> The need for and location of potential haul roads or staging areas have not yet been determined by AEGC. Therefore, potential impacts from these activities are not reflected in these land use discussions. SEA has proposed a condition to address the uncertainties of potential haul roads and staging areas.

**TABLE 4-3  
RESIDENCES WITHIN 500 FEET OF PROPOSED TRACK CENTERLINE**

<b>Route A</b>				
<b>Station Number / Figure Number</b>			<b>Distance to Centerline (in feet)</b>	<b>Description</b>
<b>Common Track<sup>a</sup></b>	<b>BNSF Connection</b>	<b>UP Connection</b>		
208+41 / A-2			477	House
393+49 / A-3			407	House
401+53 / A-3			332	House
406+69 / A-3			84	House
412+33 / A-4			306	House
		534+78 / A-4	352	Mobile home
		570+47 / A-4	417	House
<b>Route B</b>				
<b>Station Number / Figure Number</b>			<b>Distance to Centerline (in feet)</b>	<b>Description</b>
111+75 / A-4				
			186	House

<sup>a</sup> That section of proposed Route A between its beginning and the point at which it splits into a connecting route with BNSF and a connecting route with UP.

with farmers to remedy actual damage to crops, pastures, or pasturelands caused by rail construction activities.

AEGC states that it would ensure that all construction debris is removed and disposed of in accordance with all Federal, state, and local regulations. It also states that it would limit construction activities and vegetation clearing to the proposed ROW. If land outside of the proposed ROW is unexpectedly disturbed, AEGC would restore the land to its original condition, as reasonably necessary, upon completion of the proposed construction. AEGC also states that project-related construction vehicles, equipment, or workers would not be permitted to access work areas by crossing residential properties without receiving the prior permission of the property owners.

Neither the Montgomery nor Bond county governments responded to inquiries regarding proposed rail routes.

### **Recreation**

As described in Chapter 3, the Coffeen Lake State Fish and Wildlife Area is located at the eastern end of the project area. The shoreline offers access to the popular fishing resource represented by the lake. Proposed Route A would make only one crossing of a road accessing the lakefront. At station number 24+80 (see Figure A-1) Route A would cross a dirt road located on Coffeen Power Plant property that gives access to the lakefront. AEGC proposes to install an at-grade crossing of this road. The crossing would include crossbuck signage. Construction of the rail line would temporarily block this road; however, no permanent impacts are expected on access to, or use of, Coffeen Lake.

### **Conclusion**

The presence of a rail line along Route A should not have significant impacts on local land use or recreation. Although the proposed construction would remove a little over 100 acres of land from agricultural use, it would not adversely affect local agriculture. AEGC's proposed relocation of an affected residence and its plans to provide private crossings, where appropriate, should minimize land use impacts adjacent to the proposed ROW.

## **4.3.2 ROUTE B**

### **Land Use**

Construction of Route B would require approximately 52 acres.<sup>17</sup> AEGC currently has agreements with four of the nine landowners involved, representing approximately 35 percent of the needed land. Most of the land that would be acquired is in agricultural use. Some of the proposed ROW is also forested. The ROW would not be fenced. As with Route A, NRCS concluded that construction of Route B would occur on prime farmland soils, and would convert agricultural land to non-agricultural uses but that this would not adversely affect local agriculture.

Table 4-3 shows that there is one residence within 500 feet of the proposed Route B ROW. No relocations are expected along Route B. AEGC would take the same steps noted for Route A to minimize property severance impacts and would remedy crop damage from construction activities.

### **Recreation**

There are no public recreational areas that could be affected by construction or operation of Route B.

### **Conclusion**

The presence of a rail line along Route B would not have significant land use impacts, for the same reasons cited above for Route A. In addition, because no new construction would occur along the existing Sorrento to Coffeen line under the Route B alternative, and AEGC's operations over the existing line would be similar to NS's current operations, impacts to land use and recreational areas in the vicinity of the Sorrento to Coffeen line would be negligible.

## **4.4 TOPOGRAPHY, GEOLOGY AND SOILS**

The project area exhibits low relief. The construction along the majority of both Routes A and B would involve laying rail trackage on an embankment through flat agricultural fields.

As noted in Chapter 3, Route A in Montgomery County would be adjacent to the north edge of an inactive underground shaft coal mine and would not cross over the mine. The adjacent locations of that mine are between proposed Route A station numbers 330+00 and

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<sup>17</sup> The need for and location of potential haul roads or staging areas have not yet been determined by AEGC. Therefore, potential impacts from these activities are not reflected in these land use discussions. SEA has proposed a condition to address the uncertainties of potential haul roads and staging areas.

335+00, a distance of 500 feet. Inspection of the proposed plan and profile for Route A show that the maximum grade change within the 500 foot length would be 1.5 feet. The ISGS states that the mine (index Mine 76) was between 375 and 390 feet below the ground surface. A surface grade change less than 2 feet would have no effect on the in-situ state of stress at the depth of this mine. The live load from trains would not propagate below a depth of 50 feet. Therefore, construction and operation of Route A would not affect this mine.

Route B in Bond County would cross over an inactive underground shaft coal mine (index Mine 2005) between proposed station numbers 20+00 and 55+00 near Sorento, a distance of 3,500 feet. ISGS indicates that Mine 2005 was 384 feet below the ground surface. The Route B plan and profile shows a maximum of 11 feet of fill for the planned track embankment within this 3,500 feet of alignment. Project test holes in the area show that bedrock starts at less than 100 feet below the ground surface; therefore, there is at least 250 feet of bedrock over the roof of the mine. The eleven foot high embankment would create a maximum load at the surface of 1,375 pounds per square foot, but at a depth of 380 feet the distributed load would be no greater than 105 pounds per square foot. This is a change in the in-situ state of stress of about 0.2 percent. This maximum possible stress change would be of no significance to the stability of a mine that has more than 100 feet of bedrock over its roof, as the live load from trains would not propagate below a depth of 50 feet. Therefore, the construction and operation of proposed Route B would not affect this mine.

As noted in the previous section, both Routes A and B would cross prime farmland soils, but the NRCS states that this would not have an adverse effect on area agriculture. AEGC states that it would limit ground disturbance to only the areas necessary for project-related construction activities and that it would take reasonable steps to ensure the use of appropriate fill material.

## **4.5 WATER RESOURCES**

### **4.5.1 ROUTE A**

#### **Groundwater**

Construction of Route A would not be expected to affect groundwater quantity or quality. Placement of fill for the rail embankment would not interfere with the recharge of public groundwater supplies, as IEPA indicates that there are no public water supply recharge zones in the project area. Likewise, cuts that would be made for the proposed line would not be deep enough to affect public water supply aquifers. In the unlikely event that rail operations resulted in a spill or release of contaminants, public water supplies should not be affected, due to the absence of recharge zones in the area. There are no public or private water supply wells within the current design grading limits of Route A. For wells located within the proposed ROW but outside the grading limits, AEGC would cap or otherwise close those wells in accordance with state regulations.

## Surface Water

Project area surface water resources are described in Chapter 3. The following discussion of impacts deals first with rail line construction, and then with rail line operations and maintenance.

**Construction.** The following discussion of rail line construction impacts focuses on streams, wetlands, and floodplains, which could be affected in a variety of ways, including:

- **Soil/Debris Deposition.** Soil or debris could be deposited into a waterway or wetland while rail construction activities are taking place. Disturbance of the streambed by instream construction activities could also increase siltation. In addition, soil could erode into the waterway/wetland over time after completion of construction activities as a result of steep cut or fill slopes or as a result of inadequate revegetation procedures. Soil or debris deposition could adversely affect water quality.
- **Interference with Surface Drainage.** This could occur if the placement of fill material blocks surface drainageways or if bridge or culvert openings are not large enough to accommodate existing flow, and therefore, can cause the drainageway to overflow its channel. Construction in a floodplain can also impede the movement of floodwaters, and increase floodwater elevations.
- **Wetland Impacts.** Wetland vegetation could be destroyed by work occurring in the wetland and also by adverse effects on water quality due to soil or debris deposition. Placement of fill material in a wetland to serve as support for the track structure also removes a portion of the wetland from use and could alter the hydrology of the remaining portion of the wetland.

### A. Streams and Wetlands

Numerous streams and wetlands would be affected by construction of proposed rail Route A. Under Section 404 of the CWA, the USACE reviews project plans and issues permits for dredge and fill activities within waters of the United States. Section 401 of the CWA, administered by IDNR, requires water quality certification for any activity resulting in impacts to jurisdictional streams or jurisdictional wetlands.<sup>18</sup>

Table 4-4 lists the location and proposed crossing method of the affected jurisdictional streams that would be crossed by Route A. The table shows that Route A would make 25 crossings of jurisdictional streams, 17 of which would be culverted, five filled and diverted, and three bridged. The streams that would be bridged are Bearcat Creek, Shoal Creek, and Lake

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<sup>18</sup> Jurisdictional streams are watercourses exhibiting an OHWM, having an observable bed and bank, and which can be documented to have surface water connections to navigable waters of the United States. Jurisdictional wetlands must be hydraulically connected or adjacent to jurisdictional waters of the United States; this typically includes wetlands located within the floodplain of a jurisdictional water.

**TABLE 4-4  
JURISDICTIONAL STREAM IMPACTS<sup>a</sup>, ROUTES A AND B**

ROUTE A							
Station Number/Figure Number			Stream ID	Classification <sup>b</sup>	Impact Type	Jurisdictional Impact Length (feet)	Impact Acreage
Common Track <sup>c</sup>	BNSF Connection	UP Connection					
16+58 / A-1			Stream 25	I	Culverted	10	0.001
71+21 / A-1			Stream 23	E	Culverted	78	0.004
82+66 / A-1			Stream 22	E	Culverted	88	0.014
214+19 / A-2			Stream 21	E	Culverted	123	0.014
225+18 / A-2			Stream 20	I	Culverted	360	0.033
236+05 / A-2			Stream 19	P	Culverted	322	0.222
253+26 / A-2			Stream 18, Tributary A	E	Filled/Diverted	33	0.002
253+26 / A-2			Stream 18	I	Culverted	190	0.039
266+95 / A-2			Stream 17	I	Culverted	125	0.013
271+64 / A-2			Stream 16	E	Culverted	79	0.005
287+00 / A-3			Stream 15	E	Filled/Diverted	990	0.006
295+78 / A-3			Stream 14, Bearcat Creek	P	Bridged <sup>d</sup>	17	0.009
314+51 / A-3			Stream 13	I	Culverted	318	0.058
318+00 / A-3			Stream 12, Tributary B	E	Filled/Diverted	134	0.006
319+49 / A-3			Stream 12	I	Culverted	237	0.019
328+00 / A-3			Stream 12, Tributary A	E	Filled/Diverted	23	0.001
450+34 / A-4			Stream 11, Shoal Creek	P	Bridged <sup>d</sup>	17	0.021
459+60 / A-4			Stream 11, Tributary B	I	Culverted	349	0.032
462+00 / A-4			Stream 11, Tributary A	I	Filled/Diverted	304	0.035

	525+41 / A-4	Stream 10, Tributary A	I	Culverted	76	0.009
	542+38 / A-4	Stream 10	P <sup>e</sup>	Culverted	186	0.038
	558+34 / A-5	Stream 7	P	Culverted	119	0.005
	570+50 / A-5	Stream 6, Lake Fork	P	Bridged <sup>e</sup>	17	0.004
	584+94 / A-5	Stream 4	I	Culverted	165	0.03
	593+04 / A-5	Stream 3	E	Culverted	224	0.026
<b>Total Impacts</b>					3633	0.612

**ROUTE B**

<b>Station Number / Figure Number</b>	<b>Stream ID</b>	<b>Classification<sup>b</sup></b>	<b>Impact Type</b>	<b>Jurisdictional Impact Length (feet)</b>	<b>Impact Acreage</b>
120+50 to 124+00 / A-7	Pond 2, Stream 2	I	Filled/Diverted	424	0.029
138+00 / A-7	Stream 9, Grove Branch	P	Culverted	413	0.303
151+00 / A-7	Stream 8	E	Culverted	302	0.017
207+90 / A-8	Stream 2	E	Culverted	118	0.014
226+50; 228 to 231 / A-8	Stream 1	I	Culverted/Filled /Diverted	547	0.05
<b>Total Impacts</b>				1804	0.413

<sup>a</sup> Source: MACTEC, 2004. Jurisdictional streams are watercourses exhibiting an ordinary high water mark, having an observable bed and bank, and which can be documented to have surface water connections to navigable waters of the United States.

<sup>b</sup> E = Ephemeral; I = Intermittent; P = Perennial. Otherwise indicated, classification is a result either of field verification of prior USGS classification or field determination where no USGS classification was available.

<sup>c</sup> That section of proposed Route A between its beginning and the point at which it splits into a connecting route with BNSF and a connecting route with UP.

<sup>d</sup> Bridge impacts are not included in the total.

<sup>e</sup> USGS classified Stream 10 as intermittent; however, field observations determined that it is perennial.

Fork (the proposed Coffeen Lake crossing is listed in Table 4-5). Diagrams of the proposed Bearcat Creek and Shoal Creek bridge structures are shown in Figures A-11 through A-13 (Shoal Creek and its floodplain would be crossed by two bridges); the proposed Lake Fork bridge is shown in Figure A-10, as it is part of the CR 300 crossing. Figure A-14 shows a diagram of a cross-section of a typical concrete box structure, while Figure A-15 shows a diagram of a cross-section of a typical culvert structure. Table 4-4 shows that construction of Route A would impact a total of 0.61 acres and 3,633 linear feet of jurisdictional streams. In addition to the streams listed in Table 4-4, dozens of other ephemeral streams and ditches would be filled and culverted to maintain surface water runoff conditions.

Table 4-5 lists the affected wetlands and ponds. The table shows that construction of Route A would affect 12 jurisdictional wetlands, as well as Coffeen Lake, and 5 non-jurisdictional wetlands/ponds, primarily through the placement of fill material. Coffeen Lake would be crossed by means of an embankment and bridge, which would affect 1.14 acres of open water. Figure A-16 shows a preliminary plan/profile view of the proposed Coffeen Lake bridge. Total impacted acreage of jurisdictional wetlands, including Coffeen Lake, would be 9.47 acres. Total impacted acreage of non-jurisdictional wetlands would be 0.33 acres. Table 4-5 shows that five of the jurisdictional wetland sites are classified as farmed wetlands. These sites are currently mapped by NRCS as non-wetlands, but that agency has not officially certified them as such because it does so only at the request of the landowner, and the current landowners have not so requested. If the farmed wetlands are excluded from the total, Route A would affect 4.37 acres of jurisdictional wetlands, including 1.14 acres of open water in Coffeen Lake. The wetland values and functions of the affected jurisdictional wetlands would be determined as part of AEGC's permit application process with USACE. AEGC has submitted an application to the USACE, IDNR and IEPA for the appropriate permits (including a construction site stormwater NPDES permit) in regard to the proposed stream and wetland crossings. AEGC does not yet know what mitigation these agencies may require.

As proposed by AEGC, Table 4-6 lists the basic steps in the construction of proposed bridges and culverts. Expected in-stream activities vary by proposed crossing method. AEGC states that, if the crossing is made with a bridge, the bridge structure would clear span the main creek channel beyond the banks so that the only in-stream activity would be placement of stone rip-rap for erosion control. If crossing with a culvert, the properly sized culvert would be built in the stream channel location under the embankment, and embankment fill would be placed around the culvert and in the remaining stream section up to the track support elevation. Placement of many of the culverts would require that an existing meandering channel be filled and straightened. If this occurs in a perennial stream or in an intermittent or ephemeral stream under flow conditions, AEGC would require its contractor to take measures to temporarily divert and maintain the streamflow and control erosion and sedimentation during construction.

**TABLE 4-5  
AFFECTED WETLANDS/POND IMPACTS<sup>a</sup>**

<b>ROUTE A</b>							
<b>Station Number / Figure Number</b>			<b>Wetland ID</b>	<b>Wetland Classification Field Determination<sup>b</sup></b>	<b>Jurisdictional Determination<sup>c</sup></b>	<b>Impact Type</b>	<b>Wetland Impact Acreage</b>
<b>Common Track<sup>d</sup></b>	<b>BNSF Connection</b>	<b>UP Connection</b>					
36+30 to 43+40 / A-1			Coffeen Lake <sup>e</sup>	OW	Yes	Embankment/ Bridge	1.14
47+15 / A-1			Wetland 15	PEM	Yes	Filled/Culverted	0.03
59+00 / A-1			Wetland 14	PEM	Yes	Partial Fill	0.01
61+30 / A-1			Wetland 13-NJ	PEM	No	Partial Fill	0.001
62+00 / A-1			Wetland 12-NJ	PEM	No	Fill	0.15
71+20 / A-1			Wetland 11	PEM	Yes	Partial Fill	0.01
297+50 / A-3			Wetland 10-3-FW	FW	Yes	Partial Fill	0.12
300+30 / A-3			Wetland-10-2-FW	FW	Yes	Partial Fill	0.2
301+80 / A-3			Wetland 10-1-FW	FW	Yes	Fill	0.07
407+60 / A-3			Pond 5-NJ	PEM	No	Drain	0.05
431 to 444 / A-4			Wetland 9-FW	FW	Yes	Partial Fill	4.19
451 to 462 / A-4			Wetland 8	PFO	Yes	Partial Fill/Bridge	3.04
468+00 / A-4			Pond 4-NJ	OW	No	Drain/culvert	0.04
472+00 / A-4			Pond 3-NJ	OW	No	Drain/culvert	0.09
	558+30 / A-5		Wetland 6	PFO	Yes	Partial Fill	0.05
	571+00 / A-5		Wetland 4	PFO	Yes	Bridged	0.01
	574+90 to 579+60 / A-5		Wetland 3-FW	FW	Yes	Partial Fill	0.52

	578 to 580 / A-5		Wetland 2	PFO	Yes	Partial Fill	0.09
<b>Route A Total Jurisdictional Impacts</b>							9.47
<b>Route A Total Non-Jurisdictional Impacts</b>							0.33
<b>ROUTE B</b>							
Station Number / Figure Number	Stream ID	Wetland Classification Field Determination <sup>b</sup>	Jurisdictional Determination	Impact Type	Wetland Impact Acreage		
123 to 124+00 / A-7	Pond 2-Wetland 2	PFO	Yes	Partial Fill	0.16		
124+30 / A-7	Pond 2-Wetland 1	PFO	Yes	Partial Fill	0.01		
124 to 125 / A-7	Pond 2	OW	Yes	Partial Fill/ Culvert	0.25		
138+00 / A-7	Stream 9-Wetland 1	PFO	Yes	Filled	0.02		
224+00 / A-8	Pond 1	OW	Yes	Partial Fill	0.02		
229 to 235 / A-8	Wetland 1	PEM	Yes	Partial Fill	0.32		
<b>Route B Total Jurisdictional Impacts</b>							0.78
<b>Route B Total Non-jurisdictional Impacts</b>							0

<sup>a</sup> Source: MACTEC, 2004

<sup>b</sup> OW = Open Water; PEM = Palustrine Emergent; FW = Farmed Wetlands; and PFO = Palustrine Forested.

<sup>c</sup> Jurisdictional wetlands must be hydraulically connected or adjacent to jurisdictional waters of the United States; this typically includes wetlands located within the floodplain of a jurisdictional water.

<sup>d</sup> That section of proposed Route A between its beginning and the point at which it splits into a connecting route with BNSF and a connecting route with UP.

<sup>e</sup> Although listed herein with wetlands, Coffeen Lake is in the OW zone of a Lacustrine (deep water habitat) water body and by definition is not a wetland.

**TABLE 4-6 AEGC-PROPOSED BASIC STEPS IN CONSTRUCTION OF PROPOSED DRAINAGEWAY CROSSINGS**

<b>Bridges</b>	<b>Concrete Box Culverts</b>	<b>Corrugated Steel Pipe Culverts</b>
Clear and grub site, establish crane set up pads for pier construction	Clear and grub site	Clear and grub site
Construct embankment at each abutment	Grade location of concrete box for floor slab construction	Establish inlet and outlet flow lines and excavate for pipe placement
Drive piles at each pier or bent location and abutments	Place and compact an aggregate subbase for concrete placement	Place and compact bedding material
Set pier caps and abutments	Place forms, reinforcing steel and pour concrete for floor slab	Place pipe
Set bridge girders (steel girders shall have a steel pan allowing for a ballast deck)	Place forms, reinforcing steel and pour box walls	Backfill around pipe
Place rip rap around the abutments	Place forms, reinforcing steel and pour roof and headwalls	Place rip rap around ends and along both flow lines of the pipe
Ballast deck and construct track	Place forms, reinforcing steel and pour inlet and outlet aprons	
Bridge in Coffeen Lake will have crane(s) set up on floating barges	Place forms, reinforcing steel and pour wing walls	
	Place embankment along the sides and over the top of box	
	Construction and ballast track	
	Culvert construction in streams with significant water flow that cannot be barricaded shall have a by-pass channel cut adjacent to the site to accommodate "normal" flow conditions.	
	Culvert construction in streams not having significant flow and that can be barricaded shall have a pump(s) set up to pass the water through the placement/construction site.	
	Erosion control will be established around the construction site by use of silt fencing and straw bales or other approved methods.	
	These features will remain in place until the permanent culvert construction process is completed.	

AEGC states that it would take steps to limit potential adverse impacts of constructing the proposed stream and wetland crossings, including the following:

- Disturb the smallest area possible around water resources and reseed areas as soon as practicable to prevent erosion;
- If necessary, use seeding fiber mats, straw mulch, plastic-lined slope drains, and silt dikes;
- Use native species where practicable for revegetation;
- Develop a spill prevention plan prior to construction, and specify measures to be taken in case any spills occur;
- Maintain construction and maintenance vehicles in good working order. All contractors would be required to conduct daily inspections of all equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. If leaks are found, the contractor would be required to immediately remove the equipment from service and repair or replace it and remediate the spill;
- Develop practices to control turbidity and disturbance of bottom sediments during construction of the proposed Coffeen Lake crossing;
- Develop a bridge maintenance plan in compliance with FRA regulations;
- Culvert construction in streams with significant water flow that could not be barricaded would have a by-pass channel cut adjacent to the site to accommodate "normal" flow conditions;
- Culvert construction in streams not having significant flow and that could be barricaded would have a pump(s) set up to pass the water through the placement/construction site;
- Erosion control measures at culvert construction sites would remain in place until the permanent culvert construction process is completed; Construct the proposed rail line in such a way as to maintain current drainage patterns to the extent practicable. Where appropriate, work with farmers on any drainage issues that might arise;
- Prohibit project-related construction vehicles from driving in or crossing streams at other than established crossing points.

An additional issue related to the proposed Coffeen Lake crossing is the proximity of the proposed lake crossing to the existing NS lake crossing, and the potential for stagnant water to develop in the pool between the two rail embankments. To diminish the possibility of water stagnation, AEGC would center the opening of the Route A embankment at station number 41+50, near the west bank of the lake. According to AEGC, this would force flows from the existing NS embankment to move laterally across the whole zone to the proposed new embankment opening. AEGC also states that two small tributaries that discharge into the lake in this area from the east would add to the outflow to the west. AEGC believes that this drainage pattern would encourage the greatest possible mixing and fresh water replacement in the pool between the existing and proposed embankments. AEGC's proposed resolution of this issue is part of its application to USACE for this project.

## **B. Floodplains**

Table 4-7 lists, by stream crossing, the acreage of 100-year flood plains within the proposed Route A grading limits. Based on AEGC calculations, the table also shows the expected increase in the 100-year flood water elevations as a result of the proposed rail construction. According to AEGC, the projected increases in flood water elevation comply with IDNR regulations, which require less than one foot rise in the 100-year flood above the existing conditions at proposed crossings and less than one-half foot rise 1,000 feet upstream. IDNR does not have specific standards related to 100-year flood events for lakes; however, IDNR has indicated to AEGC that the proposed Coffeen Lake crossing structure would meet IDNR requirements.

According to AEGC, the culverts for smaller streams have been designed (i.e., sized) to accommodate the maximum water discharge for the 50-year storm. This culvert size was then used to calculate the maximum water depth at the culvert for the 100-year storm flow. If the depth of flow for the 100-year storm remained below the track subgrade elevation, the culvert was deemed to meet the design criteria.

**Operation and Maintenance.** An accident during train operations over Route A could result in a spill of contaminants (such as diesel fuel) into a waterway or wetland. However, the likelihood of a train accident is thought to be minimal due to the projected low traffic level on the line and also to the planned maintenance program for the rail line. In addition, diesel fuel for the locomotives, which is the primary potential contaminant to be carried for the foreseeable future, would only be present in limited quantities.

Maintenance of the proposed rail line could result in toxic materials being deposited in waterways if herbicides applied to the ROW to control vegetation were to run off or wash into adjacent drainageways or wetlands. The typical pattern for herbicide application would be a strip along the length of the rail bed and bounded on either side by drainage ditches. Nevertheless, at least a limited potential exists for a certain amount of the applied herbicide to run or wash off from the application areas into adjacent drainageways. However, AEGC has proposed the following measures to minimize impacts from ROW vegetation control activities:

- AEGC would select a contractor that would perform all maintenance and inspections in compliance with FRA standards.
- AEGC would require that the herbicides applied are approved by the USEPA for such purposes.
- Spraying would not be done on days with high winds. On marginally windy days, an additive may be used to minimize any potential impact.
- The herbicide applicator would be properly licensed.

**TABLE 4-7  
FLOODPLAIN IMPACTS, ROUTES A AND B**

<b>Stream Crossing</b>	<b>Floodplain Acreage Within Proposed Railway Grading Limits</b>	<b>Projected Rise in 100-Year Storm Flow</b>	
		<b>At Crossing</b>	<b>1,000 Feet Upstream</b>
<b>Route A</b>			
Coffeen Lake	1.28	NA	NA
Bearcat Creek	1.04	0.64 ft	0.01 ft
Shoal Creek	15.2	0.77 ft	0.25 ft
Lake Fork	0.64	0.66 ft	0.29 ft
<b>Route B</b>			
Grove Branch	1.31	0.72 ft	0.42 ft

Source: *Preliminary Jurisdictional Determination Report for the Proposed Coffeen Power Plant Rail Build-Out Project*, MACTEC, 2004.

**Conclusion.** The construction of proposed Route A would impact jurisdictional streams and wetlands. Approximately 0.61 acres and 3,633 linear feet of jurisdictional streams and 9.47 acres of jurisdictional wetlands and 0.33 acres of non-jurisdictional wetlands would be filled. The jurisdictional wetlands include 5.1 acres of wetland that do not currently function as wetlands, having been previously converted to agricultural use. Another 1.14 acres is open water associated with placing an embankment and bridge in Coffeen Lake. The remaining 3.23 acres of jurisdictional wetlands are dispersed among seven wetland sites, the largest of which (wetland 8) is a 3.04-acre forested wetland in the Shoal Creek floodplain and which is judged by AEGC's wetland scientist to be the highest quality wetland within the construction study zone. AEGC would comply with stream/wetland mitigation that may be required as part of its CWA permit applications to USACE, IDNR, and IEPA. Increases in 100-year stormwater elevations would comply with IDNR guidelines.

Apart from the stream and wetland impacts associated with placement of fill for the railbed, the measures noted herein should minimize further drainageway impacts during the construction process and during operation and maintenance. SEA is also recommending additional mitigation measures that apply to farmed wetlands and jurisdictional wetlands.

## **4.5.2 ROUTE B**

### **Groundwater**

Construction of Route B would not be expected to affect groundwater quantity or quality, for the same reasons previously cited for Route A. There are no public or private water supply wells within the current design grading limits of Route B.

### **Surface Water**

**Construction.** Table 4-4 lists the location and proposed crossing method of the affected jurisdictional streams that would be crossed by Route B. The table shows that Route B would make five crossings of jurisdictional streams, including Grove Branch. One of the five streams would be filled and diverted and the remainder would be culverted. Route B would impact a total of 0.303 acres and 1,804 linear feet of jurisdictional streams. Table 4-5 shows that Route B would affect six jurisdictional wetlands through the placement of fill material, impacting a total of 0.78 acres. These proposed stream and wetland crossings are included in AEGC's application to the USACE and IDNR under Sections 401 and 404 of the CWA. The basic steps in drainageway crossing construction also apply to Route B, as do AEGC's proposed measures to limit impacts during the crossing construction process. Table 4-7 shows that the projected increase in the 100-year storm flow elevation at Grove Branch is within IDNR standards.

**Operation and Maintenance.** A previous section described the possibility of introducing contaminants into drainageways during operations or maintenance. This same possibility exists for Route B, although the risk is less due to the fact that Route B would cross fewer streams or wetlands.

**Conclusion.** Construction of Route B would result in impacts to jurisdictional streams and wetlands. Approximately 0.303 acre and 1,804 linear feet of jurisdictional streams and 0.78 acre of jurisdictional wetlands would be filled. The largest of the affected wetlands is a 0.32 acre palustrine emergent wetland (wetland 1). AEGC would comply with mitigation that may be required as part of its CWA applications. Increases in 100-year stormwater elevations would comply with IDNR guidelines. Apart from the stream and wetland impacts associated with placement of fill for the railbed, the measures noted herein should prevent further drainageway impacts during the construction process and during operation and maintenance. In addition, because no new construction would occur along the existing Sorento to Coffeen line under the Route B alternative, and AEGC's operations over the existing line would be similar to NS's current operations, impacts to water resources in the vicinity of the Sorento to Coffeen line would be negligible.

#### 4.6 BIOLOGICAL RESOURCES

Project area biological resources are described in Chapter 3, Section 3.5. Biological resources could be affected by construction and operation/maintenance of a rail line in a number of ways, including the following:

- Rail line construction:
  - would convert land within the ROW from its current habitat use;
  - the track and supporting structure could act as a barrier to animal movement and result in habitat fragmentation;
  - material or structures used to support the rail line could affect the hydrology of water resources crossed and thus their value as aquatic habitat;
  - construction activity could affect aquatic wildlife by removing stream channel habitat, riparian vegetation and increasing siltation in adjacent water resources;
  - there could be some limited mortality to some species during the actual construction process
- Rail line operation and maintenance:
  - operations over a rail line could sporadically disturb animals in the vicinity, perhaps during critical breeding/nesting periods;
  - operations over a rail line could result in accidents with a potential for contaminant spills into waterways;
  - herbicides used in the ROW vegetation control program could wash into waterways, with a possibly toxic effect on aquatic vegetation and wildlife.

## 4.6.2 ROUTE A

### Construction

**Terrestrial Resource Impacts.** Table 4-8 shows the amounts of the various land cover types that would be converted to rail ROW use if Route A is constructed. The table shows that, in terms of actual acreage, the largest conversions would occur to row crops (80.4 acres) and upland deciduous forest (50.5 acres). In terms of the importance of the particular land cover conversion within the study corridor, the conversion of 5.9 acres of early successional forest accounts for 32.2 percent of this cover type within the study corridor. The conversion of 8.7 acres of wetlands/ponds accounts for 23.8 percent of such cover type within the study corridor, and the 50.5 acres of upland deciduous forest accounts for 10.6 percent of this type within the study corridor. In the context of the availability of these communities within the local setting and within a larger region such as the Kaskaskia Basin, these land cover impacts are not considered to be significant.

The land conversions noted above could be expected to reduce the overall carrying capacity of the site as bird habitat, and thus, some localized displacement of bird species is expected to occur, but regional decreases in bird diversity are not expected. Potential indirect impacts to birds may be associated with noise and fugitive dust emissions during construction. However, these impacts are not expected to be significant as they would be rather localized in nature and would be attenuated by factors of distance. In addition, AEGC would take steps to limit fugitive dust emissions during construction.

The proposed rail construction could directly affect mammals, amphibians, and reptiles on the project site due to mortality during the construction process (particularly for smaller, less mobile species). However, such impacts would be limited to the construction period, would be very localized, and should not be significant. Other potential impacts from construction of Route A, as discussed below, include reduced mammal, amphibian, and reptile populations due to the effects of habitat alteration, changes to wetland and stream hydrology, impacts from habitat fragmentation, and altered wildlife movement patterns.

Potential river otter habitat exists along Route A at the proposed Bearcat Creek, Shoal Creek, and Lake Fork crossings. However, each of the Route A crossings would be bridged, thereby reducing potential impacts to an insignificant level.

Habitat fragmentation disrupts animal movement and dispersal and there is evidence that transportation corridors represent substantial barriers to wildlife movement. The impacts can be especially severe on less mobile species such as amphibians (e.g., frogs, salamanders, etc.) and some reptiles (i.e., turtles). Fragmentation of large tracts of forest land (i.e., those greater than 1,000 acres) reduces the habitat suitability for some forest dwelling bird species. The protection of buffer zones around wetland and riparian habitats is essential for maintaining amphibian and reptile populations.

**TABLE 4-8  
LAND COVER IMPACTS, ROUTES A AND B**

Cover Type	Acreage by Land Cover Type within Kaskaskia Basin <sup>a</sup>	Acreage by Land Cover Type within Combined Routes A and B 1,000 Foot Study Corridors	Route A		Route B	
			Land Cover Type Converted to Proposed Rail ROW		Land Cover Type Converted to Proposed Rail ROW	
			Number of Acres	Percent of This Type Within Combined Routes A and B Study Corridors	Number of Acres	Percent of This Type Within Combined Routes A and B Study Corridors
Upland Deciduous Forest	330,227	475.4	50.5	10.6	9.2	1.9
Bottomland Deciduous	135,772	62.1	2.9	4.7	1.8	2.9
Early Successional Forest	<sup>b</sup>	18.4	5.9	32.2	0	0
Old Field	<sup>b</sup>	60.2	5.0	8.3	0	0
Pasture	<sup>b</sup>	94.7	6.4	6.8	3.3	3.5
Row Crops	2,339,779	1,330.2	80.4	6.0	35.8	2.7
Wetlands/Ponds	<sup>b</sup>	36.5	8.7	23.8	0.5	1.4
Open Water	46,194	25.15	1.3	5.2	0.3	1.2
Urban/Developed	92,449	75.5	2.2	2.9	1.1	1.5
Total	2,994,421	2,178.0	163.3		52.0	

<sup>a</sup> Source: MacTec, 2004

<sup>b</sup> Acreage included in other categories

The proposed project area has already largely been converted to agriculture and fragmented to some extent by roads and other cultural features. Construction of Route A would not cause significant habitat fragmentation effects; however, there would be localized impacts. For example, in some areas (especially at stream crossings), the project may increase habitat disruption and limit wildlife movement (i.e., barrier effects), particularly, for smaller mammals and herpetofauna<sup>19</sup> as discussed above. Specific areas in which these impacts may be expected include the following:

- Coffeen Lake (east side) - Route A in this area would divide forest and old field habitats, creating more edge habitat.
- Stream 21 to 19 area (station number 214 to 236 vicinity) - Route A would further disrupt the upland forest and bottomland forest adjacent to Stream 19, creating more edge habitat and may also interrupt local wildlife movement patterns.
- Stream 17 to 12 area (station number 267 to 319 vicinity) - this area consists primarily of upland forests with several small intermittent streams, early successional forest, and Bearcat Creek. Active row crop fields are present adjacent to Bearcat Creek. Bridging of Bearcat Creek would facilitate wildlife movement and maintain current hydrologic patterns.
- Shoal Creek wetlands and forests - Route A would impact the Ponds 3 and 4 area and Wetland 8 (station number 450 to 472 vicinity), and the cut/fill proposed for this area could disrupt both natural hydrology and wildlife movements within this location. Bridging of Shoal Creek would facilitate wildlife movement within the floodplain.
- Lake Fork area (station number 570 vicinity, BNSF connection) - the proposed crossing would impact upland/bottomland forests along with the associated riparian corridor. However, the bridge proposed for the Lake Fork crossing would allow wildlife movement between bridge abutments.

**Aquatic Resource Impacts.** Although short-term impacts are probable during construction (i.e., sedimentation, increase in turbidity, etc.), Shoal Creek and two of the major tributaries (Lake Fork, Bearcat Creek) would be crossed by bridges. Therefore, instream bridge support piers would not be required, and thus, would result in minimal long-term impacts on stream habitat. Nine intermittent streams and three perennial streams (Streams 19, 10, and 7 - see Table 4-4) would be culverted. In many instances, culvert installation would require that the existing meandering natural stream channel be filled and replaced by a straight-line culvert with a concrete base. A reduction or alteration of streambottom or benthic habitat from that of a natural stream to a channelized condition with artificial substrates may change local hydrology and flow patterns. Such habitat modifications could result in reducing fish migration, isolation of fish communities, and/or localized changes in community structure, including decreased diversity.

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<sup>19</sup> Herpetofauna includes amphibians, reptiles, and turtles.

**Potential Listed Species Impacts.** As noted in Chapter 3, Section 3.5.3, there are no listed protected species in the Route A project area.

## **Operation and Maintenance**

Noise from rail operations over proposed Route A could periodically startle wildlife in the vicinity of the proposed rail line, causing them to avoid areas in proximity to the line. However, there are no indications of existing critical breeding or nesting activities that could be affected by rail operations. Should herbicides applied to the proposed ROW during vegetation control operations wash into drainageways, there could be an adverse effect on aquatic wildlife. However, herbicide applications would be infrequent and thus, the impacts to water quality are expected to be insignificant. Likewise, an accident during train operations over Route A could result in a spill of contaminant into a waterway; however, the chances of this are minimal due to the low likelihood of a train accident.

## **Conclusion**

The proposed rail construction would reduce the size of terrestrial wildlife communities in the project vicinity due to conversion of land from existing habitat use and to habitat fragmentation. It would cross numerous drainageways, with some negative effects on aquatic habitat and wildlife populations. Construction of Route A would not affect listed protected species.

## **4.6.2 ROUTE B**

### **Construction**

Table 4-8 shows the amounts of the various land cover types that would be converted to rail ROW use if Route B is constructed. The table shows that the largest amounts of cover type conversion would be 35.8 acres of row crops and 9.2 acres of upland deciduous forest. None of the cover types that would be converted account for more than four percent of that cover type within the combined study corridors.

Potential river otter habitat exists at the proposed Route B crossing of Grove Branch, a perennial stream that would be crossed by means of a culvert. The proposed crossing would divide upland and bottomland forests, and therefore, would interrupt wildlife movements and fragment habitat.

In addition to Grove Branch, Route B would cross two intermittent and two ephemeral streams as well as six wetlands/pond sites. All of these sites would be crossed by filling and/or culverting, which could have limited adverse impacts on aquatic wildlife populations at the sites.

As noted in Chapter 3, the Indiana bat (*Myotis sodalis*) is a Federal and state listed endangered species that has been observed in the past in Bond County. The USFWS indicates that the bat migrates seasonally between winter hibernating sites and summer roosting habitats

(Appendix B, Attachment 1). Winter hibernating sites include caves and abandoned mines. The species or size of trees does not appear to influence whether Indiana bats utilize a tree for roosting, provided the appropriate bark structure is present and weather conditions are suitable. The Route B project area in Bond County does not contain suitable winter hibernating sites. However, Route B construction activities would include the removal of trees from riparian (bottomland) areas adjacent to creeks and rivers and upland forests. Removal of such forests could destroy or disturb Indiana bat roost trees and foraging habitat. USFWS has requested that tree clearing activities in Bond County not occur during the period of April 1 to September 30 to avoid impacting the Indiana bat. USFWS states that if it is necessary to clear trees during this time period, mist net surveys may be necessary to determine if Indiana bats are present. SEA has recommended a mitigation condition to address this concern.

## **Operation and Maintenance**

Potential impacts on biological resources from rail operations and maintenance activities would be of a similar nature as noted previously for Route A, but the risk would be less due to the shorter length of proposed Route B and the fact that it would cross substantially fewer aquatic resources.

## **Conclusion**

Route B would impact terrestrial and aquatic biological resources, but these impacts are not expected to be significant. Imposition of mitigation restricting the months in which tree cutting for the ROW could occur should prevent adverse impacts on the Indiana bat. In addition, because no new construction would occur along the existing Sorento to Coffeen line under the Route B alternative, and AEGC's operations over the existing line would be similar to NS's current operations, impacts to biological resources in the vicinity of the Sorento to Coffeen line would be negligible.

## **4.7 AIR QUALITY**

### **4.7.1 CONSTRUCTION, ROUTES A AND B**

Potential air quality impacts from rail line construction include fugitive dust from grading and cut and fill operations, emissions from construction equipment and vehicles, and emissions from open burning of construction debris.

As noted in Section 4.5.1 of this chapter, AEGC would implement best management practices during construction to stabilize newly exposed soil as soon as practicable. AEGC has agreed to follow Federal, State, and local regulations regarding the control of fugitive dust emissions. Mitigative measures may include spraying water, applying a magnesium chloride treatment, placing tarp covers on vehicles, and installing wind barriers, if necessary. AEGC also states that it would work with its contractors to ensure that construction and maintenance equipment is properly maintained and that mufflers and other required pollution-control devices

are in good working condition in order to limit construction-related air emissions. AEGC further states that its construction contractor would obtain the necessary burning permits to dispose of vegetation and other debris cleared from the proposed ROW. Implementation of these measures should minimize air quality impacts from construction of either proposed Route A or B.

#### **4.7.2 OPERATIONS, ROUTES A AND B**

Rail operations can affect air quality through emission of air pollutants from locomotive diesel fuel combustion.

The Board typically applies a threshold level of rail traffic increase for determining whether to quantify the air pollution that would be generated by rail traffic over a new rail line proposed for construction. This threshold is contained in 49 CFR 1105.7(e)(5).<sup>20</sup> If the line proposed for construction is not located in either a Class I or a nonattainment area, pollutant emissions from rail traffic will be quantified only if the proposed action would add eight or more trains per day to the line to be constructed.

The project area is not in or near a Class I area, and Montgomery and Bond counties are in attainment for all six criteria air pollutants. Substantially fewer than eight train movements per day are expected to be added to the proposed line (an average of 1.6 daily train movements are expected). Additionally, because the proposed coal train movements would replace the current coal train movements on the existing NS line, there would essentially be no net increase in locomotive emissions. For these reasons, expected air pollutant emissions from rail operations over proposed Routes A and B are expected to be insignificant and have not been quantified.

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<sup>20</sup> It should be noted, however, that this threshold is applied with flexibility; SEA finds it a useful guide in a preliminary assessment of the need for more detailed analysis. When circumstances warrant, SEA will examine air quality impacts of a proposed rail line construction even though proposed traffic levels do not exceed the threshold noted here. Precedence for use of such thresholds was established in Finance Docket (F.D.) 30400, Santa Fe Southern Pacific Corporation-Control-Southern Pacific Transportation Company; Merger the Atchison, Topeka and Santa Fe Railway Company and Southern Pacific Transportation Company Environmental Assessment served November 1, 1985, at 32,33,and 44, and F.D. No. 3200, et al., Rio Grande Industries, Inc.; SPTC Holding, Inc.; The Denver Rio Grande and Western Railroad Company-Control-Southern Pacific Transportation Company. Environmental Assessment, served May, 1988, page 2.

## **4.8 NOISE**

### **4.8.1 CONSTRUCTION, ROUTES A AND B**

Noise levels in the area would rise during construction of either rail route. Vehicles and machinery used for land clearing, road bed construction, and bridge construction would generate temporary increases in noise levels. However, construction noise emissions would be of short term duration and would be confined to the eleven-month construction period of either route. In addition, either proposed Route A or B would be constructed in a largely rural and sparsely populated area, thus limiting the number of people potentially affected by such noise.

Construction-related noise impacts would be further minimized by the fact that AEGC says it would work with its construction contractors to minimize, to the extent practicable, construction-related noise near residences. AEGC would also require its contractors to maintain project-related construction and maintenance vehicles in good working order with properly functioning mufflers to control noise.

### **4.8.2 OPERATIONS, ROUTES A AND B**

Train operations over either Route A or B would raise ambient noise levels in the immediate vicinity of the line.

The Board applies a threshold level of rail traffic increase for determining whether to quantify noise that would be generated by rail traffic over a new rail line proposed for construction. This threshold is contained in 49 CFR 1105.7(e)(6).<sup>21</sup> If the proposed action would add eight or more trains per day to the line to be constructed, noise to be generated by operations over the line must be quantified and sensitive receptors may have to be identified. As projected train operations over either proposed rail route fall substantially short of this threshold, SEA has not quantified the potential increase in noise levels due to such operations. However, this increase would not be expected to be significant.

Train noise sources include wayside noise (diesel locomotive engine and wheel/rail interaction noise) and horn noise. Wayside noise affects all locations in the vicinity of the rail line, and generally diminishes with distance from the source. FRA has established a set of noise standards for the operation of locomotives (see 49 CFR 210.09). These federal regulations set upper limits on wayside noise levels produced by locomotives. The standards limit the decibel level of the noise produced by each locomotive. At this time, AEGC states that it does not expect to operate over the line, but would require its operators to comply with applicable FRA

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<sup>21</sup> It should be noted, however, that SEA applies this threshold with flexibility, finding it a useful guide in a preliminary assessment of the need for more detailed analysis. When circumstances warrant, SEA will examine noise impacts of a proposed rail line construction even though proposed traffic levels do not exceed the threshold noted here.

locomotive noise standards. In addition, AEGC states that it would use continuously welded rail and rail lubricants, as practicable, on the newly constructed line in order to reduce wheel/rail wayside noise.

Horn noise is an additional noise source at grade crossings, and also generally diminishes with distance. The FRA has issued a proposed rule covering the sounding of locomotive horns at highway-rail grade crossings. The proposed rule would implement a statutory requirement that locomotive horns sound at each highway-rail grade crossing unless certain exceptions are met and would also establish an upper limit for the loudness of train horns. The proposed rule will not be effective until FRA completes its review of the regulation, which is expected in June 2005.

An average of approximately 1.6 total train movements per day are expected to occur over the proposed line. The area is sparsely populated, with seven residences located within 500 feet of the proposed Route A centerline. One of the seven would be relocated; of the remaining six residences, three are between 300 and 400 feet from the proposed centerline and three are between 400 and 500 feet of the centerline. There is one residence located within 500 feet of the proposed Route B centerline.

The residents of the six houses which would remain within 500 feet of the proposed Route A centerline and of the one house within 500 feet of the proposed Route B centerline would experience some noise disturbance due to train operations over the proposed rail line. However, the projected low level of rail traffic over the proposed line and AEGC's expected compliance with applicable FRA regulations regarding wayside and horn noise should minimize projected noise impacts from proposed rail operations.

In addition, because AEGC's operations over the existing Sorrento to Coffeen line under the Route B alternative would be similar to NS's current operations, residents along that existing rail line segment would experience minimal change in train-related noise.

#### **4.9 ENERGY**

Because the proposed project would result in rail-to-rail diversion of traffic, and the number of railroad trips is not expected to increase, there should be no net change in energy use within the project area.

#### **4.10 HAZARDOUS MATERIALS/WASTE SITES**

Table 3-1 in Chapter 3 lists the ISGS-identified hazardous material/waste sites in the project vicinity. The table shows that only sites 3 and 7 are near either of the proposed rail ROWs. Both sites are Illinois Power gas pipelines, one of which would be crossed by Route A and one by Route B. As noted in Section 4.2.1 of this chapter, AEGC is working with Illinois Power to determine the appropriate modification of these pipelines, if any would be needed, and

would enter into an agreement regarding such modification, if necessary. AEGC would bear the cost of any needed modification.

#### **4.11 SOCIOECONOMICS**

Temporary positive economic impacts may occur in the project area during the proposed rail construction period due to the creation of construction jobs. However, such impacts would be relatively short-lived, as construction would end in eleven months.

#### **4.12 CULTURAL RESOURCES**

As noted in Chapter 3, Section 3.11, the SHPO requested a Phase I archaeological reconnaissance survey of the proposed Routes A and B project area to locate, identify, and record all archaeological resources. The Phase I survey was conducted utilizing the methodology described in Chapter 3. Tables 3-4 and 3-5 of that chapter list the 22 archaeology sites that were identified and investigated; 18 of the sites were associated with proposed Route A and four with proposed Route B. The archaeological sites include 14 prehistoric sites, five historic sites and three sites with both prehistoric and historic components. The Phase I survey report concluded that three sites located within the proposed Route A ROW and one site within the proposed Route B ROW are potentially eligible for listing on the National Register. The remaining sites are ineligible for listing on the National Register. The survey report recommended that the four potentially eligible sites be formally evaluated through Phase II archaeological testing if avoidance of the sites is not feasible.

The SHPO has reviewed the Phase I survey report and identified an additional site on Route B that may be eligible for listing on the National Register. This site would also need to be formally evaluated through Phase II archaeological testing if avoidance of the site is not feasible. AEGC has indicated to SEA that avoidance of the five sites is not feasible. The potentially eligible sites are described below by route.

##### **4.12.1 ROUTE A**

###### **Site 11MY137**

This is a prehistoric field camp of unknown age and cultural affiliation. The portion of the site located within the proposed Route A ROW consists of a moderately dense prehistoric lithic scatter situated on the eastern edge of a bluff overlooking the narrow Bearcat Creek floodplain (approximate station number 304+00). The proposed ROW would bisect the site. Based on the site size and the nature of the cultural material recovered, the site within the proposed ROW is interpreted as representing a portion of a larger site. Artifacts at the site are of moderately high density and of high diversity and suggest that stone tool production and maintenance occurred at the site. They also suggest that subsurface cultural deposits associated with cooking and/or heat-treating chert prior to stone tool production may be present within the

site limits. Based on the site's environmental setting, the nature of the artifact collection, and the possibility of intact subsurface deposits, site 11MY137 is considered to be potentially eligible for listing on the National Register.

### **Site 11MY138**

This is also a prehistoric field camp of unknown age and cultural affiliation. The portion of the site located within the proposed ROW consists of a dense assortment of prehistoric lithic material situated on a bluff top immediately east of Bearcat Creek (approximate station number 292+00). The ROW would cross the top of the hill and bisect the site. Based on the site size and the nature of the cultural material recovered, the site would appear to extend outside the proposed ROW, probably across the entire hilltop. Artifacts at the site are of moderately high density and of high diversity, and they suggest that a wide range of activities occurred at the site, including cutting and scraping, stone tool production and maintenance, heating and cooking, and food preparation. They also suggest that subsurface cultural deposits may be present within the site limits. Based on the site's topographic setting, the diverse artifact collection, and the possibility of intact subsurface deposits, site 11MY138 is considered to be potentially eligible for inclusion on the National Register.

### **Site 11MY141**

This is a multicomponent site with the primary component being the remains of a historic farmstead and possible cane mill. The site also contains a lithic scatter indicative of a prehistoric field camp of unknown age and cultural affiliation. The site is situated in a wooded area on the western edge of an upland ridge overlooking Lake Fork and several unnamed springs to the west (approximate station number 555+00, BNSF connection).

The prehistoric component at the site is characterized by moderately low artifact density and moderately high diversity. The artifact collection suggests that a wide range of activities occurred including cutting and scraping, stone tool production, and food processing. Due to the topographic location and the likelihood of intact subsurface features, the prehistoric component at site 11MY141 is considered to be potentially eligible for listing on the National Register.

Based on available information, the site was possibly occupied as early as 1819 by the family of Spartan Grisham, for whom the township was named. Several surface features associated with the historic occupation are present within, or very close to, the proposed Route A ROW; these include a collapsed house, concrete foundation remnants, architectural debris concentrations, and two wells. The historic component at the site is characterized by high artifact density and diversity. Based on the archival data and the artifact assemblage, the site is interpreted as an early-nineteenth to mid-twentieth century farmstead and possible cane mill. Due to the early initial date of occupation, the local importance of Spartan Grisham, and the possible presence of a cane mill, the historic component at that portion of the site that would be within the proposed ROW is considered to be potentially eligible for the National Register.

#### **4.12.2 ROUTE B**

##### **Site 11MY135**

This is a mid- to late nineteenth-century historic farmstead/rural household situated in a soybean field on a broad upland ridge immediately west of an unnamed intermittent tributary of Lake Fork. The site is approximately 328 feet south of an existing UP rail line. Archival and artifactual evidence indicates that the site was occupied by the Owen McVey family between the late 1840s and the late 1870s, and afterward possibly occupied by unknown persons, possibly tenants, until the turn of the twentieth-century. Artifacts recovered from the site surface represent three functional categories: kitchen; personal; and architecture. Artifacts on that portion of the site within the proposed Route B ROW are characterized by moderate density and diversity.

The Phase I survey report concluded that the site was not eligible for the National Register; however, the SHPO determined that the site is potentially eligible for listing on the National Register.

##### **Site 11MY150**

This is a multicomponent site with the major component consisting of the remains of an early nineteenth- to late twentieth-century historic farmstead; the site also contains a lithic scatter indicative of a field camp of unknown age and cultural affiliation. The site is situated on the crest of a narrow upland ridge and lies on the south side of Singer Trail Road (approximate station number 113+00).

The prehistoric component at the site is characterized by low artifact density and diversity. The artifact collection suggests that a limited range of activities occurred, primarily related to stone tool production. Artifacts present suggest that subsurface cultural features may be present, although probably truncated by plowing. Due to the site's environmental setting and the possibility of subsurface features, the prehistoric component at site 11MY150 is considered to be potentially eligible for listing on the National Register.

The land on which the site is located was first purchased from the government by Elias Baker in 1820. Baker was one of the first settlers in Walshville Township. In 1855, John Kirkland moved from a residence in Bond County to the property. The historic component at site 11MY150 is characterized by high artifact density and diversity. Based on the archival data and the artifact assemblage, the site is interpreted as an early-nineteenth to late-twentieth-century farmstead. Due to the early initial date of occupation and the local importance of the early landowners, Elias Baker and John Kirkland, the historic component in that portion of the site that would be located within the proposed Route B ROW is considered to be potentially eligible for the National Register.

### 4.12.3 CONCLUSION

The applicant has stated that site avoidance is not feasible and has voluntarily agreed to proceed with appropriate Phase II investigations. To mitigate potential impacts of construction of either proposed rail route, SEA recommends that none of the potentially National Register-eligible sites be disturbed prior to completion of the Section 106 review process.

In addition, because no new construction would occur along the existing Sorento to Coffeen line under the Route B alternative, and AEGC's operations over the existing line would be similar to NS's current operations, any cultural resources that may be present in the vicinity of the Sorento to Coffeen line would not be impacted.

### 4.13 ENVIRONMENTAL JUSTICE<sup>22</sup>

Executive Order No. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*,<sup>23</sup> directs Federal agencies to identify and consider disproportionately high and adverse human health or environmental effects of their actions on minority and low income communities, and provide opportunities for community input on the NEPA process, including input on potential effects and mitigation measures. The President's directive on environmental justice (EJ) does not apply to independent agencies such as the Board. However, SEA typically evaluates the potential for high and adverse impacts to determine if they could be borne disproportionately by minority or low income communities.

Executive Order 12898 provides definitions of the terms "minority" and "low income" in the context of EJ analysis. Minority individuals are members of the following population groups: American Indian, Alaskan Native, Asian, Pacific Islander, Black and Hispanic. A low income household is one where the household income is below the Department of Health and Human Services' poverty guidelines.

Both proposed Routes A and B would be located within USEPA Region 5. Region 5 has developed the "Revised Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case" (Region 5 EJ Guidelines). The Region 5 EJ Guidelines utilize a multi-step process for determining whether a case should be considered a potential EJ Case. The process starts with obtaining demographic information for the block group<sup>24</sup> in which the project is located and, if appropriate, the adjacent block groups within a one mile radius. The demographic information is

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<sup>22</sup> The discussion in this section is based in part on the *Coffeen and Western Railroad Company - Construction Exemption - In Coffeen and Walshville, Illinois, Environmental Justice Analysis* (October 20, 2004). This analysis was prepared by AEGC. SEA conducted an independent review of this document prior to its use in this EA.

<sup>23</sup> 59 FR 7629 (Feb. 16, 1994).

<sup>24</sup> A block group is the second smallest geographic unit for which the Census Bureau reports data and is the smallest geographic unit available for income data.

then assessed to determine:

- If the low income population or minority population percentage is greater than twice the state percentages for low income or minority population. If so, the case should be identified and addressed as a potential EJ case.
- If the low income population or minority percentage is less than twice but greater than the actual state percentages and if there are community-identified EJ issues. If both thresholds are met, the case should be identified and addressed as a potential EJ case.<sup>25</sup>
- If the low income population or minority population percentage is equal to or less than the state percentages, the case should not be considered an EJ case.

The Region 5 EJ Guidelines use the state percentages as the base line for minority and low income EJ comparisons. According to the 2000 Bureau of the Census' Current Population reports, the minority population percentage for Illinois was 26.52 percent. This means that the "twice the state percentage" comparison threshold for minority populations in Illinois for this project is 53.04 percent. Region 5 defines "low income" as less than two times the poverty threshold/level. The U.S. Census Bureau and the Department of Health and Human Services use the same national poverty thresholds that are revised annually to allow for changes in the cost of living as reflected in the Consumer Price Index. The 2000 Census reflects 1999 data.<sup>26</sup> Based upon the 2000 Bureau of Census' Current Population Reports, the low income percentage for Illinois was 10.68 percent. The twice the state percentage comparison threshold for low income population in Illinois used in this study is 21.36 percent.

#### **4.13.1 ROUTE A**

Table 4-9 shows the minority and low income rates for Illinois and for the pertinent block groups relative to proposed Route A. The table shows that for the five block groups relevant to Route A, the percentage minority is not only less than twice the Illinois minority rate but is also much less than the actual Illinois minority rate of 26.52 percent. Therefore, construction of proposed Route A should not be considered an EJ case based on the presence of minorities. Table 4-9 shows that, in all of the five Route A block groups, the percentage low income is less than twice the Illinois low income rate. However, three of the block groups have low income rates that, while less than twice the Illinois rate, are above the actual Illinois low income rate of 10.68 percent. In such a situation, Region 5 EJ Guidelines say that the case should be considered a potential EJ case if there are community-identified EJ issues.

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<sup>25</sup> USEPA Region 5 relies on the "twice the state low income and minority population percentages" as an indicator of the worst potential EJ case and focuses its attention on these cases. Potential EJ cases that have low income or minority percentages that exceed the state percentage but are less than twice the state percentage are only addressed in response to community and stockholder recommendations, or if other compelling circumstances exist.

<sup>26</sup> The 1999 poverty threshold for a family of four persons was \$17,029.

**TABLE 4-9  
PERCENT MINORITY AND LOW INCOME BY CENSUS BLOCK GROUP, ROUTES A AND B<sup>a</sup>**

<b>Route A</b>				
<b>Geographic Area</b>	<b>Percent Minority</b>	<b>Exceed Twice Illinois Percent Minority (53.04 percent)</b>	<b>Percent Low Income</b>	<b>Exceed Twice Illinois Percent Low Income (21.36 Percent)</b>
Illinois	26.52	NA	10.68	NA
Block Group 2, Census Tract 9580	1.42	No	17.18	No
Block Group 3, Census Tract 9580	1.61	No	12.96	No
Block Group 5, Census Tract 9580	1.54	No	10.64	No
Block Group 1, Census Tract 9576 <sup>b</sup>	0.97	No	7.8	No
Block Group 3, Census Tract 9576	0.93	No	13.13	No

<b>Route B</b>				
<b>Geographic Area</b>	<b>Percent Minority</b>	<b>Exceed Twice Illinois Percent Minority (53.04 Percent)</b>	<b>Percent Low Income</b>	<b>Exceed Twice Illinois Percent Low Income (21.36 Percent)</b>
Illinois	26.52	NA	10.68	NA
Block Group 1, Census Tract	2.18	No	10.46	No
Block Group 3, Census Tract 9576	0.93	No	13.13	No

<sup>a</sup> Source: *Coffeen and Western Railroad Company - Construction Exemption - In Coffeen and Walshville, Illinois, Environmental Justice Analysis* (see Footnote 17). The data in this table are derived from the U.S. Census Bureau, Census 2000, Summary File 1 Tape (SF1), Table P7, and Summary File 3 Tape (SF3), Table P89.

<sup>b</sup> The edge of this block group is within one mile of the section of Route A that connects to the UP.

To date the Board has received no communication from project area residents or local governments regarding community-identified EJ issues. In addition, the area of the proposed rail construction is one of minimal residential development where disproportionate impact on low income persons is unlikely.

In the absence of community-identified EJ issues, SEA has determined that construction of proposed Route A is not an EJ case. The Board will send copies of the EA to all residences within 500 feet of the proposed Route A centerline (and to anyone else requesting a copy). Should EJ issues be raised in comments received on the EA during the public comment period, they will be addressed at the appropriate time.

#### **4.13.2 ROUTE B**

Table 4-9 shows the minority and low income rates for Illinois and for the pertinent block groups relative to proposed Route B. The table shows that for the two block groups relevant to Route B, the percentage minority is not only less than twice the Illinois minority rate but is also much less than the actual Illinois minority rate. Therefore, construction of proposed Route B should not be considered an EJ case based on the presence of minorities. Table 4-9 shows that, while both of the Route B block groups have low income percentages less than twice the Illinois rate, one of the block groups has a low income rate above the actual Illinois rate. For the same reasons noted for Route A, construction of Route B would be considered a potential EJ case if there are community-identified EJ issues.

To date the Board has received no communication from project area residents or local governments regarding community-identified EJ issues related to proposed Route B. The area of the proposed rail construction is one of minimal residential development where disproportionate impact on low income persons is unlikely.

In the absence of community-identified EJ issues, SEA has determined that construction of proposed Route B is not an EJ case. The Board will send copies of the EA to all residences within 500 feet of the proposed Route B centerline (and to anyone else requesting a copy). Should EJ issues be raised in comments received on the EA during the public comment period, they will be addressed at the appropriate time.

#### **4.14 CUMULATIVE IMPACTS**

The regulations of the President's Council on Environmental Quality (CEQ) implementing the NEPA define cumulative impact as "the impact on the environment which results from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions." (40 CFR 1508.7) This ensures that the range of actions that is considered in the NEPA document includes not only the project proposed, but also all actions that could contribute to cumulative impacts.

Using CEQ guidelines, SEA evaluated the cumulative impact from proposed Routes A and B. SEA consulted with local officials to determine if other projects or activities would occur in the area. No other projects were identified. The environmental impacts of AEGC's proposed rail line have been addressed previously in this EA and will not be repeated in this Cumulative Impacts section. Consultation with local officials did not reveal any other planned projects in the vicinity of AEGC's proposed action.

#### **4.15 IMPACTS OF THE NO-ACTION ALTERNATIVE**

The no-action alternative would retain existing conditions, causing no significant impacts to the environment. If neither Route A nor Route B is built, environmental impacts associated with construction and operation of either rail line would not occur. These potential impacts include road and utility crossings, stream and wetland crossings, conversion of land from use as wildlife habitat, fragmentation of wildlife habitat, and destruction of four cultural resource sites that may be eligible for the National Register.

The no-action alternative would not provide AEGC with alternative direct rail access for delivery of coal to the Coffeen Power Plant.

## CHAPTER 5 AGENCY CONSULTATION AND COORDINATION

Agency consultation activities were undertaken with Federal, state, and local agencies to inform them about the proposed construction and operation, to identify issues of concern, and to obtain information about environmental resources within the project study area. Specifically, on March 12, 2004, SEA sent consultation letters to Federal, state and local agencies describing the proposed project, showing both proposed rail alignments, and requesting that any concerns be identified. Early consultation was to provide the agencies and officials with an opportunity to provide input at an early stage in the environmental process, prior to preparation of the EA. Each consultation letter included a map of the study area. The agencies consulted are listed below:

- U.S. Fish & Wildlife Service (USFWS)
- National Park Service (NPS)
- Natural Resources Conservation Service (NRCS)
- U.S. Environmental Protection Agency (USEPA)
- U.S. Army Corps of Engineers (USACE)
- Illinois Department of Natural Resources (IDNR)
- Illinois Department of Transportation (IDOT)
- Illinois Environmental Protection Agency (IEPA)
- Illinois Historic Preservation Agency (SHPO)
- Coffeen Lake Fish and Wildlife Area
- Montgomery County Board
- Bond County Board

Copies of the agency response letters are shown in Appendix B.

A site visit was also conducted on May 13, 2004, and was attended by SEA, SEA's third-party consultant, and representatives of AEGC.

This early notification and coordination facilitates the timely identification, evaluation, and resolution of environmental and regulatory issues during preparation of the EA. Although some of the responding agencies did not have comments or concerns about the scope of the project, some agencies requested that specific issues be discussed in the EA. Following is a summary of specific comments received in correspondence during the consultation process:

- USFWS requested that the EA contain mitigation limiting the time of year in which tree clearing could be conducted in the area (Bond County) where the endangered Indiana bat has been previously observed;
- NRCS provided information regarding the presence of "important farmland" in the project area;
- USEPA requested that the EA address cumulative impacts, sufficiently describe the affected environment, address water resource impacts and best management construction practices, as well as cultural resource impacts;

- IDOT provided information regarding natural and cultural resources in the project area and the presence of hazardous material and waste sites in the area;
- IDNR provided information on the presence of sensitive natural resources in the project area;
- IEPA stated that it had no objections to the project but that a construction site stormwater discharge permit would be required; and
- SHPO indicated that a Phase I archaeological survey of the project area would be required.

## CHAPTER 6.0 MITIGATION MEASURES

This chapter presents SEA's preliminary recommendations for environmental mitigation, which includes mitigation measures voluntarily proposed by AEGC. These mitigation measures were developed after SEA reviewed all information available to date and completed its independent analysis of the construction and operation of both proposed rail routes, all the comments and mitigation requested by various Federal, state, and local agencies, as well as other concerned parties. SEA recommends to the Board that it impose SEA's recommended measures and all of AEGC's voluntary mitigation measures in the Board's final decision, if the Board gives final approval for the project.

### 6.1 AEGC'S VOLUNTARY MITIGATION MEASURES

AEGC voluntarily proposes to incorporate the following mitigation measures into the proposed project.

#### **Transportation and Traffic Safety**

1. AEGC shall install, at its sole cost, the necessary signage, lighting, and safety warnings for all at-grade crossings as approved and permitted by the Illinois Commerce Commission
2. AEGC voluntarily agrees to install, at its sole cost, flashers/gates at County Road 9/Panama Avenue to elevate safety at this grade crossing as requested by the Bond County Engineer.
3. In order to minimize delays of vehicular traffic during construction of the road crossings, AEGC shall schedule the work so that construction of the roadway approaches would be completed before construction work within the roadway occurs.
4. To the extent applicable, AEGC shall require the track contractor to pre-build track panels for the grade crossings.
5. AEGC shall place detour signs and detour traffic around work sites as applicable. At least one month before road crossing construction would begin, AEGC shall notify and provide information to the nearest fire department and emergency response units and notify the County, Illinois Commerce Commission and Illinois Department of Transportation of the planned roadway construction schedule.
6. To the maximum extent feasible, AEGC shall construct the proposed grade crossings during the summer months when school is out of session. If road crossing construction cannot occur during the summer months, AEGC shall, at least one month before road crossing construction is scheduled to begin, notify and provide information to the applicable school districts regarding the days and times that road construction is planned. AEGC shall consider school bus schedules in planning and executing the necessary road work.

7. AEGC shall coordinate with Norfolk Southern, as necessary, regarding construction of the proposed Route A crossing of Norfolk Southern in order to prevent construction activities from interfering with Norfolk Southern operations over its line.
8. AEGC shall coordinate with Norfolk Southern, as necessary, to prevent rail operations over the proposed Route A crossing of Norfolk Southern from interfering with Norfolk Southern operations over its line.
9. AEGC shall make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by the proposed construction within the right-of-way. AEGC shall work with each utility to determine the appropriate project-related modification needed, if any, and enter into an agreement regarding the same, if necessary. AEGC shall pay all project-related costs associated with these modifications or adjustments.
10. AEGC shall select a contractor who will perform all maintenance and inspections in compliance with Federal Rail Administration standards. AEGC shall also ensure that its contractor uses practices recommended by American Railway Engineering and Maintenance of Way Association for project-related construction.
11. AEGC shall limit the maximum train speed on Route A to 45 mph and on Route B to 40 mph.

### **Land Use**

12. AEGC shall work with farmers and ranchers to remedy actual damage to crops, pastures, or rangelands caused by project-related construction.
13. AEGC shall negotiate with affected landowners to provide private crossings, where appropriate, to minimize severance impacts.
14. AEGC shall ensure all construction debris is removed and disposed of in a proper and legal manner consistent with all applicable Federal, state, and local disposal procedures. AEGC's
15. AEGC shall limit construction activities and vegetation clearing to the proposed ROW, to the extent possible.
16. Should any land not owned by AEGC be directly disturbed by project-related construction, AEGC shall restore such areas to their original condition, as may be reasonably necessary, upon completion of project-related construction.
17. AEGC's project-related construction vehicles, equipment, and workers shall not access work areas by crossing residential properties without the permission of the property owners.
18. AEGC shall coordinate with the Illinois Department of Transportation regarding any agreement needed for the crossing of the state-owned land near Illinois Route 127.

### **Geology/Soils**

19. AEGC shall limit ground disturbance to only the areas necessary for project-related construction activities.
20. AEGC shall commence reclamation of disturbed areas as soon as practicable after project-related construction ends along a particular stretch of rail line. The goal of reclamation shall be the rapid and permanent reestablishment of native ground cover on

- disturbed areas.
21. During project-related construction, AEGC shall take reasonable steps to ensure contractors use fill material appropriate for the project area.

### **Water Resources/Wetlands**

22. AEGC shall require its construction contractor to utilize best management practices, to include:
  - a. Practices to reduce erosion and sedimentation that could occur as a result of construction;
  - b. Disturbance of the smallest area possible around water resources;
  - c. Reseeding of areas as soon as practicable to prevent erosion;
  - d. If necessary, use of seeding fiber mats, straw mulch, plastic lined slope drains, and silt dikes;
  - e. Use of native species where practicable for revegetation;
  - f. Development of a spill prevention plan prior to construction, including measures to be taken in case any spills occur;
  - g. Maintaining construction and maintenance vehicles in good working order.
  - h. Daily inspections of all equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. If leaks are found, the contractor shall immediately remove the equipment from service and repair or replace it and remediate the spill;
  - i. Practices to control turbidity and disturbance to bottom sediments during project-related construction of the proposed Coffeen Lake crossing.
23. AEGC shall develop a bridge maintenance plan in compliance with Federal Railroad Administration regulations;
24. Culvert construction in streams with significant water flow that could not be barricaded shall have a by-pass channel cut adjacent to the site to accommodate "normal" flow conditions;
25. Culvert construction in streams not having significant flow and that could be barricaded shall have a pump(s) set up to pass the water through the placement/construction site;
26. Erosion control measures at culvert construction sites shall remain in place until the permanent culvert construction process is completed;
27. AEGC shall construct the proposed rail line in such a way as to maintain current drainage patterns to the extent practicable.
28. Where appropriate, AEGC shall work with farmers on any drainage issues which might arise.
29. AEGC shall prohibit project-related construction vehicles from driving in or crossing streams at other than established crossing points.
30. AEGC shall coordinate with the U.S. Army Corps of Engineers, Illinois Department of Natural Resources and Illinois Environmental Protection Agency regarding the appropriate wetland mitigation.
31. AEGC shall construct all project-related drainage crossing structures to pass a 100-year flood and AEGC shall coordinate with the Illinois Department of Natural Resources to ensure the new floodplain crossings are appropriately designed to minimize impacts.
32. For wells located within the proposed right-of-way but outside the grading limits, AEGC

- would cap or otherwise close those wells in accordance with state regulations.
33. AEGC shall require that appropriate vegetation control measures are followed and that herbicides applied during right-of-way vegetation control procedures are approved by the U.S. Environmental Protection Agency for such purposes.
  34. AEGC shall require that the company conducting vegetation control procedures is licensed to do so.
  35. In order to prevent the potential disbursement of sprayed substances to adjacent drainageways and wetlands, AEGC shall require that herbicide spraying not be undertaken on days with high winds and that on marginally windy days, an additive may be used to minimize any potential impact.

### **Biological Resources**

36. As proposed by AEGC, the proposed Route A crossings of Lake Fork, Shoal Creek, and Bearcat Creek shall be bridged, thereby reducing potential impacts to the river otter habitat.
37. The culvert crossing at Grove Branch on Route B shall be sized to minimize any impacts to the river otter habitat.
38. The proposed culverts at Stream 19 and other intermittent streams shall be sized to minimize any natural resource impacts.

### **Air Quality**

39. AEGC shall follow Federal, state, and local regulations regarding the control of fugitive dust emissions. This may include spraying water, applying a magnesium chloride treatment, placing tarp covers on vehicles, and installing wind barriers, if necessary.
40. AEGC shall work with its contractors to make sure that construction and maintenance equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air emissions.
41. AEGC shall require its construction contractor to obtain the necessary burning permits to dispose of vegetation and other debris cleared from the proposed rail right-of-way.

### **Noise and Vibration**

42. AEGC shall work with its construction contractor to minimize, to the extent practicable, construction-related noise disturbances near any residential areas.
43. AEGC shall require its construction contractor to maintain project-related construction and maintenance vehicles in good working order with properly functioning mufflers to control noise.
44. AEGC shall use continuously welded rail and rail lubricants, as practicable, on the newly constructed line in order to reduce wheel/rail wayside noise.
45. AEGC shall require, as practicable, its contractor(s) to comply with Federal Railroad Administration regulations that establish decibel limits for train operations and locomotive noise standards.

## **Environmental Justice**

46. AEGC shall assist as necessary to ensure that a copy of the EA is sent to all residences within 500 feet of the proposed Route A and Route B centerline.

## **Cultural Resources**

47. AEGC shall comply with the Illinois Historic Preservation Agency requirements with regard to cultural resources protection. AEGC shall complete any Phase II archaeological investigations identified as potentially eligible for listing on the National Register of Historic Places. Pending completion of the Section 106 process, AEGC shall ensure that the Phase II archaeological sites in the proposed right-of-way are not adversely impacted.

## **6.2 SECTION OF ENVIRONMENTAL ANALYSIS ADDITIONAL RECOMMENDED MITIGATION**

1. AEGC shall request certification of farmed wetlands by the Natural Resources Conservation Service (NRCS). AEGC shall comply with any reasonable requirements of NRCS regarding certified farmed wetlands. AEGC shall consult with the U.S Army Corps of Engineers regarding permitting requirements for any wetlands not certified as farmed wetlands.
2. AEGC shall comply with any reasonable stream/wetland mitigation that may be required as part of its project-related permit applications to the U.S. Army Corps of Engineers, Illinois Department of Natural Resources, and Illinois Environmental Protection Agency under the Clean Water Act.
3. As requested by the U.S. Fish and Wildlife Service (USFWS), in order to avoid impacting the Indiana bat, AEGC shall ensure that any project-related tree clearing activities in Bond County not occur during the period of April 1 to September 30. If tree-clearing during this time period is necessary, AEGC shall consult with USFWS prior to tree clearing regarding the necessity of conducting mist net surveys to determine if Indiana bats are present. AEGC shall report the outcome of these consultations with the USFWS to SEA.
4. AEGC shall ensure that the five sites that are potentially eligible for the National Register of Historic Places are not disturbed prior to completion of the Section 106 review process.

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## 7.0 CONCLUSION AND REQUEST FOR COMMENTS

Based on the information provided from all sources to date and its independent analysis, SEA preliminarily concludes that construction and operation of either proposed rail Route A or Route B would have no significant environmental impacts if the Board imposes and the Ameren Electric Generating Company implements the mitigation measures outlined in Section 6.0. Therefore, the environmental impact statement (EIS) process is unnecessary in this proceeding.

SEA specifically invites comments on all aspects of this EA, including suggestions for additional mitigation measures. SEA will consider all comments received in response to the EA in making its final recommendations to the Board. The Board will consider the entire environmental record, SEA's final recommendations, including final recommended mitigation measures, and the environmental comments in making its final decision in this proceeding.

Comments (an original and one copy) should be sent to:

Surface Transportation Board  
Case Control Unit, 1925 K Street NW, Suite 500  
Washington, D.C. 20423

The lower left-hand corner of the envelope should be marked:

Attention: Mr. David Navecky, Environmental Concerns, Finance Docket No. 34435

Questions may also be directed to Mr. David Navecky at this address or by telephoning (202) 565-1593 or email [David.Navecky@stb.dot.gov](mailto:David.Navecky@stb.dot.gov).

Date Made Available to the Public: May 25, 2005  
Comment Due Date: June 30, 2005

This EA is also available on the Board's website (<http://www.stb.dot.gov>), under "Decisions & Notices," and listed as "Environmental Review" by Service Date (May 25, 2005), Docket Number (FD 34435) or Decision ID No. 35831.

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