

FINAL

**ENVIRONMENTAL IMPACT STATEMENT
PROPOSED BASELOAD POWER PLANT
ASSOCIATED ELECTRIC COOPERATIVE, INC.**

**United States Department of Agriculture
Rural Development**



July 2007

**Final Environmental Impact Statement (EIS)
Associated Electric Cooperative, Inc. (AECI)
Proposed Baseload Power Plant
Carroll County, Missouri**

Submitted by the U.S. Department of Agriculture, Rural Development
(USDA/Rural Development)

Cooperating Agency: U.S. Army Corps of Engineers

ABSTRACT: AECI has applied for a loan from USDA/RD to construct electric generating facilities to meet its members' growing needs. The Proposed Action, which has been identified as the agencies' Preferred Alternative, includes construction of a 660-megawatt net coal-fired power plant and related facilities. This Final EIS considered 17 technology alternatives, several alternatives that did not include AECI construction of a new baseload plant, adding capacity at an existing AECI facility, and a number of siting alternatives as a means of responding to the project purpose and need. Alternatives were evaluated in terms of cost-effectiveness, technical feasibility, and environmental soundness. The Final EIS analyzes in detail the Proposed Action (Norborne Plant and related facilities), essentially the same plant and ancillary facilities at a different location (Big Lake Site), an alternative technology (integrated gasification combined cycle) (IGCC), and the No Action Alternative. USDA Rural Development has concluded that, with actions that have been incorporated into the Preferred Alternative to reduce or avoid impact, no impacts of the Preferred Alternative meet the Council for Environmental Quality threshold criteria for significant impacts. Adverse impacts of the Proposed Action include those on soils, water, air, fisheries and wildlife, noise, transportation, floodplains, wetlands, and farmland. Impacts associated with the use of IGCC are similar. Use of the Big Lake Site would result in impacts similar to those of the Proposed Action for most resources, but, when compared with the Proposed Action, would likely result in greater adverse impacts on floodplains, recreation, public lands, cultural resources, fisheries and wildlife (migratory birds), other protected species (bald eagles), and potential environmental justice impacts (Native Americans).

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Comments must be received by August 13, 2007.

EXECUTIVE SUMMARY

Introduction

Associated Electric Cooperative, Inc. (AECI) proposes to build an approximately 660 megawatt (MW) net, supercritical pulverized coal-fired power plant at a site near Norborne, Missouri. This Final Environmental Impact Statement (EIS) discusses this Proposed Action and analyzes its potential effects on the environment.

As an electric generation and transmission cooperative (G&T), AECI, based in Springfield, Missouri, is a non-profit utility owned by its members. As such, it provides wholesale electricity and related services to six member G&Ts, which in turn provide electricity to 51 electric distribution cooperatives. AECI's service area includes most of Missouri outside of urban areas, part of northeast Oklahoma, and a small part of southeast Iowa. AECI is contractually obligated to provide all the electric power needs of the cooperative member systems it serves. AECI does not have the capacity to meet all of its members' power needs beyond about 2013. After considering various ways to meet those future needs, AECI identified the construction of a new coal-fired power plant near Norborne, Missouri as its best course of action.

AECI has applied for a loan to construct the Norborne facility from the Rural Utilities Service, an agency that administers the U. S. Department of Agriculture's Rural Development Utilities Programs (USDA Rural Development). AECI is also in the process of applying for an air quality permit from the Missouri Department of Natural Resources. AECI will also be applying to the U.S Army Corps of Engineers (USACE) for permits under Section 10 of the Rivers and Harbors Act and, if needed, under Section 404 of the Clean Water Act. To fulfill its obligations under the Clean Water Act, the USACE is a cooperating agency for this Final EIS. The Proposed Action includes the power plant, an approximately 345-kilovolt (kV) substation near the plant, about 134 miles of new 345-kV transmission line and associated upgraded and new substations, several miles of rail connections to existing lines, a water supply system consisting of wells near the Missouri River and a pipeline to the plant, and a landfill for ash and flue gas desulfurization waste. The Final EIS analyzes the potential environmental impacts of AECI's Proposed Action and alternatives to that action.

USDA Rural Development has established procedures for determining if a proposed project for which a loan or loan guarantee is sought is feasible both from an engineering and financial perspective. Following USDA Rural Development's procedures, AECI prepared several studies prior to this EIS, including an Alternatives Report that was subject to USDA Rural Development's review and approval. This report and USDA Rural Development's notice of intent to prepare an EIS are available to the public on USDA Rural Development's website at: <http://www.usda.gov/rus/water/ees/eis.htm>. The information and analyses from the Alternatives Report and a number of other reports prepared by AECI are incorporated into this Final EIS. Reports prepared by AECI consultants specifically for the Final EIS are included as appendixes.

AECI's Proposed Action has been identified as USDA Rural Development's Preferred Alternative.

Purpose and Need for the Proposed Action

To determine its future energy requirements, AECI periodically prepares a detailed load forecast for, and in accordance with guidance from, USDA Rural Development. The latest forecast, prepared in 2004 and summarized in this Final EIS, predicts a 3.2 percent per year growth in energy sales for AECI through 2025. AECI also conducted its own internal forecast, which is somewhat lower. Based on AECI's projected growth rate, and considering the addition of the Dell combined cycle natural gas plant that will come into service in 2007, AECI is expected to have a surplus until 2010. Without the Proposed Action, however, AECI's system is expected to have a deficit beginning in 2011, which will grow to 243 MW in 2013, and 660 MW in 2017, thus demonstrating the need for the baseload addition.

Alternatives Eliminated from Detailed Consideration

Alternatives Other Than Self-Build

The following alternatives were considered but eliminated from detailed consideration:

- Power Purchase Agreements – eliminated because of higher cost.

- Participation in another company's energy project - eliminated because of lack of AECI control and flexibility in decisions about the ultimate completion of the project, future dispatch requirements and operational flexibility, and compliance with future environmental regulations.

Technology Alternatives

Table ES-1 summarizes the technology alternatives that were considered but eliminated from detailed evaluation.

Table ES-1. Technology Alternatives Eliminated from Detailed Consideration

Alternative	Reasons for Elimination
Renewable Non-Combustible Energy Sources	
Wind	<ul style="list-style-type: none"> • Intermittent source, not suitable for baseload needs. • AECI's service area does not have adequate resources to consider wind for this project.
Solar—Photovoltaics	<ul style="list-style-type: none"> • Intermittent source, not suitable for baseload needs. • Not cost-competitive.
Solar—Concentrating Solar Power	<ul style="list-style-type: none"> • Solar resources not available in AECI service area. • Not cost-competitive.
Hydroelectric	<ul style="list-style-type: none"> • Resources in AECI's service area are suitable only for peaking needs, not baseload. • Inadequate developable resources. • Large risk based on past experience in US.
Geothermal	No resources available.
Renewable Combustible Energy Sources	
Wood	Not cost-competitive.
Municipal Solid Waste	Not cost-competitive.
Landfill Gas	Not cost-competitive.
Other Waste	Not cost-competitive.
Alcohol Fuels	Not cost-competitive.

Table ES-1. Technology Alternatives Eliminated from Detailed Consideration

Alternative	Reasons for Elimination
Non-Renewable Combustible Energy Sources	
Natural Gas	<ul style="list-style-type: none"> • Uneconomical for baseload. • Unpredictable and volatile prices. • Uncertain supply.
Petroleum	<ul style="list-style-type: none"> • High price of fuel and expectation of higher future prices. • Uncertainty of supply. • No real advantages to coal or natural gas.
Microturbines	Not cost-competitive.
Coal—circulating fluidized bed technology	Because of the size of the proposed unit, AECI can achieve comparable emissions reductions at a lower cost with pulverized coal; therefore it has no advantages over pulverized coal technology.
Nuclear	At the current stage of nuclear redevelopment, AECI does not have the qualifications or resources at this time.
<u>Energy Efficiency and Conservation</u>	<u>Reasonably anticipated energy savings would be insufficient to offset the need for new capacity.</u>

New Coal-Fired Power Plant Sites

AECI's site search was limited to Missouri, which comprises the bulk of its service area. Based on regional avoidance criteria (Class I areas, major metropolitan areas, air non-attainment areas, and large public land areas) and, within Missouri, the desire to be as close as practical (considering other siting needs) to the Powder River Basin coal source, northwest Missouri exclusive of the Kansas City metropolitan area was targeted for site identification. In this area, the Missouri River is the only water source with the required capacity for the proposed plant, and 20 miles was considered the maximum practicable distance from the river. Two general areas were identified along the Missouri River—one in Holt County north of Kansas City

(Forbes area) and one east of Kansas City in the Ray/Lafayette/Carroll County area (Norborne area). Two potential sites were identified in the Forbes area and six in the Norborne area. These sites were ranked by general engineering, cost, and environmental criteria. There was little difference in the weighted scores among the sites. Three of the sites in the Norborne area were in Ray County, which is included in the statistical Kansas City metropolitan area. These sites were eliminated because of proximity to Kansas City. Another potential site in the Forbes area, now referred to as Big Lake, was added when AECI management became aware of the opportunity to purchase this large tract of land from a single willing owner. Big Lake was similar enough to the other two Forbes area sites such that only one needed to be carried forward, and Big Lake was selected. Further refinement in the Norborne area led to the identification of a single site that was judged to be representative of the range of reasonable alternatives in that area. Norborne and Big Lake were retained for detailed evaluation. Based on the lower overall cost of the Norborne site, and potential environmental disadvantages of Big Lake, Norborne was identified by AECI as the proposed site with Big Lake the alternate.

Consideration of Adding Capacity at Existing AECI Facility

AECI also considered the option of adding capacity at one of its existing baseload facilities, at Thomas Hill, in north-central Missouri. Because the reservoir used for a water supply for the existing facility is not adequate for the addition of a new unit, AECI conducted a detailed assessment of water supply options.

After the water supply study was completed, this alternative was eliminated from detailed consideration for the following reasons:

- The addition of a unit at Thomas Hill would result in a high percent of base load capacity at one location, stressing transmission system reliability.
- The high concentration of generation at one location would also subject a substantial portion of the system to a common failure, accident, or meteorological event.
- The site has the highest construction labor supply risk due to its distance from major metropolitan areas.

- The site has the highest water supply risk. The current water supply source is inadequate, and there is some risk and uncertainty associated with reasonable cost options for supplementing the water supply.

Rail Connections

Norborne Site. Two potential rail lines for coal delivery to the Norborne Site would be the Norfolk Southern (NS) line about one mile south of the proposed plant site, and the Burlington Northern Santa Fe (BNSF) line about 6 to 7 miles north of the site. A high-speed BNSF line that runs parallel to the NS line was identified as having potential for equipment deliveries, but would not be suitable for slower moving coal trains. AECI identified one-mile wide corridors for rail connections from these lines to the plant. Based on engineering and environmental considerations, these corridors were reduced to quarter-mile widths and then ranked based on environmental and engineering criteria. The connecting line to the south, which was included primarily for the high-speed BNSF connection, had the most favorable score. Connecting to the NS for coal deliveries may not be an option: Union Pacific, who would supply this line, is not taking new delivery contracts; and the NS connection would require a large embankment in the floodplain and a bridge over the BNSF line, which may not be practicable; therefore this option for coal delivery was eliminated from further consideration. For coal deliveries from the BNSF line to the north, the western option and sub-options, which generally follow the West Fork of the Wakenda Creek, had the least favorable score and were eliminated from further consideration; the east option, which follows the Wakenda Creek valley, was retained.

Big Lake Site. At the Big Lake Site, there is a BNSF line adjacent to the site that would be suitable for coal deliveries. A connector to a Union Pacific line about 15 miles west of the site was considered but eliminated because of the need to construct two major bridges and issues related to crossing an Indian reservation.

Transmission Line Alternatives Considered and Eliminated

As part of its Alternatives Study, AECI identified study areas for each of the major required transmission route segments. Within these study areas, constraints were identified and macro corridors about two miles wide were selected. In a later study that focused only on the transmission corridors,

AECI narrowed the macro corridors and eliminated all but one route corridor for both the Norborne and Big Lake Sites. The second study incorporated comments from public scoping held in 2005. The final route corridors were identified based on ranking the corridors on environmental and engineering criteria, and were generally a quarter-mile wide except for locations that were expanded to allow avoidance options.

Norborne Site. For the Norborne Plant, AECI determined that two 345-kV transmission lines and related new and upgraded substation facilities would be required to provide adequate outlet capacity for the plant. First, a line from the Norborne Substation (located east of the proposed plant site) to the Thomas Hill Substation in Randolph County (approximately 60 miles) would be built. A second 345-kV line would be built from Norborne to Central Electric Power Cooperative's Sedalia Substation in Pettis County (approximately 50 miles) and then to the Mt. Hulda Substation in Benton County (approximately 24 miles). All lines would be single-circuit, except that the first 17 miles of the Norborne/Sedalia/Mt. Hulda line would be double-circuit.

Big Lake Site. To provide adequate outlet capacity for the Big Lake Plant, a new double-circuit 345-kV transmission line would be needed from the site to the existing Fairport Substation in DeKalb County, a distance of approximately 57 miles. A single-circuit 345-kV transmission line would be needed south from the Fairport Substation to a new 345/161-kV substation located near the town of Orrick in Ray County (approximately 53 miles distance). From Orrick, two new 161-kV transmission lines would need to extend to the existing Missouri City Substation in Clay County and to the existing Eckles Road Substation in Jackson County.

Alternatives Assessed in Detail

No Action Alternative

Under the No Action Alternative, the Proposed Action would not be constructed or operated to meet the projected 660 MW net base load needs of AECI's customers. However, it is unreasonable to assume that no alternative source of electricity would be provided for AECI customers when AECI's system no longer has the baseload capacity to meet its needs. Therefore, the primary assumption for the No Action Alternative is that the need for a reliable energy supply for the AECI service area would still be met

by some means, mostly likely the purchase of power from other sources of generation, including those already online and those currently being developed.

Proposed Action: Norborne Baseload Plant

Under this alternative, a 660 MW net generating station using supercritical pulverized coal technology to burn coal would be built and operated approximately 2.5 miles northwest of the town of Norborne, in Carroll County, Missouri. The primary components of the Proposed Action include the following:

- Power plant and associated facilities and operations, including the plant cooling system, waste management operations, lighting, fire protection, safety, and other systems.
- 345-kV substation, with associated transmission line modifications and communications facilities.
- New and modified substations.
- Approximately 134 miles of new 345-kV transmission lines to connect with AECI's existing network.
- Water supply system consisting of groundwater wells and associated pipeline.
- Utility waste landfill.
- New rail access from existing mainline railroads.
- Actions to reduce or prevent environmental impacts.

Alternate Site – Big Lake

The Big Lake Site is located adjacent to the Missouri River, in Holt County, Missouri, just west of the Village of Big Lake. The project components would be the same as at the Norborne Site, except for location, and some variation in lengths and types of rail and transmission facilities.

Alternate Technology—Integrated Gasification Combined Cycle (IGCC)

Supercritical pulverized coal (SCPC) electric generation technology was retained as AECl's proposed technology because it is most cost-effective, is well-developed and can achieve the required emissions standards. Integrated gasification combined cycle (IGCC), a coal technology that involves gasification of coal then use of the gas in a conventional combined-cycle facility, was also retained for detailed consideration. The IGCC technology is not as well-developed as SCPC and would be costlier; however, if carbon dioxide capture becomes a requirement in the future, it presently appears to offer the least costly potential for carbon dioxide capture and was retained for that reason. No coal technologies have yet been demonstrated with carbon dioxide capture and storage.

Impact Analysis

No Action Alternative

The No Action Alternative would result in no impacts or negligible effects on the environment at either the Norborne or Big Lake Site. However, since AECl would have to purchase electricity from other generation sources to supply its members and customers, the No Action Alternative would contribute indirectly and incrementally to cumulative environmental impacts associated with these fuels and forms of generation.

Proposed Action: Baseload Plant—Norborne Site

Air Resources. Power plant operation would result in the release of various pollutants. The analysis indicates no exceedances of any National Ambient Air Quality Standards or maximum allowable Prevention of Significant Deterioration (PSD) increments; no discernable impairment to visibility in nearby Class I areas, and no threat to the surrounding community from mercury emissions. The projected CO₂ emissions would represent about 0.1 percent of the total U.S. emissions and about 0.03 percent of worldwide emissions.

Construction activities in all locations would result in release of particulates and exhaust gases, but effects would be short-term and would occur over a small area at one given time, resulting in a minor level of impact.

Dust control measures included in the Proposed Action would help limit impacts to less than significant levels. There will be a PSD permit.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Geology/Soils. There would be no significant impacts on areas of regional geological importance (none is present). Groundwater withdrawal would not result in formation of sinkholes. Loess soil found in parts of the Project area are highly erodible and care must be taken in implementation of erosion control measures to avoid impact.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Groundwater. Pumping of an average of 5,600 gpm from the Missouri River aquifer would result in depression of groundwater in the vicinity of the well field. Aquifer testing and groundwater modeling indicate negligible impact on other groundwater users.

Construction dewatering of a deep excavation for a coal car unloading system would result in a short-term depression of groundwater levels at the proposed plant site, which may result in short-term negative impacts to nearby groundwater users. AECI would provide alternate water supply for wells with adverse impacts, if necessary.

During operation, solid waste disposal and use of chemicals and fuels have potential for impact, but would be avoided by implementation of environmental regulations.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Surface Water. Large areas of disturbed soil during construction create potential for impacts to streams and other surface water bodies, but would be avoided by implementation of storm water controls through the storm water permit and pollution prevention plan that would be required. During operation, use of chemicals and fuels have potential for impact, but would be avoided by implementation of environmental regulations. Waste ponds and similar facilities have potential for release during major floods.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts and with suggested mitigation measures.

Floodplains. The Norborne Plant Site, south rail connector, and well field are all located in the 100-year floodplain of the Missouri River. The plant site is located at the edge of the floodplain, about six miles from the river, where 100-year flood depths would be about two feet. Part of the north rail connector is located in the floodplain of Wakenda Creek. Transmission line corridors cross several floodplains that cannot be spanned, and supports would need to be placed in floodplains. For the plant at least, an analysis would need to be done to demonstrate that the construction, along with other projects in the floodplain, would not cause a rise in flood elevation of more than one foot upstream of the site.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Farmland. The site is located in agricultural land, almost all of which is classified as prime farmland or prime farmland if drained. The site would occupy about 1,750 acres of farmland, approximately 750 of which would be leased back for agricultural use. Substations would occupy a few acres of farmland. Transmission lines would have little impact on farmland; avoidance of center-pivot irrigation systems can be achieved by placement of supports.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Land Use. Essentially all land impacted is agricultural. Existing surrounding land use is all zoned agricultural and is expected to remain so.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Public Lands, Recreation and Visual Resources. There are no public lands or recreation areas close to the Proposed Action. No significant adverse impacts on recreation, public lands, or visual resources would be anticipated under the Proposed Action. There would be some adverse visual impacts to

residences within a mile or two of the facility both during the day and at night from the lights; and within about a half-mile of transmission lines.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Vegetation. No areas of high quality native vegetation were identified within the area of the Proposed Action. There would be some impact to riparian corridors with construction of the north rail connector, and there is some potential for impact at major stream crossings of transmission lines, particularly at the Grand River.

Conclusion: No significant impacts are expected.

Wetlands. A total of 3.56 acres of Waters of the United States and 3.14 acres of wetlands were identified on the Norborne Plant Site, the utility landfill site and within the well field. Jurisdictional status is being assessed by the USACE. A Section 404 permit may be required if these areas would be disturbed, however, it appears probable that the wetland areas can be avoided. Delineation of the rail connectors would be required when the alignments are finalized, but no more than about one acre of impact is expected. Transmission lines can generally span wetlands and thus avoid impact, except for wooded wetlands, which must be cleared. A delineation of any impacted wetlands along the transmission corridor would be required after the final alignment is selected.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts, and implementation of mitigation that may be required under the Section 404 permit.

Fisheries and Wildlife. There is potential to impact migratory birds, primarily by collisions with transmission lines, and to a lesser extent with the power plant stack and taller structures. Migratory birds, including raptors, are protected under the Migratory Bird Treaty Act and an executive order.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts, and implementation of suggested mitigation.

Threatened and Endangered Species. There is some potential for habitat for bald eagles or Indiana bats on certain wooded parts of the project area in the vicinity of the well field, along the northern rail connector, and along the transmission lines (but not at the plant site). Impacts would be avoided by seasonal limitations on tree clearing, in accordance with Missouri Department of Conservation Best Management Practices. USFWS has indicated in their comments on the Draft EIS that it does not appear that the project construction would affect the eastern massasauga rattlesnake or running buffalo clover (Appendix M).

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Cultural Resources. Phase I and Phase II efforts were completed for the area within the facility boundary, and desktop studies were done for the rail corridors and transmission lines. Additional investigation would be required when final alignments are selected. No significant resources were identified.

Socioeconomics and Environmental Justice. The anticipated benefits in jobs and payments in lieu of taxes are expected to outweigh small impacts from additional traffic and pressure on social resources. No low income or minority populations would be disproportionately adversely impacted.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Public Safety and Services. There would be little impact on public safety and services. There would be some delays at new at-grade rail crossings. There was concern about electric and magnetic fields (EMF) expressed in comments, but there are no documented health impacts. Transmission lines were placed away from residences as much as practicable; there are only two residences within 200 feet of the proposed transmission route centerline.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Noise. Noise from construction (especially pile driving) and operation would affect a few isolated residences near the plant and rail lines. Noise reduction would be implemented as required by governing regulations.

Conclusion: No significant impacts are expected with implementation of proposed actions to reduce or prevent adverse impacts.

Waste Management. Typical construction wastes would be generated. These wastes and non-hazardous wastes generated from operations, except for ash and flue gas desulfurization (FGD) waste, would be temporarily contained on site, then removed by a licensed waste hauler and disposed of in a licensed off-site landfill. Ash and FGD waste would be disposed of in a permitted on-site utility waste landfill.

Conclusion: No significant impacts are expected with implementation of applicable state laws and regulations regarding waste management.

Alternate Site – Big Lake

Impacts would be expected to be similar to those for the Norborne Site with exceptions summarized below.

Geology and Soils. If this site were selected, to avoid impacts, care would need to be taken in identifying locations for borrow and the landfill so as not to impact the McCormack Loess Mound Conservation Area and any comparable geologic resources that may be present in the Deep Loess Hills east of the site.

Floodplains. The plant site would be much closer to the river, and very close to the regulatory floodway. Flood depths for the 100-year flood could be up to nine feet, requiring much more fill than the Proposed Action, and causing more impact.

Public Lands, Recreation and Visual Resources. Because there are public lands much closer to the site (Big Lake State Park is within two miles), impacts would be greater; public perceptions of negative impacts on public lands due to the presence of a power plant are greater for the Big Lake Site, based on scoping comments. Visual impacts on residences are greater because of two communities near the site. There would be a visual impact on a National Historic Register site.

Fisheries and Wildlife. Construction and operation of a power plant at the Big Lake Site, which is close to the Squaw Creek National Wildlife Refuge

(NWR), and the presence of a transmission line adjacent to the Squaw Creek NWR, could potentially cause significant impacts to the large populations of migratory birds that use the refuge. These impacts could be caused by collisions with the plant stack or other buildings, or by collisions with transmission lines. Migratory birds, including raptors, are protected under the Migratory Bird Treaty Act and the Executive Order on Protection of Migratory Birds.

Threatened and Endangered Species. Most impacts would be similar for the Big Lake Site, but there would be additional potential impacts related to the presence of Big Lake and Squaw Creek NWR. According to the US Fish and Wildlife Service (USFWS) the Squaw Creek NWR has some of the largest concentrations of wintering bald eagles in the Midwest, and bald eagles have historically nested at Big Lake. The proximity of a new power plant and transmission line to these areas could potentially result in significant impacts primarily from collisions with transmission lines or tall structures, especially when lit at night.

Cultural Resources. If the Big Lake Site were selected, the potential visual impact of the plant on the NRHP-listed Rulo Bridge on US 159 would need to be assessed. The bridge is located immediately north of the site. The potential impact of the transmission line on the Absolom Riggs House near Weatherby would also need to be assessed.

Socioeconomic. Similar to Proposed Action, except that, based on comments, perceived impacts to quality of life would be greater because of the proximity of Big Lake.

Environmental Justice. The community of Rulo, Nebraska is only a mile from the Big Lake site and would be visually impacted, but, since the community is not in Holt County, it would not receive direct monetary benefit. The population of Rulo is 24 percent American Indian, and 28 percent of individuals live below the government poverty level. Also, the Iowa Indian Reservation is directly across the river from the plant, to the south. There are potential environmental justice impacts with this alternative that would need to be addressed if it were pursued.

Alternate Technology--IGCC

Impacts would be the same as for the Proposed Action except potentially for impacts on air. In addition to the enhanced potential for carbon dioxide capture, with IGCC, emissions of sulfur dioxide could be as low as one third of those from the Proposed Action, lessening any potential impact on acid rain. However, it should be noted that the EPA's Clean Air Interstate Rule is designed to reduce nationwide sulfur dioxide emissions to below levels required under the Clean Air Act acid rain program.

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