

FIGURE 4.2-1.—H-Frame Structural Design

There are no industrial or ore mineral producing plants in Brown County, Ohio (USGS 1999). No industrial mineral resources are currently being excavated from, nor have ore mineral resources been found on Spurlock Station (KGS 1972, KGS 2001). There would be no impact to industrial or ore minerals from the proposed project.

The proposed project area on both the Kentucky and Ohio sides of the Ohio River is located within the "central stable region" for seismic activity on the North American continent (USGS 2001). The closest fault system is the Lexington fault system located approximately 35 miles (56.3 kilometers) from the proposed project site. The closest active seismic zone, the New Madrid Seismic Zone, is approximately 353 miles (568.1 kilometers) from the proposed project area. The National Earthquake Information Center has only documented minor earthquake activity within a 125-mile (201-kilometer) radius of Spurlock Station in the past 28 years. The strongest documented earthquake was located 28.7 miles (46.2 kilometers) from Spurlock Station, occurred in 1980, and registered 5.2 on the Richter Scale. The only effect at Spurlock Station from this moderate earthquake was noticeable ground shaking, as no damage was reported and there was no impact on plant operations.

All proposed facilities, on Spurlock Station would be designed and built per Kentucky Building Code, Section 16, Seismic Design Requirements (SCI 2001). The transmissions line would be constructed utilizing the Institute of Electrical and Electronics Engineers guidance on the Installation of Foundation for Transmission Line Structures. Therefore, the proposed project is not expected to effect or be affected by any faults systems or seismic events.

Soils

Units 3 and 4, their associated facilities, and 1¼ miles (2 kilometers) of transmission line would be constructed on the Wheeling-Nolin-Otwell Association of soils that underlie Spurlock Station. This soil series is generally well suited for construction as permeability is moderate and the shrink-swell potential is low (USDA 1983). A Prime Farmland Determination by the Natural Resource Conservation Service office in Maysville, Kentucky concluded that since it has already been developed for non-agricultural purposes, the land on Spurlock Station is exempt from a Prime Farmland Designation (LeGris 2001).

The Eden-Pate-Faywood Soil Association and soils of minor extent that underlie the proposed 2¼-mile (3.6-kilometer) transmission line corridor in Brown County, Ohio is formed of soil material and rock fragments that are unconsolidated, weathered, or partly weathered and that disintegrate in place and move down to the base of steep slopes by creep, slide or local wash (USDA 1987). The soils in this association are subject to hillside slippage and are considered unsuited to most kinds of building site development (USDA 1987). Because of the potential limitations of these soils, geotechnical studies of the right-of-way would be conducted to determine the exact placement of the single steel lattice structure and H-frame structures during the final design phase. The concrete pad foundation for the steel lattice structure and the drilled holes for the H-frame structures would be designed and placed to minimize potential hazards from ground failures such as slippage and landslides. To minimize potential impacts from erosion during the clearing of the right-of-way, standard erosion control measures would be

implemented during the construction of the transmission line structures. The right-of-way would also be revegetated with a grass mixture to prevent future erosion.

Prime Farmland Soils

A review of Prime Farmland soils found that two soils of minor extent, the silt loam Nolin and the silt loam Sciotoville are located near the proposed transmission line corridor. The Prime Farmland Determination conducted by the Natural Resource Conservation office in Georgetown, Ohio concluded that 1.06 acres (0.43 hectares) out of a total of 136,396 acres (55,198 hectares) of farmland defined by the *Farmland Protection Policy Act* could be affected by the proposed transmission line corridor. This is 0.00077 percent of the total *Farmland Protection Policy Act* land in Brown County. Figure 4.2-2 highlights the two soil types and their proximity to the current transmission line corridor that the proposed line will parallel. The proposed line would run parallel on either the west or east side of the existing Kentucky Utilities 138-kV Transmission Line. The silt loam Sciotoville unit, less than an eighth of a mile wide, would be spanned at the Ohio River edge as the steel lattice transmission line structure would be placed on the north side of State Route 52. Therefore, this prime farmland would not be affected. The silt loam Nolin unit would skirt the edge of the proposed transmission line corridor. The proposed transmission line would be placed in the center of the right-of-way so no structures would be located on or near the silt loam Nolin soil.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. There would be no soil disturbance from construction in the proposed right-of-way, including activity in the 100-year floodplain. There also would be no impact on or near Prime Farmland soils from construction of the transmission line structures and right-of-way in Brown County, Ohio. However, the soil disturbance associated with the ongoing construction of selective catalytic reduction units for Units 1 and 2 will continue regardless of whether Units 3 and 4 are built.

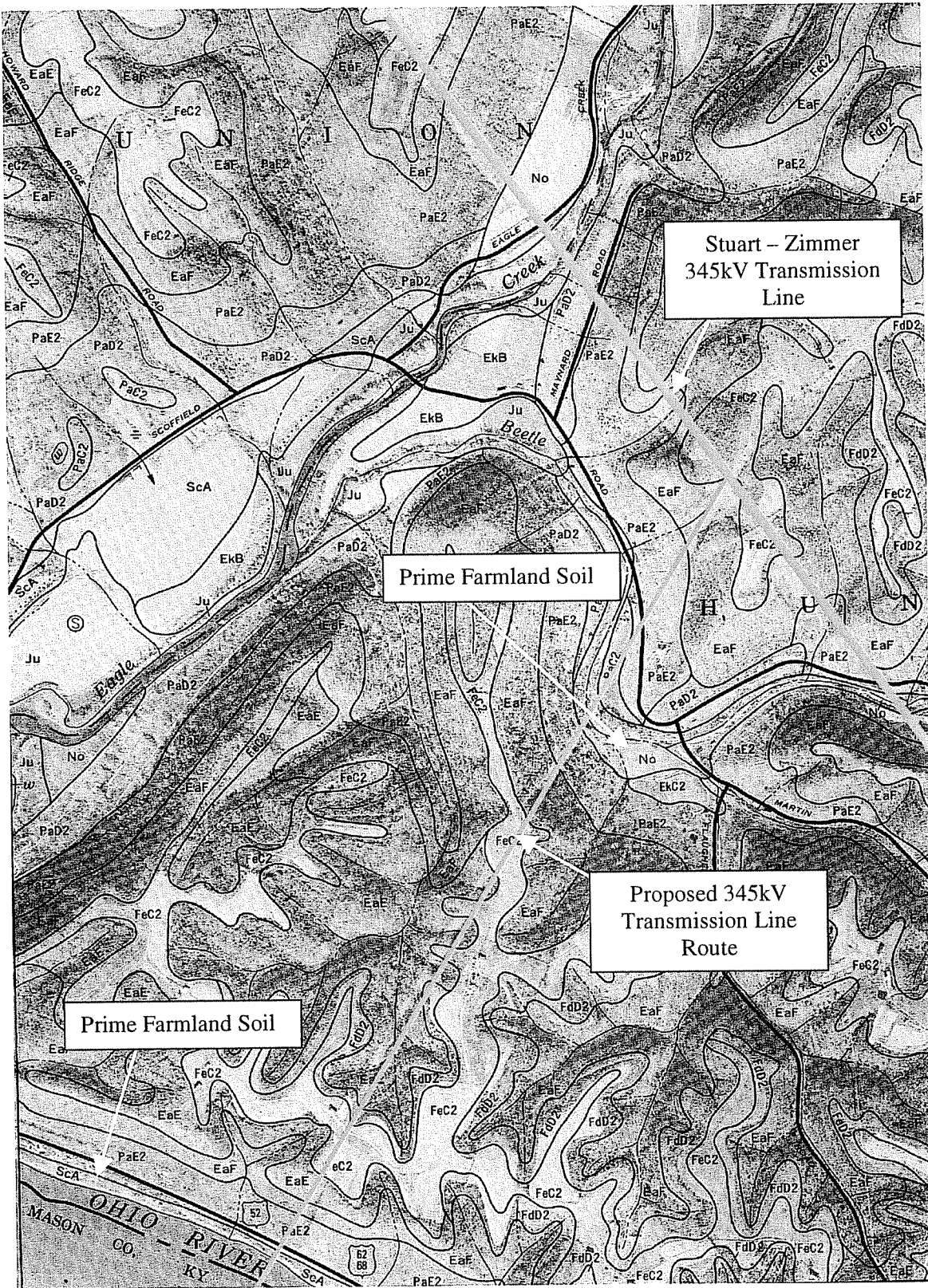


FIGURE 4.2-2.— Prime Farmland Soils in Brown County, Ohio Near the Proposed Transmission Line Right-of-Way.

4.2.2 Operation

Proposed Action

Geology

There would be no operational impacts to geologic formations on Spurlock Station from Units 3 and 4 and their associated facilities. However, the topography of the ash landfill would continue to be changed by landfilling the ash, but at an accelerated rate with the addition of Units 3 and 4. The current life expectancy of the ash landfill is 80 years. The addition of the ash generated by Units 3 and 4 shortens the life expectancy of the ash landfill to 37 years. There would be no operational impacts to geological formations from the proposed transmission line.

Soils

Once Units 3 and 4, their associated facilities and 1¼ miles (2 kilometers) of the proposed transmission line would be constructed on Spurlock Station, and displaced soil is backfilled, there would be no impacts to the soil from the daily operations as vehicle traffic will utilize the paved and gravel roads already built on Spurlock Station.

There is the potential for accelerated erosion of the right-of-way from unauthorized all-terrain vehicle use on the right-of-way. EKPC would consult with landowners along the right-of-way on methods, such as gates, to limit access to the right-of-way.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. There would be no clearing of vegetation along the proposed right-of-way and potential soil erosion from this activity would not occur. There would be no potential for increased soil erosion caused by unauthorized vehicle use on the right-of-way.

4.3 ECOLOGICAL RESOURCES

This section presents the potential construction and operational effects of the proposed project on the ecological resources in the project area.

Methodology

The ecological impact analysis was performed by reviewing site documentation and previously published environmental analysis documentation, conducting a field survey in Brown County, Ohio, and coordinating with the U.S. Fish and Wildlife Service (USFWS) in Kentucky and Ohio.

4.3.1 Construction

Proposed Action

Because there are no ecological resources present in the main plant area at Spurlock Station, there would be no impact to such resources from construction of Units 3 and 4. Impacts to ecological resources from the Proposed Action would occur in association with construction of the transmission line portion of the project.

The primary impact to ecological resources would result from site preparation and construction of the proposed transmission line. These impacts would primarily be associated with the removal of existing woody vegetation from the areas required for the right-of-way, and would occur mostly in Brown County, Ohio. The proposed transmission line right-of-way in Brown County would cover approximately 41 acres (16.5 hectares). Impacts to ecological resources would not be expected outside of the area cleared for the right-of-way. The greatest amount of clearing of vegetation would be required in open brushy fields, with some clearing occurring in the maple/oak/hickory woodlands present on the south-facing ridge located just north of the Ohio River. Minimal clearing would be necessary in cropland or pastureland. Within cropland and pastureland, the right-of-way may be temporarily unavailable for cultivation or grazing during construction. Once construction is completed, the right-of-way can be used as the landowner desires. The only land lost to cultivation would be that occurring beneath the structures.

Because no wetlands occur along the proposed transmission line right-of-way, no impacts to wetlands are expected. Riparian zones associated with Eagle Creek in Brown County, Ohio, however, could be impacted by construction of the transmission line. Although final design of the transmission line structures is not complete, it is likely that the Eagle Creek riparian areas would be spanned such that support structures would not be placed within these sensitive communities.

The impacts of transmission lines on wildlife can be divided into short-term effects resulting from physical disturbance during construction and long-term effects resulting from habitat modification. The net effect on local wildlife of these two types of impacts is usually minor. A general discussion of the impacts of transmission line construction and operation on terrestrial wildlife is presented below.

Any required clearing and other construction-related activities would directly and/or indirectly affect most animals that reside and wander within the transmission line right-of-way. Some small, low-mobility species may be killed by the heavy machinery. These include several species of amphibians, reptiles, mammals, and, if construction occurs during the breeding season, the young of some species including nestling and fledgling birds. Animals that live underground such as mice and shrews may similarly be negatively impacted as a result of soil compaction caused by heavy machinery. Larger, more-mobile species such as birds, jackrabbits, and squirrels may avoid the initial clearing and construction activities and move into adjacent areas outside the right-of-way. Maintenance clearing activities during the breeding season may destroy some nests and broods. Wildlife in the immediate area may experience a slight loss of browse or forage material during construction; however, the prevalence of similar habitats in adjacent areas and regrowth of vegetation in the right-of-way following construction would minimize the effects of this loss. Little vegetation clearing is anticipated in cropland and pastureland; thus, impacts from clearing in these habitats should be minimal.

The increased noise and activity levels during construction could potentially disturb breeding or other activities of species inhabiting the areas adjacent to the right-of-way. These impacts are expected in most cases to be temporary. Although the normal behavior of many wildlife species would be disturbed during construction, no permanent impact to their populations would result.

The proposed transmission line would span the Ohio River and no construction activity would take place in the river or adjacent to it; structures would be placed outside the 100-year floodplain. No impacts to aquatic organisms in the Ohio River would be expected.

4.3.1.1 *Threatened and Endangered Species*

Section 7 of the *Endangered Species Act* requires all Federal agencies to ensure that actions they authorize, fund, or carry out do not jeopardize the continued existence of endangered or threatened species. Agencies must assess potential impacts and determine if proposed projects may affect listed species. As discussed in Section 3.3.5, potential Indiana bat habitat is present in approximately five percent of the proposed transmission line right-of-way corridor within Brown County, Ohio. Any trees that could be potential roosting habitat for the Indiana bat would either be cleared in the winter when the bats are hibernating in caves or a comprehensive bat survey would be conducted to insure that no Indiana bats are foraging or roosting in the proposed construction area. The U.S. Fish and Wildlife Service has recommended that if trees with exfoliating bark are encountered within the transmission corridor that they be saved. If these trees must be cleared, then they should not be cut between the dates of April 15 and September 15. If the cutting time period is not acceptable then mist net or other surveys should be conducted to determine if Indiana bats are present. The survey should be conducted in June or July and in coordination between the endangered species coordinator for the USFWS Ecological Services Office in Reynoldsburg, Ohio and East Kentucky Power Natural Resources staff (Lammers 2001). If survey results indicate the presence of the Indiana bat then cutting would be delayed until September 16. If these conditions are followed, then the proposed project would not adversely affect the Indiana bat.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. The potential disturbances to wildlife and conversion of the existing woodlands in Ohio to right-of-way would not occur. Ecological resources in the project area would be expected to remain as described in the affected environment, Section 3.3.

4.3.2 Operation

Proposed Action

Operation of Units 3 and 4 should not affect ecological resources in the project area, primarily because from an ecological standpoint there is no noticeable difference in the current plant configuration and the proposed addition of two generating units. Similarly, because transmission lines and structures currently exist in the area, ecological impacts from the addition of the proposed line and structures would be minor.

The danger of electrocution to birds from the new lines would be extremely low since the distance between conductors or conductor and structure or ground wire on 345-kV transmission lines is usually greater than the wingspan of any bird in the area (i.e., greater than approximately 6 feet). The existing transmission lines (both structures and wires) may currently present a collision hazard to flying birds, particularly migrants. However, the addition of the proposed line would cause minor or no increase to the existing collision hazard.

Given the height of the exhaust stacks for proposed Units 3 and 4, 720 feet (220 meters), the Federal Aviation Administration will require stack lighting. Published accounts of avian collisions with tall, lit structures date back in North America to at least 1880 (Manville 2000). The approximately 350 species of Neotropical migratory songbirds are particularly vulnerable to tower collisions during their nighttime spring/summer and fall/winter migrations. Collisions are especially pronounced when foggy, misty, low-cloud-ceiling conditions exist. The problem has been brought to the forefront with the proliferation of open structured communications towers and their associated guy wires that have been conservatively estimated to kill 4-5 million birds per year (Manville 2000). Differences do exist between solid towers and communications towers with the solid towers less of an avian threat. Solid tower lighting is the critical consideration for their operation. Under the Migratory Bird Treaty Act, the USFWS is responsible for the conservation and management of 836 species of migratory birds. To minimize bird strike mortality the USFWS recommends voluntary compliance with the *Service Interim Guidelines For Recommendations On Communications Tower Siting, Construction, Operation, and Decommissioning* and for tower construction and operation the use of low intensity white strobe lights programmed with the maximum off phase of 3 seconds (Manville 2001). The exhaust stacks lighting system would be designed in consideration of USFWS recommendations.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. However, because operation of the Proposed Action is expected to have no noticeable effects on ecological resources in the project area, there would be no noticeable differences between the Proposed Action and the No Action Alternative.

4.4 CULTURAL RESOURCES

This section describes the potential effects of the construction and operation of the Proposed Action on the cultural resources in the project area. As described in Section 3.4, cultural resources include prehistoric or historic archaeological sites, buildings, structures, objects, districts, or other places including natural features and biota that are considered to be important to a culture, subculture, or community. Cultural resources also include traditional lifeways and practices, and community values and institutions. Historic properties are those cultural resources that are listed on or eligible for listing on the National Register of Historic Places.

Methodology

Potential impacts to historic properties are assessed by applying the Criteria of Adverse Effect as defined in 36 CFR 800.5a. “An adverse effect is found when an action may alter the characteristics of a historic property that qualify it for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property’s location, design, setting, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects caused by the action that may occur later in time, be farther removed in distance, or be cumulative.” The Criteria of Adverse Effect provide a general framework for identifying and determining the context and intensity of potential impacts to other categories of cultural resources, as well, if these are present. Assessment of effects involving Native American or other traditional community, cultural or religious practices or resources requires focused consultation with the affected group.

As discussed in Section 3.4, an effort is in progress to identify the presence or absence of cultural resources that could be affected by the Proposed Action. This identification effort is incomplete, but no cultural resources have been identified in the portions of the project area where Gilbert Unit 3 will be located. The identification of cultural resources, National Register of Historic Places evaluation, effect determination and mitigation of any adverse effect must be addressed in consultation with SHPOs of Kentucky and Ohio, interested Tribes and other consulting parties prior to initiating construction of Unit 4 and the proposed transmission line. Compliance with these parallel requirements of the Section 106 process can be phased or deferred in consultation and agreement with the consulting parties.

4.4.1 Construction

Proposed Action

Under the Proposed Action, Units 3 and 4 would be constructed at the Spurlock Station site. The potential for archaeological and historic resources at the Spurlock Station site was investigated through a database file search, site survey and backhoe trenching at the Gilbert Unit 3 site. No buildings or structures of historic age are on the property and no evidence of surface or subsurface archaeological resources was found. Because of current and past site use, it is unlikely that there are any other types of cultural resources present on the site. The construction of Gilbert Unit 3 would not impact any cultural resources at the Spurlock Station site. However,

a similar subsurface investigation may be required at the footprint for Unit 4 before construction can begin.

Construction of the proposed 345-kV transmission line connecting the new units in Kentucky to the existing Stuart-Zimmer 345-kV line in Brown County, Ohio could directly impact cultural resources in the transmission line right-of-way, construction staging areas, and access roads. However, no cultural resource identification efforts, archaeological or historic structure surveys or consultations with the respective SHPO or Tribal groups have been initiated for the proposed transmission line Area of Potential Effect. These efforts will be completed prior to construction of the proposed transmission line. Any identified cultural resources need to be evaluated for National Register of Historic Places eligibility or other measure of significance and any adverse effect of the undertaking must be addressed in consultation with the respective SHPO and other parties. Avoidance of cultural resources is the preferred method of mitigation. If avoidance is not possible, it would be necessary to develop and implement data recovery plans or other mitigative measures to reduce or mitigate potential adverse effects.

Construction activities have the potential for resulting in the discovery of previously unknown archaeological resources. A discovery plan should be developed to address the procedures for stopping work in the vicinity of any discoveries during construction to allow for evaluation and mitigation of potential adverse effects to these resources.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Because no cultural resources are known to exist on the Spurlock Station main plant site, no differences would be expected between the Proposed Action and the No Action Alternative. However, potential impacts to undiscovered cultural resources along the proposed right-of-way in Kentucky and Ohio would not occur under the No Action Alternative.

4.4.2 Operation

Proposed Action

The operation of Units 3 and 4 would not be likely to impact cultural resources. There are no known cultural resources onsite. The potential for impact to any offsite cultural resources would be limited to visual impacts to the setting of resources, if present. Since the Spurlock Station site is already developed as a power generating site, it is unlikely that there would be any changes affecting offsite cultural resources.

The placement of the new transmission line could alter the visual setting of cultural resources beyond the construction region of influence. However, placement of the proposed transmission line adjacent to the existing Kentucky Utilities transmission line would likely minimize such an impact. The presence or absence of such resources and whether the addition of the transmission lines would cause an adverse effect has not yet been determined.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Potential alterations to the visual setting of cultural resources discussed above would not occur.

4.5 WATER RESOURCES

This section discusses the potential effects to the quality and quantity of surface water and groundwater from the construction and operation of the proposed project.

Methodology

The water resources and water quality analysis considers potential impacts to surface water and groundwater resources from construction and operation of the proposed project and the measures that can be taken to minimize or eliminate those impacts. Operational impacts from the proposed project have the most potential to affect the Ohio River and have been analyzed both qualitatively and quantitatively by comparing project impacts to existing water conditions of the Ohio River.

4.5.1 Construction

Proposed Action

The two surface waterbodies present in the project area in Mason County, Kentucky (the Ohio River, which borders Spurlock Station to the north, and Lawrence Creek, which runs through the Spurlock Station site approximately 1,200 feet [366 meters] to the west of the main plant area) should not be affected by the Proposed Action because construction activities would occur a good distance from them. Soils potentially eroded and transported from work areas would be expected to be deposited prior to reaching these surface waterbodies.

In Mason County, Kentucky on the Spurlock Station site, a portion of the proposed transmission line would be constructed just south of the railroad tracks at approximately 520 feet (158.0 meters) above msl. The U.S. Army Corps of Engineers calculated the 500-year floodplain to be 520.5 feet (158.0 meters) above msl on the Spurlock Station site. Given the infrequent occurrence of a 500-year flood (occurring once every 500 years) and location of the proposed transmission line structures on the edge of that floodplain, it is unlikely that impacts from a 500-year flood would occur, or if they did occur, that the impacts would substantially affect the proposed line.

The balance of the proposed transmission line on the Spurlock Station site would be constructed east of the tailings pond, oriented north-south, and run parallel, on either the west or east side, of the existing Kentucky Utilities 138-kV Transmission Line. The area east of the tailings pond to the Ohio River edge is located below the 100-year floodplain elevation of 514 feet (156 meters) above msl. In order to construct structures in the floodplain, EKPC would apply for the appropriate Federal and state permits as detailed in Chapter 6, Applicable Environmental Regulations and Permits.

In Brown County, Ohio, Beetle Creek and Eagle Creek could potentially be affected by soil erosion from the construction of the proposed transmission line corridor. To prevent transport of eroded material into surface waterbodies during construction, standard erosion control measures would be implemented including the construction of silt fences and placement of hay bales.

These measures should minimize potential adverse impacts to Beetle and Eagle Creeks from sedimentation.

Elevations along the proposed transmission line corridor in Brown County, Ohio range from 500 to 933 feet (152 to 167 meters) above msl. Due to constraints in terrain topography, the steel lattice transmission line structure that would be located adjacent to the Ohio River would be sited on the north side of State Route 52 at an elevation of approximately 525 feet (158.2 meters) above msl. Sited north of State Route 52, the steel lattice structure would be out of the Brown County 100-year floodplain without floodway of 514.8 feet (156.9 meters) and with floodway of 515.6 feet (157.1 meters) above msl.

The storage and use of fuel, lubricants, and other fluids during the construction of the facilities on Spurlock Station and the transmission line corridor could create a potential contamination hazard from spills and leaks. To prevent contamination of either surface water or groundwater sources during construction of the proposed project, several preventative measures would be taken. Oil and diesel fuel would be stored in clearly marked tanks onsite. The tanks would be provided with secondary containment structures. Construction equipment would be maintained regularly, and the source of leaks would be identified and repaired. Any soil contaminated by fuel or oil spills would be quickly removed and disposed at an approved disposal site. Lubricating oils, acids for equipment cleaning, and concrete curing compounds are potentially hazardous wastes that may be associated with construction activities. These would be placed in containers within secondary containment structures onsite, and disposed of at a licensed treatment and/or disposal facility in accordance with local or state regulations and in compliance with the manufacturer's recommendations. Paint containers would be tightly sealed to prevent leaks or spills. Excess paint would be disposed of consistent with the manufacturer's recommendations and according to applicable governmental regulations.

Spurlock Station personnel have already developed and implemented a Spill Prevention, Control and Countermeasure Plan in accordance with state and Federal law. Beside taking the above precautions during construction to prevent potential contamination hazards, the Spill Prevention, Control and Countermeasure program would also be utilized and would require construction measures (such as dikes or berms around certain storage tanks), inspections, and personnel training to prevent the occurrence of spills that could impact soil and water resources.

In order to additionally protect groundwater, the preparation and implementation of a groundwater protection plan, in compliance with 401 KAR 5:037, would likely be required. In this plan, technological means for protection of groundwater would be identified, taking into account the nature of the potential pollutants and the hydrological characteristics of the area. These could include, but are not limited to, operational procedures, personnel training, spill response capabilities, best management practices, runoff or infiltration control systems, and siting considerations.

During construction of the proposed project, small amounts of water would be required primarily for dust control. Potable water used by construction crews on Spurlock Station would be from the Maysville municipal supply, while other water required would be from the plant process water supply system. Water used for dust suppression on the transmission line corridor, if

required, would be supplied by trucks filled from the local municipal supply. The small quantities potentially required for construction would not be significant.

If construction of the Units 3 and 4 and the 1¼-mile (2-kilometers) proposed transmission line in Kentucky disturbs a total of 5 or more acres (2 hectares), EKPC would need to acquire a KPDES Permit for Storm Water Discharges. Since the total acreage disturbed during construction in Kentucky would be approximately 5.4 acres (2.2 hectares), EKPC would apply for this KPDES permit. In Ohio, because more than 5 acres (2 hectares) of land would be disturbed during construction of the proposed 2¼ mile (3.6-kilometer) transmission line, EKPC would need to apply for a general National Pollution Discharge Elimination System permit for Construction Storm Water with the Ohio Environmental Protection Agency.

An additional wastewater source associated with the proposed project would be sanitary wastes that are generated by plant washrooms, toilets and drinking fountains. Currently, 159 permanent employees discharge approximately 10,000 gallons per day (37,854 liters per day) of sanitary wastes to the Maysville Water Treatment Plant. Another 150 to 200 workers are currently on the Spurlock Station site constructing selective catalytic reduction units to reduce air emission for Units 1 and 2. These workers add approximately 3,750 to 5,000 gallons per day (14,195 to 18,927 liters per day) of wastewater to the sanitary sewer system. For this analysis, construction workers are expected to use a combination of portable toilets and onsite sanitary facilities, generating only half of the average daily sanitary waste for a worker, or 25 gallons per day (94.6 liters per day). During construction of the proposed project, there would be an additional 150 to 200 construction workers over the current workforce that would be expected to add 3,750 to 5,000 gallons per day (14,195 to 18,927 liters per day) of wastewater to the sanitary sewer system. This is not expected to exceed the current system capacity.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Because there would be no construction, there would be no potential impacts to surface or groundwater from the storage and use of fuel, lubricants and other fluids used in construction of the Proposed Action. Such potential impacts from the ongoing construction of the selective catalytic reduction for Units 1 and 2, however, could still occur.

Under the No Action Alternative, there would be no need for Ohio National Pollution Discharge Elimination System and KPDES storm water discharge permits during construction. No water would be used for dust suppression on the transmission line corridor and no additional sanitary wastes would be added to the Maysville Water Treatment Plant.

4.5.2 Operation

Proposed Action

Current water use at Spurlock Station consists of an intake structure on the Ohio River that withdraws 3.5 MGD (13.2 MLD) and 14 groundwater wells that withdraw 10 MGD (38 MLD) for the operation of Units 1 and 2. With the construction of the proposed project, Units 3 and 4

would require the withdrawal of an additional 8.64 MGD (32.7 MLD) from the existing intake pipe on the Ohio River. No additional groundwater would be withdrawn for Units 3 and 4. Under Kentucky Revised Statute Chapter 151:140, no permit is required for water withdrawn from a public water source if the water is used in the production of steam at generating plants of companies whose retail rates are regulated by the Kentucky Public Service Commission. The Commission regulates the retail rates for EKPC.

The average daily flow of the Ohio River 1969 to 2000 at the Greenup Locks and Dam on the Ohio River U.S. Geological Survey mile mark 341 is 57.5 billion gallons per day (217.6 billion liters per day). As stated in Section 3.5.1, the Greenup and Meldahl Locks and Dam have been collectively controlling the flow of the Ohio River between U.S. Geological Survey mile mark 341 and U.S. Geological Survey mile mark 436, respectively, since 1964. Spurlock Station is located between the two locks and dams on U.S. Geological Survey mile mark 414. The withdrawal for the proposed project of 8.64 MGD (32.7 MLD) represents 0.01 percent of the average daily flow and should not noticeably impact water availability during average flow conditions. The minimum 7-day 10-year low flow at Spurlock Station is 6.3 billion gallons per day (23.9 billion liters per day). The daily withdrawal from the project would represent approximately 0.1 percent of this low flow average, and would not be expected to impact water availability during low flow conditions.

As discussed in Section 3.5.1, the Ohio River currently receives treated wastewater from several permitted sources in the vicinity of Spurlock Station and water quality is designated as Warm Water Aquatic Habitat and Primary/Secondary Contact Recreation. The current amount of wastewater being discharged to the Ohio River from Spurlock Station is 2.5 MGD (9.4 MLD). The proposed project would add 2.2 MGD (8.3 MLD) of wastewater.

Under its KPDES permit, Spurlock Station personnel currently monitor for the following contaminants: metals, cyanide, and total phenols (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium and zinc) (KY NREPC 2000). The treated wastewater generated by the proposed project is expected to contain the same contaminants and only a minor modification to the KPDES permit would be required. This modification would concern the recalculation of wastewater flow to the ash pond to reflect the increased discharge. The additional wastewater generated by the proposed project would flow into and through current monitoring lagoons and outfalls. No new outfalls would be added to Spurlock Station.

The Spill Prevention, Control and Countermeasure Plan currently in place for Spurlock Station would be implemented for the proposed project. New personnel hired to operate Units 3 and 4 would be trained in how to apply the measures in the plan to prevent potential contamination hazards from spills and leaks that could impact soil and water resources.

The proposed project would require 50 additional permanent workers to be hired for the operation of Units 3 and 4 who would generate 3,144 gallons (11,899 liters) of additional sanitary wastes to be processed by the Maysville Water Treatment Plant.

The proposed transmission line is not expected to have any effects on surface or groundwater resources during operation.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Therefore, there would be no additional withdrawal of water from or discharge to the Ohio River. No additional permanent workers would be hired to operate Units 3 and 4 and the associated addition to the sanitary waste stream would not occur.

4.6 LAND USE

This section discusses the potential construction and operational effects of the proposed project on land use and recreational resources within the vicinity of the project. Impacts to land use are determined relative to the context of the affected environment described in Section 3.6.

Methodology

To determine the impacts of the proposed project, both the land area displaced by the construction of the proposed project and the compatibility of the proposed project with current land use is considered. The context for the proposed project in Mason County, Kentucky is the industrial sites of Spurlock Station, a power generating facility, its neighbor to the east, Inland Paperboard and Packaging, a paper products recycling and manufacturing facility, and the open cultivated land between the two sites. The proposed project extends across the Ohio River and into Brown County, Ohio where primary land use is forested land with agricultural land interspersed. There are also scattered residences located along the Ohio River and along Flaughter Hill and Scoffield Roads in the vicinity of the proposed transmission line corridor in Brown County. Consideration is given to any unique characteristics of the area (for example, recreational opportunities), and the degree to which the proposed project may adversely affect such unique resources. The land use evaluation includes both temporary land use impacts during construction and permanent changes to land use resources.

4.6.1 Construction

Proposed Action

On Spurlock Station, Units 3 and 4 of the proposed project would be constructed adjacent to Unit 2. The footprint of Units 3 and 4 is 2.9 acres (1.2 hectares) and the approximate total footprint of the proposed units and additional facilities, such as bag houses, limestone related buildings and cooling towers, is 5.4 acres (2.2 hectares). The 2,500-acre (1,011-hectare) Spurlock Station is an industrial site so construction of the proposed project on the site would not affect current land use.

The ash landfill, located in the western corner of Spurlock Station and consisting of three separate cells, A, B, and C, is classified as a special waste landfill. EKPC has applied for a permit to expand Cell A horizontally and Cells B and C horizontally and vertically. The additional horizontal expansion would add 53 acres (21 hectares) to the landfill area, thus changing that land from undeveloped rural to special waste landfill. The current life expectancy of the ash landfill is 80 years. The addition of the ash generated by Units 3 and 4 of the proposed project shortens the life expectancy of the ash landfill to 37 years.

One and a quarter miles (2 kilometers) of the 3.5-mile (5.6-kilometer) proposed 345-kV transmission line would be located in Mason County, Kentucky and extend from the existing substation on Spurlock Station, running southeast parallel with the Chesapeake and Ohio Railroad tracks, and then turn northeast toward the Ohio River south of the ash pond, running parallel on either the west or east side the existing Kentucky Utilities 138-kV Transmission Line

right-of-way (see Figure 2.1–2). This portion of the proposed transmission line would be located in an open area north of Inland Paperboard and Packaging between existing railroad tracks. The land displaced by the 1¼-mile, 150-foot right-of-way would be approximately 22.7 acres (9 hectares).

The majority of the proposed transmission line structures would be of H-frame construction with each wooden pole of the H-frame measuring 1 foot (0.3 meters) in diameter. The height of the H-frame structure would be 70 feet (21.3 meters) above ground and the width between the poles would be 15 feet (4.5 meters) (See Figure 4.2–1). There would also be two 125-foot (38.1 meters) steel lattice transmission line structures placed directly on either side of the Ohio River. The concrete foundations for these structures would cover 3,600 square feet (334 square meters), measuring 60 feet x 60 feet (18 meters x 18 meters). The taller lattice structures would be used directly on either side of the Ohio River in order to give the transmission line the necessary height above the river so the line does not interfere with river traffic. There would be approximately eight H-frame structures and one steel lattice structure along the proposed transmission line corridor in Kentucky. The total footprint for the transmission line structures would be approximately 5,400 square feet (500 square meters) or 0.12 acres (0.05 hectares). The land crossed by the proposed transmission line is located on and adjacent to the industrial land of Spurlock Station and Inland Paperboard and Packaging, and therefore current land use would not be affected by the construction of the proposed line.

The final 2¼ miles (3.6 kilometers) of the proposed 345-kV transmission line would continue its parallel path along the Kentucky Utilities 138-kV transmission line right-of-way, cross the Ohio River into Brown County, Ohio, and finally connect to the Stuart-Zimmer 345-kV transmission line. While no specific land use plans were available for the proposed project area in Brown County, Ohio, the proposed transmission line and 150-foot (46-meter) right-of-way would run through forested land with agricultural land and residences interspersed. Forty-one acres (16.5 hectares) of this land would be cleared for the right-of-way, changing its current land use from residential, forested and agricultural to a utility corridor or right-of-way. With approximately 15 H-frame and one steel lattice structures sited in the 2¼-mile (3.6-kilometer) proposed right-of-way in Ohio, the total footprint of the structures would be approximately 6,991 square feet (650 square meters) or 0.16 acres (0.06 hectares).

As stated in Section 3.6.2, Recreation, the closest recreational facility is the public access site on Lake Charles located 1 mile (0.6 kilometers) from Spurlock Station in Mason County, Kentucky. No recreational facilities would be affected by the proposed project.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. The conversion of existing land uses in Ohio to right-of-way would not occur. Current land uses in the area would be expected to continue.

4.6.2 Operation

Proposed Action

Any land use changes from the proposed project would only occur during the construction phase. No land use impacts are expected during operation of the proposed project.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Current land use in the area would be expected to continue.

4.7 VISUAL RESOURCES

This section discusses the potential effects of the proposed project on visual resources in the vicinity of the Spurlock Station and along the proposed transmission line in Brown County, Ohio. The methodology for determining impacts is presented, along with a description of the impacts during construction and operation.

Methodology

The visual quality of the existing landscape in the vicinity of the proposed project is discussed in Section 3.7. The existing visual quality is based on evaluation of the natural landscape and existing modifications for form, line, pattern, color, contrast, and texture. The sensitivity of the existing visual resources to change associated with the proposed project depends on whether an area already contains modifications (in this case, buildings or transmission lines), and the degree of public and agency concern for changes to the visual landscape.

In assessing the potential effects of the proposed project, the visual features that would be associated with the project during construction and operation are evaluated. The discussion includes the physical or visual relationships that influence the visibility of the proposed landscape changes, such as whether the project would be in the background or foreground for potential viewers.

The significance of impacts to visual resources is dependent upon the existing character of the resource and the amount of change to that resource. Even minor changes to resources of high public value such as rare or special landscapes would be significant. The most significant visual impacts would occur in existing high quality landscapes that have a high sensitivity to change (for example, areas of particular public concern or specially protected areas).

4.7.1 Construction

Proposed Action

Visual impacts from construction activities along the proposed transmission line right-of-way would result from the clearing of trees and from the construction equipment required for the transmission line support structures and conductor stringing. The proposed route for the 3.5-mile (5.7-kilometer) 345-kV transmission line extends northeasterly from the project site across the Ohio River and into Brown County, Ohio, where it interconnects with the existing power grid. An existing Kentucky Utilities 138-kV Transmission Line crosses the Ohio River and parallels the proposed route, along a 200-foot (61-meter) wide cleared right-of-way through a mixture of agricultural and forested land. Multiple residences are contained within the viewshed of the existing transmission line, primarily along the north bank of the Ohio River directly across from the Spurlock Station.

A short-term visual impact would be generated during construction from dust and equipment. If necessary, dust control measures would be implemented by EKPC to minimize impacts. Access used for construction that would not be used for ongoing operation and maintenance would be

restored to near preconstruction conditions to re-establish the natural soil and vegetation conditions.

The visual impact of the clearing of trees in Brown County, Ohio for the 150-foot (46-meter) right-of-way would be minimized by the fact that it would parallel an existing transmission line. The H-frame wood pole structures, would be 70 feet (21.3 meters) tall and 15 feet (4.5 meters) wide. (See Figure 4.2-1). The two 125-foot (38.1-meter) tall lattice structures would be sited directly on either side of the Ohio River near the existing lattice structures for the Kentucky Utilities 138kV Transmission Line that the proposed transmission line would parallel. (See Appendix A, Photo 26 for the existing lattice structure.) The existing previous disturbance to the natural landscape reduces the visual sensitivity of the landscape to change. The transmission line structures would be visible from brief sections of both Highway 8 in Kentucky and Highway 52 in Ohio, running along the south and north sides of the Ohio River.

The visual impact of construction activities at the Spurlock Station would be primarily from the introduction of Units 3 and 4 boiler units, two 720-foot (220-meter) cement stacks, and a cooling tower system. The boiler units would be cream color and approximately 17-stories high, similar to the existing boiler units. The cement stacks would be similar to the two existing cement stacks, though approximately 85 feet (26 meters) shorter. These features would be visible from portions of Highway 8 and 22, including several residences in the area. Views of the proposed project are partially obscured by the hilly terrain and trees in the area. Given that the Spurlock Station is located on an approximately 2,500-acre (1,011-hectare) piece of property, daily construction activities near the ground level would not be highly visible from public roads or residences.

The Ohio River Scenic Route, which includes the section of Highway 52 in the proposed project area, has been designated as a National Scenic Byway, with almost continuous views of the Ohio River stretching 462 miles (758 kilometer) from Cincinnati to Pennsylvania. Both the Spurlock Station additions and a portion of the proposed transmission line would be visible from the Ohio River and the Ohio River Scenic Byway. Thus, agency and public concerns may be raised for any visual changes that would affect the Ohio River Scenic Byway. Given the recreational use of the Ohio River, public concern may also be raised for changes visible from the river. However, agency and public concern for visual changes may be minimized by the fact that alteration to the natural landscape in the immediate vicinity of the proposed project already exists, and that the proposed project facilities look similar to the existing facilities.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. The potential changes to the viewshed from the Proposed Action would not occur. However, visual changes associated with ongoing construction of the selective catalytic reduction for Units 1 and 2 would continue under the No Action Alternative.

4.7.2 Operation

Proposed Action

The visual impacts of ongoing operation of the proposed project would include all of the visual changes introduced during construction, as described above. In addition, steam clouds rising into the air from the new cooling towers would be visible. The visibility of the steam clouds varies with meteorological conditions and the vantage point of the viewer.

Another visual change associated with the proposed project would be the increased frequency of coal and limestone deliveries. Coal deliveries would occur primarily by barge, with a frequency of 9 to 10 barges per week per unit for Units 3 and 4. Currently, 3 to 4 barges arrive per week to supply Units 1 and 2. The limestone delivery would occur by truck along Highway 8. Limestone delivery trucks would be limited to a 6-hour period during the daytime, 5 days per week. During these delivery times, approximately 14 trucks of limestone would be delivered to the Spurlock Station each hour. The visual impact of the increased barge and truck traffic would be minimized by the moderate volume of existing traffic in the area.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Visual changes associated with increases in steam emissions and increased truck and barge traffic would not occur. However, visual changes from the selective catalytic reduction currently being constructed for Units 1 and 2 would occur under the No Action Alternative.

4.8 SOCIOECONOMICS

Any sudden influx of capital or employment, such as a large construction project, to a region will impact the existing socioeconomic environment to some degree. Socioeconomic factors, such as employment, income, population, housing, and community services, are interrelated in their response to the implementation of an action. This section describes the potential effects of the EKPC Units 3 and 4 Project on the existing socioeconomic environment of the nine-county region of influence.

Methodology

Socioeconomic impacts are addressed in terms of both direct and indirect impacts. Direct impacts are those changes that can be directly attributed to the Proposed Action, such as changes in employment and expenditures from the construction and operation of the proposed plant. Indirect impacts to the region of influence occur based on the direct impacts from the Proposed Action. Two factors, (1) the changes in site purchase and non-payroll expenditures from the construction and operation phases of the plant, and (2) the changes in payroll spending by new employees, indirectly lead to changes in employment levels and income in other sectors throughout the region of influence. The total economic impact is the sum of the direct and indirect impacts.

The direct impacts estimated in the socioeconomic analysis are based on project summary data developed by Rural Utilities Service in conjunction with EKPC's contractors and representatives. Total employment and earnings impacts were estimated using Regional Input-Output Modeling System multipliers developed specifically for the EKPC Units 3 and 4 Project region of influence by the U.S. Bureau of Economic Analysis. These multipliers are developed from national input-output tables maintained by the U.S. Bureau of Economic Analysis and adjusted to reflect regional trading patterns and industrial structure. The tables show the distribution of the inputs purchased and the outputs sold for each industry for every county in the United States. The multipliers for this analysis were developed from the input-output tables for the nine counties comprising the region of influence. The multipliers are applied to data on initial changes in employment levels and earnings associated with the proposed project to estimate the total (direct and indirect) impact of the project on regional earnings and employment levels. For this analysis, the term direct jobs refers to the employment created by the project and direct income refers to project workers' salaries. The term indirect jobs refers to the jobs created in other employment sectors as an indirect result of new employment at the construction site and indirect income refers to the income generated by the new indirect jobs.

The importance of the actions and their impacts is determined relative to the context of the affected environment, or project baseline, established in Section 3.8. The baseline conditions provide the framework for analyzing the importance of potential economic impacts that could result from the project. Impacts would be determined to be significant if the change resulting from the action analyzed would exceed historical fluctuations in the regional economy.

EKPC and its contractors provided estimates of construction and operations workforces and durations. The overall construction workforce would average 300 workers and reach a peak

force of 400 for short periods of time. Each unit would take approximately 29 months to build. The total construction time for the project, including the transmission line, is 58 months. The socioeconomic impacts on employment and income are evaluated during the two phases of the project, construction and operation. The construction phase is analyzed for two different levels, average worker level and peak worker level. The operation of the two new units is expected to require 50 workers in addition to the 159 workers currently employed onsite.

4.8.1 Construction

Proposed Action

Currently, Selective Catalytic Reduction units are being added to the existing units at the plant. These additions employ an average of 150 construction workers. EKPC intends to utilize these 150 construction workers for the installation of Units 3 and 4. Thus, the project would directly create an additional 150 to 250 construction jobs in Mason County, Kentucky. All construction labor would be unionized construction workers from Cincinnati, which is located in Hamilton County, Ohio. The average salary for a laborer employed in the heavy construction field in Hamilton County was \$56,407 in 1999 (CBP 1999i). The total amount of direct income generated by this project per year of construction would be between \$8.46 million and \$14.10 million, depending on the duration of peak employment levels. For each month of peak onsite employment, \$470,000 would be added to the average annual level of \$8.46 million. The total amount of direct income generated during the construction of the project would be \$40.89 million at average staffing levels.

The construction of the project would also create additional indirect jobs throughout the region of influence. Many of these jobs would be created in the Cincinnati Metropolitan Area as the construction workers would be traveling from this area and they would spend most of their money closer to their homes. The indirect jobs will also generate additional quantities of indirect income.

The total income generated by this project would economically benefit individuals in the region of influence and the additional tax revenue generated by the project and new salaries would benefit the counties comprising the region of influence as well as the states of Kentucky and Ohio.

In general, the construction of this project would not significantly impact community services because people currently residing within the region of influence would fill the jobs generated by it. Slight impacts may occur to housing in Mason County, Kentucky or Brown County, Ohio because construction workers may opt to reside locally during the workweek and commute to Cincinnati on weekends. Existing housing should be sufficient to handle any demand generated by construction workers; however, housing may become scarce during periods of peak construction should the majority of the workers choose this option. Police, fire and medical services would be responsible for any accidents at the project site and additional demand for their services may be required. This demand may be offset by the creation of new employment opportunities in these fields from the tax revenues generated by this project. Other areas of

community services, such as education, may also benefit from tax revenues generated from the project.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Since no construction would occur, no additional jobs would be generated by this action. The 150 construction workers currently employed onsite would not be employed in the construction of the two new units and would have to seek employment elsewhere. They would not be significantly impacted since they are unionized labor and would be able to readily find other construction projects to work on. No tax revenue or income would be generated under this action and no impacts would occur to community services.

4.8.2 Operation

Proposed Action

Operation of the two new units would directly create 50 jobs in Mason County, Kentucky. The average salary for a utility employee in Mason County was \$48,721 in 1999 (CBP 1999e). The total amount of direct income generated by the operation of the two new units at the Spurlock site would be \$2.44 million per year. These jobs would also generate additional indirect jobs and income. These indirect jobs would most likely be located in and around Mason County, Kentucky and Brown County, Ohio, as the majority of the employees who operate the plant live in this area.

The total income generated by this project would economically benefit individuals in the region of influence and the additional tax revenue generated by the project and new salaries would benefit the counties comprising the region of influence as well as the states of Kentucky and Ohio.

In general, the operation of this project would not significantly impact community services because people currently residing within the region of influence would fill the jobs generated by it. Police, fire and medical services would be responsible for any accidents that occur during facility operation and additional demand for their services may be required. This may be offset by the creation of new employment opportunities in these fields from the tax revenues generated by this project. Other areas of community services, such as education, may also benefit from tax revenues generated from the project.

No Action Alternative

No additional units would operate at the Spurlock site and no new jobs would be created. No tax revenue or income would be generated under this action and no impacts would occur to community services.

4.9 ENVIRONMENTAL JUSTICE

Pursuant to Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 *Federal Register* 32), this section identifies and addresses any disproportionately high and adverse human health or environmental effects on minority or low-income populations from activities described in other sections of this environmental assessment.

Methodology

Environmental justice guidance developed by the Council on Environmental Quality defines “minority” as individual(s) who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander, Black, or Hispanic (CEQ 1997). Minority populations are identified when either the minority population of the affected area exceeds 50 percent or the percentage of minority population in the affected area is meaningfully greater than the minority population percentage in the general population in the surrounding area or other appropriate unit of geographical analysis. Low-income populations are identified using statistical poverty thresholds from the Bureau of Census (defined in 2000 as 1999 income less than \$17,463 for a family of four).

Environmental justice impacts become issues of concern if the proposed activities result in disproportionately high and adverse human and environmental effects to minority or low-income populations. All resource areas analyzed in this environmental assessment have been included in the environmental justice analysis. While the magnitude of impacts from the majority of the resource areas can be measured by proximity to the project, special attention must be given to the effects on human health in local communities. Disproportionately high and adverse human health effects are identified by assessing these three factors to the extent practicable:

- Whether the health effects, which may be measured in risks or rates, are significant (as defined by *National Environmental Policy Act*) or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death.
- Whether the risk or rate of exposure to a minority population or low-income population to an environmental hazard is significant (as defined by *National Environmental Policy Act*) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group.
- Whether health effects occur in a minority population or low-income population affected by cumulative or multiple adverse exposures from environmental hazards.

Environmental impacts from all resource areas are considered during this analysis.

The Council on Environmental Quality recognizes that the identification of disproportionately high and adverse human health or environmental impact on a low-income, minority, or Indian tribe population does not preclude a proposed agency action from going forward, nor should it lead to a conclusion that a proposed action is environmentally unsatisfactory. The identification

of environmental justice issues should heighten agency attention to alternatives, mitigation strategies, monitoring needs, and preferences expressed by the affected community or population (CEQ 1997). As discussed in Chapter 2 of this environmental assessment, the siting analysis concluded that using the existing infrastructure at the Spurlock Station was economically favorable and also presented the least potential to impact the environment. Therefore, alternative siting options are not considered under this environmental justice analysis.

Affected Environment Summary

The percentage of minority populations in Mason County, Kentucky and Brown County, Ohio are lower than their relative state levels. The town of Maysville, which is approximately 5 miles (8 kilometers) southeast of the project site, does have a higher percentage of African-American residents than the rest of Mason County. Approximately 1,038 of the 1,203 African-American residents of Mason County live in Maysville (Census 2000b). Maysville also has a higher percentage (20.7 percent) of low-income residents than Mason County (18.2 percent), which has a slightly higher level than the State of Kentucky (16.0 percent). Approximately 1,862 of the 3,058 low-income residents of Mason County live in Maysville. The town of Ripley, located approximately 3 miles (4.8 kilometers) north of the project site on the Ohio shore of the river, has a higher percentage of African-American and Hispanic residents and residents of two or more races than Brown County. Approximately 116 of the 389 African-American residents of Brown County live in Ripley. Twelve of the County's 185 Hispanic residents and 22 of the County's 255 residents of two or more races live in Ripley. Ripley also has a significantly higher level of low-income residents than the County, with approximately 421 of the County's 5,074 low-income residents living in the town.

4.9.1 Construction

Proposed Action

No significant environmental impacts would occur outside of the project site during construction. No disproportionate impacts would occur to minority or low-income populations. Therefore, there are no environmental justice impacts from the construction of the Proposed Action.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Since no environmental justice impacts would occur under the Proposed Action, there would be no difference between the Proposed Action and the No Action Alternative concerning Environmental Justice.

4.9.2 Operation

Proposed Action

The operation of Units 3 and 4 would result in increases in air emissions of sulfur dioxide, nitrogen oxides, hazardous air pollutants, and inhalable particulate matter from the Spurlock

Station. These air emissions, although not considered an adverse environmental impact as discussed in Section 4.1, Air Quality and Noise, would disproportionately affect African-American and low-income residents of Mason and Brown Counties. This is because large percentages of the respective counties' populations of these individuals live near the project site (i.e., in Maysville, Kentucky and Ripley, Ohio). The overall levels of each pollutant would still be well below PSD increment limits and ambient air quality standards, as discussed in Section 4.1. No human health impacts or other environmental impacts would disproportionately affect minority or low-income populations, and therefore no environmental justice impacts would occur.

No Action

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Although no health impacts would be expected, the potential to disproportionately affect African-American and low-income residents of Mason and Brown Counties from an increase in air emissions at the Spurlock Station would not occur.

4.10 INFRASTRUCTURE

This section summarizes the additional equipment that would be required for the proposed project and the equipment the project would utilize from the existing infrastructure during construction and operation. The No Action Alternative is also discussed.

Methodology

The infrastructure analysis examines the existing utilities and other resources, as described in Section 3.10, Infrastructure, that are available to support the construction and operation of the proposed project. Site infrastructure impacts will be assessed by overlaying the support requirements of the proposed project on current site infrastructure capabilities. Current site infrastructure capabilities include water supply, wastewater treatment and discharge, barge and rail facilities, coal storage, process and handling equipment, chemical maintenance system, ignition fuel oil supply, trucks and roads, and other ancillary equipment. Existing infrastructure that would be utilized for the proposed project will be highlighted when defining additional infrastructure requirements for the construction and operation of the proposed project.

4.10.1 Construction

Proposed Action

The proposed project would install two 268-MW coal-fired electric generating units, Units 3 and 4, on Spurlock Station and a double-circuit 345-kV, 3.5-mile (5.6-kilometer) transmission line with a 150-foot (46-meter) right-of-way from Spurlock Station that would connect to the Stuart-Zimmer 345-kV transmission line in Brown County, Ohio. Units 3 and 4 would require power generating, water circulating, air emissions, coal handling, and electricity generating and transfer equipment similar to Units 1 and 2. Additionally, limestone preparation, handling and disposal equipment would be required as the circulating fluidized bed combustion boilers of Units 3 and 4 are expected to burn high sulfur coal. When high sulfur coal is combined with limestone in the combustion process, the sulfur adsorbs to the limestone (attaches to its surface), thus significantly reducing SO₂ emissions. The equipment for Units 3 and 4 would be housed in buildings constructed adjacent to Unit 2. Table 4.10–1 summarizes the equipment that would be installed for each unit by general category.

TABLE 4.10-1.—Equipment to be Installed for Each Unit

Equipment Type	Equipment Description
<i>Power Generating Equipment</i>	
Steam Generating Unit (CFBC Boiler)	Steam flow from superheater outlet lb/hr: 1,922,000; pressure: psig 2,535, temp: 1,005 °F (544 °C) Steam flow from reheater outlet lb/hr: 1,695,781; pressure: psig: 584.6; temp: 1,005 °F (544 °C)
Startup Fuel	Oil: Grade No. 2; ; heating value, Btu/lb: 19,350
Startup Equipment	4 Grade No. 2 fuel oil burners; eight fuel feeders; ignition oil pumps
Operating Fuel	Coal: Western KY, Pine Branch and Pittsburgh 8 Size of Coal: 0.25 inches (0.6 centimeters)
Boiler Control System	Provides continuous process control of following boiler systems: <ul style="list-style-type: none"> • Primary/secondary air control • Fuel control • Emission control • Oxygen correction • Drum level (feedwater) control • Steam temperature control • Furnace draft control • Furnace temperature control • Furnace chamber differential pressure control • Boiler master control • Controls to read, measure and adjust system as necessary
Boiler Feed and Boiler Feed Booster Pumps	
Sootblowers and Soot Cleaning Equipment	
Air Compressor	One type multi-stage centrifugal with water-cooled intercoolers and an air receiver sized to support sootblowing and fuel oil atomization
Instrument Air System	Existing headers will be extended to serve Units 3 and 4; air dryers: current capacity to be examined for additional need; if necessary, additional air dryers would be added
Turbine-Generator Unit	Tandem compound, double flow, single reheat unit <ul style="list-style-type: none"> • Throttle steam pressure: psig: 2,400 • Throttle steam temperature: 1,000 °F (542 °C) • Nominal rating: kW: 300,000; guaranteed capability: kW: 298,456
<i>Water Circulating Equipment</i>	
Condensing Equipment	Condenser; two Feedwater Heaters; two condensate pumps; two vacuum pumps; tubes; water boxes; tube cleaning system (continuous recirculated ball system with automatic ball collecting screen cleaning sequencing control system)
Circulating Water System	Recirculating system with cooling tower; circulating pumps at tower basin with underground pressure lines to condenser and return to cooling tower
Cooling Tower	Multi-cell, induced draft, counter-flow
Piping	Aboveground: steel pipe; underground: reinforced concrete cylinder pipe
Tubular Feedwater Heaters	
Deaerating Feedwater Heater	
<i>Air Emissions Equipment</i>	
Flue Gas Conditioning Equipment	Designed to limits emissions at the stack to: <ul style="list-style-type: none"> • Particulate: 0.03 lbs/Mbtu heat input • Sulfur dioxide (SO₂) 0.2 lbs/Mbtu heat input • Nitrogen oxides (NO_x): 0.1 lbs/Mbtu heat input

TABLE 4.10-1.—Equipment to be Installed for Each Unit (continued)

Equipment Type	Equipment Description
Baghouse	Flue gas: 3,660,000 lbs/hr at 315 °F (158 °C); removal efficiency: 99.5%; bag cleaning method: pulse air
Selective Non-Catalytic Reduction System (SNCR)	Reagent : anhydrous ammonia; storage: existing tanks; injection blower
Fans	Two primary fans, two secondary fans; two induced draft fans; three boiler fluidizing air blowers; three fluidized bed ash cooler blowers
Chimney	720 feet (216 meters) above ground floor elevation in plant; outlet size: 15 feet (4.5 meters) diameter
<i>Coal Handling Equipment</i>	
Conveyor Belts	Existing conveyors from coal pile utilized to move coal into buildings Existing Unit 2 conveyors to deliver coal to new unit conveyors for Gilbert Unit 3 New conveyors to move coal to Unit 4
Discharge chutes	New discharge chutes with motor operated flop gates to direct coal to Units 2, 3 and 4 to replace existing discharge chutes
Coal Silos	Existing silos utilized
Dust Collection System	Bin vent filter mounted to each coal silo with one fan to exhaust from two vent filters; dust collector and fan to exhaust from conveyor transfer points
<i>Limestone Equipment</i>	
Limestone preparation system	Limestone milling system consisting of mill(s), feeders, heaters/dryers, fans, ducts and other required equipment
Storage silos	Two limestone day storage silos
<i>Limestone Handling</i>	
Two-hopper receiving/reclaim structure	<ul style="list-style-type: none"> • Vibrating feeders to receive limestone from hoppers and discharge through vibrating feeder to conveyor • Reclaim: trucks will dump directly on ground storage pile; end loader will more limestone from ground to reclaim hoppers
Transfer house	Transfer chute to receive limestone from hopper conveyor belt and discharge to plant conveyor belt
Plant conveyor belt	Conveyor to receive limestone from transfer house conveyor belt and discharge to limestone silo
Dust suppression system	System will spray hopper and transfer house conveyors at loading points
Dust collection system	System will collect dust for hopper and transfer house conveyors loading points and discharge dust back at dust suppression spray points
<i>Other Unit-Related Ancillary Equipment</i>	<ul style="list-style-type: none"> • Piping and Pumps • Special valves and control devices • Instruments • Thermal insulation • Fire protection water supply and sprinklers: extend existing system • Control System: extend existing ABB-Automation Symphony distributed control system
<i>Electricity Generating and Transfer Equipment</i>	
Generator	With the capability to match steam turbine across its operating range: <ul style="list-style-type: none"> • Voltage: 18 kV, nominal • Frequency: 60 Hz • Phase: three, non-salient pole • Other associated equipment • Protection and control systems

TABLE 4.10-1.—Equipment to be Installed for Each Unit (continued)

Equipment Type	Equipment Description
Generator Terminal Equipment	<ul style="list-style-type: none"> • Surge protection (arresters and capacitors) • Excitation voltage transformer (voltage: 18,000/120 volts) • Neutral grounding equipment • Terminations
Isolated Phase Bus	<ul style="list-style-type: none"> • 10,5000 ampere continuous rating, self-cooled • Voltage 18 kV
Transformers	<ul style="list-style-type: none"> • Main transformer: voltage: 17/345 kV with four 2½% full capacity no-load taps • Auxiliary Transformer: voltage: 18,000/4,160 volts with four 2½% full capacity no-load taps
5 kV Metal-Clad Switchgear	
Unit Substations	Load center type with dry type, epoxy cast, self-cooled transformers and air circuit breakers
Breakers	Draw-out type air circuit breakers; 480 volts, with required current and interrupting ratings
Other Protective Equipment	
<i>Other Generator-Related Ancillary Equipment</i>	<ul style="list-style-type: none"> • Motors • Wiring • Control systems • Lighting • Grounding • Telephone system • Transformer fire protection

Source: SCI 2001.

During construction, the proposed 3.5-mile (5.6-kilometer) transmission line would be connected to some of the existing equipment in the substation and to the new electricity generating and transfer equipment detailed in the table above.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. None of the proposed new equipment mentioned in Table 4.10-1 would be ordered or constructed. None of the existing infrastructure would be utilized in conjunction with the Proposed Action and the potential to minimize environmental impacts by using the existing infrastructure would not be realized.

4.10.2 Operation

Proposed Action

Because Units 3 and 4 would be incorporated into an existing coal-burning power station, much of the existing infrastructure of Spurlock Station would be utilized during the operation and maintenance of the two new units. This includes an existing intake structure on the Ohio River that would supply water to the new units with only additional pumps needed. Current maintenance of the piping and basin of the intake structure requires cleaning twice a year. With

the addition of Units 3 and 4, the frequency of cleaning is expected to be reduced because the additional water flow and increase in velocity should flush the debris through the lines to the clarifier. The new units would also utilize the condensate storage tanks that have a storage capacity of 320,000 gallons (1,211,328 liters). With all four units operating at normal makeup, capacity would last 22 hours; with all units operating at maximum makeup, capacity would last 10 hours. The turbine lubricating oil storage tanks and oil centrifuge would also be employed by Units 3 and 4 as well as the two tanks of the ignition fuel oil system that have a capacity of 350,000 gallons (1,324,890 liters). The existing ammonia, hydrogen and carbon dioxide supply system would also be extended to serve Units 3 and 4.

Units 3 and 4 would utilize all existing infrastructure for coal transport, handling, and waste disposal. The barge dock, unloaders, Chesapeake and Ohio railroad tracks and car dumper that convey coal to the site and unload it for Units 1 and 2 would do the same for the coal that would supply Units 3 and 4. With the addition of Units 3 and 4, the current stockpile of low sulfur coal that supplies Units 1 and 2 would be reduced and moved to make room for the creation of a high sulfur coal pile that would supply Units 3 and 4. As stated in Section 4.10.1, Construction, additional conveyor belts would connect the existing coal conveyor system to the new units. Because the high sulfur coal pile would be located adjacent to and within the same land area as the current low sulfur coal pile, the current coal storage holding pond would catch runoff from both piles. The trucks that move the fly ash to the ash landfill and the ash pond that holds the wet bottom ash would all be utilized for Units 3 and 4. Throughput of coal and ash would increase as described in Sections 4.11 and 4.13, Waste Management and Transportation, respectively.

Units 3 and 4 would employ the existing waste treatment facilities that treat all process wastewater from Units 1 and 2. Chemicals used in maintenance, as well as boiler and cooling tower blowdown, would be routed to the existing primary and secondary lagoons for monitoring, treatment, and discharge to the Ohio River. Units 3 and 4 also would use the existing demineralized water system and cycle additive treatment for Units 1 and 2. Plant drains in Units 3 and 4 would discharge to the existing primary plant drain system that is equipped with an oil/water separator to handle potential oil spills. As with Units 1 and 2, the potable water system would be supplied by the city of Maysville and all sanitary wastes from Units 3 and 4 would be discharged to the Maysville Water Treatment Plant. No new outfalls would be added to discharge treated wastewater to the Ohio River and Lawrence Creek.

During operation, the proposed 3.5-mile (5.6-kilometer) transmission line would utilize some of the existing infrastructure of the substation to transfer electricity.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. None of the existing infrastructure would be utilized in conjunction with the Proposed Action and the potential to minimize environmental impacts by using the existing infrastructure would not be realized.

4.11 WASTE MANAGEMENT

This section describes the potential impacts from handling, storage, transportation, and disposal of solid, toxic and hazardous wastes.

Methodology

The waste management impact analysis consists of an evaluation of the impacts generated by the construction and operation of the Proposed Action. Impacts to waste management are described relative to the Affected Environment chapter in Section 3.11, Waste Management.

Potential impacts are qualitatively assessed by comparing current waste management at Spurlock Station to the waste management impacts that may result from the Proposed Action. To determine if an action may cause a significant impact, both the context of the Proposed Action and the intensity of the impact are considered. For actions such as those proposed in this document, the context is the locally affected area and significance depends on the effects in the local area. Impacts would be significant if the Proposed Action would permanently affect waste management in the local area.

4.11.1 Construction

Proposed Action

Under the Proposed Action, EKPC would construct Units 3 and 4 and supporting facilities and a 345-kV transmission line connecting the new units to an existing 345-kV line in Brown County, Ohio. During the construction phase of both units, additional toxic and hazardous chemicals will be used on site. These chemicals include, but are not limited to, fiberglass resins and fillers, solvents, epoxy paints and resins, fuels and material conditioners. The storage and use of these chemicals could create a potential contamination hazard. Spills or leaks of hazardous fluids could contaminate soil and groundwater. This impact of spills or leaks would be minimized or avoided by restricting the location of refueling activities and by requiring immediate cleanup of spills and leaks of hazardous materials. As mentioned earlier, Spurlock Station has a Spill Prevention, Countermeasures, and Control Plan that outlines preventative measures and the steps to be taken in the event of a hazardous material spill.

Oil and diesel fuel would be stored in clearly marked tanks onsite. The tanks would be provided with secondary containment structures. Construction equipment would be maintained regularly, and the source of leaks would be identified and repaired. Any soil contaminated by fuel or oil spills would be removed and disposed of at an approved disposal site. Lubricating oils, acids for equipment cleaning, and concrete curing compounds are potentially hazardous wastes that may be associated with construction activities. These would be placed in containers within secondary containment structures onsite, and disposed of at a licensed treatment and/or disposal facility in accordance with local or state regulations and in compliance with the manufacturer's recommendations. Paint containers would be tightly sealed to prevent leaks or spills. Excess paint would be disposed of consistent with the manufacturer's recommendations and according to applicable governmental regulation.

Construction debris and scrap metal generated during construction would be disposed of at a landfill permitted for this type of waste. Disposal will be in accordance with Federal, state, and local regulations and whenever possible, these wastes will be recycled. Impacts associated with construction of Units 3 and 4 are expected to be minor.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Potential impacts from Proposed Action construction-related spills of hazardous materials would not occur; however, such potential impacts from the ongoing construction of the selective catalytic reduction for Units 1 and 2 would continue. No additional waste outside of that currently being generated by the ongoing construction of the selective catalytic reduction for Units 1 and 2 would be generated.

4.11.2 Operation

Proposed Action

Under the Proposed Action, the types of waste generated during operation of Units 3 and 4 would be similar to the waste currently generated at the plant and discussed in Section 3.11, Waste Management of the Affected Environment chapter. However, the volume generated of these wastes will increase. By far, the greatest volume of waste generated at Spurlock Station is ash. During operation, Gilbert Unit 3 is expected to generate an average of 694 tons (629,596 kilograms) of fly ash and 374 tons (339,293 kilograms) of bed ash per day at a maximum continuous rating. Unit 4, once constructed, is anticipated to generate similar amounts of ash. Ash from Gilbert Unit 3 would be disposed of at the on-site ash landfill located approximately one mile (1.6 kilometers) from the main plant site. The landfill permit will be modified for a horizontal expansion of Area A and a vertical and horizontal expansion of Areas B and C. The permit modification would increase landfill space by 38,617,217 cubic yards (29.5 million cubic meters). With the current ash generation of Units 1 and 2 and the anticipated operation of the Unit 2 scrubber in the beginning of 2007, the landfill life expectancy would be 80 years. The addition of Units 3 and 4 reduces the life expectancy of the landfill to 37 years.

Because the types of wastes generated from the operation of Units 3 and 4 would be similar to those currently associated with Units 1 and 2, waste handling, storage, and disposal would be as discussed in Section 3.11, Waste Management. The current volumes of hazardous, toxic, and solid wastes would increase with the operation of Units 3 and 4. Spurlock Station is a conditionally exempt small quantity generator of toxic and hazardous wastes. The generator status of the Spurlock Station could change with the addition of Units 3 and 4. If necessary, Spurlock Station would register its new generator status with the Kentucky Department of Environmental Protection. Spurlock Station would implement source reduction and recycling whenever feasible. Recycling and source reduction activities are currently ongoing and would continue with the addition of Units 3 and 4. All wastes would be managed in accordance with applicable Federal, state and local regulations. It is anticipated that the current waste disposal facilities for the Spurlock Station have sufficient capacity to handle the expected volume

increase in waste. Therefore, no adverse impacts from handling, storing, and disposing of the additional Unit 3 and 4 related solid, hazardous and toxic wastes are anticipated.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. The small additional amounts of solid, hazardous and toxic attributed to operation of Units 3 and 4 would not be generated. Similarly, no additional ash would be generated over that currently generated by Units 1 and 2, and thus the life of the landfill would not be shortened.

4.12 OCCUPATIONAL AND PUBLIC HEALTH AND SAFETY

This section presents potential health effects on both workers and the public from the proposed construction and operation of EKPC's Spurlock Station Units 3 and 4, and also from the No Action Alternative.

Methodology

Occupational and public health and safety issues have been evaluated in the context of general air quality, noise, hazardous materials, and accidents. Analysis of the impacts to occupational and public health and safety consists of an evaluation of the effects caused by the construction and operation of the Proposed Action on worker and public health and safety and are described relative to Section 3.12, Occupational and Public Health and Safety. Programs in place at EKPC are designed to minimize public and employee health and safety risks during construction and operation.

4.12.1 Construction

Proposed Action

Worker Health. The level of risk to workers increases in relation to the amount of new construction required. Construction accident risks increase based on the length of the construction period. It is anticipated that peak construction would require 300 to 400 workers and that construction of each unit would take approximately 29 months. Typical worker impacts present in the construction industry would be expected from the construction of the Units 3 and 4. During the construction, compliance with Federal Occupational Safety and Health Administration construction safety standards will be the responsibility of the construction contractor selected for the project. Compliance with these standards will provide for basic standards of worker health and safety during both construction and operation.

Potential health impacts to workers from the Proposed Action include fugitive dust typical of construction sites and noise (see Section 4.1). Construction workers could be exposed to airborne emissions from routine activities such as welding, soldering, grinding, painting, and cleaning operations. These exposures would be intermittent, but may be intense and would be evaluated at the time of construction. Appropriate health and safety measures would be implemented for all identified and anticipated hazards to worker health and safety. Therefore, the potential adverse impacts to worker health and safety during construction would be minimized.

Public Health. Potential health impacts to the public from the Proposed Action include fugitive dust typical of construction sites and noise (see Section 4.1). Since the Spurlock Station is a secure facility, public exposure to typical construction-related potential hazards would not be expected.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. The potential for an

increase in accidents at the Spurlock Station, and the potential for public exposure to additional amounts of fugitive dust and noise, would not occur. However, these types of impacts that are associated with the ongoing construction of the selective catalytic reduction for Units 1 and 2 would continue until construction is complete.

4.12.2 Operation

Worker Health. As discussed in Section 3.12, worker health and safety issues at the Spurlock Station are primarily typical industrial work-related injuries such as bruises, cuts, falls, and repetitive stress injuries. Operation of the two proposed units would probably result in an increase in the number of typical industrial work-related injuries. However, good housekeeping and work-related practices would continue to ensure that the work environment is free of hazards that could result in slips, trips, falls and other injuries. The overall design, layout, and operational protocols of these facilities would minimize human hazards. In addition, EKPC will continue to train all employees that handle, use, transport or have contact with potentially hazardous and toxic materials to reduce exposure and impact to worker health and safety.

Public Health. An accidental release of hazardous or toxic substances to the air or water is the primary health and safety risk to the public from operation of the Spurlock Station. However, there have been no reportable spills of hazardous or toxic substances at Spurlock Station since January 10, 1973 (EKPC 2001). Most of the hazardous and toxic substances used at the site are stored in tanks with secondary containment to contain leaks and spills. While the potential exists for an accidental release of hazardous or toxic substances, Spurlock Station has a Spill Prevention, Control, and Countermeasures Plan in place to minimize adverse impacts from spills and prevent exposure to the public. EKPC also has a facility emergency plan that includes methods for notifying the public and response agencies that a release has occurred. Therefore, operation of the Units 3 and 4 is anticipated to neither increase risk to public health, nor adversely impact public health and safety.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Therefore, any potential increases in accident rates associated with operation of Units 3 and 4 would not occur. Because operation of the new units is not expected to noticeably increase risks to public health and safety, there would be no noticeable difference between operation of the Proposed Action and the No Action Alternative.

4.12.3 Electric and Magnetic Fields

Current and voltage are necessary to transmit electrical energy by transmission lines. The current, a flow of electric charge measured in amperes, is the source of the magnetic field. The voltage is the source of the electric field and represents the potential for electrical charge to do work. Voltage is measured in volts or one thousand volts, kilovolt (kV). The electric field is a function of voltage carried by conductors and the conductor height aboveground. The magnetic field is a function of the amount of current carried by the line and the height of the conductors.

The possibility of deleterious health effects from electric and magnetic fields exposure has increased public concern in recent years about living near high-voltage power lines. Electric and magnetic fields occur together whenever electricity flows, and as a result, the general practice is to consider both as electric and magnetic fields exposure. The available evidence neither establishes that electric and magnetic fields pose a significant health risk to exposed humans, nor serves as conclusive proof of a definite lack of a risk. A National Institute on Environmental Health Sciences Working Group found limited support for a causal relationship between childhood leukemia and residential exposure to electric and magnetic fields, and between adult chronic lymphocytic leukemia and employment with potentially high-magnetic field exposure. In a 1999 report entitled *Health Effects from Exposure to Power-line Frequency Electric and Magnetic Fields* (NIEHS 1999), the National Institute on Environmental Health Sciences stated that there was weak scientific evidence that exposure to extremely low-frequency electric and magnetic field may pose a leukemia hazard.

Even though electric and magnetic fields are present around appliances and power lines, more recent interest and research have focused on potential health effects of magnetic fields. The U.S. EPA Science Advisory Board has stated that “some epidemiological evidence suggests an association between surrogate measurements of magnetic-field exposures and certain cancer outcomes” (NIEHS nda).

Electric fields are easily shielded or weakened by conducting objects (e.g., trees, buildings, and human skin), but magnetic fields are not. However, both electric and magnetic fields weaken with increasing distance from the source (i.e. conductors) and along a transmission right-of-way. All devices that carry electric current (e.g., televisions, radios, computers) are sources of electric and magnetic fields. The maximum magnetic fields of a transmission line are comparable with the maximum magnetic fields measured near some common household appliances (DOE 2001).

Proposed Action

Operation of the proposed 345-KV transmission line would increase exposure to magnetic fields above current levels for persons living along the right-of-way. In order to quantify the potential magnetic field from the proposed line, measurements of the magnetic field were taken under the existing 345-kV transmission line from Unit 2 at Spurlock Station. Since the proposed transmission line in Brown County would be 345-kV, its magnetic field would be expected to be similar to that measured from the existing line at Spurlock Station.

All measurements were made at a height of 3 feet using an Emdex II Magnetic Field Exposure System, and the load on the unit was 481 megawatts. Magnetic field measurements were taken at five measurement points for three different locations on the transmission line. Two measurements were recorded at each measurement point. A summary of the magnetic field measurements is displayed in Table 4.12-1.

The International Commission on Non-Ionizing Radiation Protection has established guidelines for electric and magnetic fields based on their established effects such as nerve stimulation. These guidelines are not meant to establish electric or magnetic field levels that are safe or unsafe since the available evidence fails to establish a causal link between exposure and adverse health effects (IV 2000).

Table 4.12–1.—Summary of Magnetic Field Measurements for 345-kV Line from Unit 2

Measurement Area	Magnetic Field Measurements Milligauss (mG)		
	75' Left of Center	Center	75' Right of Center
Area #1: At substation fence facing plant	19.8	28.2	14.4
	19.8	27.6	14.4
Area #2: Fence at property line on Route 8 (facing away from plant)	11.8	23.2	12.8
	11.6	23.0	12.8
Area #3: Near AA Highway facing away from plant	15.2	31.8	18.4
	15.4	31.6	18.4

Source: EKPC 2001b.

The guideline established for general public exposure to magnetic fields for up to 24 hours per day is 1,000 mG. For comparison, the highest level measured at the existing 345-kV transmission line at Spurlock Station shown in the table above (31.8 mG under the centerline) multiplied by 24 is approximately 763 mG. Therefore, since this is less than the established guideline, no established effects from exposure to the predicted magnetic field from the proposed transmission line would be expected. Additionally, this measurement was taken below the centerline of the transmission line, an area where extensive human exposure would not be expected.

In summary, while there is uncertainty about the health effects associated with electric and magnetic fields, the following facts have been established from the available information:

- Any exposure-related health risk to the exposed individual will likely be small.
- The most biologically significant types of exposures have not been established.
- Most health concerns are about the magnetic field.

No Federal regulations have been established specifying environmental limits on the strengths of fields from power lines. However, the Federal government continues to conduct and encourage research necessary for an appropriate policy on the electric and magnetic fields issue. Until more definitive evidence is available, little can be said with regard to the conclusions of these studies other than effects, if present, are small.

No Action Alternative

Under the No Action Alternative, Spurlock Station would generate no additional electric or magnetic fields and any increases in exposure to such fields would not occur.

4.13 TRAFFIC AND TRANSPORTATION/AVIATION

This section summarizes the potential impacts related to road, railway, and barge traffic and transportation associated with the construction and operation of the Proposed Action. Impacts to aviation are also presented in this section.

Methodology

The overall impacts have been divided between construction and operational periods. Impacts are analyzed in comparison to traffic data for the region of influence presented in Section 3.5, Water Resources. Recent and estimated road traffic data for routes most likely to be traveled to the project site from the main traffic arteries is presented in Table 3.13-1. For the purposes of presenting a worst-case bounding study, it is assumed that all vehicle trips occur during 12 daylight hours and half of the estimated counts are traveling in each direction. Half of the trips taken in each direction occur during one of two 2-hour commuting periods. The commuting periods are established as 7:30 a.m. to 9:30 a.m. for the morning commute, and 4:30 p.m. to 6:30 p.m. for the evening commute. For example, the year 2001 estimated count given for Kentucky Highway 9 between milepost 13.8 and milepost 14.0 in Mason County is 12,000 vehicle trips per 24-hour period. Based on the assumptions made, all of these vehicle trips would occur during 12 hours of daylight and half of them, or 6,000, are traveling each direction on the road. Half of these 6,000 vehicle trips, or 3,000 trips, occur during the given commuting time for that direction. Established commuting patterns indicate that the morning commute vehicle trips are toward the Cincinnati Metropolitan Area and Maysville, while the evening commute vehicle trips are towards the suburban and rural areas of the region of influence. This analysis assumes that during the morning commute on this section of road, 1,500 vehicle trips per hour are made toward Maysville and during the evening commute, the same number are made heading away from Maysville. During the other 10 hours of daylight, the remaining 3,000 vehicle trips occur in each direction on this section of the highway, resulting in an average of 300 vehicle trips per hour.

The existing data indicate that traffic on each road increases as one travels towards the centers of population of Cincinnati and Maysville. It also indicates that traffic on roads near the project site is relatively light. Based on the 2001 estimated vehicle trips and the methodology established in the previous paragraph, non-commute traffic on local roads in the project vicinity ranges from 6.5 to 35 vehicle trips per hour in each direction.

For the purpose of this analysis, other assumptions are also made. Based on established traffic data throughout the region, it is assumed that each vehicle is occupied by 1.2 individuals. EKPC has estimated that 10 heavy-duty trucks per day will be entering and leaving the site during peak construction periods. Since durations of peak construction have not been indicated and to present a worst-case scenario for traffic impacts to the community and region of influence, it is assumed that 15 trucks per day enter and leave the site throughout the construction of the facility. This would equate to an additional 5 vehicle trips per day on local roads or less than 1 vehicle trips per hour, assuming an 8-hour work day during construction.

Delivery of the major bulk raw materials (coal and limestone) will be by three modes of transportation: truck, rail, and barge. For delivery purposes, a truck is assumed to haul 22 tons (20 metric tons) of cargo per load, a rail car is assumed to haul 110 tons (100 metric tons) of cargo per load, and a river barge is assumed to haul 1,500 tons (1,360 metric tons) per load. Limestone would be delivered by truck, and coal would be supplied as it currently is by both rail and barge.

Each unit would require approximately 2,760 tons (2,504 metric tons) per day of coal for operation as well as approximately 660 tons (599 metric tons) per day of limestone. Trucks carrying limestone would only operate during 6-hour periods for 5 days each week. Fourteen truckloads of limestone per hour would be delivered to the site per day to supply both units. Although coal will not be delivered by truck, for comparison purposes, the amount of coal required to operate Units 3 and 4 would require 1,288 truckloads per hour during the 6-hour delivery window. In this scenario, a total of 7,812 truckloads would be delivered to the site per day to supply coal and limestone to both units. This is equivalent to 15,624 additional vehicle trips in and out of the site per day of operation. It is obvious that coal delivery by truck is not feasible.

The rail car equivalents to supply both of the new units would be 50.2 rail cars of coal per day and 12 rail cars of limestone per day, or a total of 62.2 rail cars per day of operation. The river barge equivalents would be 2.7 barges per day. It is envisioned that limestone deliveries would be made via truck. Fly and bed ash will be disposed of by truck onsite and will require 8.4 truck trips per hour. The ash disposal trucks would operate 7 hours a day, 7 days a week.

4.13.1 Construction

Proposed Action

During construction, 150 to 250 workers will commute to the site from the Cincinnati Metropolitan Area. This will be in addition to the 150 construction workers that are currently making this commute while working on Units 1 and 2 at the Spurlock Station. To provide a bounding estimate of a worst-case scenario, it is assumed that peak levels would be employed throughout the 58-month construction period. An additional 208 vehicle trips would be required during each commuting period to accommodate the 250 workers required. This would cause a significant increase (over 25 percent on each road segment) in vehicle trips taken on roads immediately surrounding the project site; however, existing traffic levels are light and no congestion should result. Kentucky Highway 9 would experience slight increases in vehicle trips that may contribute to existing congestion during rush hour periods. These impacts may not occur on a daily basis; however, as workers may opt to find weekly housing local to Maysville due to its distance from Cincinnati, they would likely only make the trip to Cincinnati during the weekends. The greater the number of workers who select this option, the lower the impact would be to Kentucky Highway 9. Conversely, local traffic in Maysville would increase during the week as these workers travel to the project site from their local residences. Individuals traveling to the indirect jobs created by the project will also contribute additional vehicle trips throughout the region of influence.

Construction vehicles would use local roads on a limited basis. The majority of the construction vehicles and trucks delivering material to the project site would utilize Kentucky Highways 8 and 10 in Mason County. The limited usage would not significantly impact traffic, yet slight delays may occur to vehicles traveling along these routes. The majority of the construction vehicles would remain onsite throughout the project and the majority of construction material would be delivered via river barge. This would result in a slight increase in Ohio River traffic at the two locks nearest the project site. The extra barges would be scheduled in a manner that would not disrupt current river traffic or result in delays on the river. The site has a barge docking facility specifically designed for construction material. This docking facility would allow for the unloading of material without localized disruptions to Ohio River traffic. Rail use is not expected during construction and no impacts would result. No impacts are expected to aviation during construction.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. No traffic and transportation impacts would occur because no additional construction would take place. Traffic and transportation would be expected to remain as described in the affected environment, Section 3.13. Because no impacts would be expected to aviation during construction of the Proposed Action, there would be no noticeable difference between the Proposed Action and the No Action Alternative concerning aviation.

4.13.2 Operation

Proposed Action

After the construction of the new units, 50 new workers would be added to the current operational staff of 159 employees at the Spurlock Station. These workers would come from local communities within Mason County, Kentucky and Brown County, Ohio. An additional 42 vehicle trips would be required at both the beginning and end of shift periods to accommodate the additional workers. Since the plant is operated 24 hours a day, 7 days a week, these vehicle trips would be spread out throughout the week. Assuming a three-shift workday, 20 additional vehicle trips would be required during an average shift change. This is not a significant change in current traffic levels near the project site and within the town of Maysville.

Operation of the additional units will require an increase in local truck traffic. EKPC states that trucks will only operate during six-hour periods on weekdays, in order to minimize impacts to local traffic. These 6-hour periods would occur in the middle of the day to avoid possible rush hour congestion. In order to operate the new units and keep enough coal supplied onsite, 1,302 truckloads would need to enter the site each hour during the 6-hour periods of truck operation. This equates to roughly one truck every 3 seconds. It is readily apparent that this is not logistically possible and, therefore, EKPC will only deliver the required limestone supply via truck. This will require 14 trucks per hour during the 6-hour truck operation period or approximately one truck every 4 minutes. These deliveries will represent a significant increase in truck traffic on roads near the project site and may cause some delays as large trucks travel

slower than most other vehicles. This traffic would only occur during mid-day hours to minimize the overall impact on local roads.

The facility would also require the use of trucks to dispose of the bed and fly ash generated during operation of the two new units. These trucks would operate 7 hours a day, 7 days a week and would require 8.4 truckloads per hour, or one truck every 7 minutes. The ash disposal would take place entirely onsite and would not present any additional impacts to local roads.

EKPC will supply the coal to operate the two new units via both barge and rail. Twenty-five unit trains of 100 cars each per year, or about 1 unit train every 2 weeks are expected. Although this is not a large increase in train traffic, train deliveries would be scheduled with CSX Transportation, Inc., to accommodate current rail traffic and avoid delays throughout the rail system. The existing site rail infrastructure is sufficient to accommodate a full unit train during unloading, thus avoiding delays on the main line.

For the coal supplied by river barge, an additional 9 to 10 barges per week per unit are expected. For each unit, this would result in a 1.7 percent annual increase in coal tonnage shipped through the Greenup Lock and Dam. The extra barges would be scheduled in a manner that would not disrupt current river traffic or result in delays on the river. The site has a barge docking facility specifically designed for the large deliveries required to operate the two new units. This docking facility would allow for the unloading of material without localized disruptions to Ohio River traffic.

The Federal Aviation Administration regulates the height of facility stacks at the project site. The maximum height allowed is 805 feet (246 meters). The stacks for the current units at the site are at the maximum allowable height. The new stacks for Units 3 and 4 will be 720 feet (219 meters) tall. Since the new stacks will be built below the established height requirement and the height of the existing stacks, no aviation impacts are expected.

No Action Alternative

Under the No Action Alternative considered in this environmental assessment, Units 3 and 4 at Spurlock Station and the associated transmission line would not be built. Increases in truck traffic associated with limestone deliveries would not occur. Similarly, increases in barge and train traffic associated with coal deliveries would not occur. Because no impacts would be expected to aviation during operation of the Proposed Action, there would be no noticeable difference between the Proposed Action and the No Action Alternative concerning aviation.

5.0 CUMULATIVE EFFECTS

There is increasing evidence that the most significant environmental effects may not result from the direct effects of a particular action, but from the combination of individually minor effects of multiple actions over time (CEQ 1997). The Council on Environmental Quality regulations implementing the procedural provisions of the *National Environmental Policy Act* define cumulative effects as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions” (40 CFR 1508.7). The regulations further explain “cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.”

Methodology

The cumulative effects analysis qualitatively presented in this document is based on the potential effects of the addition of Units 3 and 4 at the Spurlock Station and the construction of a transmission line extending into Brown County, Ohio, when added to similar impacts from other projects in the region. In the previous resource descriptions and impacts analysis, Chapters 3 and 4, the potential environmental effects of the Proposed Action and the No Action Alternative were evaluated with respect to existing conditions or “background.” This takes into account past and present actions in the vicinity of the project. Therefore, discussions in this chapter center on the potential effects of reasonably foreseeable future actions in the region of influence. As the construction of each unit of the Proposed Action would be concluded within a period of 29 months, the cumulative effects analysis focuses on the post-construction (operation) period of the project, which coincides with other reasonably foreseeable future actions.

An inherent part of the cumulative effects analysis is the uncertainty surrounding actions that have not yet been fully developed. The Council on Environmental Quality regulations provide for the inclusion of uncertainties in the EIS analysis and state that “when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking” (40 CFR 1502.22). The Council on Environmental Quality regulations do not state that the analysis cannot be performed if the information is lacking. Consequently, the analysis contained in this section includes actions that could be reasonably anticipated to occur during the lifetime of the Units 3 and 4 Project, likely to have cumulative effects within the region of influence.

In evaluating each of the resource areas for cumulative effects, focus is given to those which are likely to be impacted throughout operation of the project and thus could be cumulatively affected by other activities. This narrowing of the scope of analysis supports the intent of the NEPA process that is “to reduce paperwork and the accumulation of extraneous background data; and to emphasize real environmental issues and Alternatives”(40 CFR 1500.2[b]).

influence in the future, an adequate margin of safety remains below the NAAQS established by EPA to protect public health.

Effects on Visual Resources

Visual resources may have adverse cumulative effects as a result of reasonably foreseeable projects. A trend towards development of the natural landscape could occur. The cumulative effects on the visual environment would be increased fragmentation of the Ohio River viewshed. This cumulative effect can be mitigated by grouping landscape disturbances together, such as is proposed for this project by expanding an existing power plant and routing the proposed transmission line right-of-way adjacent to an existing transmission line. Therefore, the cumulative effect on the viewshed in the Spurlock Station area is not considered to be significant.

6.0 APPLICABLE ENVIRONMENTAL REGULATIONS AND PERMITS

This section identifies and summarizes the major Federal, state and local laws, regulations, and requirements that may apply to the Proposed Action in this environmental assessment.

6.1 LAWS, REGULATIONS, AND EXECUTIVE ORDERS

The major Federal laws, regulations, Executive Orders, and other compliance actions that potentially apply to the Proposed Action are identified in Table 6.1–1. In addition, certain environmental requirements have been delegated to State authorities for enforcement and implementation. These and other state regulations are identified in Table 6.1–2. It is EKPC's policy to conduct its operations in an environmentally safe manner and in compliance with all applicable statutes, regulations, and standards. Although this chapter does not address pending legislation or future regulations, EKPC recognizes that the regulatory environment is subject to changes, and that the construction and operation of the Proposed Action must be conducted in compliance with all applicable regulations and standards.

6.2 REGULATORY ACTIVITIES

New permits and approvals would be needed before the Proposed Action could be constructed. Permits regulate many aspects of facility construction and operations, including the quality of construction, treatment and storage of hazardous materials, and discharge of effluents to the environment. These permits would be obtained as required from appropriate Federal, state and local agencies.

TABLE 6.1-1.—Federal Environmental Statutes, Regulations and Orders

Category	Statute/ Regulation/Order	Citation	Responsible Agency	Permits, Approvals, Consultations, and Notifications
Air Resources	Clean Air Act (CAA) As amended	42 USC §§ 7401 et seq.	EPA	Requires sources to meet standards and obtain permits to satisfy: National Ambient Air Quality Standards (NAAQS), State Implementation Plans, Standards of Performance for New Stationary Sources, National Emission Standards for Hazardous Air Pollutants (NESHAP), and Prevention of Significant Deterioration. Requires compliance with primary and secondary ambient air quality standards governing sulfur dioxide, nitrogen oxide, carbon monoxide, ozone, lead, and particulate matter and emission limits/reduction measures as designated in each state's implementation plan.
	National Ambient Air Quality Standards/State Implementation Plans	42 USC §§ 7409 et seq.	EPA	
	Standards of Performance for New Stationary Sources	42 USC §§ 7411 et seq.	EPA	Establishes control/emission standards and recordkeeping requirements for new or modified sources specifically addressed by a standard.
	National Emission Standards for Hazardous Air Pollutants	42 USC §§ 7412 et seq.	EPA	Requires sources to comply with emission levels of carcinogenic or mutagenic pollutants; may require a preconstruction approval, depending on the process being considered and the level of emissions that will result from the new or modified source.
	Prevention of Significant Deterioration	42 USC §§ 7470 et seq.	EPA	Applies to areas that are in compliance with NAAQS. Requires comprehensive preconstruction review and the application of Best Available Control Technology to major stationary sources (emissions of 100 t/year) and major modifications; requires a preconstruction review of air quality impacts and the issuance of a preconstruction permit from the responsible state agency setting forth emission limitations to protect the Prevention of Significant Deterioration increment.
	Noise Control Act of 1972	42 USC §§ 4901 et seq.	EPA	Requires facilities to maintain noise levels that do not jeopardize the health and safety of the public.

TABLE 6.1-1.—Federal Environmental Statutes, Regulations and Orders (continued)

Category	Statute/ Regulation/Order	Citation	Responsible Agency	Permits, Approvals, Consultations, and Notifications
Water Resources	Clean Water Act (CWA)	33 USC §§ 1251 et seq.	EPA	Requires EPA or state-issued permits and compliance with provisions of permits regarding discharge of effluents to surface waters.
	National Pollutant Discharge Elimination System (NPDES) (Section 402 of CWA)	33 USC §§ 1342 et seq.	EPA	Requires permit to discharge effluents (pollutants) and stormwaters to surface waters; permit modifications are required if discharge effluents are altered.
	Nationwide Permit #12 (Section 404 Permit) (Section 404 of the CWA)	33 USC §§ 1344 et seq.	U.S. Army Corps Of Engineers	Requires any group (business or government) working within the 100-year floodplain to obtain a Nationwide Permit (known as a 404 Permit) if there is the potential for any dredge or fill material to be discharged into the nation's waterways.
	Section 401 Water Quality Certification	33 USC §§ 1341 et seq.	U.S. Army Corps Of Engineers	Requires that States issue or waive a state Section 401 Water Quality Certificate prior to issuance of a Section 404 permit by the US Army Corps of Engineers.
	Water Quality Standards and Implementation Plans (Section 303(d) of CWA)	33 USC §§ 1313 et seq.	EPA	Requires states to develop a list of waterbodies not supporting designated uses.
	Executive Order 11988: Floodplain Management	3 CFR, 1977 Comp., p. 117	Water Resources Council, Federal Emergency Management Agency, Council on Environmental Quality	Requires consultation if project impacts a floodplain.

TABLE 6.1-1.—Federal Environmental Statutes, Regulations and Orders (continued)

Category	Statute/ Regulation/Order	Citation	Responsible Agency	Permits, Approvals, Consultations, and Notifications
Water Resources (continued)	Executive Order 11990: Protection of Wetlands	3 CFR, 1977 Comp., p. 117	Water Resources Council, Council on Environmental Quality	Requires Federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.
Soil Resources	Farmland Protection Policy Act of 1981	7 USC §§ 4201 et seq.	Natural Resources Conservation Service	Federal agencies shall avoid any adverse effects to prime and unique farmlands.
Biological Resources	Endangered Species Act of 1973	16 USC §§ 1531 et seq.	USFWS/ National Marine Fisheries Service	Requires consultation to identify endangered or threatened species and their habitats, assess impacts thereon, obtain necessary biological opinions, and, if necessary, develop mitigation measures to reduce or eliminate adverse effects of construction or operations.
Cultural Resources	National Historic Preservation Act of 1966, as amended	16 USC §§ 470 et seq.	President's Advisory Council on Historic Preservation	Requires Federal agencies to consult with the State Historic Preservation Office (SHPO) prior to construction to ensure that no historical properties will be affected for Federal or federally assisted projects.
	Archaeological and Historical Preservation Act of 1974	16 USC §§ 469 et seq.	Department of the Interior	Requires Federal agencies to obtain authorization for any disturbances of archaeological resources.
	Antiquities Act	16 USC §§ 431-433	Department of the Interior	Requires Federal agencies to comply with all applicable sections of the Act.
	Executive Order 11593: Protection and Enhancement of the Cultural Environment	3 CFR 154, 1971-1975 Comp., p. 559	Department of the Interior	Requires Federal agencies to aid in the preservation of historic and archeological data that may be lost during construction activities.
Worker Safety and Health	Occupational Safety and Health Act (OSHA)	5 USC §§ 5108	OSHA	Requires agencies to comply with all applicable work safety and health legislation (including guidelines of 29 CFR 1960) and prepare, or have available, Material Safety Data Sheets.

TABLE 6.1-1.—Federal Environmental Statutes, Regulations and Orders (continued)

Category	Statute/ Regulation/Order	Citation	Responsible Agency	Permits, Approvals, Consultations, and Notifications
Hazardous Substances	Hazard Communication Standard	29 CFR 1910.1200	OSHA	Requires employers to ensure that workers are informed of, and trained to handle all chemical hazards in the workplace.
	Resource Conservation and Recovery Act	42 USC § 6901 et seq.	EPA	Regulates the treatment, storage, and disposal of hazardous wastes. The Environmental Protection Agency implementing guidance for the Act is in 40 CFR § 260-272.
	Emergency Planning and Community Right-To-Know Act of 1986	42 USC §§ 11001 et seq.	EPA	Requires the development of emergency response plans and reporting requirements for chemical spills and other emergency releases, and imposes right-to-know reporting requirements covering storage and use of chemicals which are reported in toxic chemical release forms.
Aviation Impacts	Pollution Prevention Act of 1990	42 USC §§ 11001-11050	EPA	Establishes a national policy that pollution should be reduced at the source and requires a toxic chemical source reduction and recycling report for an owner or operator of facility required to file an annual toxic chemical release form under section 313 of SARA.
	Objects Affecting the Navigation Space	14 CFR 77	Federal Aviation Administration	Provisions of these regulations specify the criteria used by the Federal Aviation Administration (FAA) for determining whether a “Notice of Proposed Construction or Alteration” is required for potential obstruction hazards. The need for such a notice depends on factors related to the height of the structure, the slope of an imaginary surface from the end of nearby runways to the top of the structure, and the length of the runway involved.
	Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space	FAA Advisory Circular (AC) No. 70/460-2H	Federal Aviation Administration	This circular informs each proponent of a project that could pose an aviation hazard of the need to file the “Notice of Proposed Construction or Alteration” (Form 7640) with the FAA.
	Obstruction Marking and Lighting	FAA AC No. 70/460-1G	Federal Aviation Administration	This circular describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Part 77 of the CFR.

TABLE 6.1-1.—Federal Environmental Statutes, Regulations and Orders (continued)

Category	Statute/ Regulation/Order	Citation	Responsible Agency	Permits, Approvals, Consultations, and Notifications
Other	Radio Frequency Device, Kits	47 CFR 15.25	Federal Communications Commission	Provisions of these regulations prohibit operation of any devices producing force fields, which interfere with radio communications, even if (as with transmission lines) such devices are not intentionally designed to produce radio-frequency energy. The FCC requires each line operator to mitigate all complaints about interference on a case-specific basis. Staff usually recommends specific conditions of certification to ensure compliance with this FCC requirement.
	National Environmental Policy Act (NEPA)	42 USC §§ 4321 et seq.	Council on Environmental Quality	Requires Federal agencies to comply with NEPA implementing procedures in accordance with 10 CFR 1021.
	Rural Utilities Service, USDA: Environmental Policies and Procedures	7 CFR § 1794 et seq.	Rural Utilities Service	Requires the Rural Utilities Service to comply with the National Environmental Policy Act and certain related Federal environmental laws, statutes, regulations and Executive Orders that apply to the agency's programs and administrative actions.
	Executive Order 11514: Protection and Enhancement of Environmental Quality	3 CFR, 1966-1970 Comp., p.902	Council on Environmental Quality	Requires Federal agencies to demonstrate leadership in achieving the environmental quality goals of NEPA; provides for agency consultation with appropriate Federal, state, and local agencies in carrying out their activities as they affect the environment.
	Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	February 11, 1994	Environmental Protection Agency	Requires Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

TABLE 6.1-2.—State Environmental Statutes, Regulations and Orders

Category	Statute/ Regulation/Order	Citation	Responsible Agency	Permits, Approvals, Consultations, and Notifications
Air Resources	Construction/Operation Air Permit	KRS 224.10-100, 224.20-201 401 KAR 50:035	Kentucky Division for Air Quality	Implements Federal and state air quality standards. Developed a State Implementation Plan that contains the rules and permitting requirements developed to assure maintenance of the NAAQS. EKPC has filled for a construction/operating permit to fulfill both Kentucky requirements and Federal PSD Construction and Title V Operating Permit.
Water Resources	Kentucky Pollutant Discharge Elimination System (KPDES) Permitting Program	KRS 224.16-50 401 KAR 5:050-5:080	Kentucky Division of Water	Administers the Federal NPDES program that requires permits containing effluent standards for the discharge of pollution into the surface waters of Kentucky. EKPC would modify its current KPDES permit to reflect the additional wastewater quantities generated by Units 3 and 4 of the Proposed Action.
	KPDES Permit for Storm Water Discharges	401 KAR 5:002 et seq.	Kentucky Division of Water	Issues a KPDES permit for storm water discharges for construction on industrial sites if more than 5 acres (2 hectares) is disturbed.
	Ohio NPDES Permit for Storm Water Discharges – Construction Storm Water	Ohio Revised Code (ORC) 61:11 Ohio Administrative Code (OAC) 3745-38	Ohio Environmental Protection Agency	Issues a NPDES permit for storm water discharges for construction on industrial sites if more than 5 acres (2 hectares) is disturbed.
	Floodplain Construction Permit	KRS 151.125, 151.230 401 KAR 4:060	Kentucky Division of Water	Issues a Floodplain Construction Permit prior to any construction or other activity in or along a stream that could in any way obstruct flood flows. EKPC would be required to file for this permit for any construction in the floodplain.
	Section 401 Water Quality Certification (Section 401 CWA)	KRS 224.16-050 401 KAR Chapter 5.	Kentucky Division of Water	Administers Federal Clean Water Act and issues a Section 401 Water Quality Certification prior to issuance of any federal license or permit to conduct any activity that may result in any discharge into waters of the Commonwealth of Kentucky. Directly tied to Section 404 Permit issued by the US Army Corps of Engineers for physical impacts to streams and wetlands. EKPC would be required to apply for this certification.

TABLE 6.1-2.—State Environmental Statutes, Regulations and Orders (continued)

Category	Statute/ Regulation/Order	Citation	Responsible Agency	Permits, Approvals, Consultations, and Notifications
	Section 401 Water Quality Certificate (Section 401 CWA)	ORC Chapters 119 and 6111 OAC Chapters 3745-1, 3745-32, and 3745-47	Ohio Environmental Protection Agency	Administers Federal Clean Water Act and issues a Section 401 Water Quality Certificate prior to issuance of any federal license or permit to conduct any activity that may result in any discharge into waters of the state of Ohio. Directly tied to Section 404 Permit issued by the US Army Corps of Engineers for physical impacts to streams and wetlands. EKPC may be required to apply for this certification.
Solid Waste	Solid Waste Landfill Permits (Construction and Operation)	KRS 224.10-100, 224.40-100, 224.40-305, 224.40-310 401 KAR 47:100, 47:160.	Kentucky Division of Waste Management	Administers Federal Resource Conservation and Recovery Act regulatory programs for Kentucky's solid, special, and hazardous wastes and underground storage and solid waste landfills. EKPC is currently modifying its Solid Waste Permit to expand the ash landfill.
Public Utility Commission Certification	Certificate of Public Convenience and Necessity/ Certificate of Environmental Compatibility for Construction	807 KAR 5 et seq. KRS 278.020	Kentucky Public Service Commission	Issues a Certificate of Public Convenience and Necessity and a Certificate of Environmental Compatibility for Construction before construction. EKPC has filed for and received these certificates.
	Certificate of Environmental Compatibility and Public Need	Ohio Revised Code: Chapter 4906 OAC: Chapter 4906	Ohio Power Siting Board	Issues a Certificate of Environmental Compatibility and Public Need before construction. EKPC has yet to file for this certificate.

7.0 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

The construction and operation of the Proposed Action would result in some unavoidable adverse impacts. Impacts to residential areas located near the proposed facilities during construction would include increases in daytime noise and fugitive dust, as well as traffic detours. Residences closest to the construction would experience noise levels up to 20 dBA above background during the construction phase. Since these impacts are associated with the construction phase, they would be short-term and temporary. Residences closest to Gilbert Unit 3 could experience an increase in noise of up to 10 dBA above the measured background noise level from the operation of the proposed facility. This level of change in sound levels may be perceived as “dramatic” by these residents.

Construction and operation of the Units 3 and 4 would result in the generation of large quantities of ash that would decrease the life of the existing on-site ash landfill.

Construction of the proposed transmission line in Brown County, Ohio would cause loss of, and/or disturbance to, existing native plant communities and loss of habitat for terrestrial animal populations. Physical disturbance of terrestrial animal species is expected in most cases to be temporary, and the loss of habitat would be negligible given that remaining in the surrounding area.

The Ohio River Scenic Route, which includes the section of Highway 52 in the proposed project area, has been designated as a National Scenic Byway. The proposed Units 3 and 4 stacks, which are 720-feet (219 meters) tall, and steam emissions from the cooling tower system could be considered an adverse impact on the viewshed to travelers on Highway 52 and the Ohio River. The construction of proposed transmission line could have a similar effect. Other visual changes to the viewshed from the operation of Units 3 and 4 include increased barge and truck traffic associated with coal and limestone deliveries.

8.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

This section describes the irreversible and irretrievable commitments of resources associated with implementation of the Proposed Action. A commitment of resources is irreversible when its primary or secondary impacts limit the future options for a resource. An irretrievable commitment refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations.

Irreversible commitments of resources for the proposed transmission line would result in the conversion of approximately 41 acres (16.5 hectares) of primarily forested land, into non-forested land for the proposed transmission line right-of-way in Ohio. Some disturbance of cropland would also occur during construction of the transmission line, but only the land directly lost to the foundations of the transmission line structures would be irreversibly committed.

Construction of the proposed Units 3 and 4 and 345-kV transmission line in Brown County, Ohio would require the irretrievable commitment of standard building materials and fuel for construction equipment. Resources irretrievably committed for operation of this project would be consumption of 2,760 tons (2,503 metric tons) of coal per day and 660 tons (599 metric tons) per day of limestone; consumption of an additional 8.64 MGD (32.7 MLD) of surface water, although 2.2 MGD (8.3 MLD) of this water would be returned to the Ohio River after treatment; and relatively minor quantities of fuel for maintenance vehicles, operating supplies, and miscellaneous chemicals.

9.0 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE OF LONG-TERM PRODUCTIVITY

The potential impacts of the Proposed Action are discussed in Chapters 4 and 5 of this environmental assessment. Although the Proposed Action does not require a major amount of land to be taken out of production, losses of terrestrial plant and animal species and habitats from natural productivity to accommodate the proposed transmission line are possible during construction. Land clearing and construction activities resulting in personnel and equipment moving about an area would disperse wildlife and temporarily eliminate habitats. Short-term disturbances of previously undisturbed habitats from the construction of the proposed transmission line in Brown County, Ohio and conversion of these lands to a right-of-way could cause long-term reductions in the biological productivity of the areas directly impacted.

10.0 LIST OF AGENCIES AND PERSONS CONTACTED

Certain statutes and regulations require EKPC to conduct consultations with Federal, state and local agencies regarding the potential for the proposed project to disturb sensitive resources. These consultations are related to biological, cultural and soil resources and are generally required before any land disturbance can begin. Biological resource consultations generally pertain to the potential for activities to disturb sensitive species or habitats. Cultural resource consultations pertain to the potential for destruction of important cultural or archeological sites. Soil resource consultations pertain primarily to the temporary or permanent displacement of prime or unique farmland.

Consultations with Federal and state agencies have been initiated regarding the potential of the proposed project to disturb sensitive resources. Agencies and personnel contacted are shown in Table 10–1 and Appendix B contains copies of the various consultation letters sent. Information from the agencies has been incorporated into Chapters 3 and 4 as appropriate. All agencies will be provided with a copy of the Draft Gilbert Units 3 and 4 Environmental Assessment.

TABLE 10–1.—Summary of Consultation Letters

Subject	Agency Name	Individual Name	Date of Letter
Biological	United States Fish and Wildlife Service		
	Field Office:		
	Reynoldsburg, Ohio	Ms. Megan Sullivan	October 8, 2001
	Cookville, Tennessee	Mr. Jim Widlak	November 1, 2001
Soil	United States Department of Agriculture, Natural Resources Conservation Service		
	Field Office:		
	Maysville, Kentucky	Mr. Joel LeGris	October 5, 2001
	Georgetown, Ohio	Mr. Ed Campbell	October 5, 2001
Cultural	Kentucky Heritage Council, The State Historic Preservation Office	Mr. Charles Hockensmith	July 17, 2001
	The Ohio Historical Society, Ohio Historic Preservation Office	Not Yet Identified	NA

11.0 REFERENCES

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12.0 GLOSSARY

Advisory Council on Historic Preservation: A 19-member body appointed to advise the President and Congress in the coordination of actions by Federal agencies on matters relating to historic preservation.

Aeolian: Borne, deposited, produced, or eroded by the wind.

Aesthetics: Referring to the perception of beauty.

Affected environment: Existing biological, physical, social, and economic conditions of an area subject to change, both directly and indirectly, as the result of a proposed human action.

Air dispersion modeling: a mathematical simulation, usually computer-generated, of how gases, vapors, or particles disperse into the air.

Air pollutant: Generally, an airborne substance that could, in high enough concentrations, harm living things or cause damage to materials. From a regulatory perspective, an air pollutant is a substance for which emissions or atmospheric concentrations are regulated or for which maximum guideline levels have been established due to potential harmful effects on human health and welfare.

Air quality: Generally, an airborne substance that could, in high enough concentrations, harm living things or cause damage to materials. From a regulatory perspective, an air pollutant is a substance for which emissions or atmospheric concentrations are regulated or for which maximum guideline levels have been established due to potential harmful effects on human health and welfare.

Air Quality Control Region (AQCR): Geographic subdivisions of the United States established to regulate pollution on a region or local level. Some regions span more than one state.

Air Quality Standards: The level of pollutants prescribed by regulation that may not be exceeded during a specified time in a defined area.

Alluvial deposits: Deposits of earth, sand, gravel, and other materials carried by moving surface water deposited at points of weak water flow.

Ambient air: Any unconfined portion of the atmosphere; open air, surrounding air. That portion of the atmosphere, external to buildings, to which the general public has access.

Amperes: Measure of the flow of electric current; source of a magnetic field.

Aquifer: A body of rock or sediment in a formation, group of formations, or part of a formation that is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.

Archaeological sites (resources): Any location where humans have altered the terrain or discarded artifacts during either prehistoric or historic times.

Archaeology: A scientific approach to the study of human ecology, cultural history, and cultural process.

Artifact: An object produced or shaped by human workmanship of archaeological or historical interest.

Attainment area: An area which the U.S. Environmental Protection Agency (EPA) has designated as being in compliance with one or more of the National Ambient Air Quality Standards (NAAQS) for sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter. Any area may be in attainment for some pollutants but not for others.

Atmospheric dispersion: The process of air pollutants being dispersed into the atmosphere. This occurs by the wind that carries the pollutants away from their source and by turbulent air motion that results from solar heating of the Earth's surface and air movement over rough terrain and surfaces.

Auxiliary transformer: A backup transformer.

Background noise: The total acoustical and electrical noise from all sources in a measurement system that may interfere with the production, transmission, time averaging, measurement, or recording of an acoustical signal.

Baseload: Within the alternatives, this refers to operating the hydropower system to maximize baseload energy production. Baseload power plants have high capacity factors meaning they operate much of the time.

Bounding: A credible upper limit to consequences or impacts.

Breaker: A switching device that is capable of closing or interrupting an electrical circuit under over-load or short-circuit conditions as well as under normal load conditions.

Bus: A set of two or more electrical conductors that serve as common connections between load circuits and each of the phases (in alternating current systems) of the source of electric power.

Candidate species: A species of plant or animal for which there is sufficient information to indicate biological vulnerability and threat, and for which proposing to list as "threatened" or "endangered" is or may be appropriate.

Capability: The maximum load that a generator, turbine, transmission circuit, apparatus, station, or system can supply under specified conditions for a given time interval, without exceeding approved limits of temperature and stress.

Capacity: The load for which a generator, turbine, transformer, transmission circuit, apparatus, station, or system is rated. Capacity is also used synonymously with capability.

Carbon monoxide (CO): A colorless, odorless gas that is toxic if breathed in high concentrations over a period of time. It is formed as the product of the incomplete combustion of hydrocarbons (fuel).

Class I, II, and III Areas: Area classifications, defined by the *Clean Air Act*, for which there are established limits to the annual amount of air pollution increase. Class I areas include international parks and certain national parks and wilderness areas; allowable increases in air pollution are very limited. Air pollution increases in Class II areas are less limited, and are least limited in Class III areas. Areas not designated as Class I start out as Class II and may be reclassified up or down by the state, subject to federal requirements.

Clean Air Act (CAA): (42 U.S. Code 7401 et seq.) Establishes (1) national air quality criteria and control techniques (Section 7408); (2) National ambient air quality standards (Section 7409); (3) state implementation plan requirements (Section 4710); (4) federal performance standards for stationary sources (Section 4711); (5) national emission standards for hazardous air pollutants (Section 7412); (6) applicability of CAA to federal facilities (Section 7418), i.e., Federal agency must comply with federal, state, and local requirements respecting control and abatement of air pollution, including permit and other procedural requirements, to the same extent as any person; (7) federal new motor vehicle emission standards (Section 7521); (8) regulations for fuel (Section 7545); (9) aircraft emission standards (Section 7571).

Clean Water Act: (33 U.S. Code 1251 et seq.) Restores and maintains the chemical, physical, and biological integrity of the nation's waters.

Climatology: The science that deals with climates and investigates their phenomena and causes.

Code of Federal Regulations (CFR): All Federal regulations in force are published in codified form in the Code of Federal Regulations.

Combined-Cycle Generation Facility The combination of a gas turbine and a steam turbine in an electric generation plant. The waste heat from the gas turbine provides the heat energy for the steam turbine.

Combustion turbine: Turbine operating on fuels that are capable of converting heat energy into electrical energy.

Community (biotic): All plants and animals occupying a specific area under relatively similar conditions.

Compressor: A machine, especially a pump, for compressing air, gas, etc.

Conservation: A reduction in electric power consumption as a result of increases in the efficiency of energy use, production, or distribution.

Corona effect: Electrical breakdown of air into charged particles. It is caused by the electric field at the surface of conductors.

Council on Environmental Quality (CEQ): Established by the *National Environmental Policy Act* (NEPA), the CEQ consists of three members appointed by the President. A CEQ regulation (Title 40 Code of Federal Regulations [CFR] 1500-1508, as of July 1, 1986) describes the process for implementing NEPA, including preparation of environmental assessments and environmental impacts statements, and the timing and extent of public participation.

Criteria pollutants: An air pollutant that is regulated by the National Ambient Air Quality Standards (NAAQS). The U.S. Environmental Protection Agency (EPA) must describe the characteristics and potential health and welfare effects that form the basis for setting or revising the standard for each regulated pollutant. Criteria pollutants include sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter.

Critical habitat: Defined in the Endangered Species Act of 1973 as “specific areas within the geographical area occupied by [an endangered or threatened] species..., essential to the conservation of the species and which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species... that are essential for the conservation of the species.”

Cultural resources: Districts, sites, structures, and objects and evidence of some importance to a culture, a subculture, or a community for scientific, traditional, religious, and other reasons. These resources and relevant environmental data are important for describing and reconstructing past lifeways, for interpreting human behavior, and for predicting future courses of cultural development.

Cumulative impact: The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Customer: Any entity or entities purchasing power from the power generator or distributor provider.

Decibel (dB): A unit for expressing the relative intensity of sounds on a logarithmic scale from zero for the average least perceptible sound to about 130 for the average level at which sound causes pain to humans. For traffic and industrial noise measurements, the A-weighted decibel (dBA), a frequency-weighted noise unit, is widely used. The A-weighted decibel scale corresponds approximately to the frequency response of the human ear and thus correlates well with loudness.

Demand: The rate at which energy is used at a given instant or averaged over a designated period of time.

Demineralization: To remove minerals, as salt, from water.

Deposition: In geology, the laying down of potential rock-forming materials; sedimentation. In atmospheric transport, the settling out on ground and building surfaces of atmospheric aerosols and particles (“dry deposition”) or their removal from the air to the ground by precipitation (“wet deposition” or “rainout”).

Discharge: The volume of water released from a dam or powerhouse at a given time, usually expressed as cubic feet per second.

Distance zones: The relative visibility from travel routes or observation points.

Double-circuit: Two sets of lines (circuits) on a single tower (a single circuit consists of three conductors).

Drainage basin: An aboveground area that supplies the water to a particular stream.

Drawdown: The height difference between the natural water level in a formation and the reduced water level in the formation caused by the withdrawal of groundwater.

Ecology: A branch of science dealing with the interrelationships of living organisms with one another and with their nonliving environment.

Ecosystem: Living organisms and their nonliving (abiotic) environment functioning together as a community.

Effects: As used in NEPA documentation, the terms effects and impacts are synonymous. Effects can be ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

Effluent: A waste stream flowing into the atmosphere, surface water, ground water, or soil. Most frequently the term applies to wastes discharged to surface waters.

Elevation: Height in feet above sea level.

Eligibility: The criteria of significance in American history, architecture, archeology, engineering, and culture. The criteria require integrity and association with lives or events, distinctiveness for any of a variety of reasons, or importance because of information the property does or could hold.

Eligible cultural resource: A cultural resource that has been evaluated and reviewed by an agency and the State Historic Preservation Office(r) and recommended as eligible for inclusion in the National Register of Historic Places, based on the criteria of significance.

Emissions: Pollution discharged into the atmosphere from smoke stacks, other vents, and surface areas of commercial or industrial facilities, residential chimneys, and vehicle exhausts.

Emission Standards: Requirements established by a state, local government, or the U.S. Environmental Protection Agency (EPA) Administrator that limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis.

Endangered Species: Plants or animals that are in danger of extinction through all or a significant portion of their ranges and that have been listed as endangered by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures outlined in the Endangered Species Act and its implementing regulations (50 CFR 424). *Note: Some states also list species as endangered. Thus, in certain cases a state definition would also be appropriate.*

Endangered Species Act: (16 U.S. Code 1531 et seq.) Provides for listing and protection of animal and plant species identified as in danger, or likely to be in danger, or extinction throughout all or a significant portion of their range. Section 7 places strict requirements on federal agencies to protect listed species.

Environmental Assessment (EA): A document prepared in order to provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI). The document includes discussions of the need for the proposed action, alternatives, the environmental setting or affected environment, the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted. This document is prepared in accordance with 40 CFR 1508.9. A Rural Utilities Service EA is prepared in accordance with applicable requirements of the Council on Environmental Quality NEPA regulations in 40 CFR Parts 1500-1508, and the Rural Utilities Service NEPA regulations in 7 CFR 1794.

Environmental Justice: An identification of potential disproportionately high and adverse impacts on low-income and/or minority populations that may result from proposed federal actions (required by Executive Order 12898, see description below).

Energy: That which does or is capable of doing work. It is measured in terms of the work it is capable of doing; electric energy is usually measured in kilowatt-hours.

Ephemeral stream: A stream that flows only after a period of heavy precipitation.

Erosion: Wearing away of soil and rock by weathering and the actions of surface water, wind, and underground water.

Ethnographic: Information about cultural beliefs and practices.

Executive Order 12898: Issued by the President on February 11, 1994, this Executive Order requires federal agencies to develop implementation strategies, identify low-income and minority populations that may be disproportionately impacted by proposed federal actions, and solicit the participation of low-income and minority populations.

Facility: The power generating components of the natural gas-fired, simple cycle peaking power plant.

Fault: A fracture or a zone of fractures within a rock formation along which vertical, horizontal, or transverse slippage has occurred.

Field effect: Induced currents and voltages as well as related effects that might occur as a result of electric and magnetic fields at ground level.

Finding of No Significant Impact (FONSI): Public document prepared by a Federal agency briefly presenting the reasons why a proposed action will not have a significant effect on the human environment and thus indicating that an environmental impact statement will not be prepared. It includes the environmental assessment, or a summary of it, and notes any other

environmental documents related to it. This document is prepared in accordance with 40 CFR 1508.13, and the Rural Utilities Service NEPA regulations in 7 CFR 1794.

Floodplain: The lowlands adjoining inland and coastal waters and relatively flat areas, including at a minimum that area inundated by a 1-percent or greater chance flood in any given year. The base floodplain is defined as the 100-year (1.0 percent) floodplain. The critical action floodplain is defined as the 500-year (0.2 percent) floodplain.

Floodway: The necessary area encompassing main channel and existing outback area to pass a 100-year quantity of flow without impacting the 100-year profile; also known as a swift water area.

Flow: The volume of water passing a given point per unit of time. Same as streamflow.

Formation: In geology, the primary unit of formal stratigraphic mapping or description. Most formations possess certain distinctive features.

Gauss: Unit of measurement of magnetic field.

Generating unit: The combination of generator and step-up transformer.

Generation: The act or process of producing electricity from other forms of energy.

Generator: A machine that converts mechanical energy into electrical energy.

Groundwater: Water within the earth that supplies wells and springs.

Hazardous Air Pollutants: Air pollutants that are not covered by ambient air quality standards, but that may present a threat of adverse human health effects or adverse environmental effects.

Hazardous waste: A category of waste regulated under the Resource Conservation and Recovery Act (RCRA). To be considered hazardous, a waste must be a solid waste under RCRA and must exhibit at least one of four characteristics described in 40 CFR 261.20 through 40 CFR 261.24 (i.e., ignitability, corrosivity, reactivity, or toxicity) or be specifically listed by the Environmental Protection Agency in 40 CFR 261.31 through 40 CFR 261.33.

Historic properties: Under the *National Historic Preservation Act*, these are properties of national, state, or local significance in American history, architecture, archaeology, engineering, or culture, and worthy of preservation.

Hydraulic conductivity: A coefficient describing the rate at which water can move through a permeable medium.

Impacts (effects): As assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using a qualitative and nominally subjective technique. In this EA, as well as in the CEQ regulations, the word impact is used synonymously with the word effect.

Indirect impacts: Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-

inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Infrastructure: The basic installations and facilities on which the continuance and growth of a community or state (e.g., roads, schools, power plants, transportation, communication systems) are based.

Intensity (of an earthquake): A measure of the effects (due to ground shaking) of an earthquake at a particular location, based on observed damage to structures built by humans, changes in the earth's surface, and reports of how people felt the earthquake. Earthquake intensity is measured in numerical units on the Modified Mercalli scale. [See Modified Mercalli Intensity scale and magnitude (of an earthquake).]

Intertie: A transmission line that links two or more regional electric power systems.

Interested parties: Those groups or individuals that are interested, for whatever reason, in the project and its progress. Interested parties include but are not limited to private individuals, public agencies, organizations, customers, and potential customers.

Invertebrate: Animals characterized by not having a backbone or spinal column, including a wide variety of organisms such as insects, spiders, worms, clams, crayfish, etc.

Isolated occurrence: A grouping of less than ten artifacts or a single undatable feature. These often consists of redeposited material of questionable locational context that are not related to nearby archaeological sites.

Kilovolt (kV): The electrical unit of power that equals 1,000 volts.

Lacustrine deposits: Deposits found or formed in lakes.

Level of service: In transportation analysis, a qualitative measure describing operational conditions within a traffic stream and how they are perceived by motorists and/or passengers.

Lithic: A stone artifact that has been modified or altered by human hands.

Load: The amount of electric power required at a given point on a system.

Low-income population: A population that is classified by the U.S. Bureau of the Census as having an aggregated mean income level for a family of four that correlates to \$13,359, adjusted through the poverty index using a standard of living percentage change where applicable, and whose composition is at least 25 percent of the total population of a defined area or jurisdiction.

Loam: A rich, permeable soil composed of a mixture of clay, silt, sand, and organic matter.

Magnitude (of an earthquake): A quantity characteristic of the total energy released by an earthquake, as contrasted to "intensity," which describes its effects at a particular place. Magnitude is calculated using common logarithms (base 10) of the largest ground motion. A one-unit increase in magnitude (for example, from magnitude 6 to magnitude 7) represents a 30-

fold increase in the amount of energy released. Three common types of magnitude are Richter (or local) (M_L), P body wave (m_b), and surface wave (M_s).

Major source: Any stationary source or group of stationary sources in which all of the pollutant-emitting activities at such source emit, or have the potential to emit, 100 or more tons per year of any regulated air pollutants.

Mammal: Animals in the class Mammalia that are distinguished by having self regulating body temperature, hair, and in females, milk-producing mammary glands to feed their young.

Megawatt (MW): The electrical unit of power that equals 1 million watts or 1 thousand kilowatts.

Merchant plant: A power plant not owned by a utility.

Meteorology: The science dealing with the dynamics of the atmosphere and its phenomena, especially relating to weather.

Mineral: Naturally occurring inorganic element or compound.

Minority Population: A population that is classified by the U.S. Bureau of the Census as African American, Hispanic American, Asian and Pacific American, American Indian, Eskimo, Aleut, and other non-White persons, whose composition is at least 25 percent of the total population of a defined area or jurisdiction.

Mitigation: The alleviation of adverse impacts on environmental resources by avoidance through project redesign or project relocation, by protection, or by adequate scientific study.

Modified Mercalli Intensity Scale: The Modified Mercalli Intensity Scale is a standard of relative measurement of earthquake intensity, developed to fit construction conditions in most of the United States. It is a 12-step scale, with values from I (not felt except by a very few people) to XII (damage total).

National Ambient Air Quality Standards (NAAQS): Standards defining the highest allowable levels of certain pollutants in the ambient air. Because the U.S. Environmental Protection Agency (EPA) must establish the criteria for setting these standards, the regulated pollutants are called criteria pollutants.

National Emissions Standards for Hazardous Air Pollutants (NESHAPs): Emissions standards set by the Environmental Protection Agency for air pollutants which are not covered by National Ambient Air Quality Standards (NAAQS) and which may, at sufficiently high levels, cause increased fatalities, irreversible health effects, or incapacitating illness.

National Environmental Policy Act: 42 U.S.C. 4341, passed by Congress in 1975. The Act established a national policy designed to encourage consideration of the influences of human activities (e.g., population growth, high-density urbanization, industrial development) on the natural environment. NEPA also established the Council on Environmental Quality (CEQ). NEPA procedures require that environmental information be made available to the public before

decision are made. Information contained in NEPA documents must focus on the relevant issues in order to facilitate the decision-making process.

National Historic Preservation Act (NHPA): (16 U.S.C. 470) Provides for an expanded National Register of Historic Places (NRHP) to register districts, sites, buildings, structures, and objects significant to American history, architecture, archaeology, and culture. Section 106 requires that the President's Advisory Council on Historic Preservation be afforded an opportunity to comment on any undertaking that adversely affects properties listed in the NRHP.

National Pollutant Discharge Elimination System (NPDES) Permit: Federal regulation (40 CFR Parts 122 and 125) that requires permits for the discharge of pollutants from any point source into the waters of the U.S. regulated through the *Clean Water Act*, as amended.

National Register of Historic Places: A list maintained by the Secretary of the Interior of districts, sites, buildings, structures, and objects of prehistoric or historic local, state, or National significance. The list is expanded as authorized by Section 2(b) of the *Historic Sites Act of 1935* (16 U.S.C. 462) and Section 101(a)(1)(A) of the *National Historic Preservation Act of 1966*, as amended.

Native vegetation: Plant life that occurs naturally in an area without agricultural or cultivation efforts. It does not include species that have been introduced from other geographical areas and have become naturalized.

Noise: Unwanted or undesirable sound, usually characterized as being so loud as to interfere with, or be inappropriate to, normal activities such as communication, sleep, study or recreation. (See background noise.)

Nonattainment: An area shown by monitored data or modeling to exceed National Ambient Air Quality Standards for a particular air pollutant.

Nonattainment area: An area that the U.S. Environmental Protection Agency (EPA) has designated as not meeting (that is, not being in attainment of) one or more of the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. An area may be in attainment for some pollutants, but not others.

Ozone: The triatomic form of oxygen. In the stratosphere, ozone protects the earth from the sun's ultraviolet rays but in the lower levels of the atmosphere, ozone is considered an air pollutant.

Paleontology: The study of fossils.

Particulate Matter: Any finely divided solid or liquid material, other than uncombined water.

Peak capacity: The maximum capacity of a system to meet loads.

Peak demand: The highest demand for power during a stated period of time.

Peaking power/peaking generation: Power plant capacity that is typically used to meet rapid increases or the highest levels of demand in a utility's load or demand profile. Peaking generation is usually oil, gas-fired, or hydropower generation.

Permeability: The ability of rock or soil to transmit a fluid.

pH: A measure of the relative acidity or alkalinity of a solution, expressed on scale from 0 to 14, with the neutral point at 7.0. Acid solutions have pH values lower than 7.0, and basic (i.e., alkaline) solutions have pH values higher than 7.0. Because pH is the negative logarithm of the hydrogen ion (H^+) concentration, each unit increase in pH value expresses a change of state of 10 times the preceding state. Thus, pH 5 is 10 times more acidic than pH 6, and pH 9 is 10 times more alkaline than pH 8.

Physiography: The science of the surface of the earth and the interrelations of air, water, and land.

Plume: Visible or measurable discharges of a contaminant from a given point or area of origin into environmental media.

Potable: Suitable for drinking.

Prehistoric: Of, relating to, or existing in times antedating written history. Prehistoric cultural resources are those that antedate written records of the human cultures that produced them.

Present value: The worth of future returns or costs in terms of their current value. To obtain a present value, an interest rate is used to discount these future returns and costs.

Prevention of Significant Deterioration (of air quality) (PSD): Regulations established to prevent significant deterioration of air quality in areas that already meet National Ambient Air Quality Standards (NAAQS). Among other provisions, cumulative increases in sulfur dioxide, nitrogen dioxide, and PM-10 levels after specified baseline dates must not exceed specified maximum allowable amounts.

Prime farmland: Soil types with a combination of characteristics that make the soils particularly productive for agriculture.

Production Costs: The cost of producing electricity.

Project: Involves the construction and operation of two circulating fluidized bed power generation units and construction of a new 345-kV transmission line.

Quaternary: The second period of the Cenozoic era, following the Tertiary; also, the corresponding system of rocks. It consists of two epochs, the Pleistocene and the Holocene.

Raptor: Birds of prey including various types of hawks, falcons, eagles, vultures, and owls.

Reliability: The ability of the power system to provide customers uninterrupted electric service. Includes generation, transmission, and distribution reliability.

Region of Influence (ROI): The geographical region that would be expected to be affected in some way by proposed action and alternative.

Right-of-way: An easement for a certain purpose over the land of another, such as a strip of land used for a transmission line, roadway or pipeline.

Riparian: Of or pertaining to the bank of a river, stream, lake, or other water bodies.

Runoff: The portion of rainfall, melted snow, or irrigation water that flows across the ground surface and may eventually enter streams.

Saturated zone: The zone in which the voids in the rock or soil are filled with water at a pressure greater than atmospheric pressure. The water table is the top of the saturated zone in an unconfined aquifer.

Scoping: An early, open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

Section 106 process: A National Historic Preservation Act (16 U.S.C. §470 et seq.) review process used to identify, evaluate, and protect cultural resources eligible for nomination to the National Register of Historic Places that may be affected by federal actions or undertakings.

Sediment: Material deposited by wind or water.

Sedimentation: The process of deposition of sediment, especially by mechanical means from a state of suspension in water.

Seismic: Pertaining to any earth vibration, especially an earthquake.

Sensitive species: Those plants and animals identified by the Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trend in populations or density and significant or predicted downward trend in habitat capability.

Socioeconomics: The social and economic condition in the study area.

Solid waste: In general, solid wastes are non-liquid, non-soluble discarded materials ranging from municipal garbage to industrial wastes that contain complex and sometimes hazardous substances. Solid wastes include sewage sludge, agricultural refuse, demolition wastes, and mining residues.

Stability class: A category characterizing the degree of stability, or absence of turbulence, in the atmosphere.

State Historic Preservation Officer (SHPO): The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the *National Historic Preservation Act*.

Step-up transformer: Transformer in which the energy transfer is from a low- to a high-voltage winding or windings. (Winding means one or more turns of wire forming a continuous coil for a transformer, relay, rotating machine, or other electric device.)

Stratigraphic: Of, relating to, or determined by stratigraphy; the superposition of layers (soil, rock, and other materials) often observed at archaeological sites.

Substation: Facility with transformers where voltage on transmission lines change from one level to another.

Surface water: All bodies of water on the surface of the earth and open to the atmosphere, such as rivers, lakes, reservoirs, ponds, seas, and estuaries.

Switchyard: Facility with circuit breakers and automatic switches to turn power on and off on different transmission lines.

Threatened species: Plant and wildlife species likely to become endangered in the foreseeable future.

Threatened or Endangered species: Animals, birds, fish, plants, or other living organisms threatened with extinction by man-made or natural changes in their environment. Requirements for declaring species endangered are contained in the *Endangered Species Act of 1973*.

Traditional Cultural Property/Use Area: Areas of significance to the beliefs, customs, and practices of a community of people that have been passed down through generations.

Transformer: A device for transferring energy from one circuit to another in an alternating-current system. Its most frequent use in power systems is for changing voltage levels.

Transmission line: The structures, insulators, conductors and other equipment used to transfer electrical power from one point to another.

Transmission services: These services may include firm and nonfirm transmission, as well as transmission by a third party. Firm and nonfirm transmission services occur when capacity and energy are received into a system at points of interconnection with other systems and transmitted and delivered to points of delivery from a system.

U.S. Environmental Protection Agency (EPA): The independent federal agency, established in 1970, that regulates federal environmental matters and oversees the implementation of federal environmental laws.

Vertebrate: Animals that are members of the subphylum Vertebrata, including the fishes, amphibians, reptiles, birds, and mammals, all of which are characterized by having a segmented bony or cartilaginous spinal column.

Volatile Organic Compounds: A broad range of organic compounds, often halogenated, that vaporize at typically background or relatively low temperatures.

Volt: The unit of voltage or potential difference. It is the electromotive force which, if steadily applied to a circuit having a resistance of one ohm, will produce a current of one ampere.

Voltage: Potential for an electric charge to do work; source of an electric field.

Wetland: Land or areas exhibiting hydric soil concentrations, saturated or inundated soil during some portion of the year, and plant species tolerant of such conditions.

Wind rose: A circular diagram showing, for a specific location, the percentage of the time the wind is from each compass direction. A wind rose for use in assessing consequences of airborne releases also shows the frequency of different wind speeds for each compass direction.

13.0 LIST OF PREPARERS

Name	Education/Years of Experience	Responsibility on this EA
Andrew Brooks	MA, Environmental Policy BA, History Years of Experience: 2	Socioeconomics; Environmental Justice; Transportation
Janine Cefalu	BA, International Relations Years of Experience: 3	Deputy Project Manager; Geology and Soils; Water Resources; Infrastructure; Applicable Environmental Regulations and Permits
Kevin Doyle	BA, Sociology Years of Experience: 20	Cultural Resources
Samantha Fontenelle	MA, Environmental Studies BA, Environmental Science Years of Experience: 8	Cultural Resources; Waste Management; Human Health
Maher Itani	MEA, Engineering Administration BS, Civil Engineering Years of Experience: 12	Technical Reviewer
Pam Muskat	BA, English Years of Experience: 4	Document Editor
John Nash	BS, Political Science Years of Experience: 6	Document Production Manager/Editorial Review
Charles C. Pergler	BS, Range and Wildlife Science MS, Range Management Years of Experience: 18	Threatened and Endangered Species
Erica Ruhl	MS, Environmental Engineering BS, Environmental Engineering Years of Experience: 3	Climate, Air Quality and Noise; Land Use; Visual Resources; Cumulative Effects
Robert Sculley	MS, Ecology BS, Zoology Years of Experience: 29	Climate, Air Quality and Noise

Scott Truesdale

BA, Environmental Science/
Geology
Years of Experience: 17

Project Manager;
Introduction; Proposed Action
and Alternatives; Ecological
Resources; Unavoidable,
Adverse Environmental
Impacts; Irreversible and
Irretrievable Commitments of
Resources; Relationship
Between Short-Term Use of
the Environment and the
Maintenance and
Enhancement of Long-Term
Productivity

APPDENDIX A

PHOTO LOG

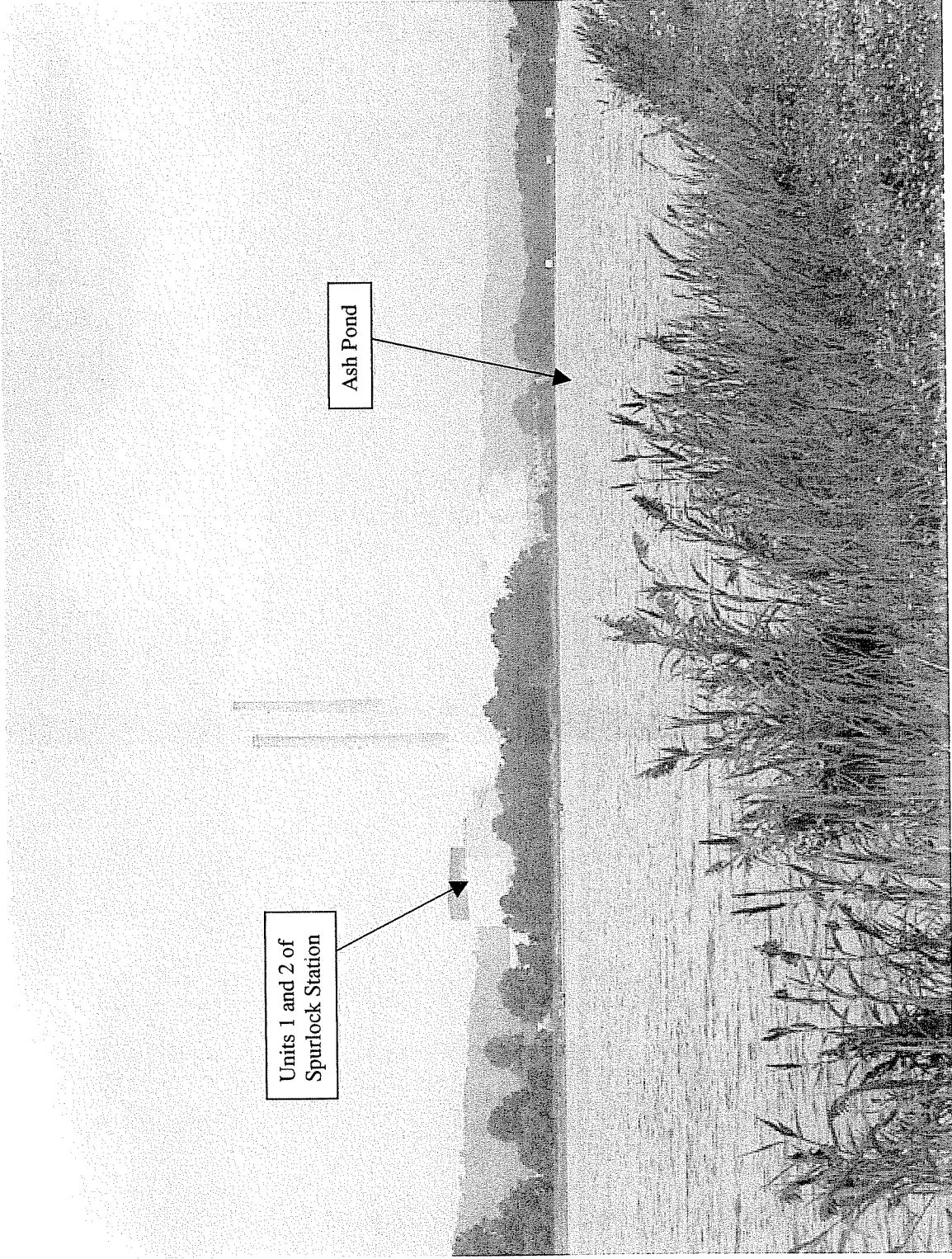


PHOTO 1: Facing South. Ash Pond in Foreground, Spurlock Station in Background.



PHOTO 2: Facing West. Inland Paperboard and Packaging in the Foreground, Spurlock Station in the Background.

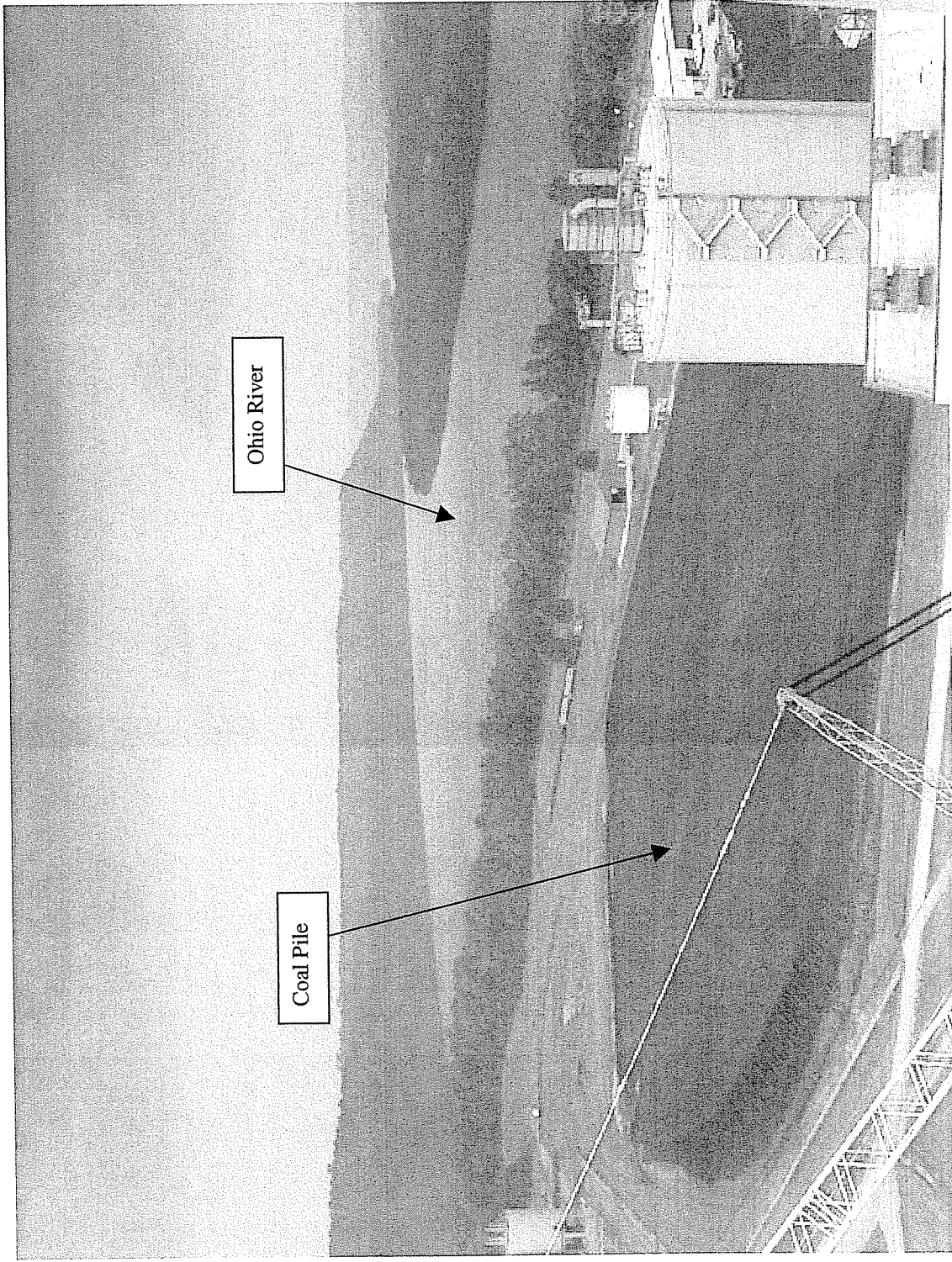


PHOTO 3: Facing West. From Top of Building Housing Units 1 and 2: Coal Pile in Foreground; Ohio River in Background.

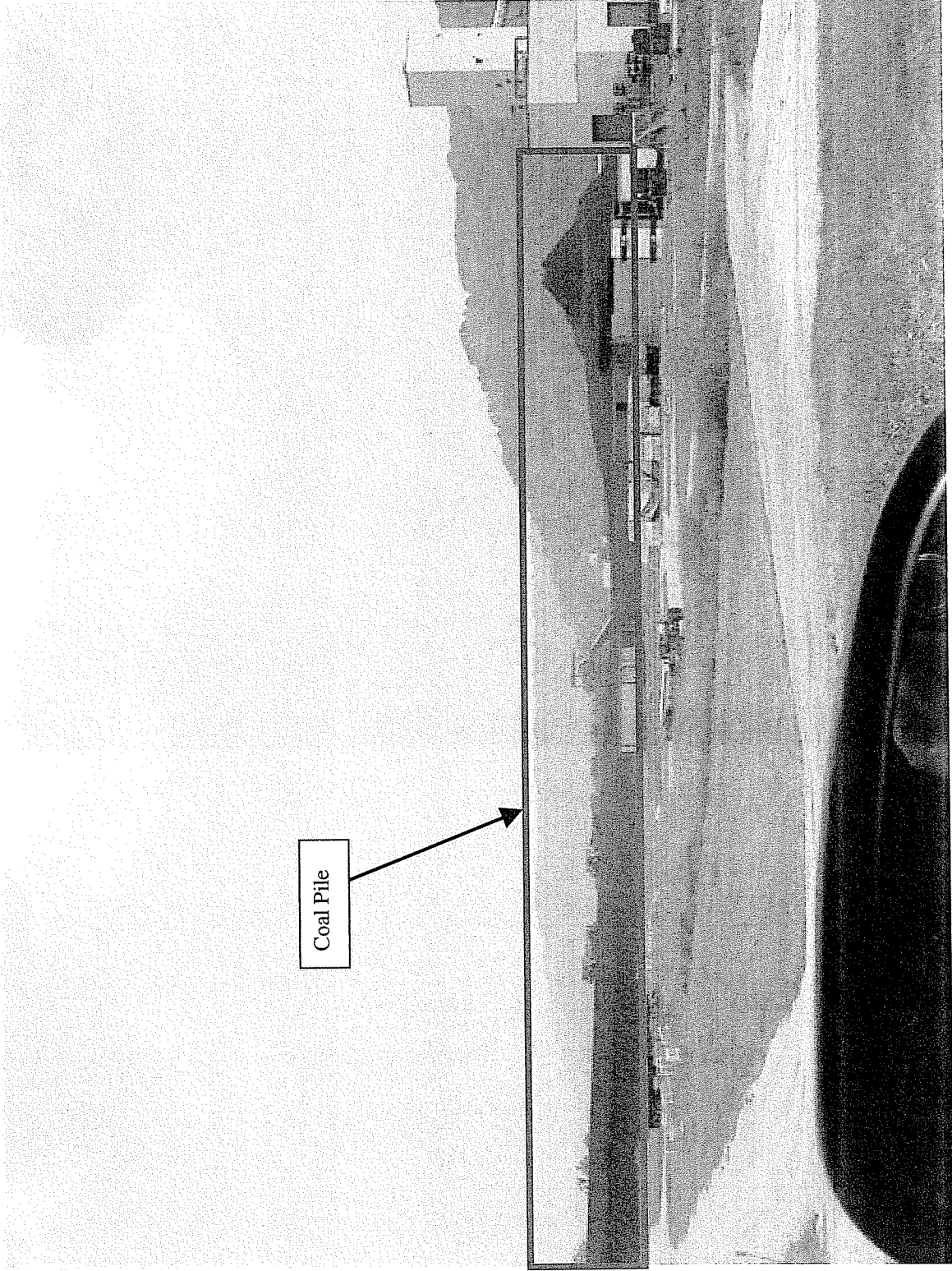


PHOTO 4: Existing Coal Pile.

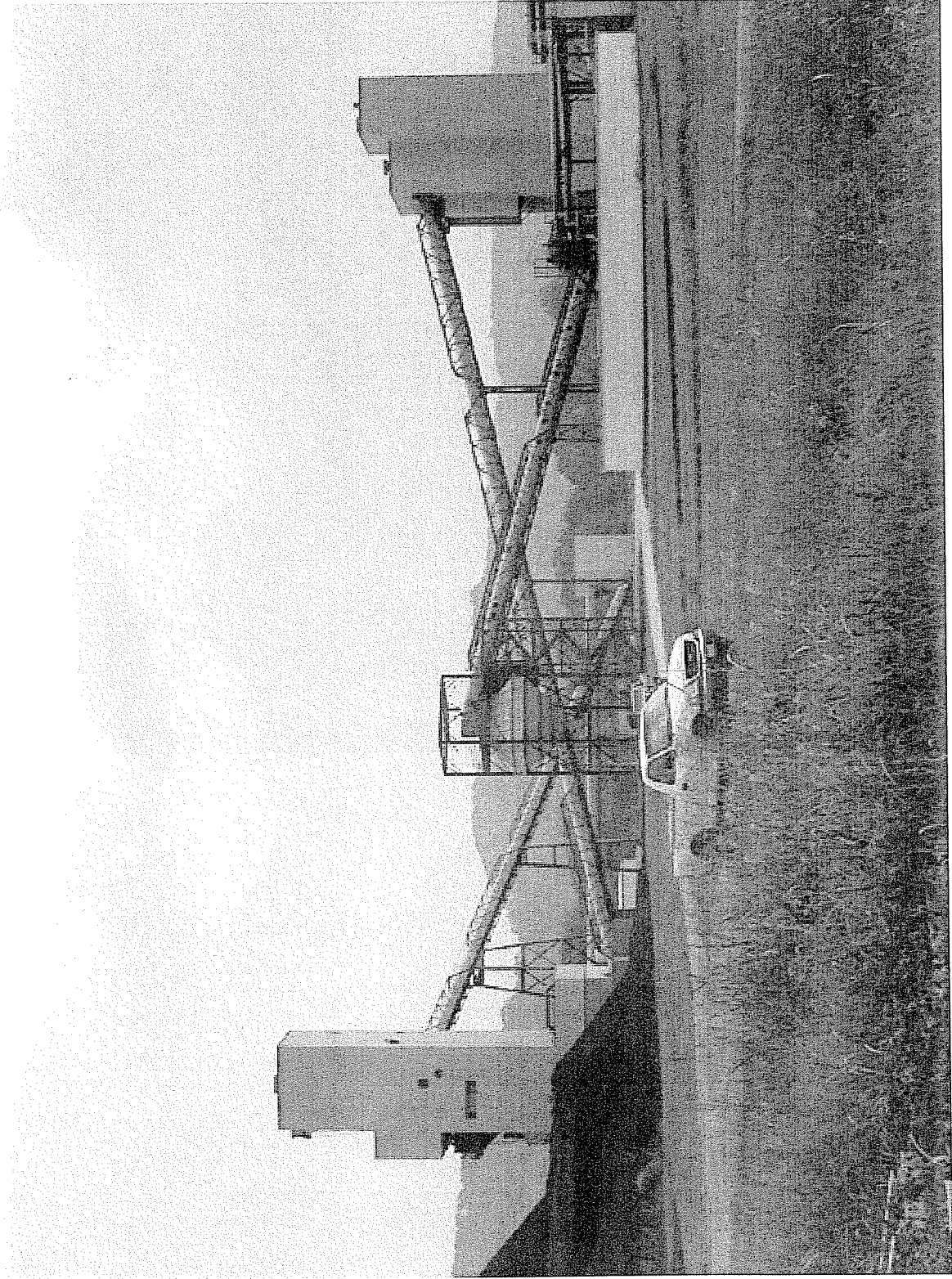


PHOTO 5: Coal Conveyor System.

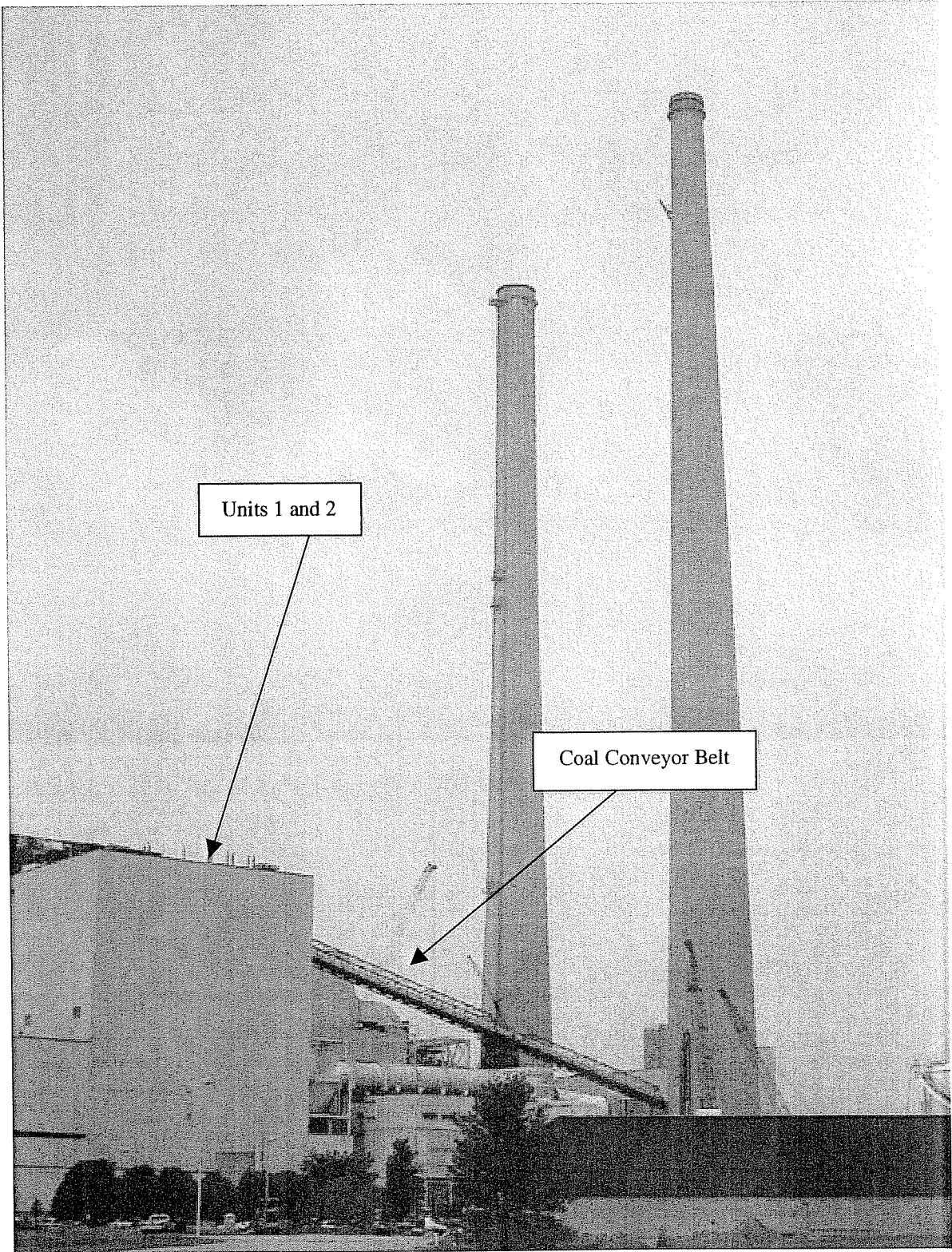


PHOTO 6: Eight hundred and five [805]-Foot (46-meter) Stacks for Units 1 and 2 with coal conveyor belt.

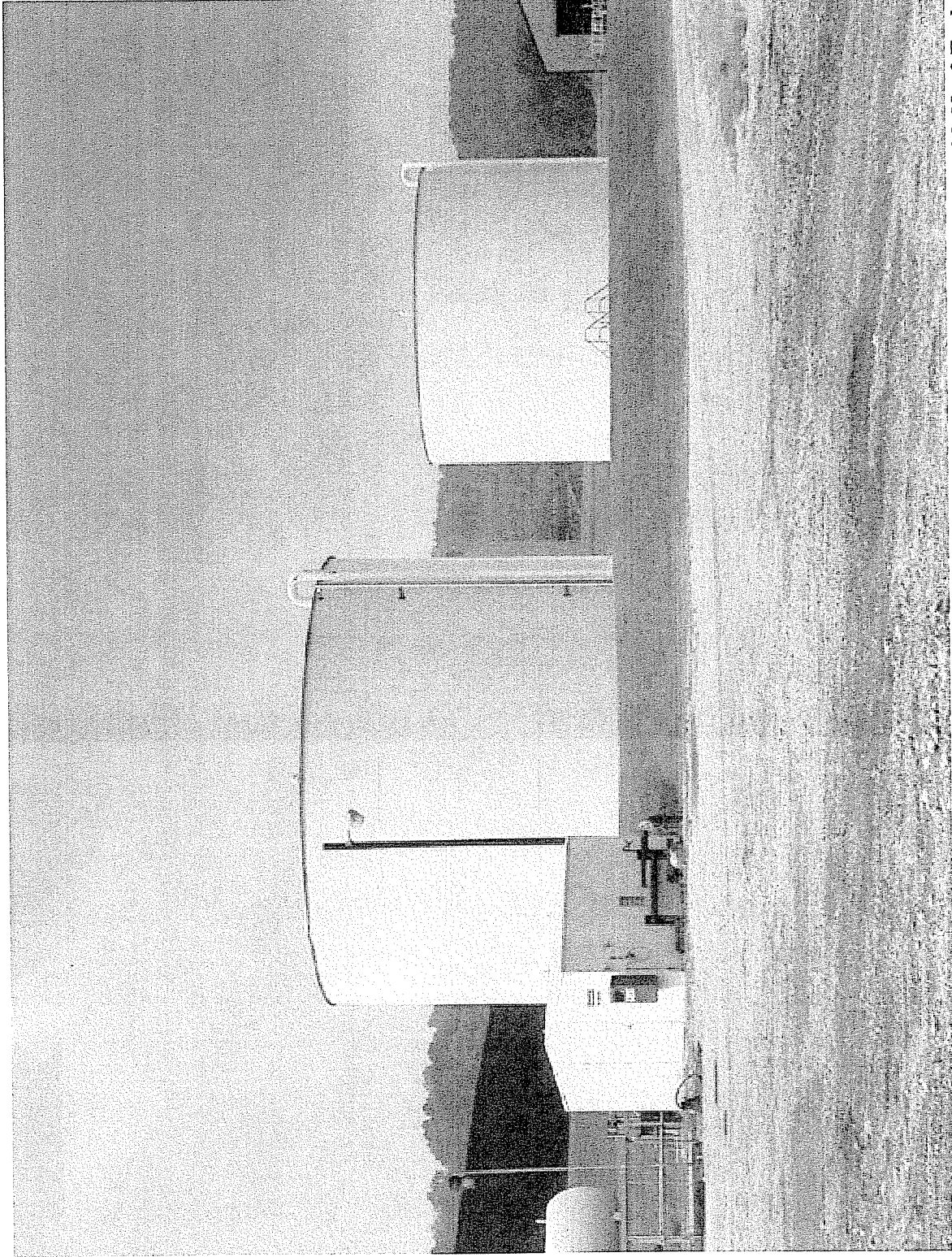


PHOTO 7: Three hundred and fifty thousand [350,000]-gallon (1,324,890-liter) Above Ground Storage Tanks with No. 2 Fuel Oil.



PHOTO 8: Cooling Towers for Units 1 and 2.

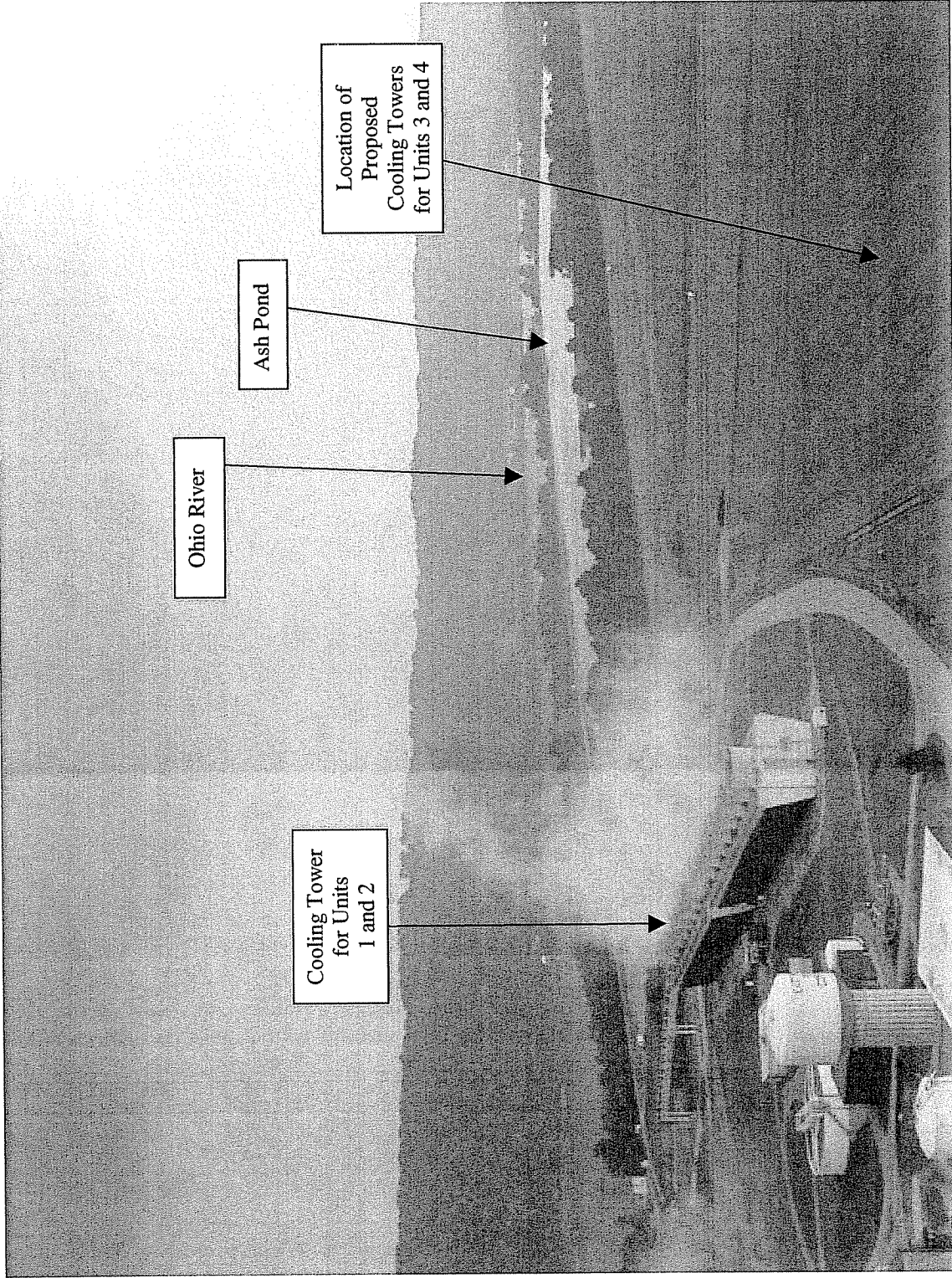


PHOTO 9: Facing Northeast. From Top of Building Units 1 and 2 on Left; Cooling Towers for Units 1 and 2 on Left; Proposed Site for Cooling Towers for Units 3 and 4 on Right.

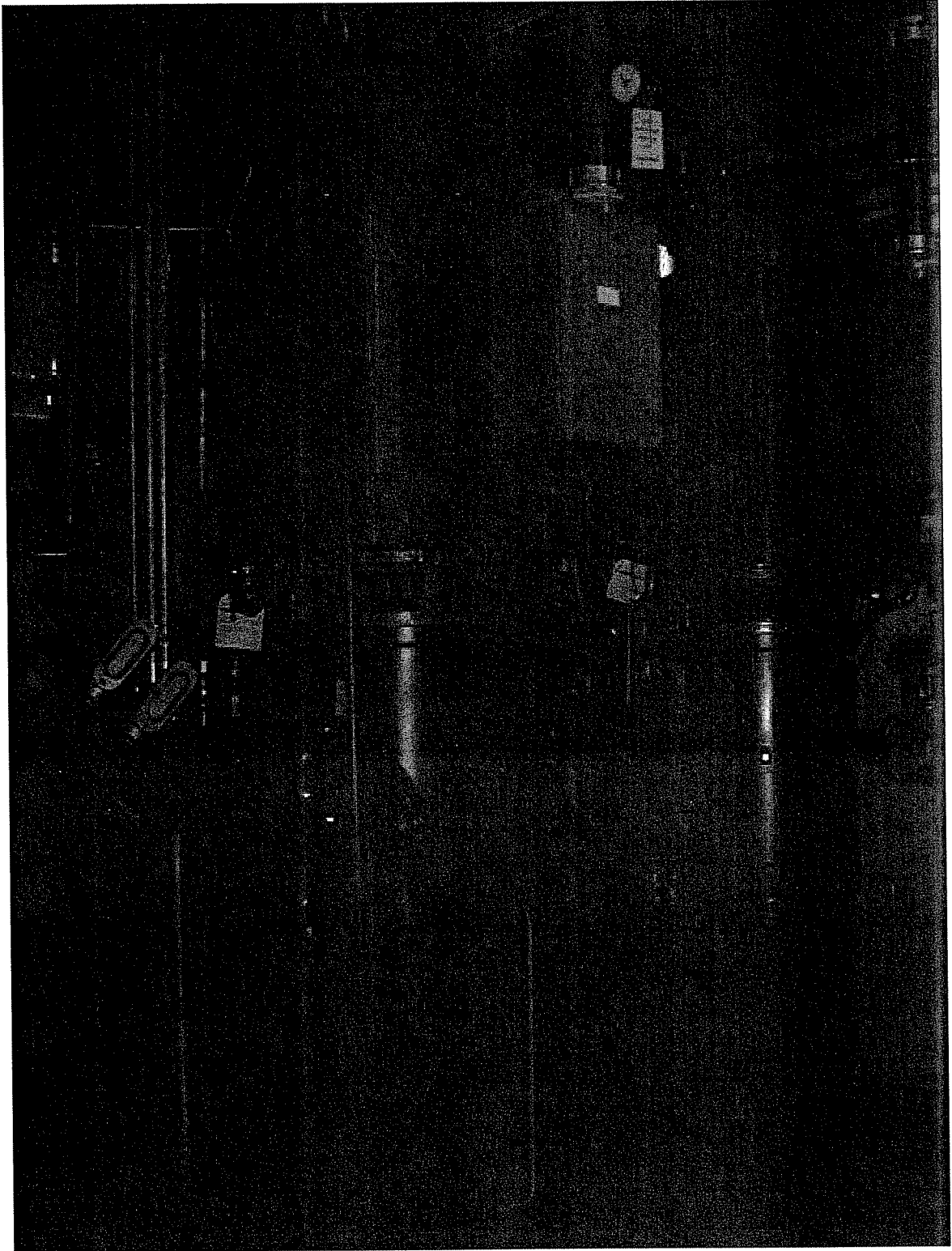


PHOTO 10: Existing Intake Pumps on the Ohio River.

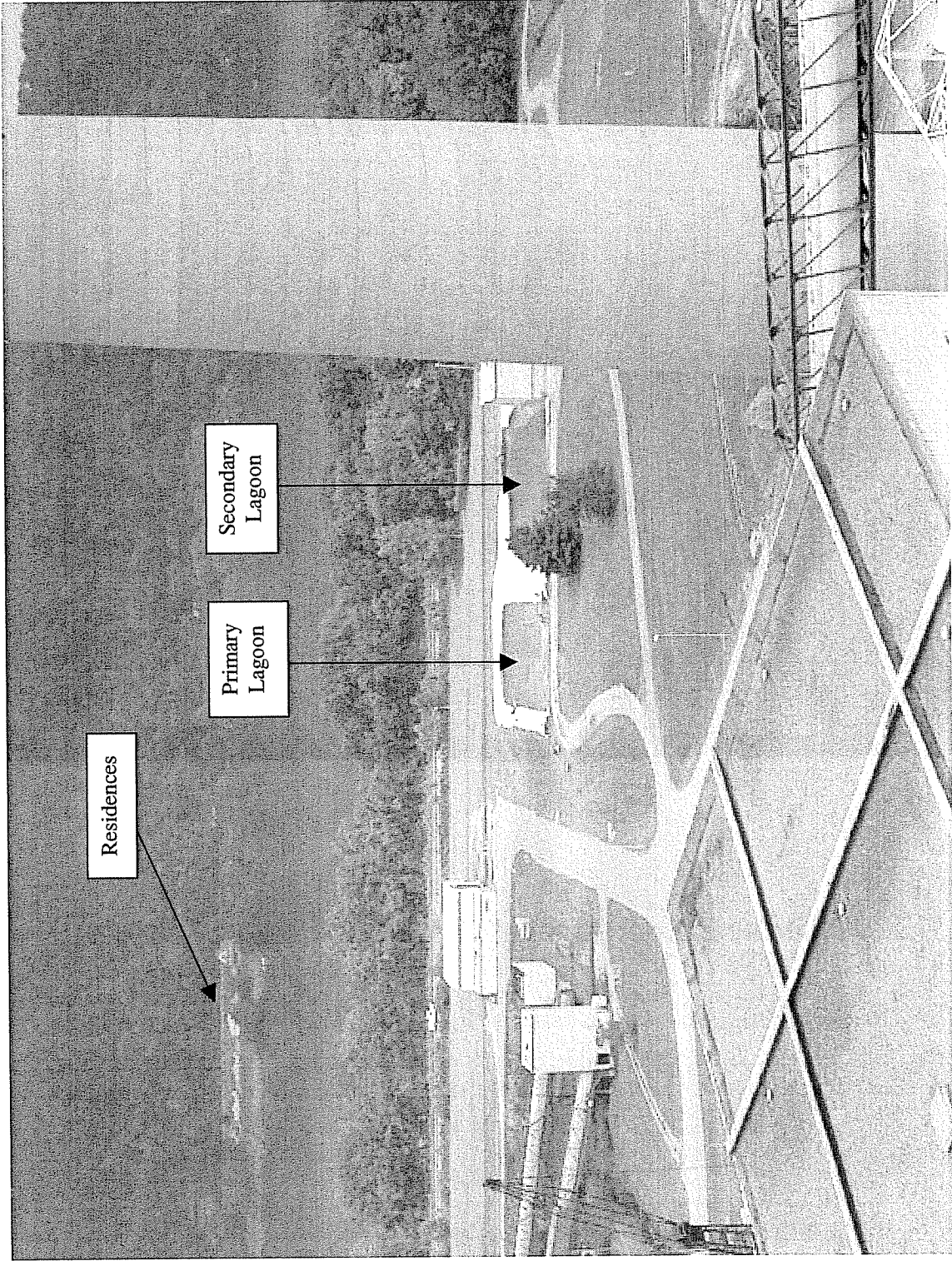


PHOTO 11: From Top of Building housing Units 1 and 2: Facing Northeast. Primary and Secondary Lagoons in Foreground; Residences Across Ohio River in Background.

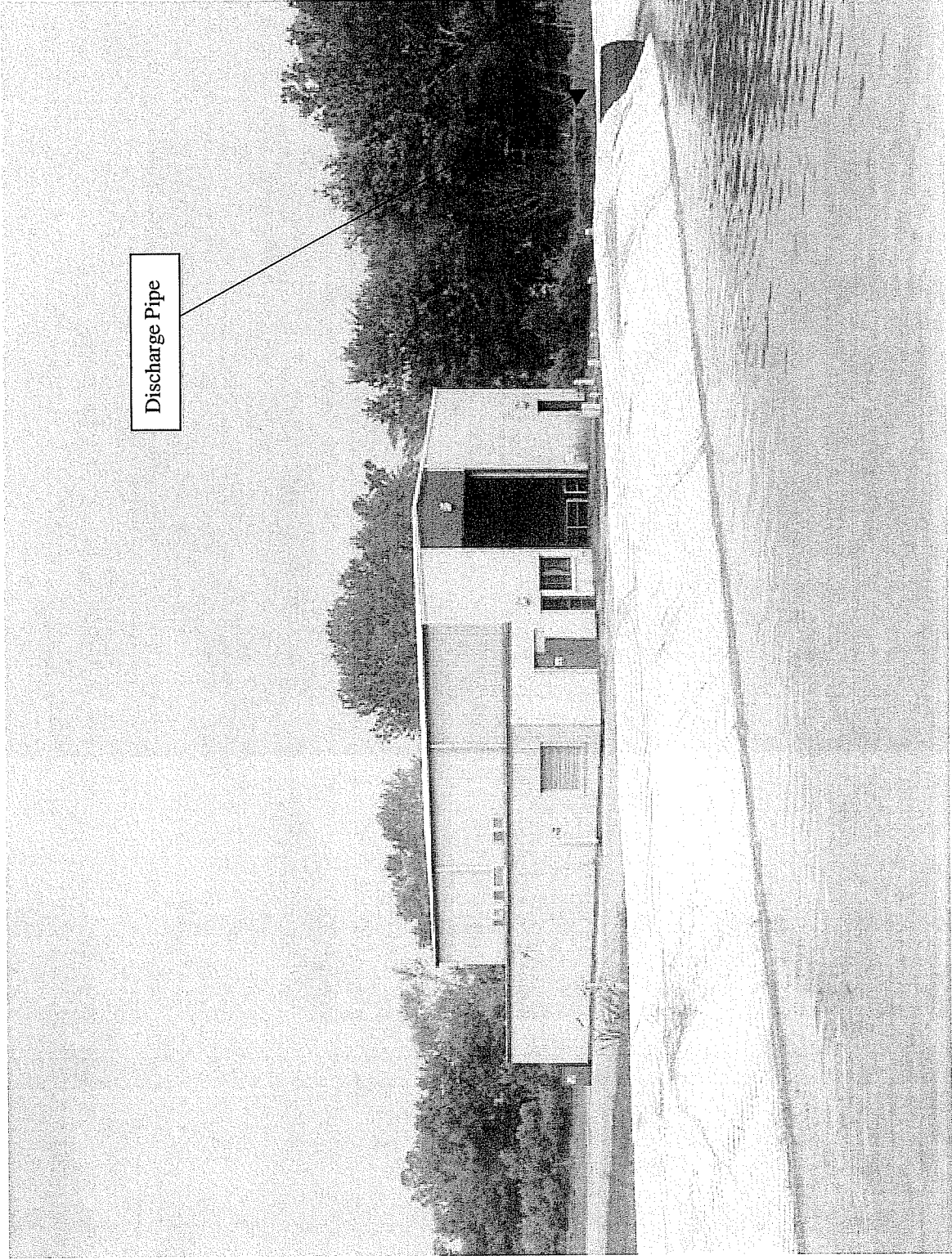


PHOTO 12: Primary Lagoon with Discharge Pipe on Right.

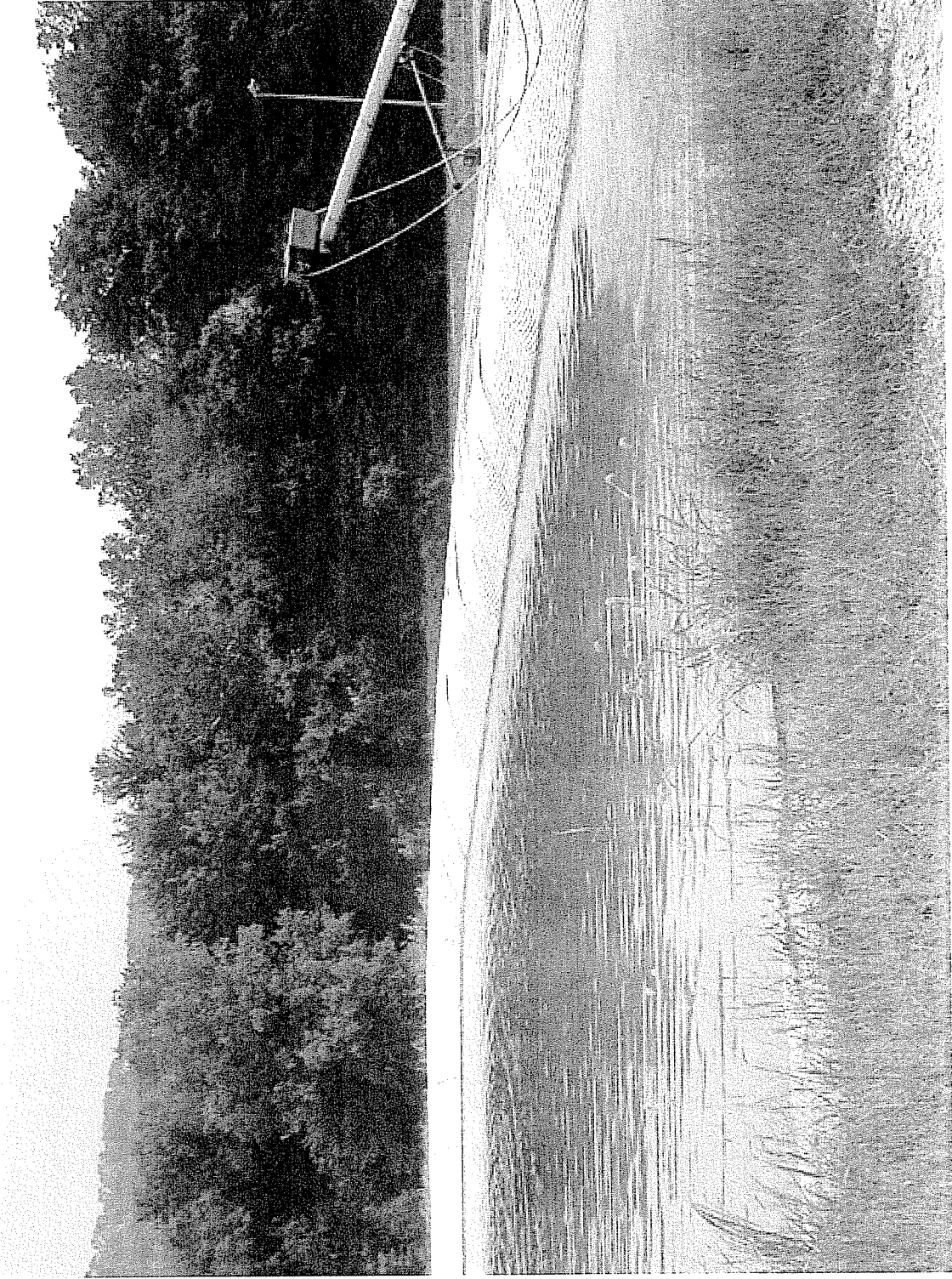


PHOTO 13: Primary Lagoon with Monitoring Equipment on Right.

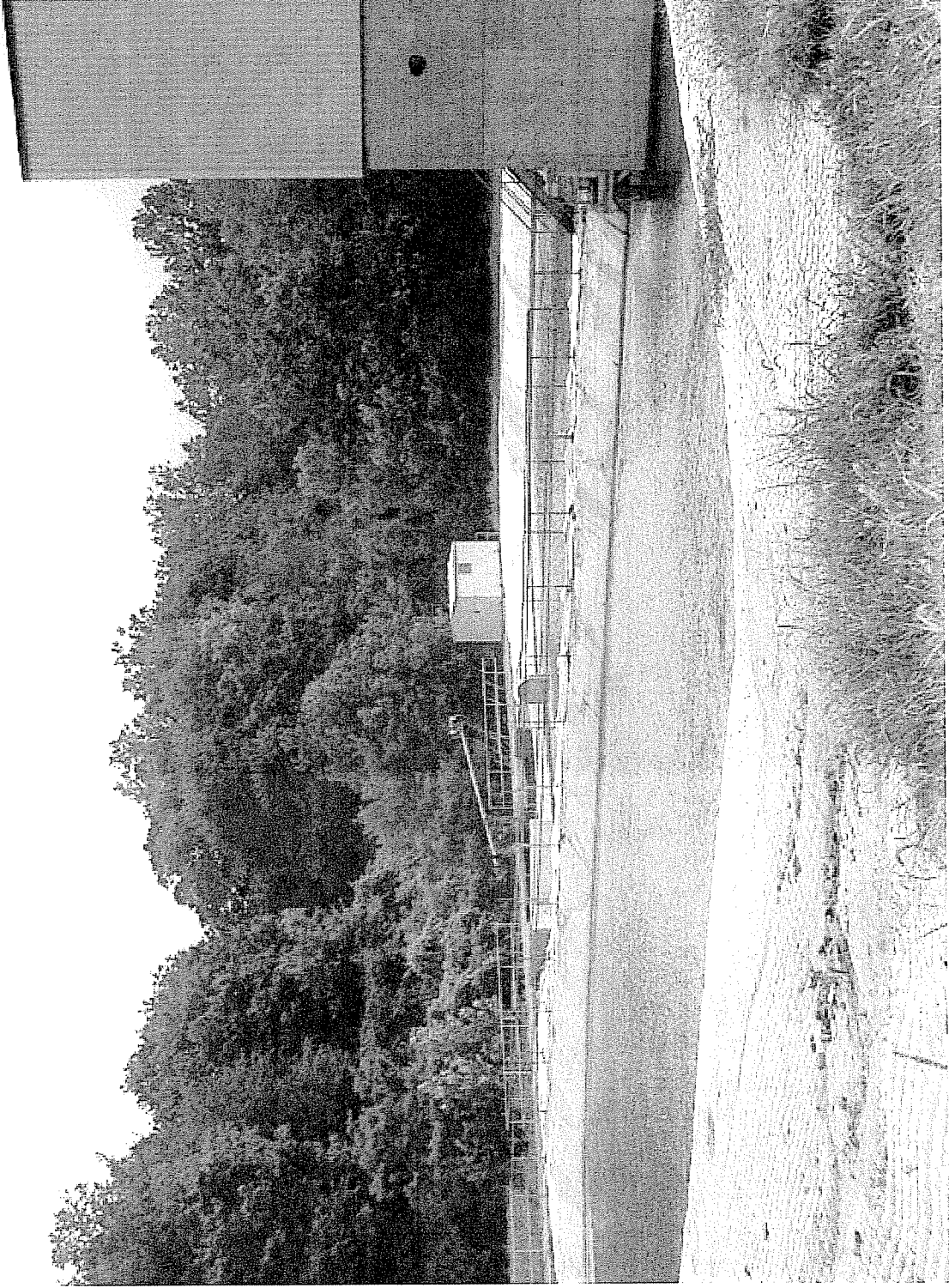
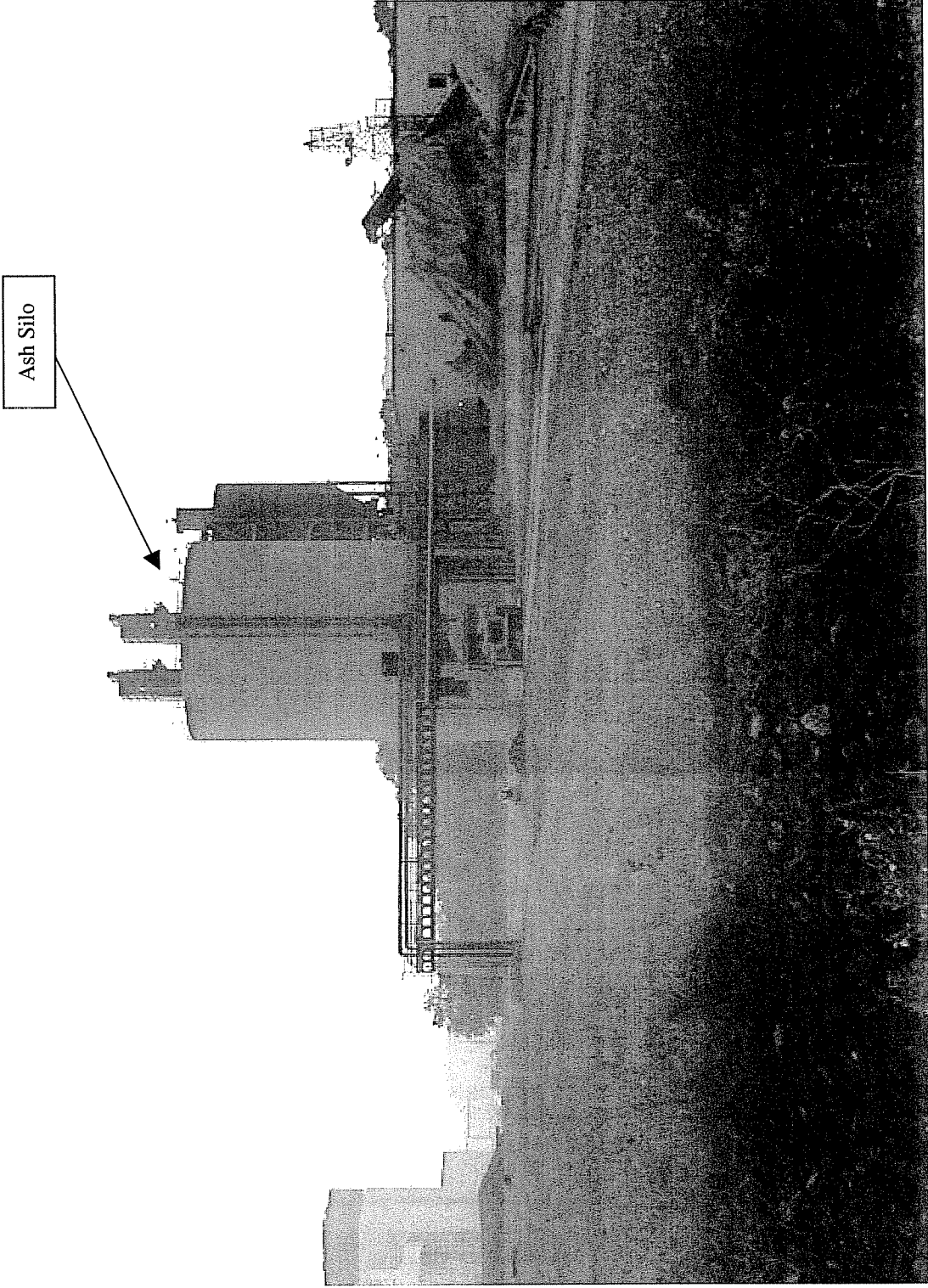


PHOTO 14: Secondary Lagoon with Discharge/Monitoring Facilities in Background.



Ash Silo

PHOTO 15: Ash Silo Discharging Ash to Truck Underneath.

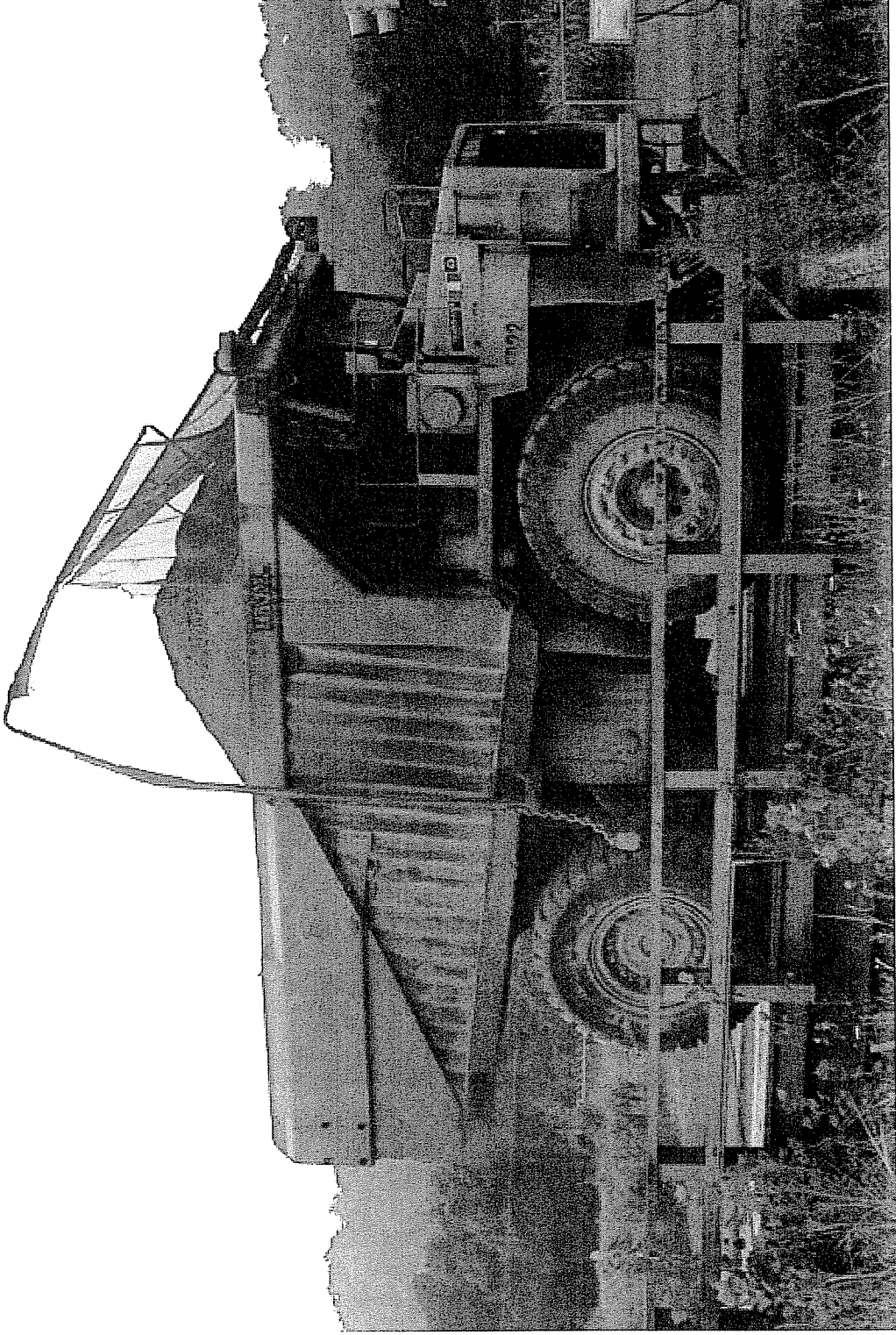


PHOTO 16: Ash Truck with Netting to Contain Fugitive Ash Emissions During Transport to Ash Landfill.

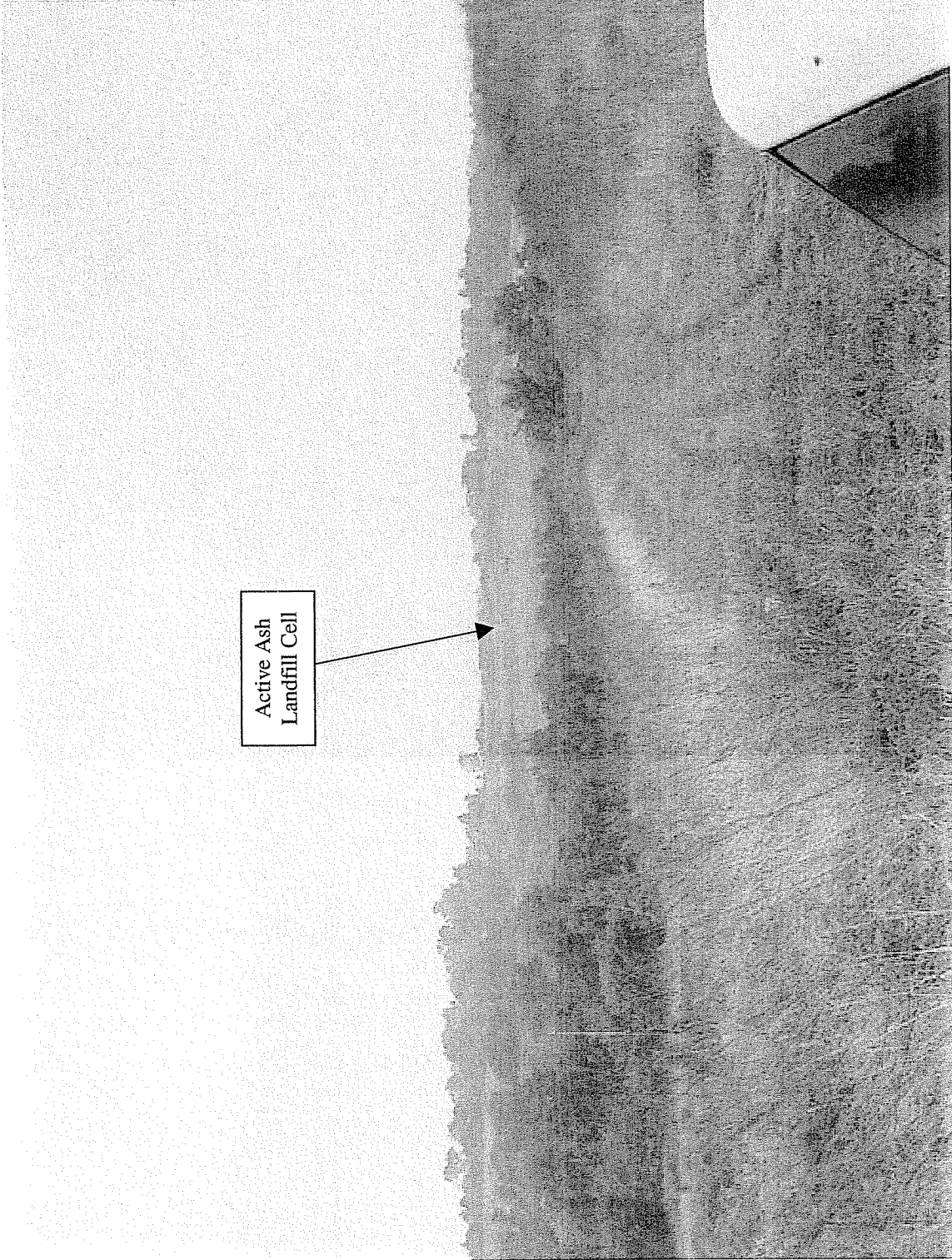


PHOTO 17: Facing South. Active Ash Landfill Cell.

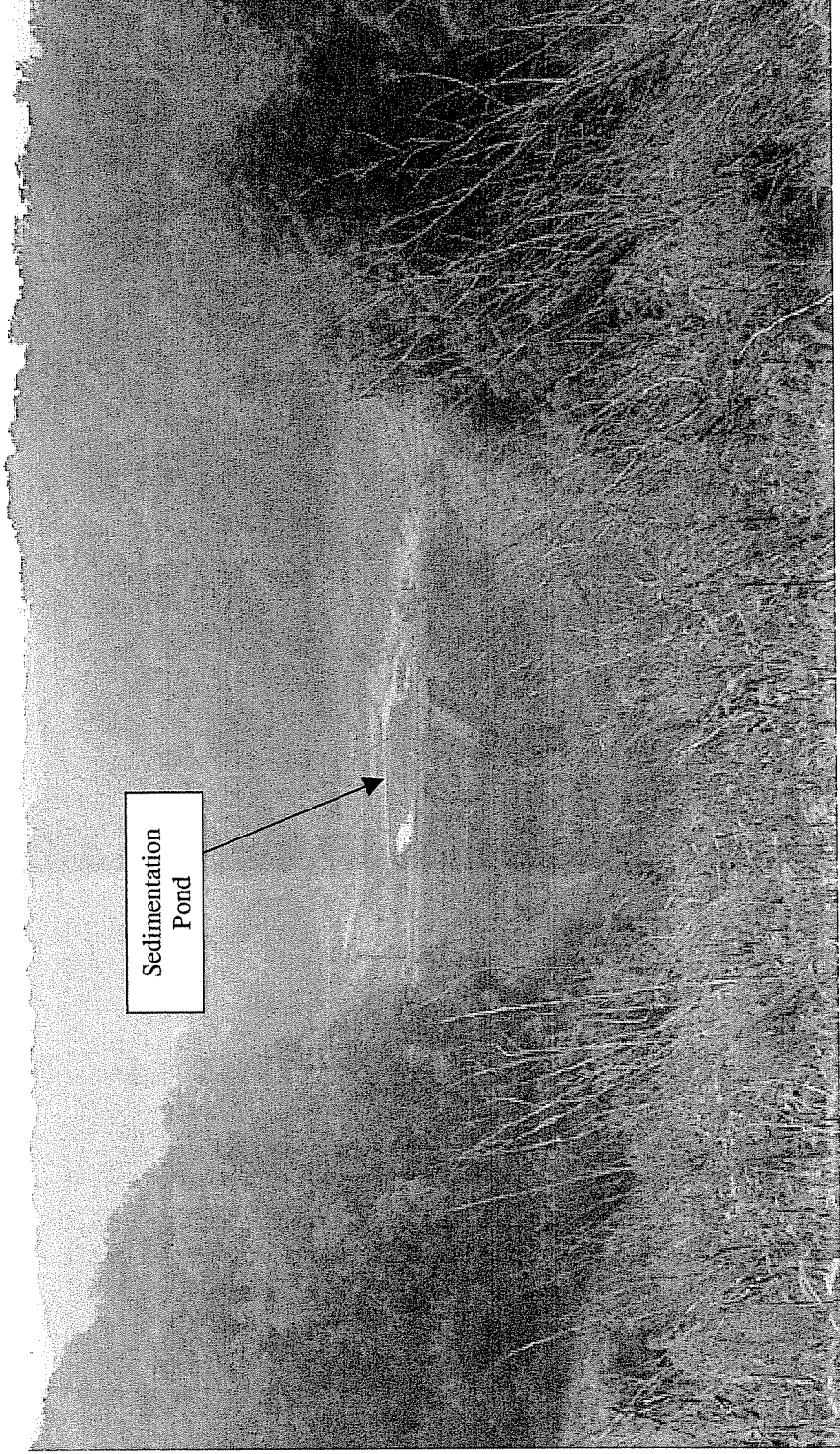


PHOTO 18: Facing South. Sedimentation Pond Catching Stormwater Runoff from Ash Landfill.

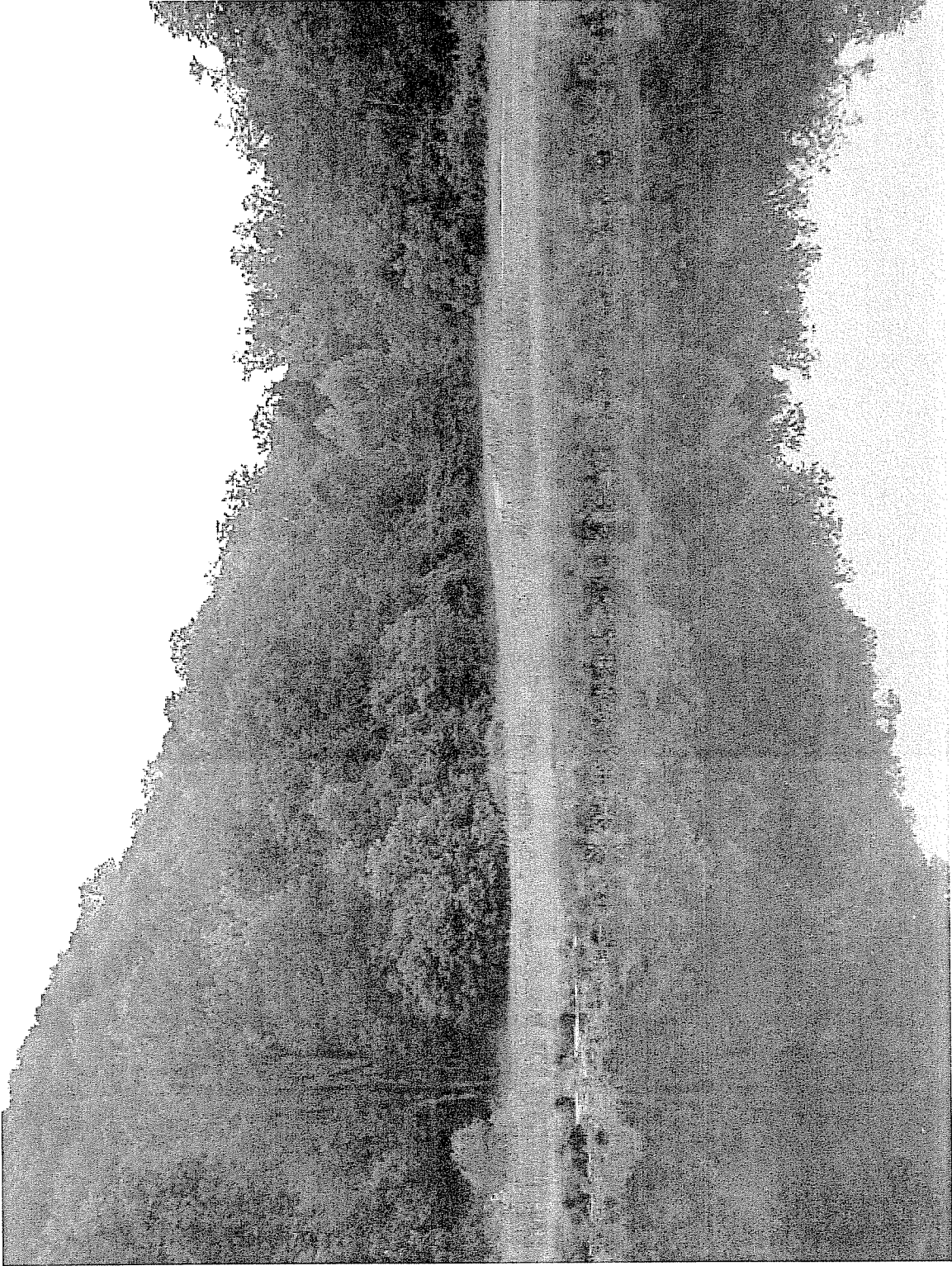


PHOTO 19: Man-Made Wetland Filtering Water from Ash Landfill Sedimentation Ponds.

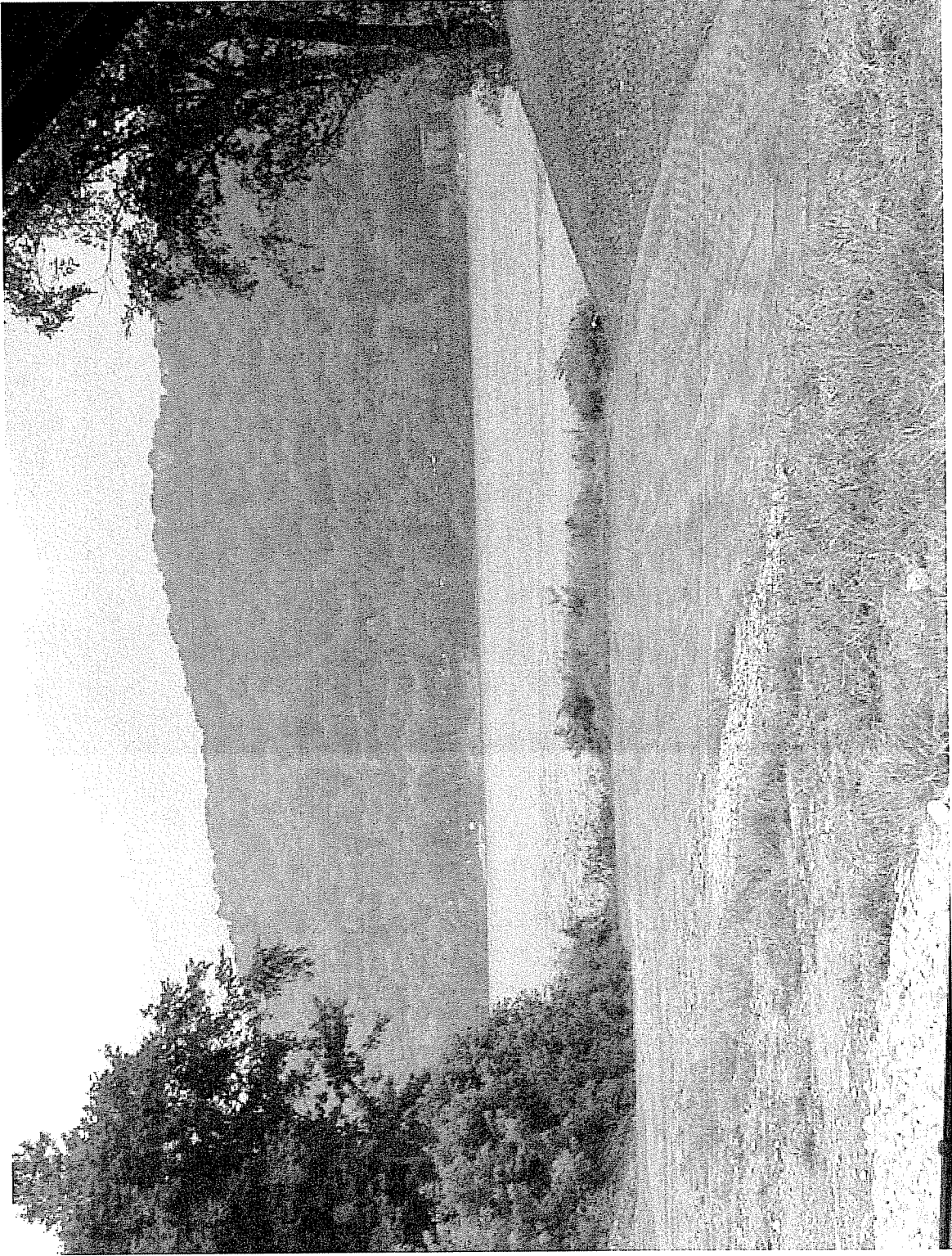


PHOTO 20: Unfinished Site of Equipment Unloading Area from Barge Transportation.

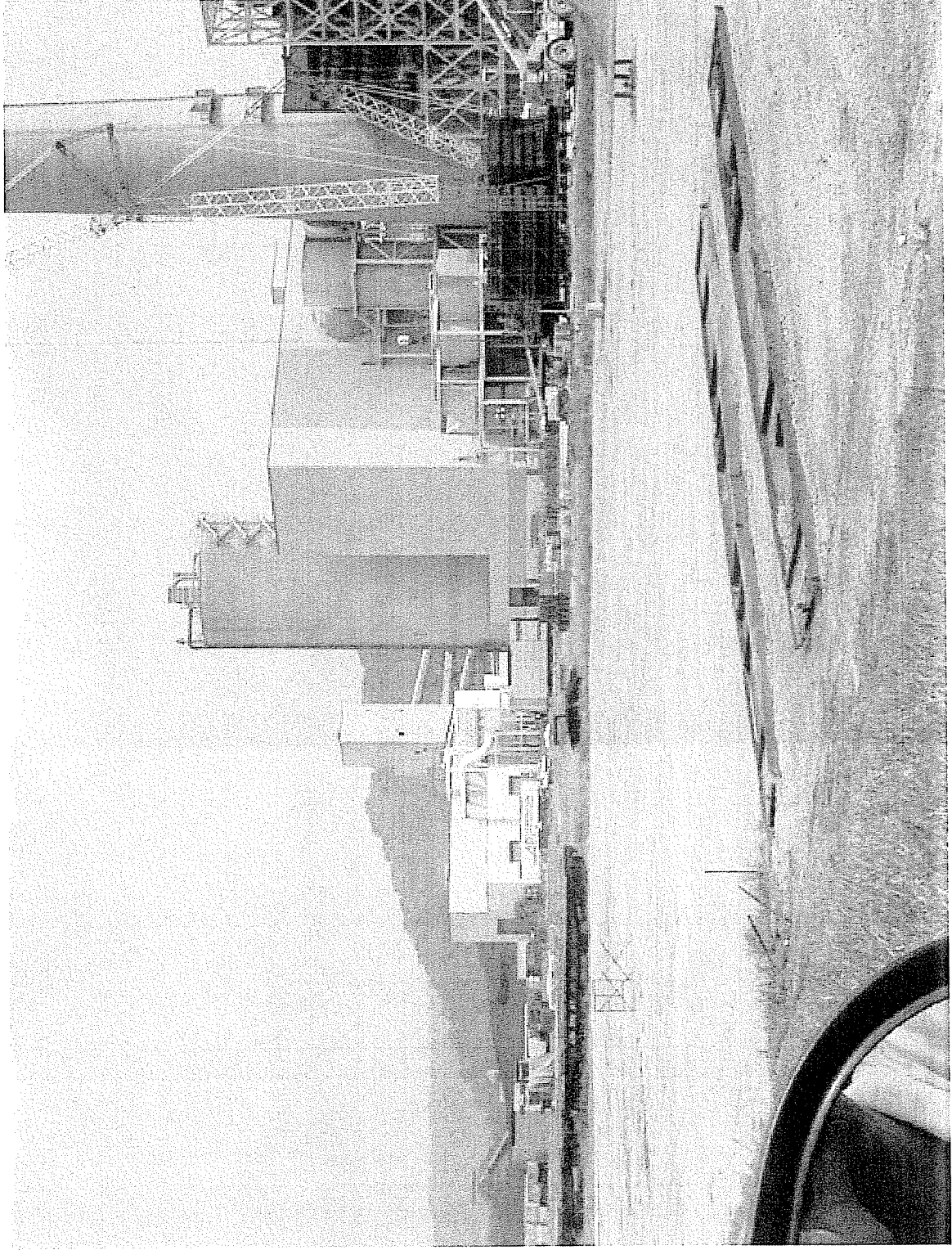
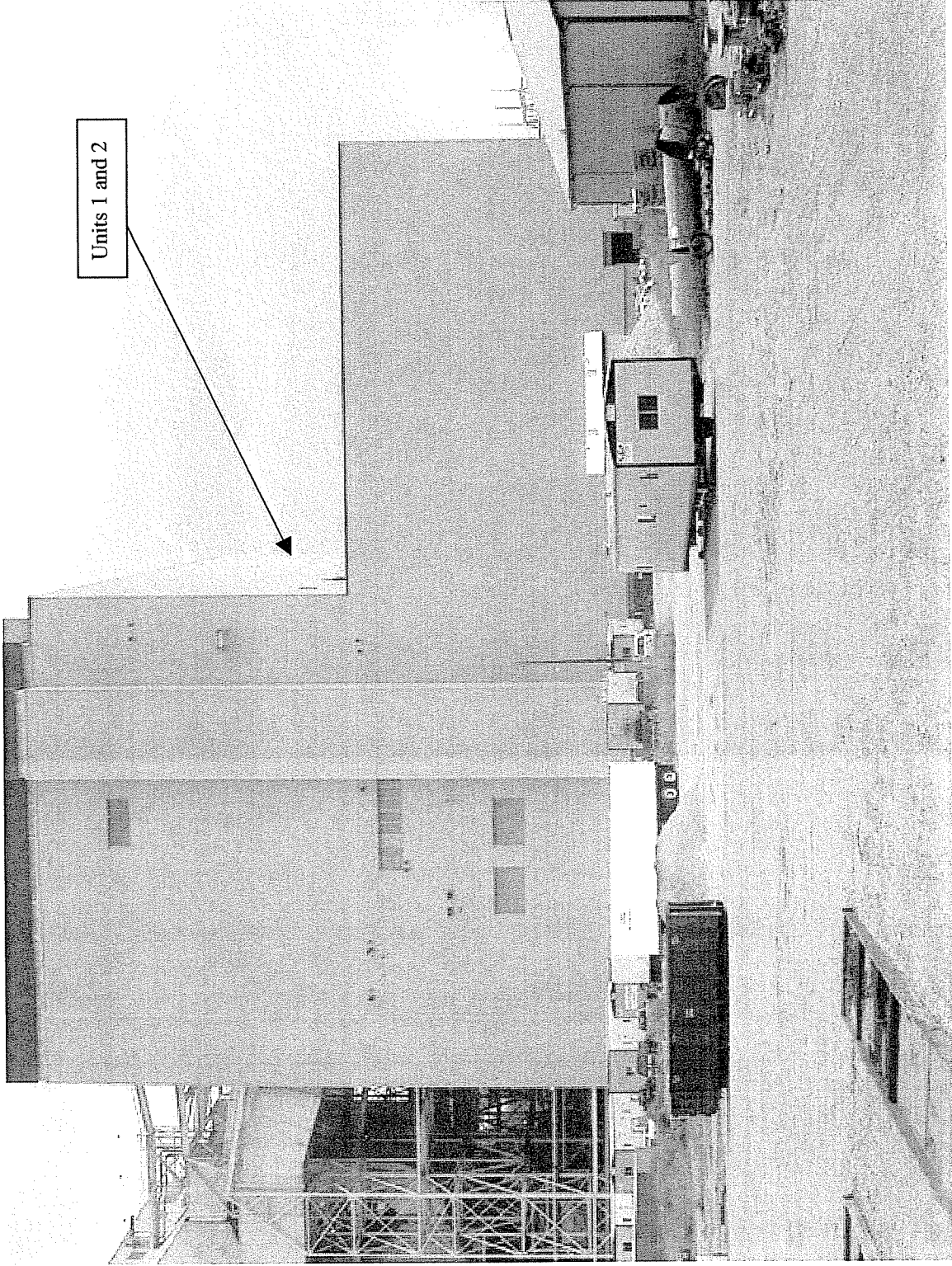


PHOTO 21: Construction Trailer Area for Proposed Units 3 and 4.



Units 1 and 2

PHOTO 22: Site for Proposed Units 3 and 4 in Immediate Foreground with Building Housing Units 1 and 2 Background.



PHOTO 23: From top of Building Housing Units 1 and 2: Looking Southeast at Substation and Transmission Lines.

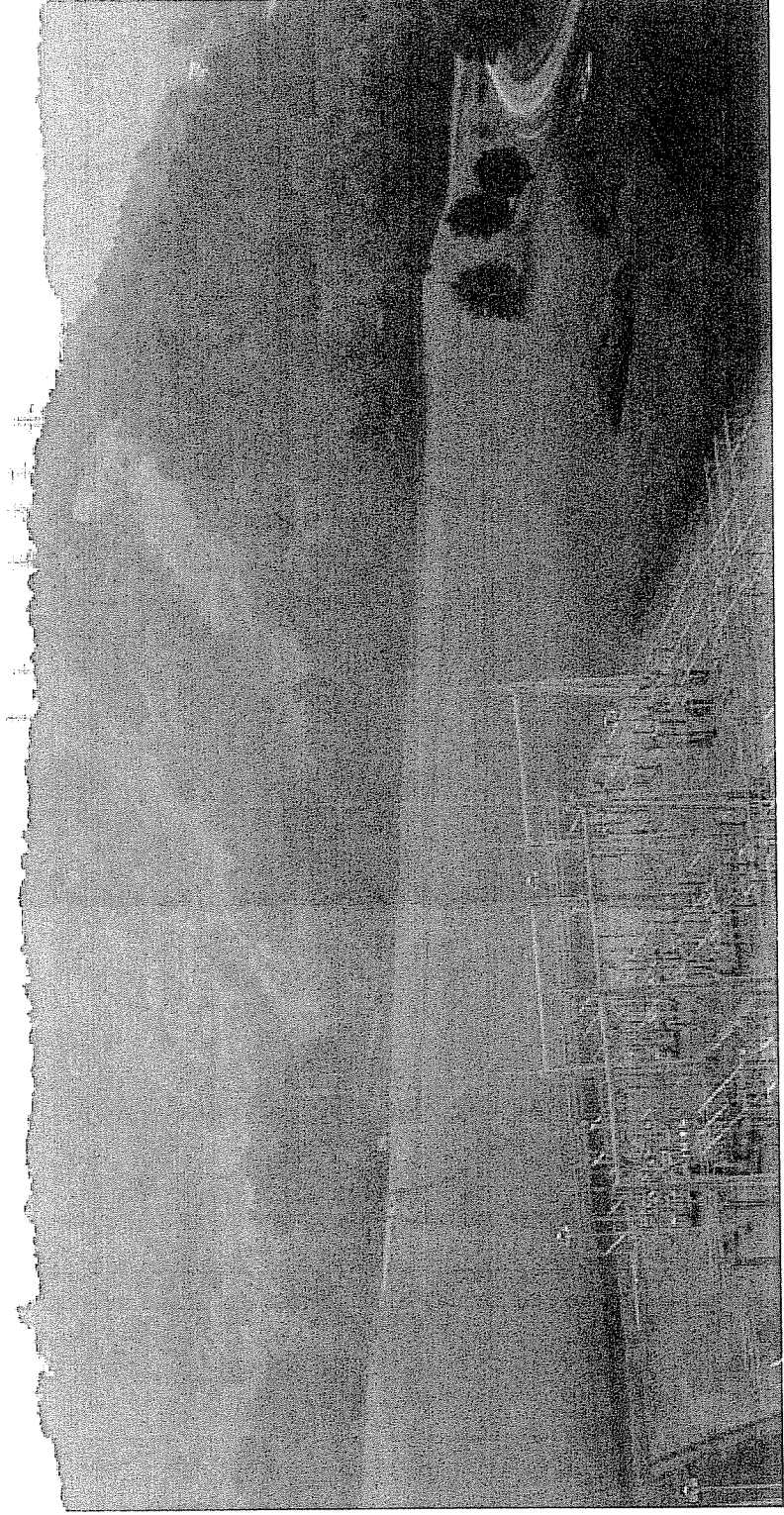
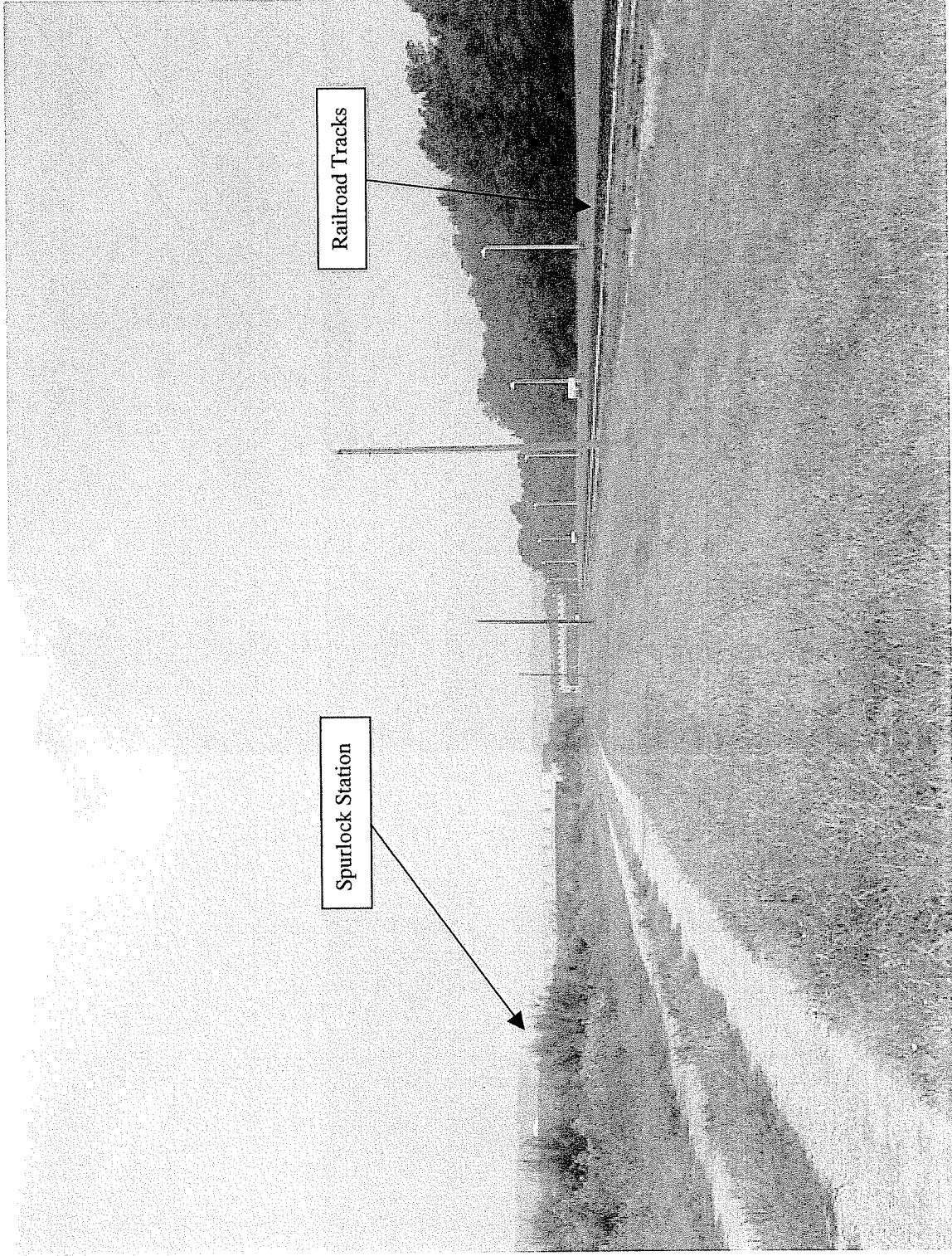


PHOTO 24: From Top of Building Housing Units 1 and 2: Facing Southeast. Substation in Foreground and Transmission Line Structures on Top of Ridge.



Spurlock Station

Railroad Tracks

PHOTO 25: Looking West Down Proposed Right-of-Way at Spurlock Station: Proposed 345-kV Transmission Line would Exit the Station and Parallel the Railroad Tracks.

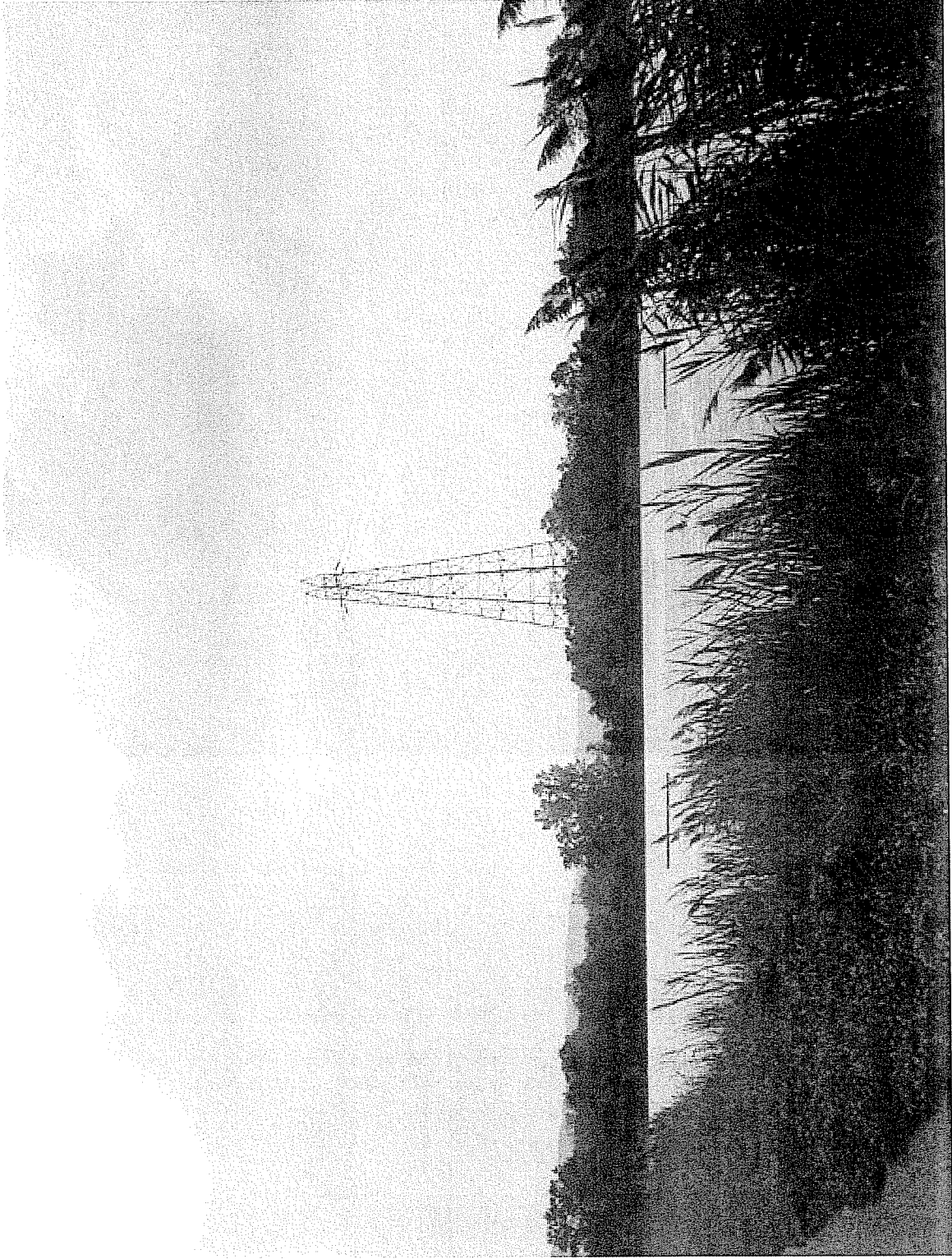


PHOTO 26: Facing East. Existing Kentucky Utilities 138-kV Transmission Line Structure with Ash Pond in Foreground.

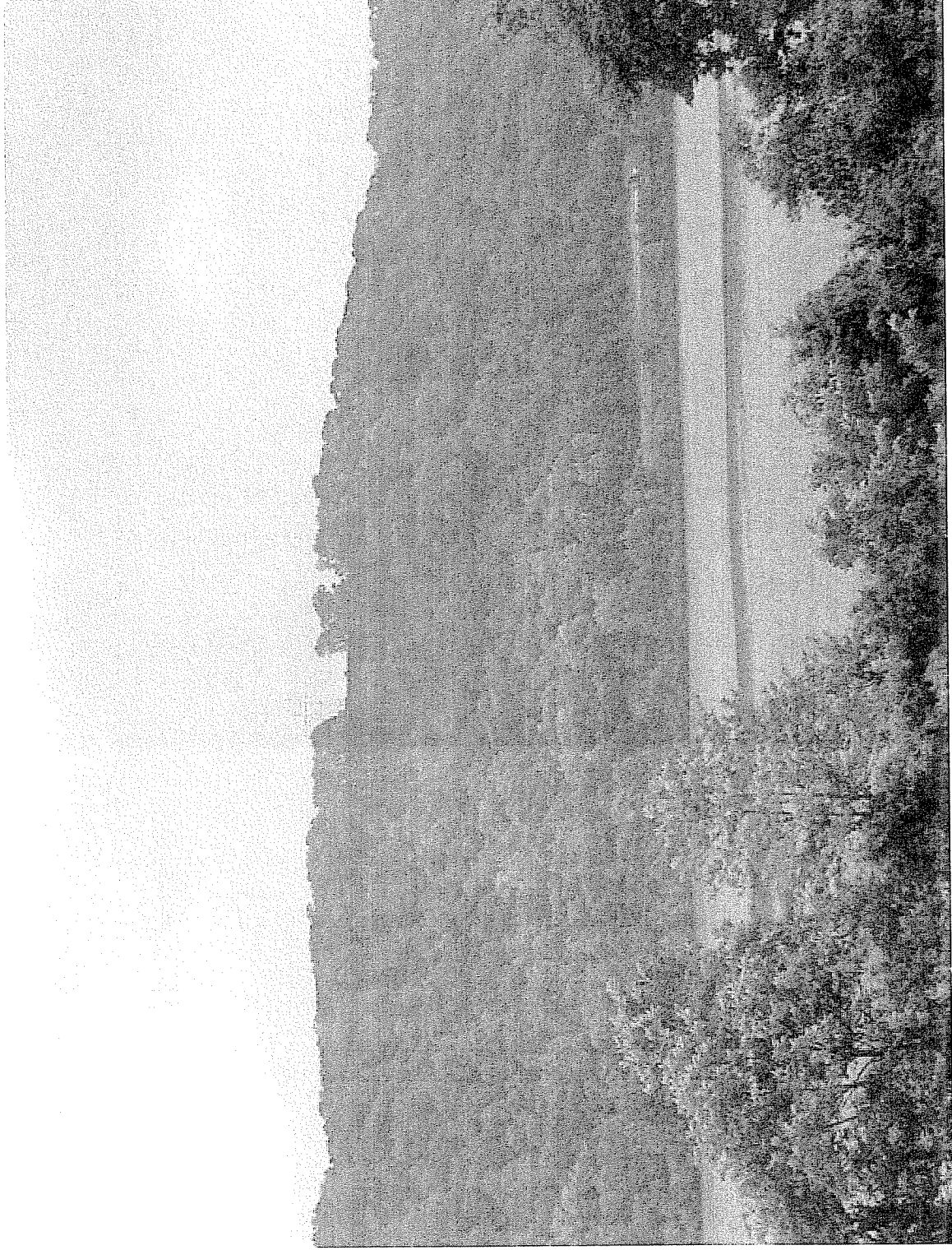


PHOTO 27: Looking North Across Ohio River to the Existing Kentucky Utilities 138-kV Transmission Line that the Proposed 345-kV Transmission Line would Parallel.



PHOTO 28: From Ohio Side: Looking South at Existing Kentucky Utilities 138-kV Transmission Line Crossing the Ohio River.

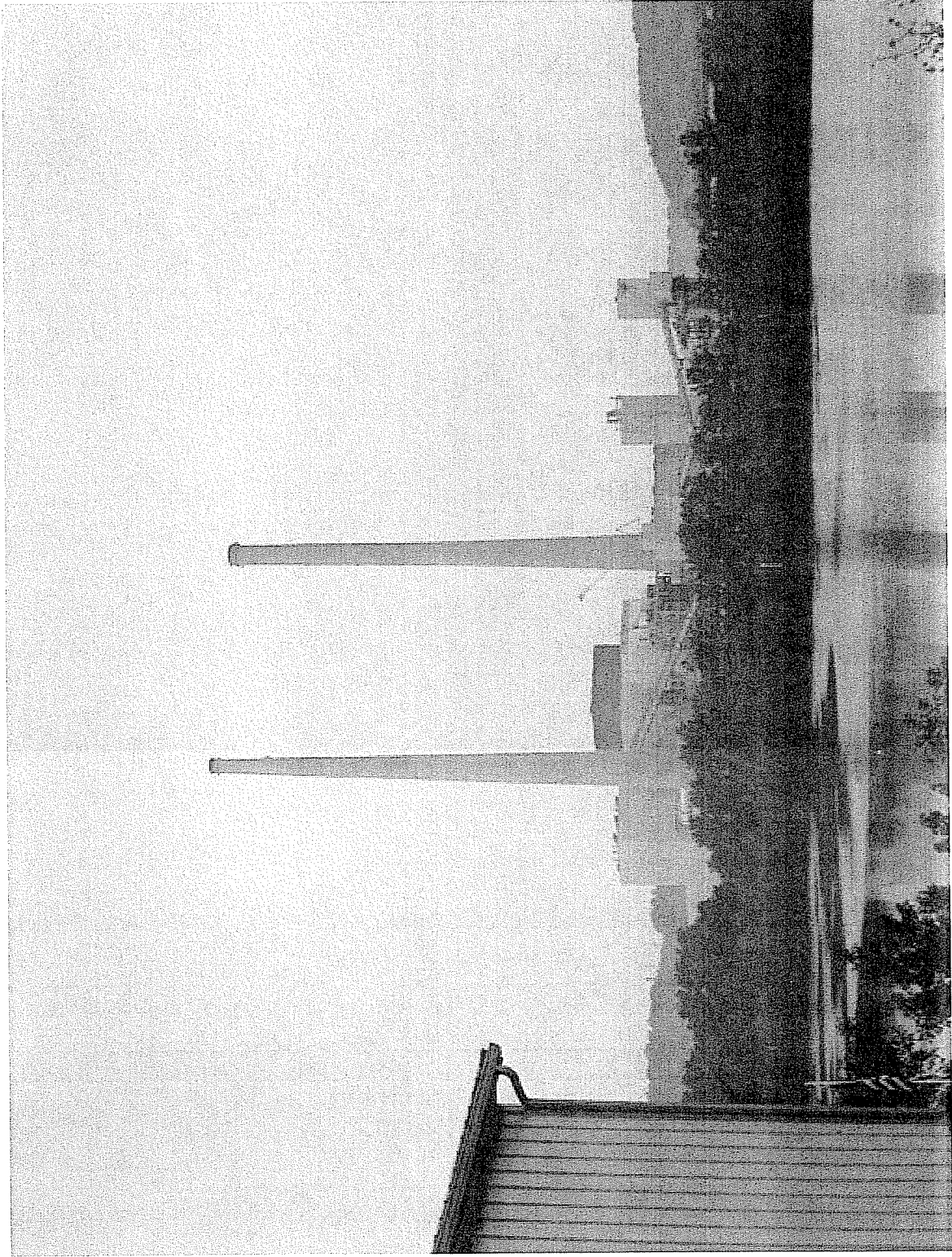


PHOTO 29: From Ohio Side: Looking South at Spurlock Station from a Residence (Lower Left Corner).

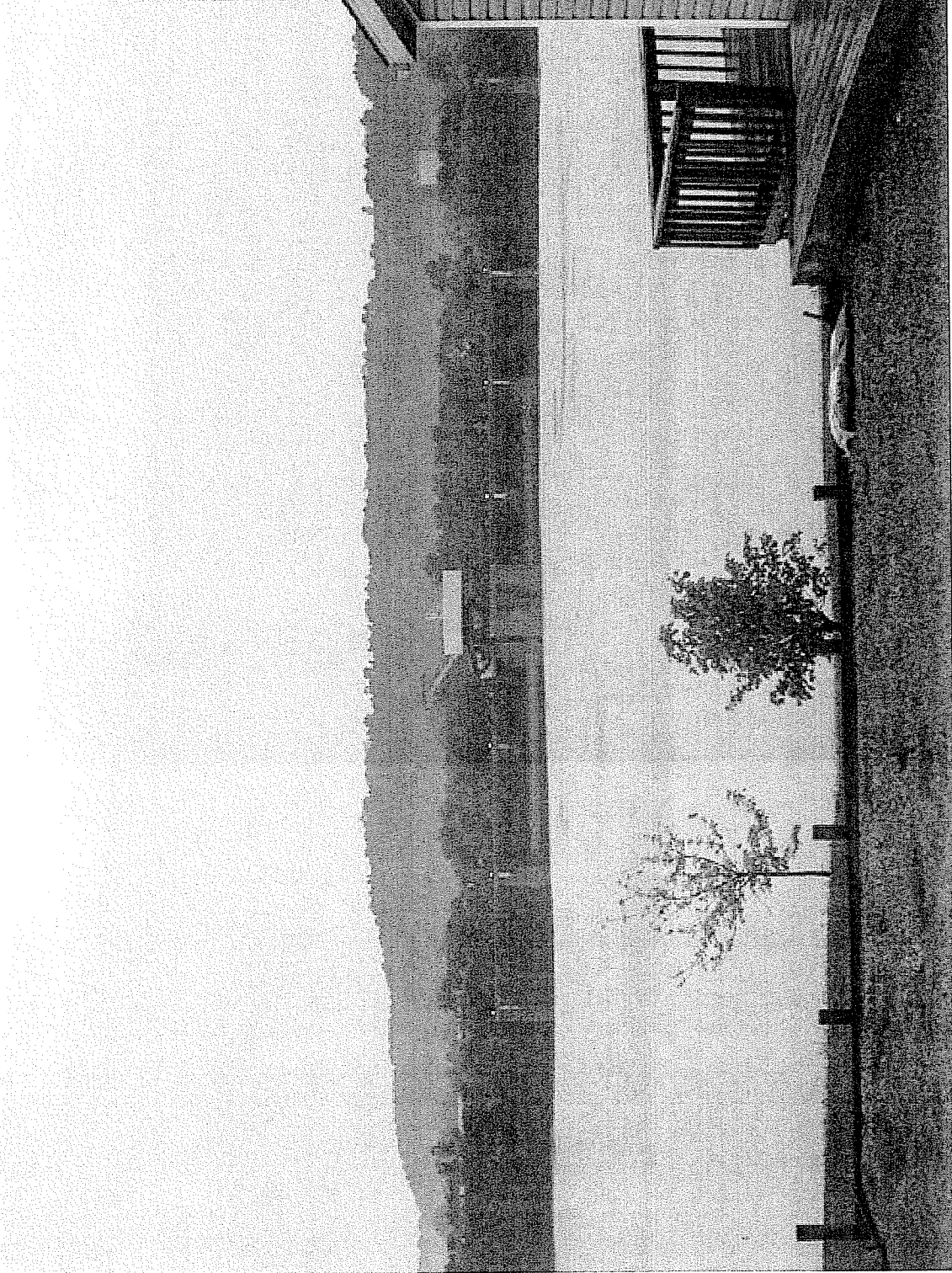


PHOTO 30: From Ohio Side: Looking South at the Spurlock Station Barge Dock from a Residence (Right Corner).

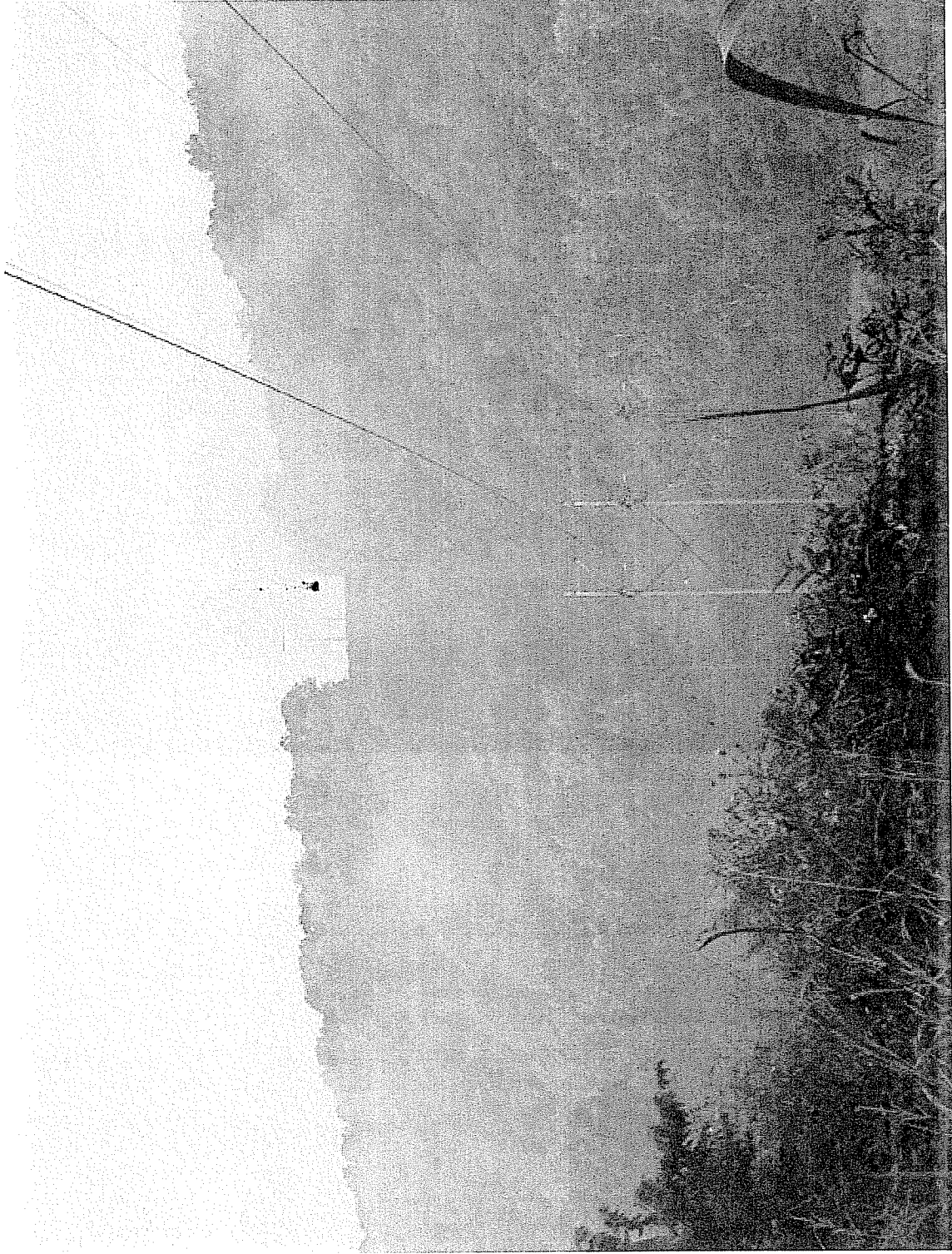


PHOTO 31: On Ohio Side Adjacent to Ohio River. Looking South at Existing Kentucky Utilities 138-kV Transmission Line and 150-foot (46-meter) Right-of-Way that the Proposed 345-kV Transmission Line would Parallel.

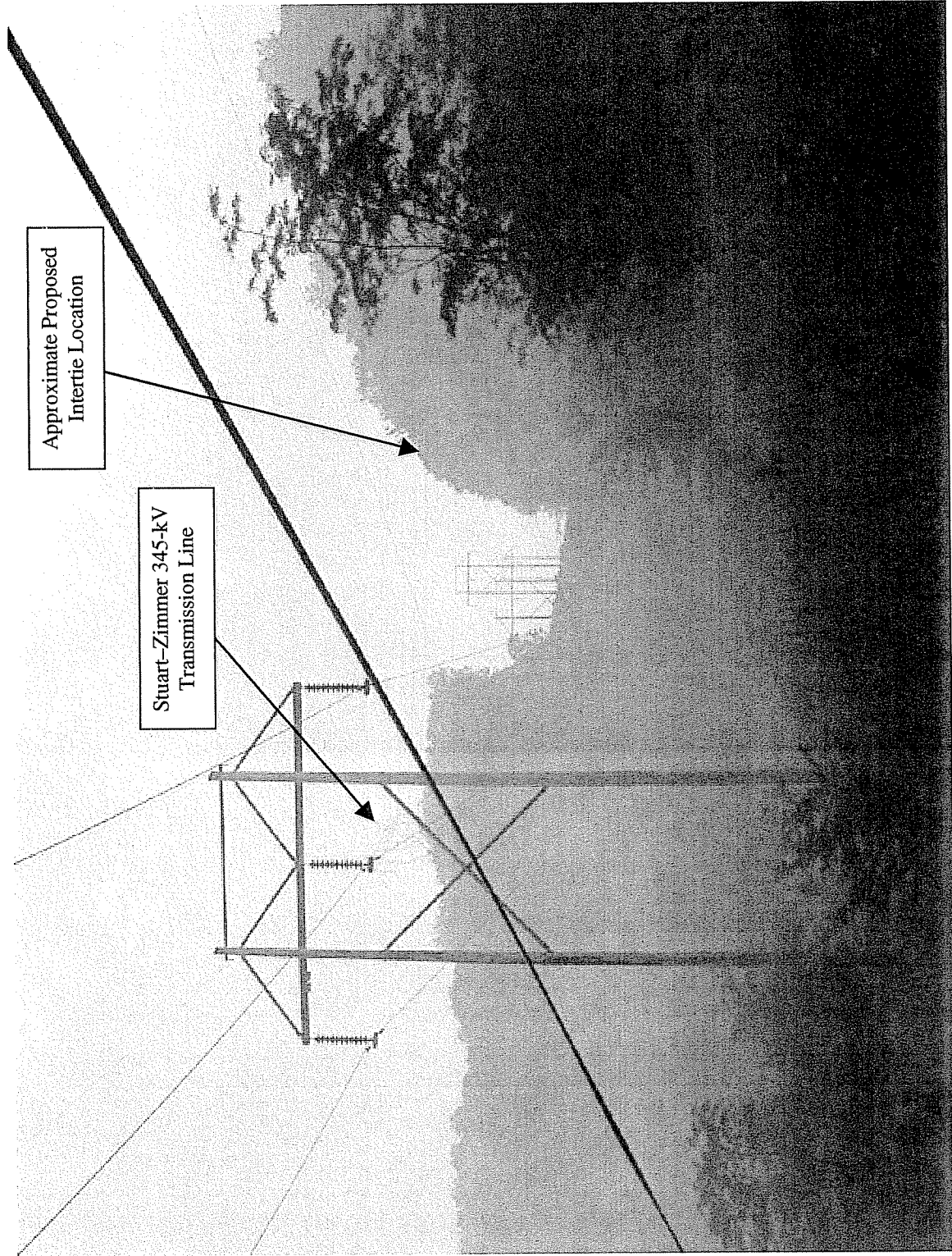


PHOTO 32: On Ohio Side Looking North Down the Kentucky Utilities 138-kV Transmission Line Right-of-Way with the Stuart-Zimmer 345-kV Transmission Line and Proposed Intertie in Background.

APPENDIX B

AGENCY CORRESPONDENCE



TETRA TECH, INC.

October 5, 2001

Mr. Joel LeGris
District Conservationist
Natural Resources Conservation Service
1925 Old Main Street, Suite 2
Maysville, Kentucky 41056

Dear Mr. LeGris:

East Kentucky Power Cooperative (EKPC) has retained Tetra Tech, Inc. to prepare an Environmental Assessment (EA) in support of their obtaining funding from the Rural Utilities Service for a proposed addition of two coal fired electric generating units, associated facilities and interstate power transmission cable.

EKPC proposes to construct and operate the following additions to their facilities at the H. L. Spurlock Power Station located in the United States Geological Service (USGS) Maysville West 7.5 minute quadrangle at the 414 mile mark of the Ohio River near Maysville, Kentucky:

- two 250 megawatt electric power units
- two turbine generators
- two baghouses
- two dry scrubbers
- two selective non-catalytic reduction units
- two 720-foot stacks
- one 345 kilovolt (kV) transmission line

The new transmission will run from the Spurlock Power Station to an existing transmission line that crosses the Ohio River into Brown County, Ohio approximately near the USGS 413 mile mark of the Ohio River. The new transmission line will run parallel to the existing transmission line, cross Scoffield Road and tie into an inter-tie of an existing 345 kV transmission line in Brown County. The length of the transmission line in Mason County will be approximately 1¼ mile. All proposed facilities with the exception of the transmission line would be constructed on an area previously disturbed by plant operations.

We are requesting a Prime Farmland Determination for the proposed facilities and transmission line located in Mason County, Kentucky. Enclosed please find a map with the proposed new facilities outlined. We have contacted the Natural Resources Conservation Service office in Brown County, Ohio concerning that portion of the project. If you have any questions or need further information, please call me at (703) 931-9301, ext. 545. Thank you for your assistance.

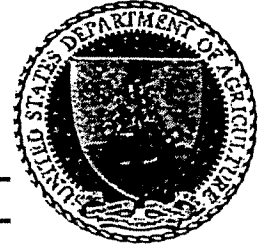
Sincerely,

Janine Cefalu
Environmental Analyst

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

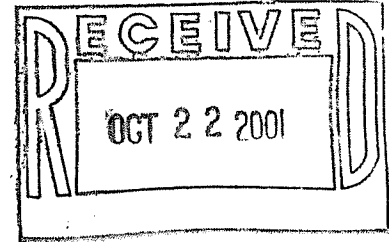
**1925 OLD MAIN STREET, SUITE 2
MAYSVILLE, KENTUCKY 41056**

**Phone: 1-606-759-5570
Fax: 1-606-759-9145**



October 18, 2001

Janine Cefalu
Tetra Tech, Inc.
One Skyline Place
5205 Leesburg Pike, Suite 1400
Falls Church, VA 22041



Dear Ms.Cefalu:

Thank you for the information concerning the possible construction and expansion of the existing power units at the East Kentucky Power Cooperative's Spurlock Power Station in Mason County. I understand that this facility will occupy 1.6 acres plus additional land for the transmission lines. The land under consideration is prime farmland if we were only looking at the soil type, however, since it is now part of an urban built-up area and is developed on two of the four sides, for land use purposes, it is not considered farmland at all.

Since this land area is already developed for non-agricultural purposes, it does not fall into the criteria of farmland use, therefore, it is exempt from the prime farmland designation for environmental evaluation.

If I can be of any further assistance, please contact me at 1-800-873-2915 or at 1-606-759-5570.

Sincerely,

A handwritten signature in cursive script that reads "Joel LeGris".

Joel LeGris
USDA District Conservationist
Mason County, Ky.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).



TETRA TECH, INC.

October 5, 2001

Mr. Ed Campbell
District Conservationist
Natural Resources Conservation Service
706 South Main Street
Georgetown, Ohio 45121


Dear Mr. Campbell:

East Kentucky Power Cooperative (EKPC) has retained Tetra Tech, Inc. to prepare an Environmental Assessment (EA) in support of their obtaining funding from the Rural Utilities Service for a proposed addition of two coal fired electric generating units, associated facilities and interstate power transmission cable.

EKPC proposes to construct and operate the following additions to their facilities at the H. L. Spurlock Power Station located in the United States Geological Service (USGS) Maysville West 7.5 minute quadrangle at the 414 mile mark of the Ohio River near Maysville, Kentucky: two, 250 megawatt electric power units and one 345 kilovolt (kV) transmission line. The new transmission will run from the Spurlock Power Station to an existing transmission line that crosses the Ohio River into Brown County, Ohio approximately near the USGS 413 mile mark of the Ohio River. The new transmission line will run parallel to the existing transmission line, cross Scoffield Road and tie into an inter-tie of an existing 345 kV transmission line in Brown County. The length of the transmission line in Brown County will be approximately 2 ¼ miles with a 150-foot wide right-of-way.

We are requesting a Prime Farmland Determination for the proposed transmission line right-of-way located in Brown County, Ohio. Enclosed please find a map with the proposed new facilities outlined. We have contacted the Natural Resources Conservation Service office in Mason County, Kentucky concerning that portion of the project. If you have any questions or need further information, please call me at (703) 931-9301, ext. 545. Thank you for your assistance.

Sincerely,


Janine Cefalu
Environmental Analyst



706 South Main Street, Georgetown, Ohio 45121
(937) 378-4424 Fax (937) 378-6710

October 17, 2001

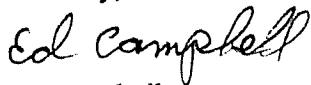
Janine Cefalu
Environmental Analyst
One Skyline Place
5205 Leesburg Pike
Suite 1400
Falls Church, VA 22041

Dear Janine Cefalu:

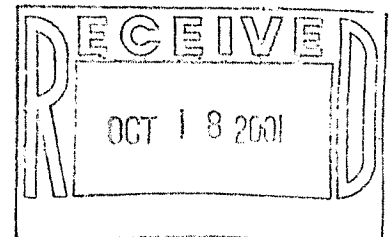
This letter is in regard to your request of October 5, 2001. Enclosed you will find the Farmland Conversion Impact Form, AD 1006.

If you have any questions, please contact our office at, 937-378-4424.

Sincerely,



Ed Campbell
District Conservationist, NRCS



U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)	Date Of Land Evaluation Request
Name Of Project	Federal Agency Involved
Proposed Land Use	County And State

PART II (To be completed by SCS)	Date Request Received By SCS	10-9-01
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply - do not complete additional parts of this form).	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Acres Irrigated: 0 Average Farm Size: 123
Major Crop(s) Grass Tobacco	Farmable Land In Govt. Jurisdiction Acres: 239603 % 76	Amount Of Farmland As Defined in FPPA Acres: 136396 % 43
Name Of Land Evaluation System Used LE & LESA	Name Of Local Site Assessment System NONE	Date Land Evaluation Returned By SCS 10-10-01

PART III (To be completed by Federal Agency)	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site				

PART IV (To be completed by SCS) Land Evaluation Information	
A. Total Acres Prime And Unique Farmland	1.06
B. Total Acres Statewide And Local Important Farmland	-
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.0000044
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	34

PART V (To be completed by SCS) Land Evaluation Criterion	
Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	73

PART VI (To be completed by Federal Agency)	Maximum Points
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	
1. Area In Nonurban Use	
2. Perimeter In Nonurban Use	
3. Percent Of Site Being Farmed	
4. Protection Provided By State And Local Government	
5. Distance From Urban Builtup Area	
6. Distance To Urban Support Services	
7. Size Of Present Farm Unit Compared To Average	
8. Creation Of Nonfarmable Farmland	
9. Availability Of Farm Support Services	
10. On-Farm Investments	
11. Effects Of Conversion On Farm Support Services	
12. Compatibility With Existing Agricultural Use	
TOTAL SITE ASSESSMENT POINTS	160

PART VII (To be completed by Federal Agency)	
Relative Value Of Farmland (From Part V)	100
Total Site Assessment (From Part VI above or a local site assessment)	160
TOTAL POINTS (Total of above 2 lines)	260

Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>
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Reason For Selection:



TETRA TECH, INC.

October 8, 2001

Ms. Megan Sullivan
U.S. Fish and Wildlife Service
Reynoldsburg Field Office
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068

Subject: Proposed Power Transmission Line, Brown County, Ohio

Dear Ms. Sullivan:

East Kentucky Power Cooperative (EKPC) has retained Tetra Tech, Inc. to prepare an Environmental Assessment (EA) in support of their obtaining funding from the Rural Utilities Service for a proposed interstate power transmission line and associated facilities.

EKPC proposes to construct and operate the following additions to their facilities at the H. L. Spurlock Power Station located in the United States Geological Service (USGS) Maysville West 7.5 minute quadrangle at the 414 mile mark of the Ohio River near Maysville, Kentucky: two 250 megawatt electric power units and one 345 kilovolt (kV) transmission line. As shown on the attached map, the new transmission line will run from the Spurlock Power Station and then parallel an existing transmission line that crosses the Ohio River into Brown County, Ohio near the USGS 413 mile mark of the Ohio River. The new transmission line will cross Scofield Road and tie into an existing 345 kV transmission line in Brown County.

The length of the transmission line will be approximately 3.5 miles with a 150-foot wide right-of-way. EKPC has committed to performing an ecological survey of the proposed transmission line right-of-way and adjacent areas in the near future. Please let me know if you would like a copy of the report when it is available.

Construction of the transmission line in Ohio should take place sometime between October 2002 and March 2004 and impacts should be limited to the immediate project area. We invite your input on any known ecological resources in the area, potential impacts to them from this project, mitigation measures you may require, and any other concerns you may have. We have contacted the US Fish and Wildlife Service office in Kentucky responsible for Mason County concerning that portion of the project.

If you have any questions, you can reach me at (703) 931-9301 or via email at scott.truesdale@tetratech.com. Thank you.

Sincerely,

F. Scott Truesdale, P.G.
Project Manager

Attachment



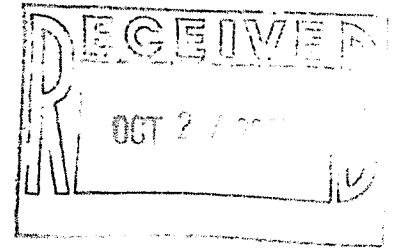
United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4132

(614) 469-6923
Fax: (614) 469-6919

October 18, 2001



Mr. F. Scott Truesdale
Tetra Tech, Inc.
One Skyline Place
5205 Leesburg Pike, Suite 1400
Falls Church, VA 22041

Dear Mr. Truesdale:

This is in response to your October 8, 2001 letter requesting information we may have regarding the occurrence or possible occurrence of Federally-listed threatened or endangered species within the vicinity of the proposed site. The project involves the installation of a 345 kilovolt transmission line that runs from the Spurlock Power Station in Maysville, Kentucky, across the Ohio River to an existing line near Scoffield Road in Brown County, Ohio. The length of the line is approximately 3.5 miles with a 150-foot right-of-way. There are no Federal wildlife refuges, wilderness areas, or critical habitat within the vicinity of this project.

ENDANGERED SPECIES COMMENTS: The proposed project lies within the range of the Indiana bat, a Federally listed endangered species. Summer habitat requirements for the species are not well defined but the following are thought to be of importance:

1. Dead trees and snags (especially those with exfoliating bark) which may be used as maternity roost areas along riparian corridors.
2. Live trees (such as shagbark hickory) which have exfoliating bark.
3. Stream corridors, riparian areas, and nearby woodlots which provide forage sites.

Considering the above items, we recommend that if trees with exfoliating bark (which could be potential roost trees) are encountered on the proposed site, they should be saved wherever possible. If they must be cut, they should not be cut between April 15 and September 15.

If desirable trees are present and if the above time restriction is unacceptable, mist net or other surveys should be conducted to determine if bats are present. The survey should be designed and conducted in coordination with the endangered species coordinator for this office. The survey should be conducted in June or July since the bats would only be expected in the project area from approximately April 15 to September 15.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C.661 et seq.), the Endangered Species Act of 1973, as amended, and is consistent with the intent of the National Environmental Policy Act of 1969, and the U.S. Fish and Wildlife Service's Mitigation Policy.

If you have questions, or if we may be of further assistance in this matter, please contact Megan Sullivan at extension 16 in this office.

Sincerely,

Kenneth C. Lammers
Acting Supervisor

cc: DOW, Wildlife Environmental Section, Columbus, OH



TETRA TECH, INC.

November 1, 2001

Mr. Jim Widlak
U.S. Fish and Wildlife Service
446 Neal Street
Cookville, TN 38501

Subject: Proposed Construction of Two Coal-Fired Units, Associated Facilities and a Transmission Line in Mason County, Kentucky

Dear Mr. Widlak:

East Kentucky Power Cooperative (EKPC) has retained Tetra Tech, Inc. to prepare an Environmental Assessment (EA) in support of their obtaining funding from the Rural Utilities Service for a proposed addition of two coal-fired electric generating units and associated facilities at the Spurlock Station. An interstate power transmission cable is also proposed.

Specifically, construction and operation of the following equipment is proposed:

- two 268 megawatt electric power units
- two turbine generators
- two baghouses
- two SO₂ Removal Units
- two selective non-catalytic reduction units
- two 720-foot stacks
- one 345 kilovolt (kV) transmission line

As shown on the attached map, the new transmission will run from the Spurlock Power Station to an existing transmission line that crosses the Ohio River into Brown County, Ohio approximately near the United States Geological Survey 413 mile mark of the Ohio River. The new transmission line will run parallel to the existing transmission line, cross Scofield Road and tie into an inter-tie of an existing 345 kV transmission line in Brown County. The length of the transmission line in Mason County will be approximately 1/4 mile. All proposed facilities with the exception of the transmission line would be constructed on areas previously disturbed by plant operations.

Construction of the two additional coal-fired electric generating units and associated facilities should take place sometime between May 2003 and March 2004. Construction of the transmission line in Kentucky should take place sometime between October 2002 and March 2004 and impacts should be limited to the immediate project area. We invite your input on any known ecological resources in the area, potential impacts to them from this project, mitigation measures you may require, and any other concerns you may have. We have contacted the US Fish and Wildlife Service office in Ohio responsible for Brown County concerning that portion of the project.

If you have any questions, you can reach me at (703) 931-9301 or via email at scott.truesdale@tetrattech.com. Thank you.

Sincerely,

F. Scott Truesdale, P.G.
Project Manager

Attachment



EAST KENTUCKY POWER COOPERATIVE

Mr. Charles Hockensmith
Kentucky Heritage Council
300 Washington Street
Frankfort, Kentucky 40601

July 17, 2001

Dear Charles;

Attached is a site map of the proposed EA Gilbert Power Station located adjacent to the existing Charleston Bottoms Power Station in rural Mason County, Kentucky. The area being proposed has had extensive site development and disturbance. The site has been graded and used as construction lay down to construct previous units. The plow zone has been extensively altered. We have had a request to begin driving support pylons at the site in March of 2002. I would propose that an archaeological survey will not be necessary at this site but I needed your comments.

As with all of our construction projects, we would notify your office immediately if there are any cultural artifacts uncovered during construction. Thank you for taking the time to comment. You can contact me at 800-238-3443 (361) if you have any comments.

Sincerely,

Jeff Homan
Manager of Natural Resources
and Environmental Communications



Education, Arts and Humanities Cabinet

KENTUCKY HERITAGE COUNCIL

The State Historic Preservation Office

Paul E. Patton
Governor
Marlene M. Helm
Cabinet Secretary

David L. Morgan
Executive Director and
SHPO

July 31, 2001

Mr. Jeff Hohman
Manager of Natural Resources
and Environmental Communications
East Kentucky Power
4775 Lexington Road
Winchester, KY 40391

Dear Mr. Hohman:

Thank you for your faxed letter of July 17, 2001 concerning East Kentucky Power Cooperative's proposed E. A. Gilbert Power Station III project in Mason County, Kentucky. The project consist of adding another generating unit at the existing plant site. A review of our records indicates that no properties currently listed in the National Register of Historic Places will be affected by the proposed project. The photographs of the project area (dropped by our office on July 30, 2001) clearly show that the surface area has been disturbed by prior site development. We have no objection to East Kentucky Power Cooperative driving the support pylons. However, since the project area is near the Ohio River, there is potential for buried archaeological remains below the disturbed zone. Since no archaeological investigations were done prior the original power plant construction, we don't know what cultural resources may be present. To avoid any problems during construction, I recommend that East Kentucky Power Cooperative hire a professional archaeologist to conduct deep backhoe testing to determine if buried archaeological sites eligible for listing in the National Register of Historic Places are present. The archaeological report must be submitted for my review, comment, and approval. In the future, we would like to review any proposed transmission line routes associated with the project.

Should you have any questions, feel free to contact Charles Hockensmith of my staff at (502) 564-7005.

Sincerely,

David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer



Education, Arts and Humanities Cabinet

KENTUCKY HERITAGE COUNCIL

The State Historic Preservation Office

Paul E. Patton
Governor
Marlene M. Helm
Cabinet Secretary

David L. Morgan
Executive Director and
SHPO

December 20, 2001

Mr. Jeff Hohman
Manager of Natural Resources
and Environmental Communications
East Kentucky Power
4758 Lexington Road
Winchester, KY 40391

Dear Mr. Hohman:

The State Historic Preservation Office has received for review and approval an archaeological report entitled "Phase I Investigations of East Kentucky Power Cooperative's Proposed Power Generating Unit 3, Mason County, Kentucky" by Christy Wood Pritchard and John W. Picklesimer II.

The survey found no evidence of prehistoric or early historic occupation in the project area. I concur with the authors' findings. In accordance with 36CFR Part 800.4(d) of the Advisory Council's revised regulations our finding is that there are No Historic Properties Present within the undertaking's area of potential impact. Therefore, we have no further comments and the Agency Official's responsibility to consult with the Kentucky State Historic Preservation Officer under the Section 106 review process is fulfilled.

Should you have any questions, feel free to contact Charles Hockensmith of my staff at (502) 564-7005.

Sincerely,

David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer

cc: Mr. John W. Picklesimer II

