

# **CCR COMPLIANCE FUGITIVE DUST CONTROL PLAN**

**Midwest Generation, LLC  
Powerton Generating Station  
13082 East Manito Road  
Pekin, Illinois**

**PREPARED BY:**

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## **1.0 INTRODUCTION**

On April 17, 2015, the United States Environmental Protection Agency published a final rule regulating coal combustion residuals (CCR) as part of 40 CFR 257 (Federal CCR Rule). On April 15, 2021, the Illinois Environmental Protection Agency adopted 35 Ill. Adm. Code 845 (Illinois CCR Rule) creating statewide standards for the disposal of CCR in surface impoundments, created by the generation of electricity by coal-fired power plants. 40 CFR 257 and 35 Ill. Adm. Code 845 require that the owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit (landfill/surface impoundment), must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units (landfills/surface impoundments), roads, and other CCR management and material handling activities. As a result, each regulated facility must develop a fugitive dust control plan that complies with 40 CFR 257.80 and 35 Ill. Adm. Code 845.500(b). It should be noted that 40 CFR 257 also regulates CCR landfills but 35 Ill. Adm. Code only regulates CCR surface impoundments.

This site-specific Fugitive Dust Control Plan (Plan) has been developed to comply with the requirements specified in both 40 CFR 257.80 and 35 Ill. Adm. Code 845.500. In general, the Plan identifies the potential CCR fugitive dust sources and describes the control measures that will be implemented to minimize CCR fugitive dust emissions. The Plan also includes a procedure for the periodic assessment of the Plan's effectiveness, documentation of any Plan amendments deemed necessary to assure continued compliance, a record of any citizen complaints received pertaining to CCR fugitive dust emissions, and an outline of the required reporting and recordkeeping requirements in both regulations.

This Plan has been revised to combine the requirements for the Federal CCR Rule and Illinois CCR Rule into one plan.

## 2.0 SITE INFORMATION

### 2.1 Owner/Operator and Address:

Midwest Generation, LLC  
Powerton Generating Station  
13082 East Manito Road  
Pekin, Illinois

### 2.2 Owner Representative/Responsible Person Contact Information:

Plant Manager  
309-346-2165

### 2.3 Location and Description of Facility Operations

The Midwest Generation Powerton Generating Station is located at 13082 East Manito Road, Pekin, Tazewell County, Illinois. The facility is a coal-fired electric power generating station occupying approximately 1,710 acres. Units 5 and 6 began operating in 1972 and 1975, respectively. Electrical power is transmitted from the site to the area grid through overhead transmission power lines. In conjunction with the station is a man-made perched cooling pond which occupies approximately 1,440 acres and provides cooling water to the facility.

The general vicinity is a primarily mixed industrial and agricultural area with limited commercial and residential developments.

### 3.0 POTENTIAL FUGITIVE DUST SOURCES

Potential fugitive dust sources associated with the bottom ash and slag and fly ash systems have been identified at the facility; however, some of these are regulated by the facility's air operating permit and are adequately addressed within the required fugitive dust operating program. The potential CCR fugitive dust sources generally include exterior ash distribution systems, temporary ash storage locations, ash bulk loading/unloading operations and ash truck transportation routes. Fugitive dust could potentially be generated from these sources as a result of equipment malfunctions, wind erosion, housekeeping issues and/or the nature of the operation. Specifically, these identified sources were further evaluated to determine the probability of CCR fugitive dust being generated and to determine the level of emission controls that are warranted to mitigate fugitive dust emissions. The findings of the evaluation are individually discussed in the following sections.

#### 3.1 Bottom Ash and Slag Distribution System

Collected bottom ash and slag in the boilers is transported as a liquid mixture through an enclosed piping system to the dewatering bins. Some of this piping is located inside a building; however, a portion is situated above ground and in the outside environment. Although not an anticipated occurrence, a breach in the exterior piping could result in the accidental release of bottom ash and slag and potential fugitive dust emissions if the material were to accumulate and dry out.

#### 3.2 Dewatering Bins

The dewatering bins are designed to remove water from the bottom ash and slag. Bottom ash and slag that is relatively wet is drop loaded through the bins into open top trucks for removal off-site for beneficial reuse purposes. The water removed from the dewatering bins is pumped to the Ash Surge Basin where settling occurs prior to discharge of the water from the facility. The loading operation has the potential for fugitive dust emissions if bottom ash and slag is not properly loaded and is allowed to accumulate and dry out on the ground surface beneath the dewatering bins.

#### 3.3 Ash Surge Basin, Bypass Basin, and Metal Cleaning Basin

Extracted water from the dewatering bins is pumped through enclosed pipes to the Ash Surge Basin. Occasionally, CCR material is placed in the Metal Cleaning Basin. The Bypass Basin has ceased receiving CCR and non-CCR waste streams. After settling occurs, water from the Ash Surge Basin and the Metal Cleaning Basin is ultimately discharged through a final settling basin and then through a regulated NPDES outfall. These basins are normally filled with water; however, dredging occasionally may be required to remove the settled material from each basin. When this requirement occurs, the basins are dewatered and the dredged material is allowed to dry within each basin. When the material is suitable for transport, it is

loaded into open top trucks, covered if necessary, and sent off site to a mine reclamation site. Potential fugitive dust emissions could occur if dry bottom ash and slag residual is exposed or loaded during excessive windy and dry weather conditions.

#### 3.4 Former Ash Basin

This basin was formerly used for the routine disposal of bottom ash and slag; however, this procedure ceased in the 1970s. The bottom ash and slag is completely submerged within the basin. Water level fluctuations in the basin are attributable to precipitation and other weather-related conditions. In rare emergency operational situations, overflow from the Ash Surge Basin to the Former Ash Basin could occur by gravity through the spillway. This discharge is not expected to contain significant quantities of CCR and is allowed through the existing NPDES permit. It is noted that a new railroad spur was constructed through the middle of the Former Ash Basin.

#### 3.5 Concrete Storage Pad

This partially below-grade concrete structure is used for the temporary storage of residual bottom ash and slag generated at the dewatering bins and as a result of other routine ash-related maintenance activities. The staged bottom ash and slag is allowed to partially dry within the structure until it is suitable for off-site removal. The material is placed in temporary storage, loaded into open top trucks, covered and sent off site to a mine reclamation site. Dry material that is exposed during excessively windy and dry weather conditions has the potential for becoming fugitive dust emissions.

#### 3.6 Fly Ash Equipment

Collected fly ash in the precipitator hoppers is initially transported in a closed vacuum piping system to a cyclone and bag filter where it is mechanically separated from the air stream within an enclosed building. Fly ash is then sent within an enclosed building to the fly ash silos. At the silos, the fly ash is drop loaded into trucks through a telescopic pipe contained within a drop chute. The loading of fly ash occurs within a partially enclosed structure. After the trucks containing fly ash have been loaded and the truck's rear gate is water sprayed to remove dust, they proceed to a nearby platform to allow the truck driver to secure the truck and to broom sweep or water spray any residual fly ash remaining on the truck. This entire process is covered by the fugitive dust operating program for the facility.

### 3.7 Ash Transport Roadways

Both gravel covered and asphalt paved roads within the facility are used by trucks hauling bottom ash, slag, and fly ash to the mine reclamation site as well as by other vehicles entering and exiting the facility. Fugitive CCR dust emissions could occur during transit if CCR material is not properly cleaned from the trucks or if there is a release of CCR material from the vehicle due to a malfunction or accident.

These potential fugitive dust sources are identified on the Site Diagram included in Appendix A.

## 4.0 DESCRIPTION OF CONTROL MEASURES

### 4.1 Purpose

The purpose of developing appropriate control measures is to minimize and reduce the emissions of CCR fugitive dust from the identified potential emission sources. The control measures and work practices implemented at the facility are described in the following sections.

### 4.2 Bottom Ash and Slag Distribution System

Bottom ash and slag is in a liquid mixture within a closed system until the point of discharge at the dewatering bins. A significant portion of the piping system is contained within a building, which eliminates dust emissions to the outside environment. An assessment of the exterior distribution system will be performed on a quarterly basis to verify the integrity of the system or when a breach in the system is detected. If a leak is noted, resulting in the release of bottom ash and slag, the affected area will be restored to original conditions and repair of the pipe will be performed as soon as feasible. The CCR will be sent off site to a mine reclamation site.

### 4.3 Dewatering Bins

The bottom ash and slag is drop loaded from the dewatering bins in a wet state and into trucks positioned beneath the bins. The bottom ash and slag has sufficient moisture to preclude this material from becoming airborne during loading. An assessment of the dewatering bin loading operation will be performed on a quarterly basis to verify if there has been an equipment malfunction resulting in an accumulation of released material. Should there be a malfunction in the dewatering equipment that results in a spill of the material, repair of any malfunctioning equipment and clean up and transfer of the material to the concrete storage pit will be performed as soon as feasible.

### 4.4 Ash Surge Basin, Ash Bypass Basin, and Metal Cleaning Basin

During normal operations, the Ash Surge Basin is filled with water thereby suppressing any potential fugitive dust emissions. The Bypass Basin and Metal Cleaning Basin have recently been emptied and cleaned thereby suppressing any potential fugitive dust emissions. Infrequently, the basins will need to be dewatered and the sediment removed for proper off-site disposition. While the bottom ash and slag residue is drying, there is the potential for this material to become airborne especially during excessively dry and windy conditions. Loading of this material under these adverse conditions also has the potential for generating fugitive dust. Dewatered basins will be assessed on a quarterly basis or more frequently during excessively dry and windy conditions. To minimize fugitive dust emissions from exposed dry bottom ash and slag, the height of the staged material will be



minimized and the material piles will be either sprayed with water or covered. Loading activities also will be limited during such occasions.

#### 4.5 Former Ash Basin

The Former Ash Basin was used for the disposal of bottom ash and slag in the past; however, this procedure is no longer occurring. The previously deposited material is completely submerged within the basin with the typical water level at approximately 10-15 feet below grade, thereby, making the bottom ash and slag not readily susceptible to wind erosion and generation of potential fugitive dust emissions.

#### 4.6 Concrete Storage Pad

The concrete pad only periodically contains bottom ash and slag and other CCR-related materials generated from routine plant maintenance activities. Typically, these materials are in a wet state but are allowed to partially dry to facilitate removal. When sufficiently dry, the material is promptly removed off site. The concrete pad will be assessed on a quarterly basis or more frequently during excessively dry and windy conditions. To minimize fugitive dust emissions from exposed dry bottom ash and slag and other CCR-related materials, the height of the staged material will be minimized and the material piles will be either sprayed with water or covered.

#### 4.7 Fly Ash Equipment

Fly ash from the mechanical separators is sent to the silos within an enclosed structure. The fly ash is drop loaded into an opening within the tarp covering the truck trailer through a telescopic pipe contained within a drop chute. This loading mechanism minimizes the potential for fly ash to become airborne during the loading process. The loading of trucks also occurs within a partial enclosure. At the completion of loading but prior to leaving the enclosure, the rear of each truck trailer is sprayed with water. The truck is then broom swept or water sprayed at the truck stand to remove any accumulated fly ash. Accumulated CCR is promptly transferred to the concrete storage pad.

This process is covered by the facility's fugitive dust operating program. Under the program, the facility must maintain control measures, including enclosures, covers and dust collection devices. Additionally, the facility is required to conduct weekly inspections of the process to confirm compliance. A record of the inspections is maintained at the facility.

#### 4.8 Ash Transport Roadways

Truck drivers are instructed on the proper procedure for cleaning trucks and a vehicle speed limit is enforced at the facility. Ash material that may not have been adequately removed from the trucks has the potential to become airborne and ultimately be deposited on haul roads. To minimize fugitive dust emissions, these roads will be assessed on a quarterly basis and any observed accumulated ash material will be promptly cleaned up and collected for off-site removal.

## 5.0 PLAN ASSESSMENTS/AMENDMENTS

To assure that the work practices being implemented adequately control the dust from the identified potential fugitive dust emission sources at the facility, routine assessments and record keeping are performed. These procedures include the following:

### 5.1 Fugitive CCR Dust Assessments

Pursuant to 257.80(b)(4) and 845.500(b)(3), assessments of the potential fugitive dust emission sources identified within this Plan will be conducted to assess the effectiveness of this Plan. The assessment will include observation of ash removal from basins, temporary storage and transport activities at the facility to confirm the adequacy of the control measures. The assessments will be conducted on a quarterly basis by an individual designated by the contact identified in Section 2.2 of this Plan. Observations made during each assessment are recorded on a form similar to the one included in Appendix B, however, the station may create their own form.

If the results of the assessment determine that ash-related equipment has malfunctioned or the integrity of the equipment has been compromised, the necessary repairs or replacement will be performed as soon as feasible. If the assessment finds that this Plan does not effectively minimize the CCR from becoming airborne, this Plan will be amended to include additional control measures.

### 5.2 Plan Amendments

This Fugitive Dust Plan will be reviewed whenever there is a change in conditions that would substantially affect the written Plan currently in place. A record of the reviews and any modifications or amendments made to the Plan currently in place will be kept on a form similar to the one included in Appendix C, however, the station may create their own form. The amended Plan will be reviewed by a Registered Professional Engineer and, if deemed acceptable, will be recertified.

### 5.3 Citizen Complaints

Any written or verbal complaints received from a citizen involving alleged CCR fugitive dust emission events at the facility will be recorded by an individual designated by the contact identified in Section 2.2 of this Plan. The complaints will be recorded on a form similar to the one included in Appendix D, however, the station may create their own form. Upon receipt of the complaint, an investigation of the alleged source of the fugitive dust emissions will be performed and the results of that investigation recorded on the form. If the fugitive dust emission event is confirmed, any necessary repairs or changes in operation required to mitigate the fugitive dust emissions will be implemented as soon as practicable.

## 6.0 CCR FUGITIVE DUST PLAN REPORTING/RECORDKEEPING REQUIREMENTS

This section outlines the Plan reports that must be prepared, submitted, and records that must be maintained to meet the requirements specified in the Federal and Illinois CCR Rules. These requirements include the following:

- Place the Plan in the facility's operating record and publicly accessible internet site. If the Plan is amended, replace the initial Plan with the amended Plan. Only the most recent amended Plan will be maintained in the facility's operating record and internet site.
- Prepare an annual CCR Fugitive Dust Control Report compliant with 40 CFR 257.80(c) and place it in the facility's operating record and post to the publicly accessible internet site. The annual report will include:
  - A description of the actions taken to control CCR fugitive dust,
  - A record of all citizen complaints, and
  - A summary of any corrective measures taken.
- Prepare an annual CCR Fugitive Dust Control Report compliant with 35 Ill. Code 845.500(c), place it in the facility's operating record, and submit to the IEPA as part of the annual consolidated report required by 845.550. The annual report will be posted to the publicly accessible website and will include:
  - A description of the actions taken to control CCR fugitive dust,
  - A record of all citizen complaints, and
  - A summary of any corrective measures taken.
- Provide notification to the IEPA and, if applicable, the Tribal authority when the Plan and reports are placed in the facility's operating record and publicly accessible internet site.
- Submit quarterly reports compliant with 35 Ill. Code 845.500(b)(2)(B) to IEPA within 14 days from the end of the quarter of all complaints received in that quarter. The quarterly reports will include:
  - The date of the complaint,
  - The date of the incident,
  - The name and contact information of the complainant, and
  - All actions taken to assess and resolve the complaint.

## 7.0 PROFESSIONAL ENGINEER CERTIFICATION

The undersigned Registered Professional Engineer is familiar with the requirements of 40 CFR 257.80 and 35 Ill. Adm. Code 845.500 and has visited and examined the facility or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this CCR Fugitive Dust Control Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and meets the requirements of 40 CFR 257.80 and 35 Ill. Adm. Code 845.500, and that this Plan is adequate for the facility. This certification was prepared as required by 40 CFR 257.80(b)(7) and 35 Ill. Adm. Code 845.500(b)(7).

Engineer: Joshua D. Davenport

Signature:  \_\_\_\_\_

Date: 8/18/2023

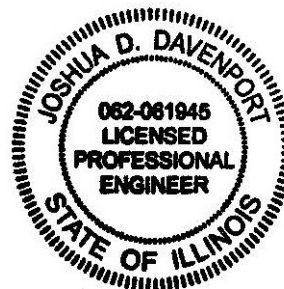
Company: KPRG and Associates, Inc.

Registration State: Illinois

Registration Number: 062.061945

License Expiration Date: November 30, 2023

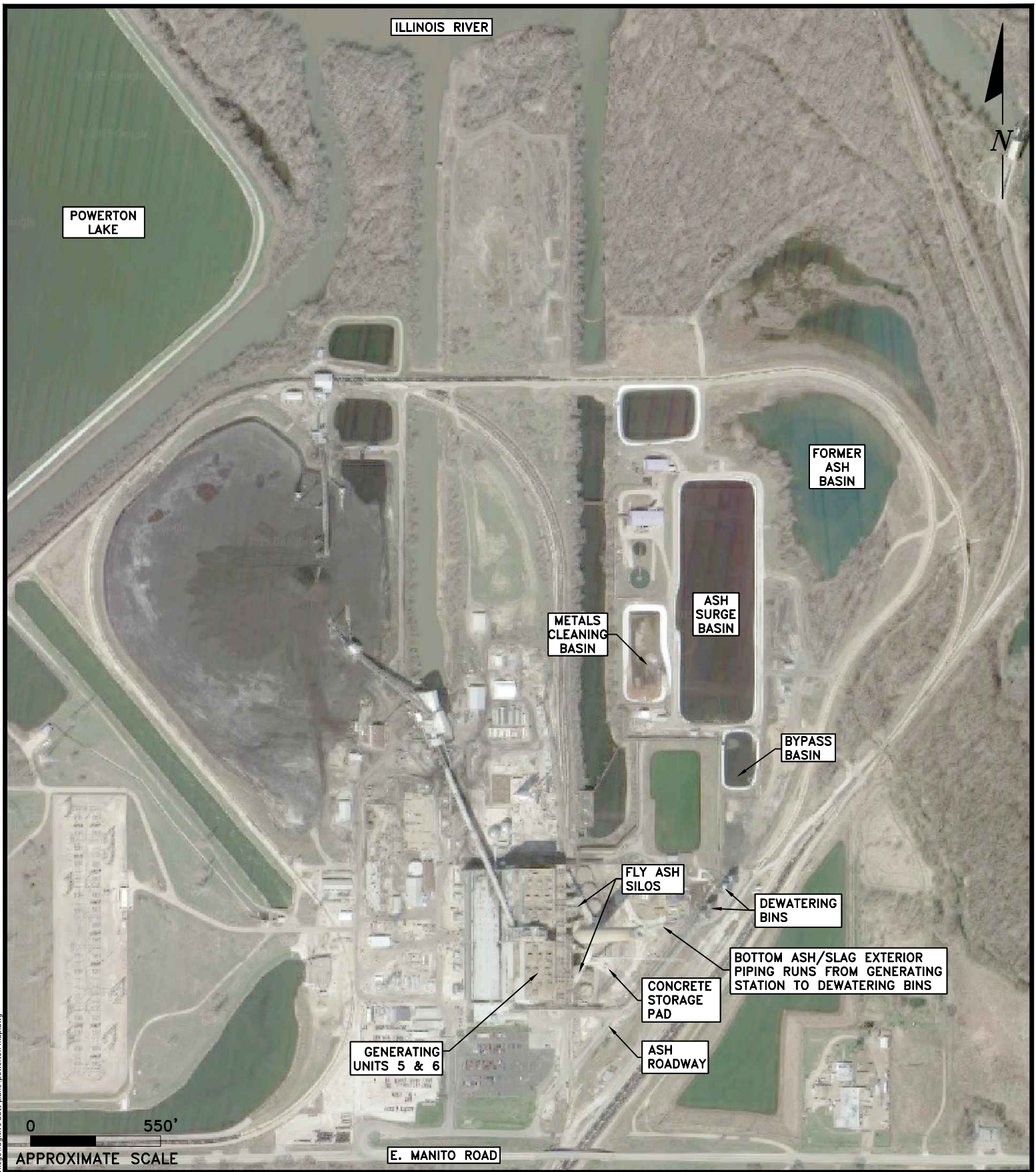
Professional Engineer Stamp:



**APPENDIX A**

**SITE DIAGRAM**

**POTENTIAL FUGITIVE DUST SOURCES**



ENVIRONMENTAL CONSULTATION & REMEDIATION

**K P R G**

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

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**SITE DIAGRAM/FUGITIVE DUST SOURCES**

**POWERTON GENERATING STATION  
PEKIN, ILLINOIS**

Scale: 1" = 550'

Date: August 17, 2023

KPRG Project No. 15315

APPENDIX A

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## **APPENDIX B**

### **EXAMPLE ASSESSMENT RECORD**



# APPENDIX B

## POWERTON STATION

### EXAMPLE ASSESSMENT RECORD

Date	Inspector	Unit Inspected (See Key Below)	Maintenance/Cleanup Required (yes/no)	Response Action Performed (completion date)	Inspector Signature

Unit Key:

1 - Exterior Bottom Ash/Slag Piping

2 - Dewatering Bins

3 - Concrete Storage Pad

4 - Ash Roadways

5 - Ash Surge Basin

6 - Bypass Basin

## **APPENDIX C**

### **EXAMPLE PLAN REVIEW AND AMENDMENT RECORD**



## **APPENDIX D**

### **EXAMPLE CITIZEN COMPLAINT LOG**

