

Coal Combustion Residuals (CCR) Fugitive Dust Control Plan

**The Empire District Electric Company
Asbury Generating Station**
October 2015

Prepared For:
The Empire District Electric Company
P.O. Box 127
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INTRODUCTION

This Coal Combustion Residuals (CCR) Fugitive Dust Control Plan (Plan) is required by *Title 40, Subtitle D, Part 257, Criteria for Classification of Solid Waste Disposal Facilities and Practices*. The content of this Plan is specifically addressed in *§257.80(b) CCR fugitive dust control plan*. Coal combustion residuals (CCR) include fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) materials. The Asbury Generating Station operates and maintains an active CCR Surface Impoundment.

1.0 PLAN OBJECTIVE

Title 40, Part 257 requires an owner or operator of a CCR landfill to adopt measures that will effectively minimize CCR from becoming airborne at the facility. This Plan addresses measures to meet the requirements of Part 257.

2.0 PLAN ADMINISTRATION AND CERTIFICATION §257.80(b)(7)

2.1 Management Approval

The Asbury Generating Station management is committed to complying with this Plan to effectively minimize CCR from becoming airborne at the facility through the implementation and regular review and amendment of this Plan. Authorized Facility Representative:

Signature: Robert W. Bromley
Name: Robert W. Bromley
Title: Plant Manager - Asbury
Date: 9-28-15

2.2 Certification of Plan

The undersigned Professional Engineer (P.E.) is familiar with the requirements of 40 CFR Part 257. The attached CCR fugitive dust control plan (Plan) for the Asbury Generating Station has been prepared in accordance with the requirements of §257.80(b).

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this Plan in accordance with the requirements of §257.80(b). This Plan is valid only to the extent that the facility owner or operator implements the measures to minimize fugitive dust from becoming airborne maintains at the facility as prescribed in this Plan.

Name: Lindsey R. Henry, P.E.
Signature: Lindsey R. Henry
Date: September 24, 2015

Seal



Registration Number: E-021592

State: Missouri

3.0 FUGITIVE DUST SOURCES AND FUGITIVE DUST CONTROL MEASURES §257.80(b)(1)

CCR fugitive dust sources may include, but is not limited to:

- CCR material transfer points;
- CCR haul roads; and
- Dumping and compacting CCR at the disposal location.

Current CCR fugitive dust sources at the Asbury Generating Station include:

- The vent on the byproduct/fly ash storage silo;
- Pugmill /Pin paddle mixer (housed in byproduct/fly ash storage silo);
- Loading CCR into trucks at the byproduct/fly ash storage silo;
- Unloading CCR from haul truck at disposal area;
- CCR disposal / compaction area and earth moving;
- Wind erosion of exposed CCR at the disposal area; and
- Unpaved haul road for CCR .

Examples of control measures identified in §257.80(b)(1) that may be appropriate to minimize CCR from becoming airborne include:

- Locating CCR inside an enclosure;
- Operating water suppression systems;
- Reducing fall distance at drop points;
- Using wind barrier, compaction, or vegetative cover;
- Establishing or reducing vehicle speeds;
- Paving and sweeping roads;
- Covering trucks transporting CCR;
- Reducing or halting operations during high wind events; and
- Applying cover material.

Air Construction Permit 022012-010 issued by the Missouri Department of Natural Resources; as the Air Pollution Control Program (APCP) on February 21, 2012 for the construction of the flue gas desulfurization (FGD) powdered activated carbon (PAC) and the baghouse system at the Asbury Generating Station. The special conditions of construction permit addresses visible emission (dust control) measures for specific fugitive emission points sources. Those special conditions are incorporated in this Plan for those specific fugitive emission points.

3.1 Pugmill

The pugmill, Emission Point (EP) 18, is used to mix and wet CCR before the CCR is transported to the disposal area. CCR is fed into the pugmill from the byproduct/fly ash silo. Special Condition 1 of the Air Construction Permit indicates that Asbury Generating Station shall wet the CCR at the pugmill sufficiently to maintain no visible emissions from the pugmill. Note: Special Condition 1 identifies CCR as “flue gas desulfurization (FGD) and powdered activated carbon (PAC) byproduct and fly ash.”

The mixing of CCR with water in a pugmill is an effective and efficient means to minimize CCR from becoming airborne.

3.2 CCR Hauling

The unpaved haul road, EP24, is used by haul trucks to transport CCR to the disposal area. Special Condition 2 of the Air Construction Permit indicates that Asbury Generating Station shall water unpaved haul roads whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property line. Note: the condition indicates the haul road is identified as EP23; however, Table 2 of the permit indicates the haul road is actually identified as EP24.

The condition only requires that the unpaved haul road be watered to keep visible emissions from entering the ambient air beyond the property boundary. However, any other unpaved haul road associated with CCR will be watered as needed to minimize visible emissions from entering the ambient air. In accordance with the Air Construction Permit the wetting of CCR is an intended control measure and need not be further documented.

Watering the unpaved roads used for CCR hauling with a water truck is an effective and efficient means to minimize visible fugitive emissions.

Vehicle speed will be maintained at a speed to minimize CCR from becoming airborne when being transported to the disposal area.

3.3 Silo Vent Filter

The silo, EP16, is used to store CCR. The silo feeds the pugmill which is housed inside and at the bottom of the silo. Special Condition 3 of the Air Construction Permit identifies five storage silo filter vents (EP13 through EP17). Special Condition 3 indicates:

- Emissions from the storage silo vents shall be controlled with filters.
- The filters shall be operated and maintained in accordance with the manufacturer's specifications.
- Replacement filters shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
- Asbury Generating Station shall maintain an operating and maintenance log for the filters which shall include the following:
 - Incidents of malfunction, impact on emissions, duration of event, probable cause, and corrective actions; and
 - Maintenance activities, inspection schedule, repair actions, and replacements, etc.

Using vent filters on a silo is an effective and efficient means to minimize CCR from becoming airborne. The vent is the only location for displaced air to exit the silo while the silo is being loaded.

3.4 Truck Loading and Unloading

CCR is in a wetted condition when loaded into a haul truck from the pugmill.

CCR is in a moist condition when unloaded from the haul truck at the disposal location.

The wetted condition of the CCR is an effective and efficient means to minimize CCR from becoming airborne.

3.5 Disposal Area Spreading CCR and Wind Erosion

CCR that is unloaded at the disposal area is in a moist condition and will be graded and compacted with heavy equipment.

The moist condition and compaction of the CCR are effective and efficient means to minimize CCR from becoming airborne.

4.0 PLACEMENT OF CCR AT THE DISPOSAL AREA §257.80(b)(2)

CCR conditioned with water will be transported and placed by a haul truck in a wetted condition so as to prevent wind dispersal, but will not produce free liquids. CCR will be placed in lifts and compacted with heavy equipment daily. The cement-like properties of CCR will cause it to develop a crust as it dries.

5.0 PROCEDURE TO LOG CITIZEN COMPLAINTS §257.80(b)(3)

The Empire District Electric Company will create and maintain on its public web site a method for citizens to log comments concerning observed issues with dust control of CCR. The Director of Corporate Communications will forward all citizen comments received to the Asbury Plant Manager and a copy will be provided to the Director of Energy Supply Services. Investigative of citizen comments and remedial action taken will be recorded on the Citizen CCR Complaint form located in **Appendix A**.

The form will contain the following information:

- Name of complainant.
- Time and date of complaint /comments.
- Subject of complaint.
 - Where the fugitive dust was identified.
 - What day and time of day the fugitive dust was identified.
- Verification of the source of fugitive dust.
- Corrective action taken.
- Follow-up with complainant.

The completed form will be filed in **Appendix B** and maintained as part of the operating record.

6.0 ASSESSMENT OF THE EFFECTIVENESS OF THE PLAN §257.80(b)(4)

Asbury plant personnel will periodically assess the effectiveness of this Plan and make changes as needed to improve this Plan at least once per year or more frequently as required to improve its effectiveness. The assessment will include monitoring the control measures used to effectively minimize fugitive emissions from becoming airborne and investigating citizen complaints.

Monitoring

Air Construction Permit 022012-010 provides specific observation requirements for the Silo, EP16, in Special Condition 1.B. of the permit. No CCR management process in this Plan shall conflict with the permit requirements.

Asbury plant personnel will perform periodic observation of the CCR sources to determine if the selected dust control measures are effectively minimizing fugitive emissions from becoming airborne. The observation will be recorded on the Observation Form included in **Appendix C**. Information recorded on the form will include:

- Whether excessive fugitive dust from CCR sources observed.
- If observed, record the source and time of day.
- Corrective measures that were taken.

Based on the observations results, Asbury Plant management will:

- Assess the effectiveness of the control measure; and
- Implement a different control measure if necessary;

Completed Observation Forms will be filed in **Appendix D** and maintained as part of the operating record.

Citizens' Complaints

The Director of Energy Supply Services will assess the effectiveness of this Plan and the procedure for logging citizens' complaints. The assessment may include, but not need not be limited to:

- Adequacy of the complaint form to record issues and concerns from the public;
- the issues of CCR dust control identified in the complaint have been addressed in a timely manner; and
- the responses to the citizen who made the complaint were addressed in a timely manner.

7.0 IMPLEMENTATION OF PLAN §257.80(b)(5)

Asbury Generating Station must prepare and implement this Plan for the facility no later than October 19, 2015. Asbury Generating Station will have implemented this Plan when it has been placed in the facility's operating record as required by §257.105(g)(1).

8.0 AMENDMENT TO PLAN §257.80(b)(6)

This Plan may be amended whenever there is a change in conditions at the facility that would substantially affect it. The changes could include: construction and operation of a new CCR unit; or

adding additional CCR material. The certification of a qualified professional engineer must be obtained for any amendment.

9.0 ANNUAL REPORT §257.80(c)

Asbury Generating Station will prepare an annual CCR fugitive dust control report (Report) that includes the following:

- A description of the actions taken to control CCR fugitive emissions;
- A record of all citizen complaints; and
- A summary of any corrective measures taken.

The first annual Report must be completed no later than 14 months after placing the initial CCR Plan in the facility's operating record. Subsequent annual reports will be prepared and posted to the operating record within 60 days of the anniversary date of the initial report.

Asbury Generating Station will have completed the annual Report when the Report has been placed in the facility's operating record as required by §257.105(g)(2). A copy of this plan will be maintained at the Asbury Generating Station.

Energy Supply Services will coordinate the notification requirements to the Missouri Department of Natural Resources and Company web site posting with the Director of Corporate Communications.

10.0 RECORDKEEPING §257.80(d)

Asbury Generating Station must comply with:

The record keeping requirements in §257.105(g), requires the owner or operator of a CCR unit subject to this subpart to place the following information, as it becomes available, in the operating record.

- §257.105(g)(1) –This Plan and any subsequent amendment required by §257.80(b). However, only the most recent Plan must be maintained in the facility's operating record irrespective of the time requirement specified in §257.105(b).
- §257.105(g)(2) - The annual Report required in §257.80(c).

The notification requirements in §257.106(g), which requires the owner or operator of a CCR unit subject to this subpart to notify the State Director and /or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site.

- §257.106(g)(1) - Provide notification of the availability of the CCR fugitive dust control Plan, or any subsequent amendment of the Plan, specified under §257.105(g)(1).
- §257.105(g)(2) – Provide notification of the availability of the annual CCR fugitive dust control report specified under §257.105(g)(2).

- 257.107(g) – Post required operating criteria on the CCR web site under the title “CCR Rule Compliance Data and Information.”

APPENDIX A

Citizens Complaint Form

Citizens CCR Complaint Form

1. Date: _____ Time: _____

2. Name of Complainant: _____

3. Phone Number of Complainant: _____

4. Observed Location/Source of Fugitive Dust: _____

5. What specifically was observed at the Location/Source of Fugitive Dust? Was the dust normal or excessive?

6. What Corrective Measures Were Taken by the Asbury Generating Station in Response to the Reported Observation to Minimize Fugitive Dust?

7. Follow Up with Complainant Date and Time: _____

8. Notes and Discussion with Complainant to Resolve the Issue: _____

Signature (Received by) _____

Date _____

APPENDIX B

Completed Citizens Complaint Form

APPENDIX C

CCR Observation Forms

APPENDIX D

Completed CCR Observation Forms