



# McIntosh Power Plant Coal Combustion Residuals Fugitive Dust Control Plan

Lakeland Electric  
McIntosh Power Plant  
3030 East Lake Parker Drive  
Lakeland, Florida 33805

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### Professional Engineer Certification

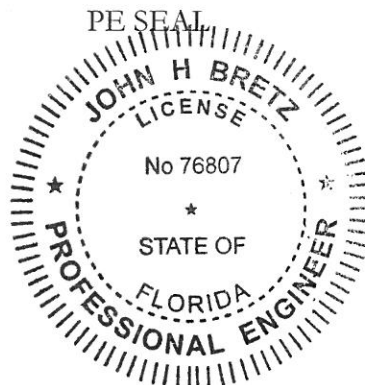
The undersigned Registered Professional Engineer is familiar with the requirements of Part 257 of Title 40 of the Code of Federal Regulations (40 CFR part 257.80). This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this CCR Plan in accordance with the requirements of 40 CFR part 257.80.

John H. Bretz                      76807, Florida  
Signature                              Professional Engineer Registration Number

John H. Bretz, PE                      Engineering Supervisor – Energy Production

Name                                      Title  
Lakeland Electric - Energy Production      2/10/16

Company                              Date



## 1.0 INTRODUCTION

This coal combustion residual (CCR) Fugitive Dust Control Plan (Plan) has been prepared by the City of Lakeland Electric Department (Lakeland Electric or LE) to ensure compliance with U.S. Environmental Protection Agency (USEPA) requirements in 40 CFR Section 257.80 and Florida Department of Environmental Protection (FDEP) conditions of certification (COC) under Section 403.516(1)(c), Florida Statutes. The Plan is established to identify those measures to be implemented at Lakeland Electric’s McIntosh Power Plant (MPP) to minimize CCR from becoming airborne at the facility from CCR units, roads, or other CCR management and material handling activities.

CCR that is generated at the MPP is primarily sold for beneficial use in the cement, drywall and other industries. If needed, CCR can be managed temporarily in MPP’s FDEP-permitted Byproduct Storage Area (BSA), east of the MPP generating units. This Plan describes not only the methods to be used by Lakeland Electric to minimize CCR fugitive dust emissions but includes additional procedures which will be implemented if CCR fugitive dust is observed or if citizen complaints concerning CCR fugitive dust are received. The Plan provides procedures for assessing the effectiveness of the dust control measures which will be summarized in an annual CCR fugitive dust control report (described in Section 6.0 below).

This Plan is a “living document” that will be amended, as necessary, whenever there are changes in conditions that substantially affect the current version of this Plan. At a minimum, this Plan will be reviewed annually to ensure compliance with the requirements of 40 CFR Section 257.80.

### 1.1 General Facility Information

The following information summarizes the key facility and contact information for the MPP.

Name of Facility	McIntosh Power Plant
Type	Electric Power Generation NAICS Code: 2211 (Fossil Fuels)
Location	3030 East Lake Parker Drive Lakeland, Florida 33805-9513
Name and Address of Owner	City of Lakeland, Lakeland Electric Department 501 East Lemon Street Lakeland, Florida 33801-5050
Contact Information	863-834-6600

## 2.0 FACILITY DESCRIPTION

MPP is one of three power plants owned and operated by Lakeland Electric. MPP currently has a combined generation capacity of 874 megawatts (MW) which consists of two 2.5 MW diesel peaking units, a 114.7 MW natural gas and oil fired generator (Unit 2), a 20 MW natural gas/diesel combustion turbine unit, a 364 MW coal powered generator (Unit 3) and a 370 MW combined cycle natural gas unit (Unit 5). Unit 1 was retired December 31, 2015.

### 2.1 Byproduct Generation

Unit 3 is the only coal-fired unit at MPP. Byproducts generated by Unit 3 include fly ash, bottom ash, and synthetic gypsum (a flue gas desulfurization product).

*Fly Ash* - Unit 3 is equipped with electrostatic precipitators (ESP) that capture fly ash particles in combustion gases. The fly ash particles are collected into hoppers and conveyed into dry storage silos and then subsequently sold for off-site beneficial use, transferred to the temporary storage area, or placed in the BSA.

*Bottom Ash* – Bottom ash is hydraulically sluiced from the Unit 3 boiler to hydro bins for dewatering. The bottom ash is subsequently sold, transferred to the temporary storage area, or placed in the BSA.

*Gypsum* - Unit 3 is also equipped with a flue gas desulfurization system which mixes crushed limestone and water which ultimately generates gypsum material. The wet gypsum byproduct is transported via conveyor to the temporary byproduct storage area for pickup by vendors who have purchased the byproduct for beneficial use, or subsequent placement in the BSA.

### 2.2 Fly Ash/Bottom Ash/Gypsum Temporary Storage

The loading area for fly ash silos is located on the northeast side of Unit 3. The fly ash is stored in closed silos and is sold as a byproduct. The fly ash is loaded directly into tanker trucks from the silos. The process is strictly monitored to minimize dust generation by using engineering controls such as enclosed feed chutes and dust curtains. Additionally, all trucks are rinsed before leaving the loading facility. Periodically, the area is cleaned by sweeper trucks. If the fly ash is not sold directly from the silo, it is conditioned in a pug mill and transferred to the temporary storage area via conveyor or subsequently placed in the BSA.

Bottom ash is loaded directly into trucks at the loading area as well, however, due to the conditioned nature of the ash, fugitive dust generation is minimized during loading, transport and placement of bottom ash. Bottom ash not sold from the hydro bins may be transferred to the temporary storage area via conveyor or subsequently placed in the BSA.

Gypsum is transported to the byproduct temporary storage area via overhead conveyor belt and staged for pickup by vendors who have purchased the byproduct for beneficial use.

The temporary storage area (located south side of the coal yard) is used as needed to temporarily store fly ash, bottom ash and gypsum that are to be sold for beneficial use. It is lined with pozzolanic material and finished with a top layer of asphalt which minimizes leaching into the groundwater. Storm water from this area flows into the southern sedimentation pond for evaporation or transport to the process water pond system.

### 2.3 Byproduct Storage Area

The exterior of the BSA is made from byproducts that have been treated to become a stabilized pozzolanic material with a low percolation coefficient. This material repels storm water, which in the southern portion of the BSA is collected by a soil-cement lined ditch that conveys storm water to the southern sedimentation pond for evaporation or transport to the process water pond system. The ditch surrounding the northern, grassed portion of the BSA conveys non-contact storm water to Fish Lake.

### 3.0 CCR FUGITIVE DUST CONTROL PROCEDURES

Air emissions from MPP are regulated and the facility is currently operating under Title V Air Operating Permit No. 1050004-036-AV issued by the FDEP. The permit requires that unconfined or fugitive emissions from MPP be reduced. Specifically, Rule 62-296.320(4)(c) of the Florida Administrative Code (F.A.C.) and Specific Condition No. FW5 of the above-referenced permit require the following:

*Unconfined Emissions of Particulate Matter*

*No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at the facility include:*

- a. Maintenance of paved areas;*
- b. Regular mowing of grass and care of vegetation;*
- c. Limiting access to plant property by unnecessary vehicles;*

In accordance with these requirements, Lakeland Electric takes reasonable precautions to prevent generation of fugitive dust, which includes CCR dust, and employs several types of dust control measures.

LE will continue to take such reasonable precautions and will also employ the following to control and manage CCR fugitive dust:

- Lakeland Electric conducts visual inspections for fugitive dust emissions from the BSA and upon observation of fugitive emissions, performs watering to increase surface material moisture content and minimize dust generation.
- New roads either will be paved or have compacted gravel surface.

- Trucks transporting CCR will be instructed to maintain low speeds within the facility boundaries.
- Open-bed trucks transporting CCR from the plant site will be completely covered.
- Trucks transporting CCR from silos will be loaded using loading chutes in order to minimize release of fugitive dust. Conditioned CCRs (i.e., wetted) are loaded into trucks from the temporary staging area for transport to the BSA.
- Unpaved road surfaces will be watered as necessary to minimize fugitive dust emissions. Typical frequency is once per day. However, frequency will be increased if visible dust is observed.
- The time interval between unloading and compacting CCR material in the BSA will be minimized.
- LE will continue to implement and maintain a vegetative cover over inactive areas of the BSA.
- Watering will be used to control fugitive dust generated by the operation of front-end loaders and bulldozers at the BSA.

Note that fugitive dust control measures will not be employed during rain events as rain will naturally mitigate fugitive CCR dust.

### 3.1 Control Measure Assessment

The fugitive dust control measures will be assessed through weekly inspections of CCR loading, temporary storage, and BSA operations. The weekly inspections will be performed by trained operators. The inspections will identify if fugitive dust is visibly occurring with the potential to move offsite. If that condition is observed, Lakeland Electric will implement appropriate corrective actions. In addition, an inspection will be performed if any citizen complaints are received regarding CCR fugitive dust emissions.

### 3.2 Training

The training will include a review the fugitive dust control plan, the performance of inspections, identification of CCR fugitive dust sources, identifying when corrective actions are required, and control measures.

## 4.0 DUST COMPLAINT PROCEDURES

Any citizen complaints regarding CCR fugitive dust emissions will be recorded as an Incident Report in Maximo<sup>1</sup> as provided in Lakeland Electric’s Incident Report Protocol. In such instances, the Operation Shift Supervisor and Plant Manager will be notified of

<sup>1</sup> Maximo is [define/provide description]

the incident as soon as possible. The current condition of the BSA, byproduct temporary storage area, or other CCR management activity, as applicable, will be evaluated and corrective actions initiated, if needed. Any complaints will be followed up and will include the following actions: investigation of plant operations at the time of the event, review inspection records, interview appropriate plant personnel, review current weather conditions, and contact of the person making the complaint to obtain additional information to ensure the incident has been addressed. A log of CCR fugitive dust complaints will be maintained in the operating record (log should include date/time, nature of complaint, corrective action or finding).

## **5.0 RECORDKEEPING, NOTIFICATION AND INTERNET SITE**

The Plan, including any amendments to the Plan, and Annual CCR Fugitive Dust Control Report (described in Section 6.0 below) will be kept in MPP's written operating record and will be posted on a publicly accessible Internet site in accordance with 40 CFR Sections 257.105 and 257.107.

## **6.0 ANNUAL REPORT**

Lakeland Electric will prepare an Annual CCR Fugitive Dust Control Report describing the actions taken to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken. The initial annual report will be completed no later than 14 months after placing the initial Plan in the facility's operating record. Subsequent reports will be completed on or before a year after the date of completing the previous annual report.



## APPENDICES

APPENDIX A – 40 CFR Section 257.80 – Air Criteria

APPENDIX B – Records of Plan Revisions

APPENDIX A – 40 CFR Section 257.80 – Air Criteria

- (a) The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities.
- (b) *CCR fugitive dust control plan.* The owner or operator of the CCR unit must prepare and operate in accordance with a CCR fugitive dust control plan as specified in paragraphs (b)(1) through (7) of this section. This requirement applies in addition to, not in place of, any applicable standards under the Occupational Safety and Health Act.
  - (1) The CCR fugitive dust control plan must identify and describe the CCR fugitive dust control measures the owner or operator will use to minimize CCR from becoming airborne at the facility. The owner or operator must select, and include in the CCR fugitive dust control plan, the CCR fugitive dust control measures that are most appropriate for site conditions, along with an explanation of how the measures selected are applicable and appropriate for site conditions. Examples of control measures that may be appropriate include: Locating CCR inside an enclosure or partial enclosure; operating a water spray or fogging system; reducing fall distances at material drop points; using wind barriers, compaction, or vegetative covers; establishing and enforcing reduced vehicle speed limits; paving and sweeping roads; covering trucks transporting CCR; reducing or halting operations during high wind events; or applying a daily cover.
  - (2) If the owner or operator operates a CCR landfill or any lateral expansion of a CCR landfill, the CCR fugitive dust control plan must include procedures to emplace CCR as conditioned CCR. Conditioned CCR means wetting CCR with water to a moisture content that will prevent wind dispersal, but will not result in free liquids. In lieu of water, CCR conditioning may be accomplished with an appropriate chemical dust suppression agent.
  - (3) The CCR fugitive dust control plan must include procedures to log citizen complaints received by the owner or operator involving CCR fugitive dust events at the facility.
  - (4) The CCR fugitive dust control plan must include a description of the procedures the owner or operator will follow to periodically assess the effectiveness of the control plan.
  - (5) The owner or operator of a CCR unit must prepare an initial CCR fugitive dust control plan for the facility no later than October 19, 2015, or by initial receipt of CCR in any CCR unit at the facility if the owner or operator becomes subject to this subpart after October 19, 2015. The owner or operator has completed the initial CCR fugitive dust control plan when the plan has been placed in the facility's operating record as required by §257.105(g)(1).
  - (6) *Amendment of the plan.* The owner or operator of a CCR unit subject to the requirements of this section may amend the written CCR fugitive dust control plan at any time provided the revised plan is placed in the facility's operating record as required by §257.105(g)(1). The owner or operator must amend the written plan

whenever there is a change in conditions that would substantially affect the written plan in effect, such as the construction and operation of a new CCR unit.

- (7) The owner or operator must obtain a certification from a qualified professional engineer that the initial CCR fugitive dust control plan, or any subsequent amendment of it, meets the requirements of this section.
- (c) *Annual CCR fugitive dust control report.* The owner or operator of a CCR unit must prepare an annual CCR fugitive dust control report that includes a description of the actions taken by the owner or operator to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken. The initial annual report must be completed no later than 14 months after placing the initial CCR fugitive dust control plan in the facility's operating record. The deadline for completing a subsequent report is one year after the date of completing the previous report. For purposes of this paragraph (c), the owner or operator has completed the annual CCR fugitive dust control report when the plan has been placed in the facility's operating record as required by §257.105(g)(2).
- (d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in §257.105(g), the notification requirements specified in §257.106(g), and the internet requirements specified in §257.107(g).

APPENDIX B – Records of Plan Revisions

