



INDIANAPOLIS POWER & LIGHT COMPANY

PETERSBURG GENERATING STATION CCR FUGITIVE DUST CONTROL PLAN

Prepared for

Indianapolis Power & Light Company

Issue: For Use, Rev. 0

Date: October 12, 2015

Project No.: 10572-088

Prepared by



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ISSUE SUMMARY PAGE
CCR FUGITIVE DUST CONTROL PLAN
PETERSBURG GENERATING STATION
FOR
INDIANAPOLIS POWER & LIGHT

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Petersburg Generating Station
CCR Fugitive Dust Control Plan
Project No.: 10572-088

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FOR

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CERTIFICATION PAGE

I certify that this CCR fugitive dust control plan meets the requirements set forth in 40 CFR 257.80 was prepared by me, or under my direct supervision, and that I am a registered professional engineer under the laws of the State of Indiana.

Certified By: LM Illingworth Date: Oct. 12, 2015

Seal:





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A - Fugitive Dust Monitoring Report



EXECUTIVE SUMMARY

Indianapolis Power & Light Company (IPL) is committed to protecting the quality of the environment through feasible and effective measures. As one of these measures, IPL has prepared this Coal Combustion Residuals (CCR) Fugitive Dust Control Plan to minimize fugitive dust generated through its operations. This Fugitive Dust Control Plan was developed to meet the requirements of 40 CFR 257.80.

This CCR Fugitive Dust Control Plan is intended to apply to all employees and to all CCR operations activities which create fugitive dust at the Petersburg Generating Station (PGS). Employees shall minimize fugitive dust generated on site and shall implement and follow this plan. Operations activities shall also be conducted in accordance with this plan.



1. INTRODUCTION

1.1 PURPOSE OF THIS PLAN

The purpose of this plan is to minimize Coal Combustion Residuals (CCR) from becoming airborne at the Petersburg Generating Station (PGS). The primary sources of fugitive dust are listed in this plan. This Fugitive Dust Control Plan was developed to meet the requirements of 40 CFR 257.80.

1.2 STATION DESCRIPTION

PGS is located approximately three miles east-northeast of Petersburg in Pike County, Indiana. The generating station consists of four coal-fired units, Units 1 - 4. Units 1, 3 and 4 are equipped with electrostatic precipitators (ESP) for particulate control. Unit 2 has a baghouse for particulate control. Each unit is equipped with a wet flue gas desulfurization (FGD) system for SO₂ control. CCR waste product can go to an on-site landfill, ash ponds, or an offsite facility. The majority of disposal is off site.

The combustion byproducts of coal are bottom ash, fly ash, and FGD waste. Bottom ash is sluiced to an on-site settling pond. Fly ash is conveyed via dry ash handling system to storage silos. Depending upon the quality of the fly ash, the fly ash may be loaded into tanker trucks and enclosed railcars for beneficial use, or it may be loaded into trucks and sent to an on-site landfill, ash ponds, or an offsite facility.

The wet FGD systems use limestone to reduce SO₂ emissions and produce FGD byproduct. The FGD systems for Units 1, 2 and 4 produce gypsum, the majority of which is trucked off site for beneficial use. The FGD for Unit 3 produces byproduct that is mixed with fly ash, the majority of which is trucked offsite for disposal.



1.3 SOURCES OF CCR FUGITIVE DUST

Primary sources of fugitive CCR dust at PGS are:

- a. Small spills of fly ash and bottom ash around pipes and other equipment
- b. Equipment malfunction
- c. Small amounts of fly ash generated by unloading fly ash from silos into trucks and railcars
- d. Trucks carrying fly ash and FGD byproduct travelling on plant roads
- e. Trucks carrying fly ash and FGD byproduct depositing material into the landfill
- f. Active portions of the CCR landfill
- g. Dried portions of the settling ponds



2. MONITORING

2.1 FREQUENCY OF MONITORING

Fugitive dust is monitored as part of normal plant operations.

2.2 MONITORING METHODS

For purposes of this fugitive dust control plan, fugitive dust is monitored visually. Action levels would be implemented as weather conditions, road conditions and source conditions warrant.

2.3 CONTROL MEASURES

The CCR handling equipment at PGS is designed to minimize CCR dust. The equipment handles boiler bottom ash, fly ash and FGD waste.

Bottom ash is sluiced with water and piped to dewatering bins, or to an on-site settling pond. The sluice water facilitates bottom ash handling and reduces the amount of dust that may be generated. Dewatered bottom ash can be loaded into trucks and sold to cement manufacturers for beneficial use.

Fly ash is conveyed via a dry handling system to storage silos. The conveyor system has enclosures installed at drop points on the system to reduce fugitive dust emissions. The fly ash storage silos employ baghouses to control fugitive dust emissions. The fly ash is conditioned with wet FGD byproduct from the Unit 3 FGD and loaded onto trucks for transportation to an on-site landfill, ash ponds, or an offsite facility. Conditioning ash with the wet FGD byproduct facilitates ash handling and reduces dust generation. Truck wheels are washed down as needed to reduce prevent tracking of sediment. Fly ash may also be loaded into tanker trucks or enclosed railcars for beneficial use. Transfer operations are monitored by station personnel to prevent or minimize fugitive dust emissions.

The wet FGD systems for Units 1, 2 and 4 produce gypsum which is stored in a covered building. The building reduces the amount of dust that may be generated. The majority of the gypsum is trucked off site for beneficial use. The FGD for Unit 3 produces byproduct that conditions the fly ash. The conditioned material and loaded onto trucks for transportation to an on-site landfill, ash ponds, or an



offsite facility is trucked offsite for disposal. The trucks are covered, which reduces fugitive dust. The majority of the conditioned material is trucked offsite for disposal.

Water spray is used at the landfill to reduce the amount of airborne fugitive dust. Water sprays are suitable for a range of climate conditions, including warm humid conditions like those of southern Indiana where PGS is located. Other dust control measures at the landfill involve compaction of the material with trucks and bulldozers, relocating activity, or reducing activity as needed. If necessary, truck wheels are washed to prevent tracking of sediment on plant roads.

The speed limit is 15 mph on plant roads and parking lots. Reduced speed limits at the landfill also minimize fugitive dust. Inactive portions of the landfill have vegetative cover.

Frequent inspections of piping and other CCR handling equipment at the plant and routine preventive maintenance help to minimize CCR emissions.

Table 1 lists corrective measures applicable to the respective potential dust source. Some sources have multiple means of controlling dust, while other sources are controlled most effectively by a single method. In practice, some activities may require multiple measures at the same time. For example, CCR dust control at the landfill may require conditioning with water and compaction of deposited materials. Application of these corrective measures is considered IPL's best effort to minimize fugitive dust at PGS.



Table 1: Corrective Measures

<u>Sources</u>	<u>Corrective Measure</u>	<u>Description</u>
Small spills of fly ash resulting in fugitive dust emissions (example: windblown dust from small spills around leaking fly ash pipes)	1	Remove small fly ash spill
	2	Repair leak or other cause of the spill
Equipment malfunction	1	Repair equipment
	2	Reduce flows
Unloading fly ash from silos into trucks and railcars	1	Repair silo discharge dust collection equipment
Hauling trucks (fly ash and FGD byproduct) travelling on plant roads	1	Wash truck wheels
Fly ash and FGD byproduct disposal into the landfill	1	Apply water as needed
	2	Compact material as needed
	3	Reduce equipment speed
	4	Reduce drop distance
	5	Relocate activity on landfill
	6	Minimize activity on landfill
Active landfill (areas that have dried out)	1	Compact material as needed
	2	Apply water as needed
	3	Reduce equipment speed
	4	Relocate activity on landfill
	5	Minimize activity on landfill
Dried portions of settling ponds	1	Apply water as needed



3. RECORDKEEPING

3.1 CONTENT OF RECORDS

The CCR Fugitive Dust Monitoring Report form (Appendix A) shall be completed when corrective measures are taken to reduce CCR fugitive dust over and above routine control measures. The completed reports shall serve as a record of visual monitoring and any control measures taken (to satisfy Final CCR Rule 257.80(b)(1)). It shall also serve as a means to assess the effectiveness of the dust control plan (Final CCR Rule 257.80(b)(4)). The report shall include:

- a. The date and local time of monitoring.
- b. Description of the fugitive dust source.
- c. The observer.
- d. Corrective actions taken and results of those actions. Depending upon the dust source, it may be necessary to apply multiple control measures.

The plant's existing environmental management system will be used to log citizen complaints and the corrective actions taken (Final CCR Rule 257.80(c)). Logged complaints will be placed in the annual CCR fugitive dust control report (Section 4.3).

3.2 RECORD STORING AND RETENTION

This plan is complete when it is placed in the station's operating record (Final CCR Rule 257.105(g)(1)). Within 30 days of placing the control plan in the station's operating record, it must be posted to the IPL CCR website (Final CCR Rule 257.107(d) and (g)(1)).

IPL will amend this 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 (Final CCR Rule 257.80(b)(6)). The amended plan, when placed in the station's operating record, is considered the most recent control plan. Only the most recent control plan must be maintained in the station's operating record (Final CCR Rule 257.105(g)(1)). Similarly, the most recent dust control plan must also be maintained on the IPL CCR website (Final CCR Rule 257.107(g)(1)).



The completed CCR Fugitive Dust Monitoring Report forms will be kept for use in the annual CCR fugitive dust control report but are not required to be individually placed in the station's operating record.

Logged citizen complaints will be placed in the annual CCR fugitive dust control report. However, the logged complaints are not required to be placed in the station's operating record.



4. REPORTING

4.1 NOTIFICATION REQUIREMENTS

Within 30 days of placing this CCR fugitive dust control plan or future amendment and annual updates (Sections 4.3 and 5.3 below) in the station's operating record and on the IPL CCR website, IPL will notify the Indiana Department of Environmental Management (IDEM) that the document is available (Final CCR Rule 257.106(d) and (g)(1)).

4.2 CITIZEN COMPLAINTS

Citizen complaints involving CCR fugitive dust will be logged into an existing external communications log maintained by the plant that is part of the plant's environmental management system (Final CCR Rule 257.80(b)(3)). The log will use the existing environmental management system communications process. The log of citizen complaints will be kept for use in the annual CCR fugitive dust control report but is not required to be placed in the station's operating record.

4.3 ANNUAL CCR FUGITIVE DUST CONTROL REPORT

IPL will prepare an annual CCR fugitive dust control report that includes the following:

- a. A description of the actions taken to control CCR fugitive dust.
- b. A record of all citizen complaints
- c. A summary of corrective actions taken.

IPL will complete the initial annual fugitive dust control report no later than 14 months after placing the initial CCR fugitive dust control plan in the PGS operating record. The deadline for completing each subsequent report is one year after the date of completing the previous report. Each fugitive dust control report will be deemed complete when IPL has entered the report into the PGS operating record (Final CCR Rule 257.80(7)(c)). The annual fugitive dust control reports are placed on IPL's CCR website (Final CCR Rule 257.107(g)(2)).



5. QUALITY CONTROL

5.1 EVALUATING FUGITIVE DUST CONTROL PLAN EFFECTIVENESS

IPL will review and evaluate the effectiveness of this Fugitive Dust Control Plan (Final CCR Rule 257.80 (b)(4)). IPL will evaluate this plan by reviewing the CCR Fugitive Dust Monitoring Report forms periodically. Revisions to this plan will only be made with approval of IPL environmental staff.

5.2 FUGITIVE DUST CONTROL PLAN COMPLETION

The Final CCR Rule requires preparation of an initial CCR fugitive dust control plan by October 19, 2015. Per Final CCR Rule 257.80 (b)(5), IPL will place a copy of this plan into the PGS operating record and the initial plan will be deemed complete.

5.3 FUGITIVE DUST CONTROL PLAN AMMENDMENTS

IPL will revise this Fugitive Dust Control Plan when there is a significant change in operating conditions that would substantially affect this Plan (Final CCR Rule 257.80 (b)(6)). The changes in operating conditions include, but are not limited to, construction and operation of a new CCR unit.

5.4 PROFESSIONAL ENGINEER (PE) CERTIFICATION

IPL will obtain a certification from a qualified professional engineer that Fugitive Dust Control Plan and subsequent amendments meet the air criteria requirements of Final CCR Rule (Final CCR Rule 257.80 (b)(7)).



APPENDIX A

Fugitive Dust Monitoring Report

