



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603

Toll Free (800) 451-6027
www.idem.IN.gov

December 1, 2011

Ms. Angie Lee
Hoosier Energy REC, Inc. - Frank E. Ratts Generating Station
P.O. Box 908
Bloomington, Indiana 47402

Re: Temporary Operation
TO No. 125-31131-00001

Dear Ms. Lee

On November 4, 2011, Hoosier Energy REC, Inc. - Frank E. Ratts Generating Station submitted a Notice of Temporary Operation for the testing of a dry sorbent injection system (DSI) to determine if emissions of mercury and hydrochloric acid emissions can be reduced.

Based on the information provided as part of this notification, the uncontrolled emissions associated with the DSI testing operation of PM, PM10, PM2.5, VOC, NOx, SO2 and CO are less than the PSD significant levels of 25, 15, 40, 40, 40 and 100 tons per year, respectively.

Temporary Operation General Information

Unit:	Boiler #2
Location of the Operation:	6825 N. Blackburn Rd., Petersburg, Indiana 47567
County:	Pike
County Status:	Nonattainment for PM2.5 Attainment for all other criteria pollutants
Purpose of the Operation:	Reduce Hg and HCL emissions
Starting Date of the Operation:	November 14, 2011
Duration of the Operation:	Less than 30 days of actual operation
Testing parameters:	Pollutants: PM, Hg and HCL

Applicable Requirements

Pursuant to 326 IAC 2-1.1-3(h)(3), the above mentioned temporary operation shall satisfy the following requirements:

1. The potential emissions from the operation should be less than 25 tons per year for the duration of the operation. [326 IAC 2-1.1-3(h)(3)(A)]
2. The operation should not be a major source or modification as defined under 326 IAC 2-2, 326 IAC 2-3 or 326 IAC 2-7. [326 IAC 2-1.1-3(h)(3)(B)]
3. The purpose of the operation is to:
 - (a) collect data for experimental purposes, including, but not limited to, process improvements, new product development, and pollution prevention. [326 IAC 2-1.1-3(h)(3)(C)(i)]
 - (b) temporarily conduct an operation not considered as part of the normal operation or production of the source. [326 IAC 2-1.1-3(h)(3)(C)(ii)]

4. The experimental trial should not be part of the existing normal operation or production of the source. [326 IAC 2-1.1-3(h)(3)(C)(ii)]
5. The duration of the experimental operation should not exceed 30 days of actual operation. [326 IAC 2-1.1-3(h)(3)(D)]
6. The source shall submit a report containing the following information, seven (7) days after the conclusion of the experimental operation: [326 IAC 2-1.1-3(h)(3)(G)]
 - (a) The actual dates of the construction and operation.
 - (b) The duration of the operation.
 - (c) The actual emissions occurring during the operation.
7. The report shall be submitted to:
Indiana Department of Environmental Management
Office of Air Quality, Permits Administration and Support Section
P. O. Box 6015
Indianapolis, Indiana 46206-6015

Temporary Operation Expiration Date

This approval expires after 30 days of actual operating time of the experimental operation.

If you have any questions regarding this approval, please contact David Matousek of my staff at 317-232-8253 or at 1-800-451-6027, ext 2-8253.

Sincerely,



Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

DJM

Enclosure: Temporary Operation Report (1 page)

cc: File - Pike County
Pike County Health Department
Compliance and Enforcement Branch
Compliance Data Section

**Indiana Department of Environmental Management
Office of Air Quality
Permit Branch**

Experimental Trial Operation Report

Source Name: Hoosier Energy REC, Inc. - Frank E. Ratts Generating Station
Source Location: 6825 N. Blackburn Rd., Petersburg, Indiana 47567
County: Pike
TO No.: 125-31131-00001
Permit Writer: David Matousek

Milestone Schedule	
Type of unit/operation:	
Actual starting date of the construction:	
Actual ending date of the construction:	
Actual starting date of the operation:	
Actual ending date of the operation:	
Actual number of days of the operation:	
Calculated emissions during the duration of the operation:	
Additional Comments:	

I certify under penalty of law that this report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

cc: Compliance and Enforcement Branch

Attachment A - Emission Calculation Sheet - Material Handling Emissions

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
 Address: 550 West Old 54, Sullivan, Indiana 47882
 Permit Number: 153-31131-00005
 Plt ID: 153-00005
 Reviewer: David J. Matousek
 Date: November 23, 2011

Potential to Emit - PM					
Material	Trucks per Year	Tons/Truck	Tons Processed (TPY)	Emission Factor (lb/ton)	PTE (TPY)
Trona	10	20	200	0.61	0.06
Sodium Bicarbonate	9	20	180	0.61	0.05
Limestone	2	20	40	0.61	0.01
Hydrated Lime	2	20	40	0.61	0.01

Potential to Emit - PM10					
Material	Number of Trucks	Tons/Truck	Tons Processed	Emission Factor (lb/ton)	PTE (TPY)
Trona	10	20	200	0.07	0.010
Sodium Bicarbonate	9	20	180	0.07	0.010
Limestone	2	20	40	0.07	1.46E-03
Hydrated Lime	2	20	40	0.07	1.46E-03

Potential to Emit - PM2.5					
Material	Number of Trucks	Tons/Truck	Tons Processed	Emission Factor (lb/ton)	PTE (TPY)
Trona	10	20	200	0.01	0.001
Sodium Bicarbonate	9	20	180	0.01	0.001
Limestone	2	20	40	0.01	1.71E-04
Hydrated Lime	2	20	40	0.01	1.71E-04

Methodology:

- 1) Emission Factor for PM is from AP-42, Chapter 11.17, Table 11.17-4, 2/98, SCC 3-05-016-26.
- 2) PM10 and PM2.5 emission factors were estimated from AP-42, Chapter 11.17, Table 11.17-7, 2/98. PM10 = 12% of PM and PM2.5 = 1.4% of PM using an uncontrolled lime kiln to estimate emissions.

Attachment A - Emission Calculation Sheet- Emissions from Paved Roads

Company Name: Hoosier Energy REC, Inc. - Merom Generating Station
 Address: 550 West Old 54, Sullivan, Indiana 47882
 Permit Number: 153-31131-00005
 Pit ID: 153-00005
 Reviewer: David J. Matousek
 Date: November 23, 2011

Average Vehicle Weight Calculation

Vehicle Type	Total Trucks	Average Weight (tons)	Total Trips per Year	Miles per Trip	Vehicle Miles Traveled (miles per year)	Traffic Component (%)	Component Weight (tons)
Transfer Trailer	23.0	45	23.0	1.00	23	100.000%	45.00
Total VMT					23		
Average Vehicle Weight (tons) - W							45.00

Site Specific Constants

Value Name	Symbol	Value	Units	Source
Emission Factor	E	---	lb/VMT	Calculated
Particle Size Multiplier	k for PM	0.011	lb/VMT	AP-42 Table 13.2.1-1, January 2011
Particle Size Multiplier	k for PM10	0.0022	lb/VMT	AP-42 Table 13.2.1-1, January 2011
Silt Loading	sL (Winter)	29.6	g/cubic meter	AP-42, Table 13.2.1-2, January 2011, ADT <500
Silt Loading	sL (Non-Winter)	7.4	g/cubic meter	Assumed by applicant
Winter Days	Winter Days	0	days	Estimated by IDEM
Non-Winter Days	Non-Winter Days	365	days	Estimated by IDEM
Days >0.01" of rain	P	125	days	AP-42, Figure 13.2.1-2, January 2011
Total Days in Period	N	365	days	Days in the period
Mean Vehicle Weight	W	14.05	tons	Calculated above

Winter Emission Factor Calculations

$$E = [k * (sL \text{ for winter})^{0.91} * (W)^{1.02}] * [1 - P/(4 * N)]$$

AP-42, Chapter 13.2.1-5, January 2011, Eq. 2

E for PM (lb/VMT) =	3.25 lb/VMT
E for PM10 (lb/VMT) =	0.65 lb/VMT
E for PM2.5 (lb/VMT) =	0.16 lb/VMT

Non-Winter Emission Factor Calculations

$$E = [k * (sL \text{ for non-winter})^{0.91} * (W)^{1.02}] * [1 - P/(4 * N)]$$

AP-42, Chapter 13.2.1-5, January 2011, Eq. 2

E for PM (lb/VMT) =	0.92 lb/VMT
E for PM10 (lb/VMT) =	0.18 lb/VMT
E for PM2.5 (lb/VMT) =	0.05 lb/VMT

Annual Average Emission Factors

$$\text{Annual Average Emission Factor} = [\text{Winter Days} * \text{Winter Factor} + \text{Non-Winter Days} * \text{Non-Winter Factor}] / 365$$

E for PM (lb/VMT) =	0.92 lb/VMT
E for PM10 (lb/VMT) =	0.18 lb/VMT
E for PM2.5 (lb/VMT) =	0.05 lb/VMT

Potential to Emit

PM Emissions (TPY) = [Annual Average E for PM (lb/VMT) * Total VMT/yr * 1 ton / 2,000 lb]	0.01 TPY
PM10 Emissions (TPY) = [Annual Average E for PM10 (lb/VMT) * Total VMT/yr * 1 ton / 2,000 lb]	2.07E-03 TPY
PM2.5 Emissions (TPY) = [Annual Average E for PM2.5 (lb/VMT) * Total VMT/yr * 1 ton / 2,000 lb]	5.75E-04 TPY

Limited Potential to Emit

Control Efficiency	0.00%	
Limited PM Emissions (TPY) = Potential to Emit PM * (1 - Control Efficiency)		0.01 TPY
Limited PM10 Emissions (TPY) = Potential to Emit PM10 * (1 - Control Efficiency)		2.07E-03 TPY
Limited PM2.5 Emissions (TPY) = Potential to Emit PM2.5 * (1 - Control Efficiency)		5.75E-04 TPY

Mail Code 61-53

IDEM Staff	MIDENNEY 12/1/2011 Hoosier Energy REC, Inc. - Frank E. Ratts Gen. Station 125-31131-00001 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	 Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Angie Lee Hoosier Energy REC, Inc. - Frank E. Ratts Generati PO Box 908 Bloomington IN 47402 (Source CAATS)										
2		Chris Norris Plant Mgr Hoosier Energy REC, Inc. - Frank E. Ratts Generati 6825 N Blackburn Rd Petersburg IN 47567 (RO CAATS)										
3		Pike County Commissioners 801 Main Street Petersburg IN 47567 (Local Official)										
4		Petersburg City Council and Mayors Office 704 Main St, City Hall Petersburg IN 47567 (Local Official)										
5		Pike County Health Department 801 Main St, Courthouse Petersburg IN 47567-1298 (Health Department)										
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Total number of pieces Listed by Sender 5	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
---	--	--	--