



# 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](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: December 5, 2011

RE: State Line Energy, LCC / 089-31178-00210

FROM: Matthew Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

## Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FNPER-AM.dot12/3/07



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Ms. Cathy C. Taylor, Director, Electric Environmental Services  
Dominion Resources Services, Inc.  
5000 Dominion Boulevard  
Glenn Allen, Virginia 23060

December 5, 2011

Re: State Line Energy, LLC  
Temporary Operation  
TO No. 089-31178-00210

Dear Ms. Taylor

On November 17, 2011, Dominion Resources Services, Inc. submitted a Notice of Temporary Operation for State Line Energy, LLC. The Temporary Operation involved testing of a dual absorbent system designed to remove mercury and SO<sub>2</sub> from the boiler exhaust. The system consists of a liquid MER-Sorb for mercury removal and a dry powder S-Sorb for SO<sub>2</sub> and mercury removal.

Based on the information provided as part of this notification, the uncontrolled emissions associated with the testing of the dual sorbent operation of PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, NO<sub>x</sub>, SO<sub>2</sub> and CO are less than the PSD significant levels of 25, 15, 10, 40, 40, 40 and 100 tons per year, respectively.

### Temporary Operation General Information

Unit:	Boiler Unit #3 and #4
Location of the Operation:	103 <sup>rd</sup> Street and Lake Michigan, Hammond, Indiana 46320
County:	Lake
County Status:	Nonattainment for PM <sub>2.5</sub> Attainment for all other criteria pollutants
Purpose of the Operation:	Test control system effectiveness to remove mercury and SO <sub>2</sub>
Starting Date of the Operation:	November 25, 2011
Duration of the Operation:	Less than 30 days of actual operation
Testing parameters:	Pollutants: Mercury and SO <sub>2</sub>

### 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 - Lake County

Lake 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: State Line Energy, LLC  
Source Location: 103<sup>rd</sup> Street and Lake Michigan, Hammond, Indiana 46320  
County: Lake  
TO No.: 089-31178-00210  
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:	

<p>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.</p>
Signature:
Printed Name:
Title/Position:
Date:

cc: Compliance and Enforcement Branch



**Appendix A - Potential to Emit - Refined Coal Temporary Operation**

**Company Name: State Line Energy, LLC**  
**Address: 103rd Street and Lake Michigan, Hammond, Indiana 46320**  
**Permit Number: 089-31178-00210**  
**Reviewer: David Matousek**  
**Date: December 1, 2011**

Emission Unit	Process Description	Rate (tons)	Emiss. Factor (lb/ton)				Note	Unrestricted			Control Device	Control Efficiency	Controlled			
			PTE (tons)			PM		PM <sub>10</sub>	PM <sub>2.5</sub>	PTE (tons)						
			PM	PM <sub>10</sub>	PM <sub>2.5</sub>					PM			PM <sub>10</sub>	PM <sub>2.5</sub>		
RC-SILO-01	Pneumatic Load: Truck to Silo	1,193	0.73	0.47	0.47	A	0.44	0.28	0.28	Baghouse	95.0%	0.02	0.01	0.01		
RC-DB-(A & B)	Pneumatic Load: Silo to Silo	1,193	0.73	0.47	0.47	A	0.44	0.28	0.28	Cartridge	95.0%	0.02	0.01	0.01		
RC-DB-(A & B)	Weigh Auger & Transfer to coal	1,193	0.0048	0.0028	0.0028	B	2.9E-03	1.7E-03	1.7E-03	Dust Collect	95.0%	1.4E-04	8.4E-05	8.4E-05		
RC-MIX-(A & B)	Mix S-Sorb w/coal	239,714	0.1222	0.0405	0.0001	C	14.65	4.85	0.01	Dust Collect	95.0%	0.73	0.24	5.0E-04		
<b>Totals</b>							<b>15.53</b>	<b>5.41</b>	<b>0.57</b>				<b>Totals</b>	<b>0.77</b>	<b>0.26</b>	<b>0.02</b>
										<b>PSD Significant Thresholds</b>			<b>25</b>	<b>15</b>	<b>10</b>	

**Methodology**

Unrestricted emissions = (tons material) x (Ef)(lb/ton) x (ton/2000 lb)

Controlled emissions = (Unrestricted emissions) x (1-CE)

Maximum coal consumption during trial = (2,130 + 3,568 MMBtu/hr) \* (720 hrs) / [(8,600 Btu/lb) \* (2,000 lb/ton)] = 238,521 ton/yr

Unit 3 Heat Input (conveyor F4) 2,130 MMBtu/hr  
 Unit 4 Heat Input (conveyor F3B) 3,568 MMBtu/hr  
 Heating Value of Coal 8,600 Btu/lb

Minimum gross heating value of Powder Basin Coal (8,600 Btu/lb)

S-Sorb usage is limited by operational design to no more than 0.5% of the coal throughput by weight. Generally, the application rate will be less than 0.5%. Using more than 0.5% is wasteful.

S-Sorb usage = (2,902,005)(ton/yr)(coal) X (0.005)(Sorb/coal)=

Total mix rate = (2,902,005)(ton/yr)(coal) X (1.005) (additional weight of S-Sorb) =

1,193	tpy
239,714	tpy

**Notes**

A. Pneumatic unload to silo, cement; AP-42 (6/06), Table 11.12-2 = 0.73, 0.47 lb/ton

B. Weigh hopper loading; AP-42, Table 11.12-2 = 0.0048, 0.0028 lb/ton

C. Mixer loading, cement; AP-42 (6/06), Table 11.12-2 = calculated in accordance with Eqn. 11.12-1:

E = k(0.0032)((U<sup>a</sup>a)/(M<sup>b</sup>b)) + c

where:

E = (calc.)	a = 0.4	PM10
k <sub>(PM)</sub> = 5.9	M = 15	minimum for PRB coal as received
k <sub>(PM10)</sub> = 1.92	b = 1.3	PM & PM10
k <sub>(PM2.5)</sub> = 0.38	c = 0.12	PM
U = 10	c = 0.04	PM10
a = 0.6	c = 0	PM2.5

## Appendix A - Potential to Emit - Fugitive Dust Emissions

Company Name: State Line Energy, LLC

Address: 103rd Street and Lake Michigan, Hammond, Indiana 46320

Permit Number: 089-31178-00210

Reviewer: David Matousek

Date: December 1, 2011

### Fugitive PM Emissions from Truck Traffic As a Result of Refined Coal System

\*\* The methodology used to estimate PM & PM10 emissions that would result from truck traffic delivering S-Sorb and MER-Sorb to State Line Power Station are detailed in this section.

Paved Road Emission Factor Equation:

$$E \text{ (lb/VMT)} = k \times (sL)^{0.91} \times (W)^{1.02}$$

Equation 1 in AP-42 Chapter 13.2.1 (January 2011)

where:

E	= PM emission factor (lb/VMT)		
k	= particle size multiplier (lb/VMT):	0.011 lb/VMT	0.011 for PM30 (suspendable particulate, TSP)
k	= particle size multiplier (lb/VMT):	0.0022 lb/VMT	0.0022 for PM10
k	= particle size multiplier (lb/VMT):	0.00054 lb/VMT	0.00054 for PM2.5
sL	= road surface silt loading (g/m <sup>2</sup> )	9.7 g/m <sup>2</sup>	AP-42 Table 13.2.1-3: Typical silt loading value at Iron and steel production facilities
W	= average weight of vehicles traveling (tons)	28 ton	
Paved Road Emission Factor for PM at State Line:		2.60 lb/VMT	
Paved Road Emission Factor for PM10 at State Line:		0.52 lb/VMT	
Paved Road Emission Factor for PM2.5 at State Line:		0.13 lb/VMT	

#### Potential PM Emissions from trucks delivering S-Sorb:

S-Sorb target application rate:	0.5 %	10 lb S-Sorb per ton of coal
Annual S-Sorb delivered at target application rate:	1,193 ton	
S-Sorb volume per truck load:	25 ton/truck	Delivery truck specification
Maximum number of trucks delivering S-Sorb annually:	48 trips	
Miles per trip (paved):	0.53 mi	estimated by State Line Power Station
Trip Potential Fugitive PM Emissions:	1.38 lb/trip	= (0.53 paved mi)*(2.6 lb PM/paved VMT)
Trip Potential Fugitive PM10 Emissions:	0.28 lb/trip	= (0.53 paved mi)*(0.52 lb/paved VMT)
Trip Potential Fugitive PM2.5 Emissions:	0.07 lb/trip	= (0.53 paved mi)*(0.13 lb/paved VMT)
Potential Trial Fugitive PM Emissions:	<b>3.3E-02 tons</b>	= (1.38 lb/trip)*(1,161 trip/yr)/(2000 lb/ton)
Potential Trial Fugitive PM10 Emissions:	<b>6.6E-03 tons</b>	= (0.28 lb/trip)*(1,161 trip/yr)/(2000 lb/ton)
Potential Trial Fugitive PM2.5 Emissions:	<b>1.6E-03 tons</b>	= (0.07 lb/trip)*(1,161 trip/yr)/(2000 lb/ton)

#### Potential PM Emissions from trucks delivering MER-Sorb:

MER-Sorb target application rate:	0.15 %	
Annual MER-Sorb delivered at target application rate:	358 ton	= (2,902,005 tons coal)(0.0015 application rate)
MER-Sorb volume per truck load:	21.5 ton/truck	Delivery truck specification
Max number of trucks delivering MER-Sorb annually:	17 trips	
Miles per trip (paved):	0.53 mi	estimated by State Line Power Station
Trip Potential Fugitive PM Emissions:	1.38 lb/trip	= (0.53 paved mi)*(2.6 lb PM/paved VMT)
Trip Potential Fugitive PM10 Emissions:	0.28 lb/trip	= (0.53 paved mi)*(0.52 lb/paved VMT)
Trip Potential Fugitive PM2.5 Emissions:	0.07 lb/trip	= (0.53 paved mi)*(0.13 lb/paved VMT)
Potential Trial Fugitive PM Emissions:	<b>1.15E-02 tons</b>	= (1.60 lb/trip)*(202 trip/yr)/(2000 lb/ton)
Potential Trial Fugitive PM10 Emissions:	<b>9.55E-05 tons</b>	= (0.37 lb/trip)*(202 trip/yr)/(2000 lb/ton)
Potential Trial Fugitive PM2.5 Emissions:	<b>5.63E-04 tons</b>	= (0.07 lb/trip)*(1,161 trip/yr)/(2000 lb/ton)



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## SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

**TO:** Cathy C Taylor  
State Line Energy, LLC  
5000 Dominion Blvd  
Glen Allen, VA 23060-3308

**DATE:** December 5, 2011

**FROM:** Matt Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

**SUBJECT:** Final Decision  
Temporary Operation  
089-31178-00210

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07

# Mail Code 61-53

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Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

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1		Cathy C Taylor State Line Energy, LLC 5000 Dominion Blvd Glen Allen VA 23060-3308 (Source CAATS)										
2		Katheryn Curtis VP - F&H Merchant Ops State Line Energy, LLC 5000 Dominion Blvd Glen Allen VA 23060-3308 (RO CAATS)										
3		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 (Local Official)										
4		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 (Health Department)										
5		Hammond City Council and Mayors Office 5925 Calumet Avenue Hammond IN 46320 (Local Official)										
6		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 (Local Official)										
7		Gary City Council 401 Broadway # 209 Gary IN 46402 (Local Official)										
8		Ron Novak Hammond Dept. of Environmental Management 5925 Calumet Ave. Hammond IN 46320 (Local Official)										
9		Susan Severtson City of Gary Law Dept. 401 Broadway 4th Floor Gary IN 46402 (Local Official)										
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