INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: September 11, 2013

RE: Seymour Engine Plant / 071-33555i-00015

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

Notice of Decision: Approval - Effective Immediately

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 IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require 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 of 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.dot 6/13/13

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Michael R. Pence
Governor

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Commissioner

David Wehrkamp
Seymour Engine Plant
800 E. Third Street
Seymour, IN 47274

September 11, 2013

Re: Interim Significant Source Modification Petition Approval
071-33555i-00015

Dear Mr. Wehrkamp:

On August 21, 2013, the Office of Air Quality (OAQ) received an interim Significant Source Modification petition from Seymour Engine Plant, located at 800 E. Third Street, in Seymour, Indiana for construction of a test cell (HHP15) for testing high horsepower engines manufactured at the site.

A public notice of the interim Significant Source Modification petition was published in Tribune on August 23, 2013. The public comment period ended on September 6, 2013.

There were no comments received during the public comment period. This interim Significant Source Modification petition is in effect upon issuance and will expire on the effective date of the final Significant Source Modification permit.

The interim Significant Source Modification petition may be revoked after the effective date upon a written finding by the Indiana Department of Environmental Management (IDEM) that any of the reasons for denial in 326 IAC 2-13-1(h) exist or if the final Significant Source Modification permit is denied. The IDEM has reviewed this interim Significant Source Modification petition and has not found any such reason. The facilities subject to this approval may not operate until the final Significant Permit Modification is issued by OAQ.

The interim Significant Source Modification petition is federally enforceable. Detailed construction and operation conditions will be specified in the final Significant Source Modification permit 071-33555i-00015

If you have any questions regarding this interim Significant Source Modification petition, please contact Deena Patton, OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Deena Patton or extension 4-5400, or dial (317) 234-5400

Sincerely,

Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Enclosure: Interim Permit Evaluation

dp

cc: File – Jackson County
Jackson County Health Department

U.S. EPA, Region V
Compliance and Enforcement Branch

071-33555i-00005

Cummins Inc.
Seymour Engine Plant

Petition for an Interim Approval for a Significant Source Modification

B Paul Consulting, LLC
285 Spring Drive
Zionsville, IN 46077
317-344-9730
www.bpaulconsulting.com
8/16/2013

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

PETITION FOR INTERIM SIGNIFICANT PERMIT REVISION, SIGNIFICANT SOURCE MODIFICATION, MINOR PERMIT REVISION, OR MINOR SOURCE MODIFICATION

Source Name: Cummins, Inc., Seymour Engine Plant (SEP)

Source Address: 800 E. Third Street, Seymour, IN 47274

Mailing Address: 800 E. Third Street, Seymour, IN 47274

SIC/NAICS Code: 3519/333618

Description of the Operation or Equipment:

SEP plans to install a test cell (HHP15) for testing high horsepower engines manufactured at the site. HHP will be capable of testing engines as large as 9000 horsepower. The exhaust system for the test cell will be equipped with a selective catalytic reduction system (SCR) for reducing NOx emissions, and a catalytic oxidation system for reducing CO emissions. The SCR system is equipped with a 5.0 MMBtu/hr duct burner to ensure SCR temperatures are at appropriate temperatures for NOx reduction to occur.

Potential to Emit:

The PTE values summarized below and the calculation methods are provided in detail in the application for significant source modification/significant permit modification submitted concurrently with this petition.

Pollutant	Test Cell HHP15 Fuel Alternatives (Excludes Duct Burner emissions) Max alternative in ***bold/italics***							Duct Burner unlimited PTE (ton/yr)	Total project unlimited PTE (ton/yr)	Limited PTE (ton/yr)
	Diesel	Biodiesel	Natural gas	Propane	Hydrogen	Nat gas/CO2	Highest			
Criteria pollutants										
CO	102.52	102.52	67.17	***170.93***	0.00	67.17	170.93	1.84	172.77	99
NOx	281.60	298.32	491.99	184.18	***737.99***	491.99	737.99	2.19	740.18	39
PM	***7.48***	***7.48***	0.01	6.63	0.00	0.01	7.48	0.04	7.52	n/a
PM10	***6.95***	***6.95***	1.20	6.63	0.00	1.20	6.95	0.17	7.12	N/A
PM2.5	***6.69***	***6.69***	1.20	6.63	0.00	1.20	6.69	0.17	6.86	N/A
SO2	0.19	0.19	0.01	***0.46***	0.00	0.01	0.46	0.01	0.47	N/A
VOC	10.82	10.82	14.23	***109.98***	0.00	14.23	109.98	0.12	110.10	39
Hazardous Air Pollutants										
Organic HAPs										
Acetaldehyde	0.00	0.00	***1.04***	0.00	0.00	***1.04***	1.04	0.00	1.04	N/A
Acrolein	0.00	0.00	***0.62***	0.00	0.00	***0.62***	0.62	0.00	0.62	N/A
Benzene	***0.09***	***0.09***	0.05	0.00	0.00	0.05	0.09	0.00	0.09	N/A
Dichlorbenzene	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	0.00	0.00	0.00	N/A
Formaldehyde	0.01	0.01	***6.37***	0.00	0.00	***6.37***	6.37	0.00	6.37	N/A
Hexane	0.00	0.00	***1.33***	0.00	0.00	***1.33***	1.33	0.04	1.37	N/A
Methanol	0.02	0.02	***0.30***	0.00	0.00	***0.30***	0.30	0.00	0.30	N/A
Toluene	0.03	0.03	***0.05***	0.00	0.00	***0.05***	0.05	0.00	0.05	N/A
Xylene	***0.02***	***0.02***	***0.02***	0.00	0.00	***0.02***	0.02	0.00	0.02	N/A
Metal HAPs										
Cadmium	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Chromium	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Nickel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Manganese	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Lead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Total HAPs	0.17	0.17	***9.78***	0.00	0.00	***9.78***	9.78	0.04	9.82	**N/A**
Greenhouse Gases										
CO2	19,800.00	19,800.00	14,095.36	29,812.50	0.00	35,839.51	35,839.51	2559.89	38399.40	
N2O	0.16	0.16	0.03	0.24	0.03	0.03	0.24	0.00	0.24	
CH4	0.80	0.80	0.27	1.21	0.00	0.27	1.21	0.05	1.26	
Total GHGs as CO2e	19,866.40	19,866.40	14,110.33	29,912.31	9.30	***35,854.48***	35,854.48	2560.94	38415.42	**N/A**

PSD Requirements:

SEP agrees to limit potential to emit for CO, NOx, and VOC to less than significant emission rates. All other NSR regulated pollutants have PTE less than the respective significant emission rates.

(a) SEP agrees to limit CO emissions from Test Cell HHP15 and the duct burner to 99 tons/year, with compliance demonstrated through monitoring fuel usage and calculating emissions based on fuel usage. Fuel usage and emission calculations records will be kept and NOx emissions will be reported quarterly.

(b) SEP agrees to limit NOx emissions from Test Cell HHP15 and the duct burner to 39 tons/year, with compliance demonstrated through monitoring fuel usage and calculating emissions based on fuel usage. Fuel usage and emission calculations records will be kept and CO emissions will be reported quarterly.

(c) SEP agrees to limit VOC emissions from Test Cell HHP15 and the duct burner to 39 tons/year, with compliance demonstrated through monitoring fuel usage and calculating emissions based on fuel usage. Fuel usage and emission calculations records will be kept and NOx emissions will be reported quarterly.

NSPS Requirements:

There is no applicable NSPS rule applicable to this operation or equipment. See explanation in permit application for explanation and justification.

NESHAP Requirements:

There is no applicable NESHAP rule applicable to this operation or equipment. See explanation in permit application for explanation and justification.

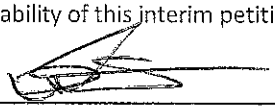
State Rules & Requirements:

The following Indiana air quality regulations are applicable to the project:

- 326 IAC 2-7-10.5 for significant source modifications
- 326 IAC 2-7-12 for significant permit modifications
- 326 IAC 5 for opacity

Federal Enforceability:

The company consents to the federal enforceability of this interim petition.

Signature: 

Printed Name: Darren Wildman

Title or Position: Plant Manager

Phone Number: 812-524-6627

Date: 8/15/2013

Indiana Department of Environmental Management
Office of Air Quality

Interim Petition Checklist

Instructions: (a) Please answer yes or no.
(b) Enclosed this checklist with the completed interim petition package.

Company Name: Cummins, Inc., Seymour Engine Plant (SEP)

Location:

Yes	1. Is the written interim petition prepared?
Yes	2. Is the written petition signed and dated?
Yes	3. Is the public notice drafted?
Yes	4. Is the filing and review fee enclosed? $625 for TV, FESOP, and SSOA. $500 for MSOP.
Yes	5. Is the account number written on the check or money order?
Yes	6. Is the Affidavit of Construction signed, dated, and notarized?
Yes	7. Is the proposed modification/revision described in detail?
Yes	8. Is the proposed modification/revision a modification or addition to an existing source?
Yes	9. Is the proposed modification/revision located in an attainment area for all the criteria pollutants?
No	10. Is the proposed modification/revision located in a nonattainment area? If yes, answer No. 11.
N/A	11. Is the pollutant, which the nonattainment designation is based on, going to be emitted in this proposed modification/revision?
Yes	12. Are potential emissions calculated?
Yes	13. Is federal enforceability consent specifically indicated?
Yes	14. Are specific conditions, limitations, and/or restrictions included that preclude applicability of PSD?
No	15. Are specific conditions, limitations, and/or restrictions included that preclude applicability of NSPS?
No	16. Are specific conditions, limitations, and/or restrictions included that preclude applicability of NESHAP?
Yes	17. Are specific conditions, limitations, and/or restrictions included that assure compliance with all applicable state air pollution rules?
Yes	18. Has a regular modification/revision permit application been submitted to OAQ?
No	19. Has the proposed modification/revision commenced prior to the submission of the interim permit petition?
	20. The interim petition comment period has been decided to be: 14 calendar days

Additional Comments:

RECEIVED
State of Indiana
AUG 21 2013
Dept of Environmental Management
Office of Air Quality

CERTIFIED MAIL™

7012 3050 0000 9916 7196

UNITED STATES POSTAL SERVICE

1000

46204

U.S. POSTAGE
PAID
SEYMOUR, IN
47274
AUG 20, '13
AMOUNT

$6.97

00063311-11

AUG 21 2013

Indiana Department of Environmental Management
Office of Air Quality, Air Permits Administration MC 61-53
ATTN: Incoming Application
100 North Senate Avenue, IGCN 1003
Indianapolis, IN 46204-2251

Affidavit of Construction

I, **Darren Wildman**, being duly sworn upon my oath, depose and say:

(Name of the Authorized Representative)

1. I live in Bartholomew County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of **Plant Manager** for **Cummins, Inc., Seymour Engine Plant.**
(Title) (Company Name)

3. By virtue of my position with **Cummins, Inc., Seymour Engine Plant**, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of **Cummins, Inc., Seymour Engine Plant.**
(Company Name)

4. I, the undersigned, have submitted an interim (minor permit revision, significant permit revision, minor source modification, significant source modification) petition to the Office of Air Quality for the construction of **Engine Test Cell HHP15 with duct burner**.

5. **Cummins, Inc., Seymour Engine Plant** recognizes the following risks:
(Company Name)
(a) own financial risk, (b) that IDEM may require additional or different control technology for the final approval, (c) that IDEM may deny issuance of the final approval, and (d) any additional air permitting requirements.

Further Affiant said not.
I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature: _____

Printed Name: DARREN WILDMAN

Phone No.: 812-524-6622

Date: 8-19-13

STATE OF INDIANA)
)SS
COUNTY OF Jackson)

Subscribed and sworn to me, a notary public in and for Indiana County and State of Indiana on this 19 day of August, 20 13.

My Commission expires: 1-6-19

Signature: Diana Vance

NOTARY PUBLIC
Diana Vance
Commission Expires January 6, 2019
Resident, Jackson Co,

Printed Name: Diana Vance

revised 3/23/01 drp

NOTICE OF 14-DAY PERIOD
FOR PUBLIC COMMENT

Proposed Approval of Interim Significant Permit Revision/Significant Source Modification
for **Cummins, Inc., Seymour Engine Plant**
in **Jackson County**

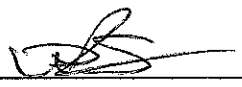
Notice is hereby given that the above company located at 800 E. Third Street, Seymour, Indiana, has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for an interim permit to construct an engine test cell and duct burner with selective catalytic reduction and catalytic oxidation as air pollution control. Based on 8,760 hours per year of operation, the CO, NOx, and VOC emissions are 172, 740, and 110 tons per year, respectively. *Practically enforceable permit conditions will limit CO, NOx and VOC emissions to 99, 39; and 39 tons per year respectively.*

The company has submitted an application for a significant permit revision / significant source modification. The OAQ shall review the application in accordance with the Permit Review Rules. Operation of the source cannot commence until a valid operating permit is issued. The construction of the proposed project is entirely at the applicant's own risk.

Notice is hereby given that there will be a period of 14 days from the date of publication of this notice during which any interested person may comment on why this interim permit should or should not be issued. Appropriate comments should be related to air quality issues, interpretation of the applicable state and federal rules, calculations made, technical issues, or the effect that the operation of this facility would have on any aggrieved individuals. A copy of the application and staff review is available for examination at the **Jackson County Public Library, 303 W. Second Street, Seymour, Indiana, 47274**. All comments, along with supporting documentation, should be submitted in writing to the IDEM, OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251.

Persons not wishing to comment at this time, but wishing to receive notice of future proceedings conducted related to this action, must submit a written request to the Office of Air Quality (OAQ), at the above address. All interested parties of record will receive a notice of the decision on this matter and will then have 15 days after receipt of the Notice of Decision to file a petition for administrative review. Procedures for filing such a petition will be enclosed with the Notice.

Questions should be directed to OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251, or call (800) 451-6027 or (317) 233-0178.

Company Official's Signature: 

Company Official's Printed Name: Darren Wildman, Plant Manager

Company Name: Cummins, Inc., Seymour Engine Plant

The Tribune
100 St. Louis Ave
Seymour, IN 47274
Fed ID# 35-0917579

PUBLISHER'S CLAIM

Data for computing costs:

Number of lines per column 115
Number of Columns 1
Number of Insertions 1

COMPUTATION OF CHARGES

115 Lines x 1 Columns x Rate of .539 per line 61.98

Additional charge for notices containing rule or tabular work ....
(50% of above amount)

Charge for extra proofs of publication ....
($5.00 for each proof in excess of two)

TOTAL AMOUNT OF CLAIM 61.98

Pursuant to the provisions and penalties of Chapter 155, Acts 1953, I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

Date: 08/23/13

Debra Felix
Legal Advertising Clerk

PUBLISHER'S AFFIDAVIT

State of Indiana)
Jackson County) ss:

Personally appeared before me, a notary public in and for said county and state, the undersigned Debra Felix, who being duly sworn, says that she is Legal Advertising Clerk of the Tribune newspaper of general circulation printed and published in the English language in the (city/town) of Seymour in state and county aforesaid, and that the printed matter attached hereto is a true copy, which dates of publication being as follows:

August 23, 2013

Subscribed and sworn to before me this 23rd day of August, 2013

Tammy Smith, Notary Public
Commission expires: May 11, 2016

NOTICE OF 14-DAY PERIOD FOR PUBLIC COMMENT

Proposed Approval of Interim Significant Permit Revision/Significant Source Modification for Cummins, Inc., Seymour Engine Plant, in Jackson County

Notice is hereby given that the above company located at 800 E. Third Street, Seymour, Indiana, has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for an interim permit to construct an engine test cell and duct burner with selective catalytic reduction and catalytic oxidation as air pollution control. Based on 8,760 hours per year of operation, the CO, NOx, and VOC emissions are 172, 740, and 110 tons

47274. All comments, along with supporting documentation, should be submitted in writing to the IDEM, OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251.

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Darren Wildman, Plant Manager
Cummins, Inc., Seymour Engine Plant
A 23

NOTICE OF 14-DAY PERIOD FOR PUBLIC COMMENT

Proposed Approval of Interim Significant Permit Revision/Significant Source Modification for Cummins, Inc., Seymour Engine Plant, in Jackson County

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The company has submitted an application for a significant permit revision / significant source modification. The OAQ shall review the application in accordance with the Permit Review Rules. Operation of the source cannot commence until a valid operating permit is issued. The construction of the proposed project is entirely at the applicant's own risk.

Notice is hereby given that there will be a period of 14 days from the date of publication of this notice during which any interested person may comment on why this interim permit should or should not be issued. Appropriate comments should be related to air quality issues, interpretation of the applicable state and federal rules, calculations made, technical issues, or the effect that the operation of this facility would have on any aggrieved individuals. A copy of the application and staff review is available for examination at the Jackson County Public Library, 303 W. Second Street, Seymour, Indiana,

comments, should be submitted in writing to the IDEM, OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251.

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Questions should be directed to OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251, or call (800) 451-6027 or (317) 233-0178.

Darren Wildman, Plant Manager

Cummins, Inc., Seymour Engine Plant

A 23

State of Indiana)
Jackson County) ss:

Personally appeared before me, a notary public in and for said county and state, the undersigned Debra Felix, who being duly sworn, says that she is Legal Advertising Clerk of the Tribune newspaper of general circulation printed and published in the English language in the (city/town) of Seymour in state and county aforesaid, and that the printed matter attached hereto is a true copy, which dates of publication being as follows:

August 23, 2013

Debra Felix

Subscribed and sworn to before me this 23rd day of August, 2013

Tammy Smith

Tammy Smith, Notary Public
Commission expires: May 11, 2016

Appendix A: Emission Calculations
Potential to Emit Summary

Company Name: **Cummins Inc. (Seymour Engine Plant)**
Address City IN Zip: **800 E. Third Street**
Permit Number: **071-33555-00015**
Reviewer: **Deena Patton**

Uncontrolled Potential to Emit After Modification (ton/yr)											
Emission Unit/ID	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	VOC	CO	GHGs	HAPs	Worst Single HAP	
Test Cell HHP15 and SCR duct burner	7.52	7.12	6.86	0.47	740.18	110.10	172.77	38415.42	9.82	6.37	Formaldehyde
Total	**7.52**	**7.12**	**6.86**	**0.47**	**740.18**	**110.10**	**172.77**	**38415.42**	**9.82**	**6.37**	**Formaldehyde**

Limited Potential to Emit After Modification (ton/yr)											
Emission Unit/ID	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	VOC	CO	GHGs	HAPs	Worst Single HAP	
Test Cell HHP15 and SCR duct burner	7.52	7.12	6.86	0.47	39.00	39.00	99.00	38415.42	9.82	6.37	Formaldehyde
Total	**7.52**	**7.12**	**6.86**	**0.47**	**39.00**	**39.00**	**99.00**	**38415.42**	**9.82**	**6.37**	**Formaldehyde**

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner All Fuel Types

Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Reviewer: Deena Patton

Pollutant	Test Cell HHP15 Fuel Alternatives (Excludes Duct Burner emissions)							Duct Burner unlimited	Total project unlimited	Limited PTE (ton/yr)
	Diesel	Biodiesel	Natural gas	Propane	Hydrogen	Nat gas/CO2	Highest			
Criteria pollutants										
CO	102.52	102.52	67.17	***170.93***	0.00	67.17	170.93	1.84	172.77	99
NOx	281.60	298.32	491.99	184.18	***737.99***	491.99	737.99	2.19	740.18	39
PM	***7.48***	***7.48***	0.01	6.63	0.00	0.01	7.48	0.04	7.52	none needed
PM10	***6.95***	***6.95***	1.20	6.63	0.00	1.20	6.95	0.17	7.12	none needed
PM2.5	***6.69***	***6.69***	1.20	6.63	0.00	1.20	6.69	0.17	6.86	none needed
SO2	0.19	0.19	0.01	***0.46***	0.00	0.01	0.46	0.01	0.47	none needed
VOC	10.82	10.82	14.23	***109.98***	0.00	14.23	109.98	0.12	110.10	39
Hazardous Air Pollutants										
Organic HAPs										
Acetaldehyde	0.00	0.00	***1.04***	0.00	0.00	***1.04***	1.04	0.00	1.04	none needed
Acrolein	0.00	0.00	***0.62***	0.00	0.00	***0.62***	0.62	0.00	0.62	none needed
Benzene	***0.09***	***0.09***	0.05	0.00	0.00	0.05	0.09	0.00	0.09	none needed
Dichlorbenzene	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	0.00	0.00	0.00	none needed
Formaldehyde	0.01	0.01	***6.37***	0.00	0.00	***6.37***	6.37	0.00	6.37	none needed
Hexane	0.00	0.00	***1.33***	0.00	0.00	***1.33***	1.33	0.04	1.37	none needed
Methanol	0.02	0.02	***0.30***	0.00	0.00	***0.30***	0.30	0.00	0.30	none needed
Toluene	0.03	0.03	***0.05***	0.00	0.00	***0.05***	0.05	0.00	0.05	none needed
Xylene	***0.02***	***0.02***	***0.02***	0.00	0.00	***0.02***	0.02	0.00	0.02	none needed
Metal HAPs										
Cadmium	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	none needed
Chromium	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	none needed
Nickel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	none needed
Manganese	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	none needed
Lead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	none needed
Total HAPs	0.17	0.17	***9.78***	0.00	0.00	***9.78***	9.78	0.04	9.82	**none needed**
Greenhouse Gases										
CO2	19,800.00	19,800.00	14,095.36	29,812.50	0.00	35,839.51	35,839.51	2559.89	38399.40	
N2O	0.16	0.16	0.03	0.24	0.03	0.03	0.24	0.00	0.24	
CH4	0.80	0.80	0.27	1.21	0.00	0.27	1.21	0.05	1.26	
Total GHGs as CO2e	19,866.40	19,866.40	14,110.33	29,912.31	9.30	***35,854.48***	35,854.48	2560.94	38415.42	**none needed**

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Diesel Fuel
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000	hp
Maximum fuel usage	1,760,000	gallon/yr
Duct burner capacity	5	MMBtu/hr
Maximum natural gas usage	0.005	mmcf/hr

Pollutant	Test Cell HHP 15 Emission factor (lb/gallon)	Test Cell HHP 15 Unlimited PTE (ton/yr)	Duct Burner Emission factor (lb/mmcf)	Duct Burner Unlimited PTE (ton/yr)	Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)
Criteria pollutants						
CO	0.1165	102.52	84	1.84	104.36	99
NOx	0.32	281.60	100	2.19	283.79	39
PM	0.0085	7.48	1.9	0.04	7.52	none needed
PM10	0.0079	6.95	7.60	0.17	7.12	none needed
PM2.5	0.0076	6.69	7.60	0.17	6.86	none needed
SO2	0.000213	0.19	0.60	0.01	0.20	none needed
VOC	0.0123	10.82	5.50	0.12	10.94	none needed
Hazardous Air Pollutants						
Organic HAPs						
Acetaldehyde	n/a	0.00	n/a	0.00	0.00	none needed
Acrolein	n/a	0.00	n/a	0.00	0.00	none needed
Benzene	0.000106	0.09	0.00210	0.00	0.09	none needed
Dichlorbenzene	n/a	0.00	0.00120	0.00	0.00	none needed
Formaldehyde	0.000011	0.01	0.07500	0.00	0.01	none needed
Hexane	n/a	0.00	1.80000	0.04	0.04	none needed
Napthalene	0.000018	0.02	0.00061	0.00	0.02	none needed
Toluene	0.000039	0.03	0.00340	0.00	0.03	none needed
Xylene	0.000026	0.02	n/a	0.00	0.02	none needed
Metal HAPs						
Cadmium	n/a	0.00	0.00130	0.00	0.00	none needed
Chromium	n/a	0.00	0.00140	0.00	0.00	none needed
Nickel	n/a	0.00	0.00210	0.00	0.00	none needed
Manganese	n/a	0.00	0.00038	0.00	0.00	none needed
Lead	n/a	0.00	0.00050	0.00	0.00	none needed
Total HAPs		**0.17**		**0.04**	**0.21**	**none needed**
Greenhouse Gases						
CO2	22.50	19,800.00	116,890.00	2,559.89	22,359.89	
N2O	0.000183	0.16	0.22	0.00	0.16	
CH4	0.000913	0.80	2.20	0.05	0.85	
Total GHGs as CO2e		**19,866.40**		**2,560.94**	**22,427.34**	**none needed**

Assumptions and references for Test Cell HHP15 emissions
Assumed fuel usage greatly exceeds fuel usage for a production test cell based on historical utilization of test cells
CO and VOC emission factors from AP-42, Chapter 3, Section 4, Table 3.4-1
NOx emission factor based on preliminary design and expected testing regiment; actual emissions will be lower due to SCR controls
PM, PM10, and PM2.5 emission factors from AP-42, Chapter 3, Section 4, Table 3.4-2
PM factor is total filterable particulate, PM10 factor is <10u filterable + condensable, and PM2.5 factor is <3u filterable + condensable
SO2 emission factor based on 15 ppm sulfur content in diesel fuel and 100% conversion to SO2
HAP emission factors from AP-42, Chapter 3, Section 4, Tables 3.4-3 and 3.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2)
Emission factors converted from lb/MMBtu to lb/gallon by assuming heating value of 137,030 Btu/gallon
Methodology: Maximum fuel usage (gal/yr) * emission factor (lb/gal) * ton/2000 lb = ton/y

Assumptions and references for Duct burner emissions
Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2
Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene
Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98.33
Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/y

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Biodiesel Fuel
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000	hp
Maximum fuel usage	1,760,000	gallon/yr
Duct burner capacity	5	MMBtu/hr
Maximum natural gas usage	0.005	mmcf/hr

Pollutant	Test Cell HHP 15		Duct Burner		Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)
	Emission factor (lb/gallon)	Unlimited PTE (ton/yr)	Emission factor (lb/mmcf)	Unlimited PTE (ton/yr)		
Criteria pollutants						
CO	0.1165	102.52	84	1.84	104.36	99
NOx	0.339	298.32	100	2.19	300.51	39
PM	0.0085	7.48	1.9	0.04	7.52	none needed
PM10	0.0079	6.95	7.60	0.17	7.12	none needed
PM2.5	0.0076	6.69	7.60	0.17	6.86	none needed
SO2	0.000213	0.19	0.60	0.01	0.20	none needed
VOC	0.0123	10.82	5.50	0.12	10.94	none needed
Hazardous Air Pollutants						
Organic HAPs						
Acetaldehyde	n/a	0.00	n/a	0.00	0.00	none needed
Acrolein	n/a	0.00	n/a	0.00	0.00	none needed
Benzene	0.000106	0.09	0.00210	0.00	0.09	none needed
Dichlorbenzene	n/a	0.00	0.00120	0.00	0.00	none needed
Formaldehyde	0.000011	0.01	0.07500	0.00	0.01	none needed
Hexane	n/a	0.00	1.80000	0.04	0.04	none needed
Napthalene	0.000018	0.02	0.00061	0.00	0.02	none needed
Toluene	0.000039	0.03	0.00340	0.00	0.03	none needed
Xylene	0.000026	0.02	n/a	0.00	0.02	none needed
Metal HAPs						
Cadmium	n/a	0.00	0.00130	0.00	0.00	none needed
Chromium	n/a	0.00	0.00140	0.00	0.00	none needed
Nickel	n/a	0.00	0.00210	0.00	0.00	none needed
Manganese	n/a	0.00	0.00038	0.00	0.00	none needed
Lead	n/a	0.00	0.00050	0.00	0.00	none needed
Total HAPs		**0.17**		**0.04**	**0.21**	**none needed**
Greenhouse Gases						
CO2	22.50	19,800.00	116,890.00	2,559.89	22,359.89	
N2O	0.000183	0.16	0.22	0.00	0.16	
CH4	0.000913	0.80	2.20	0.05	0.85	
Total GHGs as CO2e		**19,866.40**		**2,560.94**	**22,427.34**	**none needed**

Assumptions and references for Test Cell HHP15 emissions
Assumed fuel usage greatly exceeds fuel usage for a production test cell based on historical utilization of test cell
CO and VOC emission factors from AP-42, Chapter 3, Section 4, Table 3.4-1
NOx emission factor based on preliminary design and expected testing regiment; actual emissions will be lower due to SCR control
PM, PM10, and PM2.5 emission factors from AP-42, Chapter 3, Section 4, Table 3.4-2
PM factor is total filterable particulate, PM10 factor is <10u filterable + condensable, and PM2.5 factor is <3u filterable + condensabl
SO2 emission factor based on 15 ppm sulfur content in diesel fuel and 100% conversion to SO
HAP emission factors from AP-42, Chapter 3, Section 4, Tables 3.4-3 and 3.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2)
Emission factors converted from lb/MMBtu to lb/gallon by assuming heating value of 137,030 Btu/gallo
Methodology: Maximum fuel usage (gal/yr) * emission factor (lb/gal) * ton/2000 lb = ton/y

Assumptions and references for Duct burner emissions
Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2
Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene
Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98.33
Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/y

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Natural Gas
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000	hp
Maximum heat input	241,173	MMBtu/yr
Duct burner capacity	5	MMBtu/hr
Maximum natural gas usage	0.005	mmcf/hr

Pollutant	Test Cell HHP 15		Duct Burner		Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)
	Emission factor (lb/MMBtu)	Unlimited PTE (ton/yr)	Emission factor (lb/mmcf)	Unlimited PTE (ton/yr)		
Criteria pollutants						
CO	0.557	67.17	84	1.84	69.01	99
NOx	4.08	491.99	100	2.19	494.18	39
PM	0.000077	0.01	1.9	0.04	0.05	none needed
PM10	0.009987	1.20	7.60	0.17	1.37	none needed
PM2.5	0.009987	1.20	7.60	0.17	1.37	none needed
SO2	0.0000588	0.01	0.60	0.01	0.02	none needed
VOC	0.118	14.23	5.50	0.12	14.35	none needed
Hazardous Air Pollutants						
Organic HAPs						
Acetaldehyde	0.0086	1.04	n/a	0.00	1.04	none needed
Acrolein	0.00514	0.62	n/a	0.00	0.62	none needed
Benzene	0.00044	0.05	0.00210	0.00	0.05	none needed
Dichlorbenzene	n/a	0.00	0.00120	0.00	0.00	none needed
Formaldehyde	0.0528	6.37	0.07500	0.00	6.37	none needed
Hexane	0.011	1.33	1.80000	0.04	1.37	none needed
Methanol	0.0025	0.30	n/a	0.00	0.30	none needed
Toluene	0.000408	0.05	0.00340	0.00	0.05	none needed
Xylene	0.00018	0.02	n/a	0.00	0.02	none needed
Metal HAPs						
Cadmium	n/a	0.00	0.00130	0.00	0.00	none needed
Chromium	n/a	0.00	0.00140	0.00	0.00	none needed
Nickel	n/a	0.00	0.00210	0.00	0.00	none needed
Manganese	n/a	0.00	0.00038	0.00	0.00	none needed
Lead	n/a	0.00	0.00050	0.00	0.00	none needed
Total HAPs		**9.78**		**0.04**	**9.82**	**none needed**
Greenhouse Gases						
CO2	116.89	14,095.36	116,890.00	2,559.89	16,655.25	
N2O	0.000220	0.03	0.22	0.00	0.03	
CH4	0.002200	0.27	2.20	0.05	0.32	
Total GHGs as CO2e		**14,110.33**		**2,560.94**	**16,671.27**	**none needed**

Assumptions and references for Test Cell HHP15 emissions
Assumed fuel usage greatly exceeds fuel usage for a production test cell based on historical utilization of test cells
Heat input rate based on equivalent to diesel fuel usage converted to heat input - 1,760,000 gal/yr * .13703 MMBtu/gal = 241,173 MMBtu/yr
Criteria pollutant emissions from AP-42 Chapter 3, Section 2, Table 3.2-2 - uncontrolled emission factors for 4-stroke-lean burn engines
NOx emission factor based on preliminary design and expected testing regiment; actual emissions will be lower due to SCR control
PM, PM10, and PM2.5 emission factors from AP-42, Chapter 3, Section 2, Table 3.2-2
PM factor is filterable particulate, PM10 factor is <10u filterable + condensable, and PM2.5 factor is <2.5u filterable + condensable
HAP emission factors from AP-42, Chapter 3, Section 2, Table 3.4-2 and 3.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2)
Methodology: Maximum heat input (MMBtu/yr) * emission factor (lb/MMBtu) * ton/2000 lb = ton/yr

Assumptions and references for Duct burner emissions
Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2
Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene)
Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98.33
Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/yr

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Propane
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000	hp
Maximum fuel usage	2,650,000	gallon/yr
Duct burner capacity	5	MMBtu/hr
Maximum natural gas usage	0.005	mmcf/hr

Pollutant	Test Cell HHP 15		Duct Burner		Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)	
	Emission factor (lb/gallon)	Unlimited PTE (ton/yr)	Emission factor (lb/mmcf)	Unlimited PTE (ton/yr)			
Criteria pollutants							
CO	0.129	170.93	84	1.84	172.77		99
NOx	0.139	184.18	100	2.19	186.37		39
PM	0.005	6.63	1.9	0.04	6.67	none needed	
PM10	0.005	6.63	7.60	0.17	6.80	none needed	
PM2.5	0.005	6.63	7.60	0.17	6.80	none needed	
SO2	0.00035	0.46	0.60	0.01	0.47	none needed	
VOC	0.083	109.98	5.50	0.12	110.10		39
Hazardous Air Pollutants							
Organic HAPs							
Acetaldehyde	n/a	0.00	n/a	0.00	0.00	none needed	
Acrolein	n/a	0.00	n/a	0.00	0.00	none needed	
Benzene	n/a	0.00	0.00210	0.00	0.00	none needed	
Dichlorbenzene	n/a	0.00	0.00120	0.00	0.00	none needed	
Formaldehyde	n/a	0.00	0.07500	0.00	0.00	none needed	
Hexane	n/a	0.00	1.80000	0.04	0.04	none needed	
Napthalene	n/a	0.00	0.00061	0.00	0.00	none needed	
Toluene	n/a	0.00	0.00340	0.00	0.00	none needed	
Xylene	n/a	0.00	n/a	0.00	0.00	none needed	
Metal HAPs							
Cadmium	n/a	0.00	0.00130	0.00	0.00	none needed	
Chromium	n/a	0.00	0.00140	0.00	0.00	none needed	
Nickel	n/a	0.00	0.00210	0.00	0.00	none needed	
Manganese	n/a	0.00	0.00038	0.00	0.00	none needed	
Lead	n/a	0.00	0.00050	0.00	0.00	none needed	
Total HAPs		**0.00**		**0.04**	**0.04**	**none needed**	
Greenhouse Gases							
CO2	22.50	29,812.50	116,890.00	2,559.89	32,372.39		
N2O	0.000183	0.24	0.22	0.00	0.24		
CH4	0.000913	1.21	2.20	0.05	1.26		
Total GHGs as CO2e		**29,912.31**		**2,560.94**	**32,473.25**	**none needed**	

Assumptions and references for Test Cell HHP15 emissions
Fuel Usage (kgal/yr) = Max Diesel Usage (gal/yr) * 7.1 (lb/gal)diesel * 19,300 (Btu/lb)diesel / 1,000,000 (Btu/MMBtu) / (0.091 MMBtu/gal propane)
Emission factors from Cummins CTC - Plant 5 engine test cell emission factors for LPG from TSD to permit T005-7466-00002, unless otherwise noted.
No known HAP emission factors for propane combustion; for purposes of this application, assume diesel or natural gas have higher emissions
GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2)
Methodology: Maximum fuel usage (gal/yr) * emission factor (lb/gal) * ton/2000 lb = ton/yr

Assumptions and references for Duct burner emissions
Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2
Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene)
Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98.33
Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/yr

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Hydrogen
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000	hp
Maximum heat input	241,173	MMBtu/yr
Duct burner capacity	5	MMBtu/hr
Maximum natural gas usage	0.005	mmcf/hr

Pollutant	Test Cell HHP 15		Duct Burner		Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)
	Emission factor (lb/MMBtu)	Unlimited PTE (ton/yr)	Emission factor (lb/mmcf)	Unlimited PTE (ton/yr)		
Criteria pollutants						
CO	0	0.00	84	1.84	1.84	99
NOx	6.12	737.99	100	2.19	740.18	39
PM	0	0.00	1.9	0.04	0.04	none needed
PM10	0	0.00	7.60	0.17	0.17	none needed
PM2.5	0	0.00	7.60	0.17	0.17	none needed
SO2	0	0.00	0.60	0.01	0.01	none needed
VOC	0	0.00	5.50	0.12	0.12	none needed
Hazardous Air Pollutants						
Organic HAPs						
Acetaldehyde	0	0.00	n/a	0.00	0.00	none needed
Acrolein	0	0.00	n/a	0.00	0.00	none needed
Benzene	0	0.00	0.00210	0.00	0.00	none needed
Dichlorbenzene	0	0.00	0.00120	0.00	0.00	none needed
Formaldehyde	0	0.00	0.07500	0.00	0.00	none needed
Hexane	0	0.00	1.80000	0.04	0.04	none needed
Methanol	0	0.00	n/a	0.00	0.00	none needed
Toluene	0	0.00	0.00340	0.00	0.00	none needed
Xylene	0	0.00	n/a	0.00	0.00	none needed
Metal HAPs						
Cadmium	0	0.00	0.00130	0.00	0.00	none needed
Chromium	0	0.00	0.00140	0.00	0.00	none needed
Nickel	0	0.00	0.00210	0.00	0.00	none needed
Manganese	0	0.00	0.00038	0.00	0.00	none needed
Lead	0	0.00	0.00050	0.00	0.00	none needed
Total HAPs		**0.00**		**0.04**	**0.04**	**none needed**
Greenhouse Gases						
CO2	0	0.00	116,890.00	2,559.89	2,559.89	
N2O	0.000220	0.03	0.22	0.00	0.03	
CH4	0	0.00	2.20	0.05	0.05	
Total GHGs as CO2e		**9.30**		**2,560.94**	**2,570.24**	**none needed**

Assumptions and references for Test Cell HHP15 emissions
Assumed fuel usage greatly exceeds fuel usage for a production test cell based on historical utilization of test cells
Heat input rate based on equivalent to diesel fuel usage converted to heat input - 1,760,000 gal/yr * .13703 MMBtu/gal = 241,173 MMBtu/yr
NOx only criteria pollutant expected to be emitted from burning hydrogen
NOx emission factor based on natural gas engine emission factor with a 50% upward adjustment to account for higher temperatures
HAPs not expected to be emitted when burning hydrogen fuel
GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2) - CO2 and methane will not be emitted when burning hydrogen
Methodology: Maximum heat input (MMBtu/yr) * emission factor (lb/MMBtu) * ton/2000 lb = ton/yr

Assumptions and references for Duct burner emissions
Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2
Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene)
Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)
GHG emission factors from 40 CFR 98.33
Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/yr

Appendix A: Emission Calculations
Potential to Emit Summary Test Cell HHP 15/ Duct Burner
Natural Gas and CO2
Company Name: Cummins Inc. (Seymour Engine Plant)
Address City IN Zip: 800 E. Third Street
Permit Number: 071-33555-00015
Reviewer: Deena Patton

Maximum engine capacity	9,000	hp
Maximum heat input	241,173	MMBtu/yr
Duct burner capacity	5	MMBtu/hr
Maximum natural gas usage	0.005	mmcf/hr

Pollutant	Test Cell HHP 15		Duct Burner		Total Unlimited PTE (ton/yr)	Limited PTE (ton/yr)
	Emission factor (lb/MMBtu)	Unlimited PTE (ton/yr)	Emission factor (lb/mmcf)	Unlimited PTE (ton/yr)		
Criteria pollutants						
CO	0.557	67.17	84	1.84	69.01	99
NOx	4.08	491.99	100	2.19	494.18	39
PM	0.000077	0.01	1.9	0.04	0.05	none needed
PM10	0.009987	1.20	7.60	0.17	1.37	none needed
PM2.5	0.009987	1.20	7.60	0.17	1.37	none needed
SO2	0.0000588	0.01	0.60	0.01	0.02	none needed
VOC	0.118	14.23	5.50	0.12	14.35	none needed
Hazardous Air Pollutants						
Organic HAPs						
Acetaldehyde	0.0086	1.04	n/a	0.00	1.04	none needed
Acrolein	0.00514	0.62	n/a	0.00	0.62	none needed
Benzene	0.00044	0.05	0.00210	0.00	0.05	none needed
Dichlorbenzene	n/a	0.00	0.00120	0.00	0.00	none needed
Formaldehyde	0.0528	6.37	0.07500	0.00	6.37	none needed
Hexane	0.011	1.33	1.80000	0.04	1.37	none needed
Methanol	0.0025	0.30	n/a	0.00	0.30	none needed
Toluene	0.000408	0.05	0.00340	0.00	0.05	none needed
Xylene	0.00018	0.02	n/a	0.00	0.02	none needed
Metal HAPs						
Cadmium	n/a	0.00	0.00130	0.00	0.00	none needed
Chromium	n/a	0.00	0.00140	0.00	0.00	none needed
Nickel	n/a	0.00	0.00210	0.00	0.00	none needed
Manganese	n/a	0.00	0.00038	0.00	0.00	none needed
Lead	n/a	0.00	0.00050	0.00	0.00	none needed
Total HAPs		**9.78**		**0.04**	**9.82**	**none needed**
Greenhouse Gases						
CO2	297.21	35,839.51	116,890.00	2,559.89	38,399.40	
N2O	0.000220	0.03	0.22	0.00	0.03	
CH4	0.002200	0.27	2.20	0.05	0.32	
Total GHGs as CO2e		**35,854.48**		**2,560.94**	**38,415.42**	**none needed**

Assumptions and references for Test Cell HHP15 emissions

Assumed fuel usage greatly exceeds fuel usage for a production test cell based on historical utilization of test cells

Heat input rate based on equivalent to diesel fuel usage converted to heat input - 1,760,000 gal/yr * .13703 MMBtu/gal = 241,173 MMBtu/yr

Fuel burned is a 60%/40% Natural gas/CO2 mixture. Emissions are conservatively based on 100% natural gas except CO2

Criteria pollutant emissions from AP-42 Chapter 3, Section 2, Table 3.2-2 - uncontrolled emission factors for 4-stroke-lean burn engines

NOx emission factor based on preliminary design and expected testing regiment; actual emissions will be lower due to SCR controls

PM, PM10, and PM2.5 emission factors from AP-42, Chapter 3, Section 2, Table 3.2-2

PM factor is filterable particulate, PM10 factor is <10u filterable + condensable, and PM2.5 factor is <2.5u filterable + condensable

HAP emission factors from AP-42, Chapter 3, Section 2, Table 3.4-2 and 3.4-4 (top 5 compounds)

CO2 emission factor based on 60% natural gas/40% CO2 mixture

GHG emission factors from 40 CFR 98 Subpart C (Tables C-1, C-2)

Methodology: Maximum heat input (MMBtu/yr) * emission factor (lb/MMBtu) * ton/2000 lb = ton/yr

Assumptions and references for Duct burner emissions

Criteria pollutant emission factors from AP-42, Chapter 1, Section 4, Tables 1.4-1 and 1.4-2

Organic HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-3 (top 5 compounds to napthalene)

Metal HAP emission factors from AP-42, Chapter 1, Section 4, Table 1.4-4 (top 5 compounds)

GHG emission factors from 40 CFR 98.33

Methodology: 0.005 mmcf/hr fuel capacity * emission factor (lb/mmcf) * 8760 hr/yr * ton/2000 lb = ton/yr

Indiana Department of Environmental Management
Office of Air Management

Interim Significant Permit Revision / Significant Source Modification Evaluation Sheet

Company Name:	Seymour Engine Plant		
Location:	800 E. Third Street, Seymour, IN 47274	**Permit No**:	071-33555i-00015
Permit Reviewer:	Deena Patton	**Date Receipt of Application:**	8/21/2013
		Date of review:	9/4/2013
Description of the interim construction:	Installation of 9000 HP test cell equipped with SCR and catalytic oxidation system.		
**Public Notice Period = **	8/23/2013	to	9/6/2013
Public Notice Date + 3 days = 17 days =	9/9/2013		

Interim Petition Applicability: 326 IAC 2-13-1

(a) Existing Source with valid permit;

(b) Exemptions:

(1) construction of a PSD source or PSD modification;

(2) construction or modification in nonattainment area that would emit those pollutants for which the nonattainment designation is based.

(3) any modification subject to 326 IAC 2-4.1.

(c) Public notice comment period is 14 calendar days.

Instructions: Check (✓) appropriate answers and make a recommendation.

1. Did the applicant submit a written petition for an interim significant permit revision or significant source modification?

☒ Yes Go to question 2.
☐ No Ignore verbal request.

2. Did the applicant pay the applicable interim permit fee? $625 for TV, FESOP, and SSOA. $500 for MSOP.

☒ Yes Go to question 3.
☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(1).

Comments: _____

3. Did the applicant state acceptance of federal enforceability of an interim significant permit revision or significant source modification?

☒ Yes Go to question 4.
☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(D).

4. Did the applicant or its authorized agent sign the application?

☒ Yes Go to question 5.
☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(E).

5. Did the applicant submit a notarized affidavit stating that the applicant will proceed at its own risk (if the interim significant permit revision or significant source modification is issued), including, but not limited to:

   (a) Financial risk,

   (b) Risk that additional emission controls may be required,

   (c) Risk that the final significant permit revision or significant source modification may be denied.

   ☒ Yes Go to question 6.
   ☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(F).

6. Did the applicant begin construction prior to submitting the interim significant permit revision or significant source modification application?

   ☐ Yes Deny the application, pursuant to 326 IAC 2-13-1(h)(6).
   ☒ No Go to question 7.

7. What is the type of the interim construction?

   ☐ New Source Deny the application, pursuant to 326 IAC 2-13-1(a)
   ☒ Modification to an existing source Go to question 8.

8. Did the applicant present data in the interim significant permit revision or significant source modification that is sufficient to determine PSD, NSPS, NESHAP, and state rule compliance?

   ☒ Yes Go to question 9.
   ☐ No Deny the application pursuant to:
   326 IAC 2-13-1(c)(2)(B), for PSD;
   326 IAC 2-13-1(c)(2)(C), for NSPS or NESHAP;
   326 IAC 2-13-1(c)(2)(C), for state rules.

9. Is the proposed modification to be located in a nonattainment area?

   ☐ Yes Go to question 10.
   ☒ No Go to question 11.

   County: Jackson County

   Comments: _____

10. Will the proposed modification emit the pollutant for which the area is nonattainment in quantities greater than the significant levels?

    ☐ Yes Deny the application, pursuant to 326 IAC 2-13-1(a)(2).
    ☒ No Go to question 11.

11. Did the petition include a complete description of the process?

    ☒ Yes Go to question 12.
    ☐ No Deny the petition, pursuant to 326 IAC 2-13-1(c)(2).

12. Did the interim significant permit revision or significant source modification petition contain conditions accepting either emission controls (baghouse, afterburners, scrubbers, etc.) or enforceable limits or other suitable restriction to avoid PSD applicability; as well as control parameters (incinerator operating temperature, baghouse pressure drop, etc.)? The specific limits must be explicitly spelled out (i.e.: The gas consumption of the boiler shall not exceed 29 million cubic feet per month.) A statement such as that the company agrees to conditions such that PSD rules are not applicable is not acceptable.

    ☒ Yes Go to question 13.
    ☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(B).

13. Do the emission controls and/or throughput limits prevent PSD applicability?

☒ Yes Go to question 14.
☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(B).

14. Will the modification, after application of all emission controls and/or throughput limitations comply with all applicable New Source Performance Standards (NSPS) (40 CFR 60)?

☒ Yes Go to question 15.
☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(C).

15. Will the modification, after application of all emission controls and/or throughput limitations comply with all applicable National Emission Standards for Hazardous Air Pollutants (NESHAP)?

☒ Yes Go to question 16.
☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(C).

16. Will the modification, after application of all emission controls and/or throughput limitations, comply with all applicable state rules?

☒ Yes Go to question 17.
☐ No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(C).

17. Does the applicant dispute applicability of any applicable state or federal rule?

☐ Yes Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(C).
☒ No Go to question 18.

18. Is there good reason to believe that the applicant does not intend to construct in accordance with the interim significant permit revision or significant source modification petition?

☐ Yes Deny the application, pursuant to 326 IAC 2-13-1(h)(1).
☒ No Go to question 19.

19. Is there good reason to believe that information in the petition has been falsified?

☐ Yes Deny the application, pursuant to 326 IAC 2-13-1(h)(7).
☒ No Approve the interim significant permit revision or significant source modification petition.

20. Has the petition been adequately public noticed? A proof of publication copy is necessary.

☒ Yes Go to question 21.
☐ No Deny the application, pursuant to 326 IAC 2-13-1(e).

Newspaper: Tribune

Date of publication: August 23, 2013

21. Were comments received within seventeen (17) days after the public notice of the interim significant permit revision or significant source modification?

(14 calendar days for comment period + 3 working days for mailing)

☐ Yes Evaluate the comments received, and make a recommendation.
☒ No Issue the final interim significant permit revision or significant source modification approval.

Comments: NA

Recommendation: Issue Interim

Method of informing the applicant: Electronic Mail

The Compliance Monitoring Requirements applicable to this modification are as follows:

(a) The one (1) test engine cell (HHP15) has applicable compliance monitoring conditions as specified below:

Emission Unit/ID	Control	Operating Parameter	Monitoring Frequency	Range	Excursions and Exceedances
Test Engine Cell (HHP15)	SCR	Temperature and Fuel rate Urea Flow Rate	Continuously	Normal-Abnormal	Response Steps
Test Engine Cell (HHP15)	Catalytic Oxidizer (CO)	Temperature and Fuel Rate Performance Characteristics	Continuously	Normal-Abnormal	Response Steps

These monitoring conditions are necessary because the selective catalytic reduction (SCR) and the catalytic oxidizer must operate properly to ensure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: David Wehrkamp
Seymour Engine Plant
800 East Third Street
Seymour, IN 47274

DATE: September 11, 2013

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

SUBJECT: Final Decision
Interim Significant Source Modification Petition Approval
071-33555i-00015

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:
Darren Wildman, Plant Manager
Bernard Paul, B Paul Consulting, LLC
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.

Mail Code 61-53

IDEM Staff	VHAUN 9/11/2013 Seymour Engine Plant (SEP) 071-33555i-00015 FINAL		
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**

AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING

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		David Wehrkamp Seymour Engine Plant (SEP) 800 E Third St Seymour IN 47274 (Source CAATS) Confirmed Delivery									
2		Darren Wildman Plant Mgr Seymour Engine Plant (SEP) 800 E Third St Seymour IN 47274 *(RO CAATS)*									
3		Jackson County Commissioner Jackson County Courthouse Brownstown IN 47220 *(Local Official)*									
4		Mr. Tome Earnhart 3960 N. CR 300 W. North Vernon IN 47265 *(Affected Party)*									
5		Seymour City Council and Mayors Office 301 North Chestnut Street Seymour IN 47274 *(Local Official)*									
6		Jackson County Health Department 801 West 2nd Street Seymour IN 47274-2711 *(Health Department)*									
7		Bernard Paul B Paul Consulting, LLC 285 Spring Drive Zionsville IN 46077 *(Consultant)*									
8											
9											
10											
11											
12											
13											
14											
15											

Total number of pieces Listed by Sender	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.
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