NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT

Preliminary Findings Regarding a Significant Modification to a Part 70 Operating Permit

for Exide Technologies in Delaware County

Significant Permit Modification No.: 035-41906-00028

The Indiana Department of Environmental Management (IDEM) has received an application from Exide Technologies, located at 2601 West Mt. Pleasant Blvd., Muncie, IN, for a significant modification of its Part 70 Operating Permit issued on January 9, 2018. If approved by IDEM’s Office of Air Quality (OAQ), this proposed modification would allow Exide Technologies to make certain changes at its existing source. Exide Technologies has applied to add a one (1) Diesel fuel-fired 1,502 horsepower emergency generator. Due to the addition of the Diesel fuel-fired 1,502 horsepower emergency generator, the existing SO2 and PM10 limits for the Reverberatory Furnace (Unit 4), Blast Furnace (Cupola) (Unit 5), and the Afterburner, must be revised, in order to keep source-wide emissions less than 100 tons/yr.

The applicant intends to construct and operate new equipment that will emit air polluting; therefore, the permit contains new or different permit conditions. In addition, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes (e.g. changes that add or modify synthetic minor emission limits). IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow the applicant to make this change.

A copy of the permit application and IDEM's preliminary findings are available at:

JFK Library - Muncie Branch
1700 McGalliard Rd.
Muncie, IN 47302

A copy of the preliminary findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/.

A copy of the preliminary findings is also available via IDEM’s Virtual File Cabinet (VFC.) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

How can you participate in this process?

The date that this notice is posted on IDEM’s website (https://www.in.gov/idem/5474.htm) marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the air pollution impact of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an
opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM’s mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number SPM 035-41906-00028 in all correspondence.

Comments should be sent to:

Daniel W. Pell
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IG-CN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for Daniel W. Pell or (317) 234-8532
Or dial directly: (317) 234-8532
Fax: (317) 232-6749 attn: Daniel W. Pell
E-mail: dpell@idem.IN.gov

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm, and the Citizens’ Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM’s response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM’s decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Daniel W. Pell of my staff at the above address.

Heath Hartley, Section Chief
Permits Branch
Office of Air Quality
Mr. Zachery Jackson  
Exide Technologies  
2601 West Mt. Pleasant Blvd.,  
Muncie, IN 47302

Re: 035-41906-00028  
Significant Permit Modification

Dear Mr. Jackson:

Exide Technologies was issued Part 70 Operating Permit Renewal No. T035-37825-00028 on January 9, 2018 for a stationary secondary lead smelting operation located at 2601 West Mt. Pleasant Blvd., Muncie, IN. An application requesting changes to this permit was received on September 11, 2019. Pursuant to the provisions of 326 IAC 2-7-12, a Significant Permit Modification to this permit is hereby approved as described in the attached Technical Support Document.

Please find attached the entire Part 70 Operating Permit as modified, including the following new attachment:

Attachment F: 40 CFR 60, Subpart IIII, NSPS Stationary Compression Ignition Internal Combustion Engines

The permit references the below listed attachment(s). Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this modification:

Attachment A: 40 CFR 60, Subpart L - Standards of Performance for Secondary Lead Smelters  
Attachment C: 40 CFR 63, Subpart ZZZZ - National Emissions Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines  

Previously issued approvals for this source containing these attachments are available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/.

Previously issued approvals for this source are also available via IDEM's Virtual File Cabinet (VFC.) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. A copy of the permit is also available via IDEM’s Virtual File Cabinet (VFC.) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm; and the Citizens’ Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

If you have any questions regarding this matter, please contact Daniel W. Pell, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 234-8532 or (800) 451-6027, and ask for Daniel W. Pell or (317) 234-8532.

Sincerely,

Heath Hartley, Section Chief
Permits Branch
Office of Air Quality

Attachments: Modified Permit and Technical Support Document

cc:    File - Delaware County
       Delaware County Health Department
       U.S. EPA, Region 5
       Compliance and Enforcement Branch
Part 70 Operating Permit (Renewal)
OFFICE OF AIR QUALITY

Exide Technologies
2601 West Mt. Pleasant Blvd.
Muncie, Indiana 47302

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

<table>
<thead>
<tr>
<th>Operation Permit No.: T035-37825-00028</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Agency Interest ID.: 14708</td>
</tr>
</tbody>
</table>

Issued by/Original signed by: Jenny Acker, Chief Permits Branch, Office of Air Quality

Issuance Date: January 9, 2018
Expiration Date: January 9, 2023

<table>
<thead>
<tr>
<th>Significant Permit Modification No.: 035-41906-00028</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issued by:</td>
</tr>
<tr>
<td>Heath Hartley, Section Chief Permits Branch Office of Air Quality</td>
</tr>
</tbody>
</table>

Issuance Date:
Expiration Date: January 9, 2023
TABLE OF CONTENTS

SECTION A SOURCE SUMMARY ......................................................................................................... 6
A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-10.5]
A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]
A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

SECTION B GENERAL CONDITIONS ................................................................................................. 10
B.1 Definitions [326 IAC 2-7-1]
B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]
B.3 Term of Conditions [326 IAC 2-1.1-9.5]
B.4 Enforceability [326 IAC 2-7-7][IC 13-17-12]
B.5 Severability [326 IAC 2-7-5(5)]
B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]
B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]
B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]
B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]
B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]
B.11 Emergency Provisions [326 IAC 2-7-16]
B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]
B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]
B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]
B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]
B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]
B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]
B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(6)][326 IAC 2-7-12(b)(2)]
B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]
B.20 Source Modification Requirement [326 IAC 2-7-10.5]
B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]
B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]
B.23 Annual Fee Payment [326 IAC 2-7-19][326 IAC 2-7-5(7)][326 IAC 2-1.1-7]
B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

SECTION C SOURCE OPERATION CONDITIONS ............................................................................. 21
Emission Limitations and Standards [326 IAC 2-7-5(1)] ........................................................................ 21
C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]
C.2 Opacity [326 IAC 5-1]
C.3 Open Burning [326 IAC 4-1][IC 13-17-9]
C.4 Incineration [326 IAC 4-2][326 IAC 9-1-2]
C.5 Fugitive Dust Emissions [326 IAC 6-4]
C.6 Stack Height [326 IAC 1-7]
C.7 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]
Testing Requirements [326 IAC 2-7-6(1)] .................................................................................... 23
C.8 Performance Testing [326 IAC 3-6]
Compliance Requirements [326 IAC 2-1.1-11] .............................................................................. 23
C.9 Compliance Requirements [326 IAC 2-1.1-11]
Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]............................ 23
C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]
C.11 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]................................. 24
C.12 Risk Management Plan [326 IAC 2-7-5(11)][40 CFR 68]
C.13 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5][326 IAC 2-7-6]
C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19].................... 27
C.15 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]
C.16 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]
C.17 General Reporting Requirements [326 IAC 2-7-5(3)(C)][326 IAC 2-1.1-11][40 CFR 64][326 IAC 2-7-8]

Stratospheric Ozone Protection .................................................................................................. 29
C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS .............................................................. 30

Emission Limitations and Standards [326 IAC 2-7-5(1)] ............................................................... 30
D.1.1 PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]
D.1.2 Sulfur Dioxide (SO2) [326 IAC 7-1.1]
D.1.3 Particulate Emissions [326 IAC 6-3-2]
D.1.4 Federal Consent Decree Requirements - Furnace Exhaust Temperature Monitoring, Records, Standard Operating Procedures, and Installation and Use of an Afterburner
D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

Compliance Determination Requirements [326 IAC 2-7-5(1)] ......................................................... 32
D.1.6 Particulate Matter (PM), Sulfur Dioxide (SO2) and Lead (Pb) [326 IAC 2-7-6(6)]
D.1.7 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)].............................. 34
D.1.8 Visible Emissions Notations [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)][40 CFR 64]
D.1.9 Parametric Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]
D.1.10 Scrubber Failure Detection [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]
D.1.11 SO2 Monitor Downtime [326 IAC 2-7-6][326 IAC 2-7-5(1)]
D.1.12 Bag Leak Detection System Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19].................... 36
D.1.13 Record Keeping Requirements
D.1.14 Reporting Requirements

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS .............................................................. 38

Emission Limitations and Standards [326 IAC 2-7-5(1)] ............................................................... 38
D.2.1 PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]
D.2.2 Particulate Emissions [326 IAC 6-3-2]
D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

Compliance Determination Requirements [326 IAC 2-7-5(1)] ......................................................... 39
D.2.4 Particulate Matter (PM) and Lead (Pb) [326 IAC 2-7-6(6)]
D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]
Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)] ......................... 40
D.2.6 Parametric Monitoring [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)][40 CFR 64]
D.2.7 Baghouse Failure Detection [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]
D.2.8 Bag Leak Detection System Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19] .............. 41
D.2.9 Record Keeping Requirements
D.2.10 Reporting Requirements

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS ......................................................... 43

Emission Limitations and Standards [326 IAC 2-7-5(1)] .......................................................... 44
D.3.1 PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]
D.3.2 Particulate Emissions [326 IAC 6-3-2]
D.3.3 Federal Consent Decree Requirements - Rolled Lead Strip ("RLS Line")
D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

Compliance Determination Requirements [326 IAC 2-7-5(1)] .............................................. 45
D.3.5 Particulate Matter (PM) and Lead (Pb) [326 IAC 2-7-6(6)]
D.3.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)] .................. 47
D.3.7 Visible Emissions Notations [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]
D.3.8 Parametric Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]
D.3.9 Parametric Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]
D.3.10 Scrubber Failure Detection [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]
D.3.11 Bag Leak Detection System Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19][326 IAC 20-13.1-9] .............................................................. 49
D.3.12 Record Keeping Requirements
D.3.13 Reporting Requirements

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS ......................................................... 51

Emission Limitations and Standards [326 IAC 2-7-5(1)] .......................................................... 51
D.4.1 Cold Cleaner Degreaser Control Equipment and Operating Requirements [326 IAC 8-3-2]
D.4.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]
D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] ........................................... 52
D.4.4 Record Keeping Requirements

SECTION E.1 NSPS ......................................................................................................................... 53

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)] ............... 53
E.1.2 Secondary Lead Smelters NSPS [326 IAC 12][40 CFR 60, Subpart L]

SECTION E.2 NESHAP ................................................................................................................ 54

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)] .............................................................. 56
E.2.2 Lead Smelting NESHAP [40 CFR Part 63, Subpart X]
E.2.3 Testing Requirements [326 IAC 2-7-5(1)][326 IAC 2-6.1-5]
SECTION E.3  NESHAP........................................................................................................................... 58

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements
[326 IAC 2-7-5(1)]........................................................................................................................... 58


E.3.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ][326 IAC 20-82]

SECTION E.4  NESHAP........................................................................................................................... 60

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements
[326 IAC 2-7-5(1)]........................................................................................................................... 60


E.4.2 Source Category: Gasoline Dispensing Facilities NESHAP [40 CFR Part 63, Subpart CCCCC]

SECTION F.1  326 IAC 20-13.1................................................................................................................ 61

Emission Limitations and Standards [326 IAC 2-7-5(1)] ................................................................. 62


CERTIFICATION ........................................................................................................................................ 63

EMERGENCY OCCURRENCE REPORT ................................................................................................. 64

Part 70 Quarterly Report........................................................................................................................... 66

QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT .............................................. 67

Attachment A: 40 CFR 60, Subpart L - Standards of Performance for Secondary Lead Smelters


Attachment C: 40 CFR 63, Subpart ZZZZ - National Emissions Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines


Attachment F: 40 CFR 60, Subpart III, NSPS Stationary Compression Ignition Internal Combustion Engines
SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary secondary lead smelting operation.

| Source Address: | 2601 West Mt. Pleasant Blvd., Muncie, Indiana 47302 |
| General Source Phone Number: | 765-747-9980 |
| SIC Code: | 3341 (Secondary Smelting and refining of Nonferrous Metals) |
| County Location: | Delaware, the area of the City of Muncie bounded by West 26th Street/Hines Road to the north, Cowan Road to the east, West Fuson Road to the south, and South Hoyt Avenue to the west |
| Source Location Status: | Nonattainment for Lead standard, attainment for all other criteria pollutants |
| Source Status: | Part 70 Operating Permit Program, Minor Source, under PSD and Emission Offset Rules, Minor Source, Section 112 of the Clean Air Act, 1 of 28 Source Categories |

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) natural gas-fired rotary dryer, identified as Unit 3, constructed in 1989 and modified in 2005, with a maximum capacity of 126,000 tons of lead scrap per year and a maximum heat input capacity of 13 million British thermal units per hour (MMBtu/hr), controlled by the rotary dryer baghouse.

(b) One (1) lead reverberatory furnace, identified as Unit 4, constructed in 1989, with a maximum capacity of 35 million British thermal units per hour (MMBtu/hr), rated at 100,000 tons of lead per year, controlled by the 10 MMBtu/hr natural gas fired afterburner constructed in 2015, the process baghouse, and by identical, individual, and parallel, North and South sodium carbonate packed tower scrubbers.

(c) One (1) blast furnace (cupola), identified as Unit 5, constructed in 1973 and modified in 1989, rated at 30,000 tons of metal per year, controlled by the 10 MMBtu/hr natural gas fired afterburner constructed in 2015, the process baghouse, and by identical, individual, and parallel, North and South sodium carbonate packed tower scrubbers.

(d) Emissions from the reverberatory furnace charge point, lead and slag tap points, and blast furnace (cupola) charge point hoods are controlled by the ventilation baghouse and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018).

(e) Two (2) lead pig casting machines, constructed in 1989, identified collectively as Unit 7, each rated at 120,000 tons of lead per year controlled by refinery baghouse No. 1 and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018).
(f) Eleven (11) natural gas-fired pot furnaces, identified as Units 6K1, 6K2 and Units 6K4 through 6K12, all controlled by refinery baghouse No. 1 and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018), and including:

1. Two (2) rated at 120 tons holding capacity and 3.4 million British thermal units per hour (MMBtu/hr), constructed in 1989, identified as Units 6K1 and 6K2,
2. Two (2) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Units 6K9 and 6K10,
3. One (1) rated at 120 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Unit 6K11,
4. One (1) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Unit 6K12,
5. Two (2) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1973, identified as Units 6K5 and 6K6,
6. Two (2) rated at 100 tons holding capacity and 3.4 MMBtu/hr, constructed in 1973, identified as Units 6K7 and 6K8,
7. One (1) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1973 and modified in October 2009, identified as Unit 6K4.

(g) One (1) lead-battery crusher/breaker, identified as Unit 1, constructed in 1989, which is rated at 126,000 tons of scrap metal per year, with particulate matter (PM) emissions controlled by a venturi scrubber followed by a voluntarily installed dust collector.

(h) One (1) soda-ash/caustic soda neutralizing wash to neutralize sulfuric acid in the scrap metal before it is smelted, constructed in 1989, with two (2) soda ash silos, identified as Units 2a and 2b, both constructed in 1989, each with a capacity of 210,000 lbs, and one (1) soda ash silo, constructed in 1992, with a capacity of 50,000 lbs. Particulate matter (PM) emissions on all three (3) soda ash silos are controlled by fabric filters.

(i) Material handling, identified as Unit 9, controlled by bin room baghouse No. 1 and bin room baghouse No. 2, each with HEPA filters, and each baghouse exhausting to a separate stack. (Bin room baghouse No. 1 modification and HEPA filter installation approved in 2018).

1. One (1) slag crusher, constructed in 1994, with emissions controlled by a baghouse, identified as slag crusher baghouse, venting to bin room baghouses No.1 and No. 2.

(j) One (1) Rolled Lead Strip (RLS) Line, constructed in 1997 and permitted in 2016, with a maximum capacity of 3.5 tons per hour, exhausting to RLS baghouse and HEPA Filters, including the following:

1. One (1) natural gas-fired seven (7) ton melting pot, identified as MP-1, constructed in 1997, with a capacity of 2.2 million British thermal units per hour; and
2. One (1) natural gas-fired thirty-five (35) ton melting pot, identified as MP-2, constructed in 1997, with a capacity of 1.2 million British thermal units per hour.
(k) Roadway surface fugitive emissions.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Seven (7) natural gas-fired space heaters, each with maximum heat input capacity of 0.400 MMBtu/hr,

(b) One (1) 520 gallon Gasoline Dispensing Facility having a monthly throughput of less than 10,000 gallons of gasoline,

Under 40 CFR 63, Subpart CCCCCC, this is considered an existing affected source.

(c) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity less than or equal to 10,500 gallons, and dispensing 3,500 gallons per day or less,

(d) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons.

(e) The following equipment related to manufacturing activities not resulting in the emission of HAPs: Brazing equipment, cutting torches, soldering equipment, welding equipment,

(f) Closed loop heating and cooling systems,

(g) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume,

(h) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is under the control of the owner/operator, that is, an on-site sewage treatment facility.

(i) Natural draft cooling towers not regulated under a NESHAP,

(j) Forced and induced draft cooling tower systems not regulated under a NESHAP,

(k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment,

(l) Paved and unpaved roads and parking lots with public access,

(m) Routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process, including the following: Purging of gas lines, purging of vessels,

(n) One (1) diesel emergency generator, manufactured in 1983, permitted in 2018, with a maximum capacity of 569.9 HP, and exhausting to atmosphere,

(o) One (1) Diesel fuel-fired emergency generator, identified as EG9, manufactured in 2012, permitted in 2019, with a maximum output rating of 1,502 horsepower, using no control, and exhausting to the atmosphere.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source. Under 40 CFR 63, Subpart ZZZZ, this unit is considered a new affected source.
(p) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 gr/acf and a gas flow rate less than or equal to 4,000 acf/min, including the following: One (1) abrasive blasting unit for maintenance purposes.

(q) Cold cleaning degreasing operations that consist of two (2) parts washers, using less than 270 gal/year of cleaner, each.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).
SECTION B   GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T035-37825-00028, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7][IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.
B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V  
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance
causes or is the primary contributor to an exceedance of any limitation on emissions. The
PMPs and their submittal do not require a certification that meets the requirements of 326
IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation
Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the
PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an
action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an
action brought for noncompliance with a technology-based emission limitation if the
affirmative defense of an emergency is demonstrated through properly signed,
contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify
the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to
minimize levels of emissions that exceeded the emission standards or other
requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM,
OAQ within four (4) daytime business hours after the beginning of the
emergency, or after the emergency was discovered or reasonably should have
been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality,
Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the
attached Emergency Occurrence Report Form or its equivalent, either by mail or
facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded
due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the
following:

(A) A description of the emergency;
(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable
requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T035-37825-00028 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).
B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)]. The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the
If the Permittee submits a timely and complete application for renewal of this permit, the source’s failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

1. The changes are not modifications under any provision of Title I of the Clean Air Act;

2. Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

3. The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b)(1) and (c)(1). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(37)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Emission Trades [326 IAC 2-7-20(c)]

The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]

The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ or U.S. EPA is required.
(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]
A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]
Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee’s right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]
(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19][326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.
**SECTION C  SOURCE OPERATION CONDITIONS**

**Emission Limitations and Standards  [326 IAC 2-7-5(1)]**

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1][IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2][326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of
326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

1. When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

2. If there is a change in the following:
   (A) Asbestos removal or demolition start date;
   (B) Removal or demolition contractor; or
   (C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.
Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]

(a) For new units:

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(d) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.11 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps  [326 IAC 2-7-5][326 IAC 2-7-6]

C.12 Risk Management Plan [326 IAC 2-7-5(11)][40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.13 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5][326 IAC 2-7-6]

(l) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in
accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

(II)

(a) CAM Response to excursions or exceedances.

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
(b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a Quality Improvement Plan (QIP). The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(c) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

   (1) Failed to address the cause of the control device performance problems; or

   (2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) CAM recordkeeping requirements.

   (1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(c) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

   (2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for
expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

C.15 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(b)(2), starting in 2005 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(33) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.16 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.
Records of required monitoring information include the following, where applicable:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.

(BB) The dates analyses were performed.

(CC) The company or entity that performed the analyses.

(DD) The analytical techniques or methods used.

(EE) The results of such analyses.

(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.17 General Reporting Requirements [326 IAC 2-7-5(C)] [326 IAC 2-1.1-11] [40 CFR 64] [326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

1. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

2. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

3. A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.
The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

(b) The address for report submittal is:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

**Stratospheric Ozone Protection**

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.
SECTION D.1  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) natural gas-fired rotary dryer, identified as Unit 3, constructed in 1989 and modified in 2005, with a maximum capacity of 126,000 tons of lead scrap per year and a maximum heat input capacity of 13 million British thermal units per hour (MMBtu/hr), controlled by the rotary dryer baghouse.

(b) One (1) lead reverberatory furnace, identified as Unit 4, constructed in 1989, with a maximum capacity of 35 million British thermal units per hour (MMBtu/hr), rated at 100,000 tons of lead per year, controlled by the 10 MMBtu/hr natural gas fired afterburner, the process baghouse, and by identical, individual, and parallel, North and South sodium carbonate packed tower scrubbers.

(c) One (1) blast furnace (cupola), identified as Unit 5, constructed in 1973 and modified in 1989, rated at 30,000 tons of metal per year, controlled by the 10 MMBtu/hr natural gas fired afterburner, the process baghouse, and by identical, individual, and parallel, North and South sodium carbonate packed tower scrubbers.

(d) Emissions from the reverberatory furnace charge point, lead and slag tap points, and blast furnace (cupola) charge point hoods are controlled by the ventilation baghouse and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018).

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards  [326 IAC 2-7-5(1)]

D.1.1  PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) not applicable, the Permittee shall comply with the following:

(a) The PM, PM10, PM2.5 and lead emissions shall not exceed the emission limits listed in the table below:

<table>
<thead>
<tr>
<th>Emission Units</th>
<th>Control Equipment</th>
<th>PM Limit (lb/hr)</th>
<th>PM10 Limit (lb/hr)</th>
<th>PM2.5 Limit (lb/hr)</th>
<th>Lead Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotary dryer (Unit 3)</td>
<td>Rotary dryer baghouse</td>
<td>4.50</td>
<td>4.50</td>
<td>4.50</td>
<td>0.029</td>
</tr>
<tr>
<td>Reverberatory furnace (Unit 4), Blast furnace (cupola) (Unit 5), and Afterburner combustion emissions</td>
<td>Afterburner, process baghouse followed by North and South sodium carbonate packed tower scrubbers</td>
<td>4.60 combined</td>
<td>4.99 combined</td>
<td>5.00 combined</td>
<td>0.34 combined</td>
</tr>
<tr>
<td>Reverberatory furnace charge point, lead and slag tap points, and blast furnace charge point hoods emissions</td>
<td>Ventilation baghouse and HEPA filters</td>
<td>2.75</td>
<td>3.00</td>
<td>3.00</td>
<td>0.17</td>
</tr>
</tbody>
</table>
(b) The combined SO\textsubscript{2} emissions from the reverberatory furnace, blast furnace (cupola), and afterburner combustion emissions shall be limited to less than 93 tons per twelve (12) consecutive month period with compliance determined at end of each month.

Compliance with these limits, combined with the potential to emit PM, PM\textsubscript{10}, PM\textsubscript{2.5}, and SO\textsubscript{2} from all other emission units at this source, shall limit the source-wide total potential to emit PM, PM\textsubscript{10}, PM\textsubscript{2.5} and SO\textsubscript{2} to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

Compliance with these limits, combined with the potential to emit lead from all other emission units at this source, shall limit the source-wide total potential to emit lead to less than five (5) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

---

D.1.2 Sulfur Dioxide (SO\textsubscript{2}) [326 IAC 7-1.1]

Pursuant to 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations), the SO\textsubscript{2} emissions from the blast furnace (cupola) (ID #5) firing of coke fuel shall not exceed six (6) pounds per million British thermal units heat input.

---

D.1.3 Particulate Emissions [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitation for Manufacturing Processes), the particulate emissions from the following units shall be limited as follows when operating at the listed process weight rate:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Process Weight Rate (tons/hr)</th>
<th>Emission Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotary Dryer</td>
<td>14.44</td>
<td>24.5</td>
</tr>
</tbody>
</table>

These limitations were calculated using the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

\[
E = 4.10 P^{0.67}
\]

where \( E \) = rate of emission in pounds per hour and \( P \) = process weight rate in tons per hour.

---

D.1.4 Federal Consent Decree Requirements - Furnace Exhaust Temperature Monitoring, Records, Standard Operating Procedures, and Installation and Use of an Afterburner

Pursuant to Significant Source Modification No. 035-35751-00028 and the Consent Decree lodged with the United States District Court for the Southern District of Indiana on March 16, 2015 in *United States and the State of Indiana v. Exide Technologies*, No. 15-cv-433 (S.D. Ind.), the Permittee shall comply with the following:

(a) Exide recently installed and began operating a new furnace exhaust temperature monitoring device and completed a performance evaluation for the device and a performance test for total hydrocarbon and dioxin/furan emissions from the Facility's blast furnace and reverberatory furnace. After the Date of Lodging (March 16, 2015), Exide shall maintain and continuously operate its furnace exhaust temperature monitoring device to demonstrate compliance with the Secondary Lead NESHAP, including the continuous temperature monitoring requirements in 40 CFR 63.548(j)(1) and the temperature maintenance standards for emission of hydrocarbons and dioxins/furans in 40 CFR 63.548(j)(4).
Within 120 days after the Date of Lodging, Exide shall submit a written Furnace Temperature Recordkeeping Plan for EPA review and approval. The Plan shall include systems and procedures for recording the configuration of the furnaces and the corresponding minimum compliance temperature for all 3-hour periods, as required by the Secondary Lead NESHAP, including 40 CFR 63.548(j)(4). Exide shall implement the EPA-approved Furnace Temperature Recordkeeping Plan in accordance with the requirements set forth in the approved Plan.

Exide prepared written Standard Operating Procedures designed to minimize emissions of total hydrocarbons for each startup and shutdown scenario anticipated. By no later than 60 days after the Date of Lodging, Exide shall submit a modified Notification of Compliance Status report indicating that the facility is operating in compliance with its Standard Operating Procedures.

By no later than July 31, 2015, Exide shall install and operate an afterburner to increase the furnace exhaust temperature and comply with minimum temperature requirements established pursuant to the Secondary Lead NESHAP for the control of hydrocarbon and dioxin/furan emissions from the Facility's blast furnace and reverberatory furnace.

By no later than December 31, 2015, Exide shall update all applicable written plans and procedures for minimizing emissions in order to reflect installation and use of the afterburner, including the Facility's Operation, Maintenance and Monitoring Plan and its Standard Operation Procedures to minimize emissions of total hydrocarbons for each startup and shutdown scenario anticipated.

Within 90 days after commencing operation of the afterburner, Exide shall conduct a new performance test for total hydrocarbon and dioxin/furan emissions from the Facility's blast furnace and reverberatory furnace to establish a minimum operating temperature at the afterburner for each operating scenario in accordance with 40 CFR 63.7 and 63.548(j)(3). Exide shall submit a performance test protocol to EPA and IDEM at least 35 days before the test. Exide shall notify EPA and IDEM of its intent to test on a specific date at least 15 days before performing the test(s).

Within 45 days after the new performance test for total hydrocarbon and dioxin/furan emissions, Exide shall submit to EPA and IDEM a complete report of the performance test for total hydrocarbon and dioxin/furan emissions.

If an alternate monitoring method for demonstrating ongoing compliance with the emission standards under 40 CFR 63.543(c) is approved which does not require maintenance of minimum temperatures set by 40 CFR 63.548(j), this Consent Decree is not intended to prevent the establishment of requirements implementing the alternate monitoring method for compliance.

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

In order to assure compliance with Conditions D.1.1(a) and D.1.3, the rotary dryer baghouse shall be in operation at all times that the rotary dryer is in operation.
(b) In order to assure compliance with Condition D.1.1(a), the process baghouse shall be in operation at all times that the reverberatory furnace and blast furnace (cupola) are in operation.

(c) In order to assure compliance with Condition D.1.1(a), either the North or South sodium carbonate packed tower scrubbers shall be in operation at all times that the reverberatory furnace and blast furnace (cupola) are in operation. In the event that both scrubbers cease operation for any reason, both furnaces shall immediately be shut down until at least one scrubber is operational again.

(d) The Permittee shall have a certified SO2 Continuous Emissions Monitoring System (CEMS) for emissions at both the North and South sodium carbonate packed tower scrubbers, calibrated, operated and maintained in compliance with 326 IAC 3-5-2 through 326 IAC 3-5-5.

(e) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

### D.1.7 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11]

- **Lead testing**
  
  (1) In order to demonstrate compliance with the lead limits in Condition D.1.1(a), the Permittee shall perform lead testing at the outlet of:

  (A) the rotary dryer baghouse;
  (B) the North and South sodium carbonate packed tower scrubbers following the process baghouse; and
  (C) the ventilation baghouse.

  Testing shall be performed utilizing methods as approved by the Commissioner in accordance with the following schedule:

  (A) every twelve (12) calendar months; or
  (B) if an annual compliance test demonstrates that a process vent emitted lead compounds at one-tenth (0.1) milligram of lead per dry standard cubic meter or less during the time of the annual compliance test, the owner or operator of a secondary lead smelter may submit a written request to the Administrator applying for an extension of up to twenty-four (24) calendar months from the previous compliance test to conduct the next compliance test for lead compounds.

- **Ventilation Baghouse - upon initial start-up after replacement:**
  Not later than 180 days after initial startup of the replacement ventilation baghouse and newly installed HEPA filters and in order to demonstrate compliance with Condition D.1.1(a), the Permittee shall perform lead testing at the outlet of the ventilation baghouse and HEPA filters, utilizing methods as approved by the Commissioner.
(b) PM, PM10, and PM2.5 testing

(1) In order to demonstrate compliance with Conditions D.1.1(a) and D.1.3, the Permittee shall perform PM, PM10, and PM2.5 testing at the outlet of:

(A) the rotary dryer baghouse;
(B) the North and South sodium carbonate packed tower scrubbers following the process baghouse; and
(C) the ventilation baghouse.

Testing shall be performed utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM10 and PM2.5 include filterable and condensable particulate matter.

(2) Ventilation Baghouse - upon initial start-up after replacement: Not later than 180 days after initial startup of the replacement ventilation baghouse and newly installed HEPA filters and in order to demonstrate compliance with Condition D.1.1(a), the Permittee shall perform PM, PM10, PM2.5 testing at the outlet of the ventilation baghouse and HEPA filters, utilizing methods as approved by the Commissioner. PM10 and PM2.5 include filterable and condensable particulate matter.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.1.8 Visible Emissions Notations [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

(a) Visible emission notations of the North and South sodium carbonate packed tower scrubber stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.
D.1.9 Parametric Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

(a) The Permittee shall monitor and record the total pressure drop across each of the North and South sodium carbonate packed tower scrubbers used in conjunction with the reverberatory furnace and blast furnace (cupola) at least once daily when the associated processes are in operation. When, for any one reading, the pressure drop is outside the normal ranges, the Permittee shall take a reasonable response. The normal range for these units is a pressure drop between 5.0 and 25.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the total pressure drop across the HEPA filters for the ventilation baghouse at least once daily when the associated processes are in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.5 and 5.5 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.1.10 Scrubber Failure Detection [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

The north or south sodium carbonate packed scrubber, controlling emissions from the reverberatory furnace and blast furnace (cupola), shall be operated continuously. In the event that both scrubbers cease operation for any reason, both furnaces shall immediately be shut down until at least the North or South scrubber is operational again. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.11 SO₂ Monitor Downtime [326 IAC 2-7-6][326 IAC 2-7-5(1)]

Whenever the SO₂ continuous emission monitoring system (CEMS) is malfunctioning or down for repairs or adjustments for twenty-four (24) hours or more, the Permittee shall monitor and record the slurry feed rate to demonstrate that the operation of the scrubber continues in a manner typical for the sulfur content of the coal fired. Scrubber parametric monitoring readings shall be recorded at least twice per day until the primary CEMS or a backup CEMS is brought online.

D.1.12 Bag Leak Detection System Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

Pursuant to 40 CFR 64, the Permittee shall install and continuously operate bag leak detection systems on the baghouses for the Rotary Dryer, the Process Operation, and the Ventilation Hoods. See Condition F.1.1(a)(8) of this permit or 326 IAC 20-13.1-9 of Attachment C for detailed bag leak detection system monitoring requirements.
Record Keeping and Reporting Requirements  [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.1.13 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.8, the Permittee shall maintain a daily record of visible emission notations of the North and South sodium carbonate packed tower scrubber stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.1.9(a), the Permittee shall maintain a daily record of the pressure drop across the North and South sodium carbonate packed tower scrubber controlling the reverberatory furnace and blast furnace cupola. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

(c) To document the compliance status with Condition D.1.9(b), the Permittee shall maintain a daily record of the pressure drop across the HEPA filters for the ventilation baghouse. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

(d) In order to document the compliance status with Condition D.1.11, the Permittee shall maintain records of SO2 parametric emission monitoring during malfunction or downtime of continuous emissions monitoring system (CEMS).

(e) Pursuant to Condition F.1.1(a)(8) and in order to document the compliance status with Condition D.1.12, the owner or operator of a secondary lead smelter shall comply with the following:

(1) Records for bag leak detection systems shall be maintained on site for a period of three (3) years and be available for an additional two (2) years and shall include the following information:

(A) Records of bag leak detection system output.

(B) Identification of the date and time of all bag leak detection system alarms.

(C) The time that procedures to determine the cause of the alarm were initiated.

(D) The cause of the alarm.

(E) An explanation of the corrective actions taken.

(F) The date and time the cause of the alarm was corrected.

(G) Records of total operating time of an affected source during smelting operations for each six (6) month period.

(f) Section C - General Record Keeping Requirements contains the Permittee’s obligation with regard to the record keeping required by this condition.
D.1.14 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.1.1(b) shall be submitted not later than thirty (30) days after the end the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official", as defined by 326 IAC 2-7-1(35).

(b) The Permittee shall submit a report to document the compliance status with Condition D.1.12 not later than thirty (30) days after the end of each preceding six (6) month period ending June 30 and December 31 of each year that includes the following:

1. A description of the actions taken following each bag leak detection system alarm pursuant to Condition F.1.1(a)(8).

2. Calculations of the percentage of total operating time, or the total operating time in hours and minutes the alarm on the bag leak detection system was activated during the reporting period.

Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official", as defined by 326 IAC 2-7-1(35).
Emission Unit Description:

(e) Two (2) lead pig casting machines, constructed in 1989, identified collectively as Unit 7, each rated at 120,000 tons of lead per year controlled by refinery baghouse No. 1 and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018).

(f) Eleven (11) natural gas-fired pot furnaces, identified as Units 6K1, 6K2 and Units 6K4 through 6K12, all controlled by refinery baghouse No. 1 and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018), and including:

1. Two (2) rated at 120 tons holding capacity and 3.4 million British thermal units per hour (MMBtu/hr), constructed in 1989, identified as Units 6K1 and 6K2,
2. Two (2) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Units 6K9 and 6K10,
3. One (1) rated at 120 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Unit 6K11,
4. One (1) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Unit 6K12,
5. Two (2) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1973, identified as Units 6K5 and 6K6,
6. Two (2) rated at 100 tons holding capacity and 3.4 MMBtu/hr, constructed in 1973, identified as Units 6K7 and 6K8,
7. One (1) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1973 and modified in October 2009, identified as Unit 6K4.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) not applicable, the Permittee shall comply with the following:

The PM, PM10, PM2.5 and lead emissions shall not exceed the emissions limits listed in the table below:

<table>
<thead>
<tr>
<th>Emission Units</th>
<th>Control Equipment</th>
<th>PM Limit (lb/hr)</th>
<th>PM10 Limit (lb/hr)</th>
<th>PM2.5 Limit (lb/hr)</th>
<th>Lead Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pig casting and Pot furnaces</td>
<td>Refinery Baghouse No.1</td>
<td>4.75</td>
<td>5.25</td>
<td>5.25</td>
<td>0.3</td>
</tr>
<tr>
<td>(6K1-2) (6K4-12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Compliance with these limits combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source wide total potential to emit PM, PM10, and PM2.5 to less than one hundred (100) tons per year, each, and will render the requirements of 326 IAC 2-2 (PSD) not applicable.
Compliance with these limits combined with the potential to emit lead from all other emission units at this source, shall limit the source-wide total potential to emit of lead to less than five (5) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

D.2.2 Particulate Emissions [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitation for Manufacturing Processes), the Particulate emissions from the following units shall be limited as follows when operating at the listed process weight rate:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Process Weight Rate (tons/hr)</th>
<th>Emission Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pig casting</td>
<td>27.4</td>
<td>37.7</td>
</tr>
<tr>
<td>Pot Furnaces</td>
<td>13.7</td>
<td>23.7</td>
</tr>
</tbody>
</table>

These limitations were calculated using the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

\[ E = 4.10 P^{0.67} \]

where \( E \) = rate of emission in pounds per hour and \( P \) = process weight rate in tons per hour

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.2.4 Particulate Matter (PM) and Lead (Pb) [326 IAC 2-7-6(6)]

(a) In order to assure compliance with Conditions D.2.1 and D.2.2, the refinery baghouse No. 1 and HEPA filters shall be in operation at all times that any of the two (2) lead pig casting machines or the eleven (11) pot furnaces are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Lead Testing

(1) In order to demonstrate compliance with the lead limits in Condition D.2.1, the Permittee shall perform lead testing at the outlet of refinery baghouse No. 1, utilizing methods as approved by the Commissioner in accordance with the following schedule:

(A) every twelve (12) calendar months; or
(B) If an annual compliance test demonstrates that a process vent emitted lead compounds at one-tenth (0.1) milligram of lead per dry standard cubic meter or less during the time of the annual compliance test, the owner or operator of a secondary lead smelter may submit a written request to the Administrator applying for an extension of up to twenty-four (24) calendar months from the previous compliance test to conduct the next compliance test for lead compounds.

(2) Refinery Baghouse No. 1 - upon initial start-up after replacement: Not later than 180 days after initial startup of the replacement refinery baghouse #1 and newly installed HEPA filters and in order to demonstrate compliance with Condition D.2.1, the Permittee shall perform lead testing at the outlet of the refinery baghouse No.1 and HEPA filters, utilizing methods as approved by the Commissioner.

(b) PM, PM10, and PM2.5 Testing

(1) In order to demonstrate compliance with Condition D.2.1 and Condition D.2.2, the Permittee shall perform PM, PM10, and PM2.5 testing on the refinery baghouse No. 1, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM10 and PM2.5 include filterable and condensible particulate matter.

(2) Refinery Baghouse No. 1 - upon initial start-up after replacement: Not later than 180 days after initial startup of the replacement refinery baghouse #1 and newly installed HEPA filters and in order to demonstrate compliance with Conditions D.2.1 and D.2.2, the Permittee shall perform PM, PM10, and PM2.5 testing at the outlet of the refinery baghouse No. 1 and HEPA filters, utilizing methods as approved by the Commissioner.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the testing required by this condition.

Compliance Monitoring Requirements  [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.2.6 Parametric Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

The Permittee shall monitor and record the total pressure drop across the HEPA filters for refinery baghouse No. 1 used in conjunction with the two (2) lead pig casting machines and eleven (11) natural gas-fired pot furnaces at least once daily when the associated processes are in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.5 and 5.5 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replace at least once every six (6) months.
D.2.7 Baghouse Failure Detection [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

For a single compartment fabric filter controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.2.8 Bag Leak Detection System Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

Pursuant to 40 CFR 64, the Permittee shall install and continuously operate a bag leak detection system on the Refinery Baghouse. See Condition F.1.1(a)(8) of this permit or 326 IAC 20-13.1-9 of Attachment C for detailed bag leak detection system monitoring requirements.

Record Keeping and Reporting Requirements  [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.2.9 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.6, the Permittee shall maintain a daily record of the pressure drop across the HEPA filters for refinery baghouse No. 1 used in conjunction with the two (2) lead pig casting machines and eleven (11) natural gas-fired pot furnaces. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

(b) Pursuant to Condition F.1.1(a)(8) and in order to document the compliance status with Condition D.2.8, the owner or operator of a secondary lead smelter shall comply with the following:

(1) Records for bag leak detection systems shall be maintained on site for a period of three (3) years and be available for an additional two (2) years and shall include the following information:

   (A) Records of bag leak detection system output.

   (B) Identification of the date and time of all bag leak detection system alarms.

   (C) The time that procedures to determine the cause of the alarm were initiated.

   (D) The cause of the alarm.

   (E) An explanation of the corrective actions taken.

   (F) The date and time the cause of the alarm was corrected.

   (G) Records of total operating time of an affected source during smelting operations for each six (6) month period.

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping required by this condition.

D.2.10 Reporting Requirements

The Permittee shall submit a report to document the compliance status with Condition D.2.8 not later than thirty (30) days after the end of each preceding six (6) month period ending June 30 and December 31 of each year that includes the following:
(1) A description of the actions taken following each bag leak detection system alarm pursuant to Condition F.1.1(a)(8).

(2) Calculations of the percentage of total operating time, or the total operating time in hours and minutes the alarm on the bag leak detection system was activated during the reporting period.

Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-7-6(1) by a "responsible official", as defined by 326 IAC 2-7-1(35).
SECTION D.3  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) One (1) lead-battery crusher/breaker, identified as Unit 1, constructed in 1989, which is rated at 126,000 tons of scrap metal per year, with particulate matter (PM) emissions controlled by a venturi scrubber.

(h) One (1) soda ash/caustic soda neutralizing wash to neutralize sulfuric acid in the scrap metal before it is smelted, constructed in 1989,

(1) with two (2) soda ash silos, identified as Units 2a and 2b, both constructed in 1989, each with a capacity of 210,000 lbs, and

(2) one (1) soda ash silo, identified as Silo 3, constructed in 1992 and modified in October 2009, with a capacity of 100,000 lbs.

Particulate matter (PM) emissions on all three (3) soda ash silos are controlled by fabric filters.

(i) Material handling, identified as Unit 9, controlled by bin room baghouse No. 1 and bin room baghouse No. 2, each with HEPA filters, and each baghouse exhausting to a separate stack. (Bin room baghouse No. 1 modification and HEPA filter installation approved in 2018).

(1) One (1) slag crusher, constructed in 1994, with emissions controlled by a baghouse, identified as slag crusher baghouse, venting to bin room baghouses No.1 and No. 2.

(j) One (1) Rolled Lead Strip (RLS) Line, constructed in 1997 and permitted in 2016, with a maximum capacity of 3.5 tons per hour, exhausting to RLS baghouse and HEPA Filters, including the following:

(1) One (1) natural gas-fired seven (7) ton melting pot, identified as MP-1, constructed in 1997, with a capacity of 2.2 million British thermal units per hour; and

(2) One (1) natural gas-fired thirty-five (35) ton melting pot, identified as MP-2, constructed in 1997, with a capacity of 1.2 million British thermal units per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)
Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) not applicable, the PM, PM10, PM2.5 and Lead emissions from the venturi scrubber, fabric filters and bin room baghouses shall not exceed the emissions limits listed in the table below:

<table>
<thead>
<tr>
<th>Emission Units</th>
<th>Control Equipment</th>
<th>PM Limit (lb/hr)</th>
<th>PM10 Limit (lb/hr)</th>
<th>PM2.5 Limit (lb/hr)</th>
<th>Lead Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery crusher/breaker (Unit 1)</td>
<td>Venturi Scrubber</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td>0.065</td>
</tr>
<tr>
<td>Soda ash wash and 2 silos (Unit 2)</td>
<td>Fabric filters</td>
<td>0.23</td>
<td>0.23</td>
<td>0.23</td>
<td>-</td>
</tr>
<tr>
<td>Material Handling/Slag Crusher</td>
<td>Bin Room Baghouses No. 1 and No. 2, each with HEPA filters</td>
<td>1.90 combined</td>
<td>1.90 combined</td>
<td>1.90 combined</td>
<td>0.17 combined</td>
</tr>
</tbody>
</table>

Compliance with these limits combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source wide total potential to emit PM, PM10, and PM2.5 to less than one hundred (100) tons per year, each, and will render the requirements of 326 IAC 2-2 (PSD) not applicable.

Compliance with these limits combined with the potential to emit lead from all other emission units at this source, shall limit the source-wide total potential to emit of lead to less than five (5) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

D.3.2 Particulate Emissions [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitation for Manufacturing Processes), the Particulate emissions from the following units shall be limited as follows when operating at the listed process weight rate:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Process Weight Rate (tons/hr)</th>
<th>Emission Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery crusher/breaker</td>
<td>14.4</td>
<td>24.5</td>
</tr>
<tr>
<td>Silo 2a</td>
<td>0.575</td>
<td>2.83</td>
</tr>
<tr>
<td>Silo 2b</td>
<td>0.575</td>
<td>2.83</td>
</tr>
<tr>
<td>Silo 3</td>
<td>1.04</td>
<td>4.21</td>
</tr>
<tr>
<td>Material Handling</td>
<td>14.4</td>
<td>24.5</td>
</tr>
</tbody>
</table>

These limitations were calculated using the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

\[
E = 4.10 P^{0.67}
\]

where \(E\) = rate of emission in pounds per hour and \(P\) = process weight rate in tons per hour
D.3.3 Federal Consent Decree Requirements - Rolled Lead Strip ("RLS Line")

Pursuant to Significant Source Modification No. 035-36872-00028 and the Consent Decree lodged with the United States District Court for the Southern District of Indiana on March 16, 2015 in United States and the State of Indiana v. Exide Technologies, No. 15-cv-433 (S.D. Ind.), the Permittee shall comply with the following:

(a) Exide shall use the RLS baghouse and HEPA filters at all times that the RLS Line is operating;

(b) Exide shall perform periodic testing annually for lead and every five years for particulate matter to demonstrate compliance with the permitted emission limits for those pollutants and to establish baghouse operating parameters;

(c) Exide shall continuously monitor and record the pressure drop across the RLS baghouse and HEPA filters whenever the RLS Line is being operated (or if the RLS Line is not being operated, then Exide shall include the information in a recorded notation);

(d) Exide shall report any pressure drop deviations to IDEM and Exide shall take immediate corrective action addressing any pressure drop deviation;

(e) Exide shall maintain records of monitoring, maintenance, and repair of the RLS Line air pollution control equipment.

D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B- Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.3.5 Particulate Matter (PM) and Lead (Pb) [326 IAC 2-7-6(6)]

(a) In order to assure compliance with Conditions D.3.1 and D.3.2, the venturi scrubber shall be in operation at all times that the lead-battery crusher/breaker is in operation.

(b) In order to assure compliance with Conditions D.3.1 and D.3.2, bin room baghouses No. 1 and No. 2 shall be in operation at all times that slag crushing is in operation.

(c) In order to assure compliance with Condition D.3.3, the RLS baghouse and HEPA filters shall be in operation at all times that the RLS Line is in operation.

(d) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.3.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Lead Testing

(1) Venturi Scrubber:
In order to demonstrate compliance with the lead limit in Condition D.3.1, the Permittee shall conduct lead testing at the outlet of the venturi scrubber, utilizing methods as approved by the Commissioner, in accordance with the following schedule:
(A) every twelve (12) calendar months; or  

(B) If an annual compliance test demonstrates that a process vent emitted lead compounds at one-tenth (0.1) milligram of lead per dry standard cubic meter or less during the time of the annual compliance test, the owner or operator of a secondary lead smelter may submit a written request to the Administrator applying for an extension of up to twenty-four (24) calendar months from the previous compliance test to conduct the next compliance test for lead compounds.

(2) Bin Room Baghouse No. 1 and Bin Room Baghouse No. 2:  
In order to demonstrate compliance with the lead limits in Condition D.3.1, the Permittee shall conduct lead testing on the outlets of the bin room baghouses No. 1 and No. 2, utilizing methods as approved by the Commissioner, in accordance with the following schedule:  

(A) every twelve (12) calendar months; or  

(B) If an annual compliance test demonstrates that a process vent emitted lead compounds at one-tenth (0.1) milligram of lead per dry standard meter or less during the time of the annual compliance test, the owner or operator of a secondary lead smelter may submit a written request to the Administrator applying for an extension of up to twenty-four (24) calendar months from the previous compliance test to conduct the next compliance test for lead compounds.

(3) Bin Room Baghouse No. 1- upon initial start-up after modification:  
Not later than 180 days after initial startup of the replacement bin room baghouse #1 and newly installed HEPA filters and in order to demonstrate compliance with Condition D.3.1, the Permittee shall perform lead testing at the outlet of the bin room baghouse No.1 and HEPA filters, utilizing methods as approved by the Commissioner.

(b) PM, PM10, and PM2.5 Testing

(1) Venturi Scrubber:  
In order to demonstrate compliance with Condition D.3.1 and Condition D.3.2, the Permittee shall perform PM, PM10, and PM2.5 testing at the outlet of the venturi scrubber, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM10 and PM2.5 include filterable and condensable particulate matter.

(2) Bin Room Baghouses No. 1 and Bin Room Baghouse No. 2:  
In order to demonstrate compliance with Condition D.3.1 and Condition D.3.2, the Permittee shall perform PM, PM10, and PM2.5 testing at the outlet of the bin room baghouses No. 1 and No. 2, utilizing methods as approved by the Commissioner, at least once every five (5) years from the date of the most recent valid compliance demonstration. PM10 and PM2.5 include filterable and condensable particulate matter.

(3) Bin Room Baghouse No. 1- upon initial start-up after modification:  
Not later than 180 days after initial startup of the replacement bin room baghouse No. 1 and newly installed HEPA filters and in order to demonstrate compliance with Conditions D.3.1 and D.3.2, the Permittee shall perform PM, PM10, and
PM2.5 testing at the outlet of the bin room baghouse No.1 and HEPA filters, utilizing methods as approved by the Commissioner. PM10 and PM2.5 include filterable and condensable particulate matter.

(c) Pursuant to the Consent Decree lodged with the United States District Court for the Southern District of Indiana on March 16, 2015 in United States and the State of Indiana v. Exide Technologies, No. 15-cv-433 (S.D. Ind.) and in order to demonstrate compliance with Condition D.3.3(b), the Permittee shall conduct PM and lead testing for the RLS Line utilizing methods as approved by the Commissioner in accordance with the following schedule:

1. at least once every twelve (12) calendar months for lead; and
2. at least once every five (5) years from the date of the most recent valid compliance demonstration for PM.

(d) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.3.7 Visible Emissions Notations [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

(a) Visible emission notations of the venturi scrubber stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.8 Parametric Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

(a) The Permittee shall monitor and record the total static pressure drop across the venturi scrubber used in conjunction with the lead-battery crusher/breaker at least once daily when the processes are in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 10.0 and 25.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.
(b) The Permittee shall monitor and record the total pressure drops across the HEPA filters for bin room baghouse No. 1 and bin room baghouse No. 2 at least once daily when the associated processes are in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units is a pressure drop between 1.5 and 5.5 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure drops shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.3.9 Parametric Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

(a) The Permittee shall monitor and record the total static pressure drop across the RLS baghouse used in conjunction with the RLS Line at least once daily when the processes are in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 10.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the total pressure drops across the HEPA filters for the RLS baghouse at least once daily when the processes are in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.25 and 5.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure drops shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.3.10 Scrubber Failure Detection [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

For the venturi scrubber, controlling emissions from the battery crusher/breaker, operated continuously, in the event that a scrubber system failure is observed, the failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.11 Bag Leak Detection System Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

Pursuant to 40 CFR 64, the Permittee shall install and continuously operate bag leak detection systems on Bin Room Baghouses No. 1 and No. 2. See Condition F.1.1(a)(8) of this permit or 326 IAC 20-13.1-9 of Attachment C for detailed bag leak detection system monitoring requirements.
Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19][326 IAC 20-13.1-9]

D.3.12 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.3.7, the Permittee shall maintain a daily record of visible emission notations of the venturi scrubber stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

(b) In order to document the compliance status with Condition D.3.8(a), the Permittee shall maintain a daily record of the pressure drop across the venturi scrubber controlling the battery crusher/breaker. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

(c) In order to document the compliance status with Condition D.3.8(b), the Permittee shall maintain a daily record of the pressure drop across the HEPA filters for bin room baghouse No. 1 and bin room baghouse No. 2. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

(d) Pursuant to Condition F.1.1(a)(8) and in order to document the compliance status with Condition D.3.11 the owner or operator of a secondary lead smelter shall comply with the following:

(1) Records for bag leak detection systems shall be maintained on site for a period of three (3) years and be available for an additional two (2) years and shall include the following information:

(A) Records of bag leak detection system output.

(B) Identification of the date and time of all bag leak detection system alarms.

(C) The time that procedures to determine the cause of the alarm were initiated.

(D) The cause of the alarm.

(E) An explanation of the corrective actions taken.

(F) The date and time the cause of the alarm was corrected.

(G) Records of total operating time of an affected source during smelting operations for each six (6) month period.

(e) In order to document the compliance status with Conditions D.3.3(c) and D.3.9, the Permittee shall maintain daily records of the pressure drops across the RLS baghouse and HEPA filters controlling the RLS Line. The Permittee shall include in its records when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

(f) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping required by this condition.
D.3.13 Reporting Requirements

The Permittee shall submit a report to document the compliance status with Condition D.3.11 not later than thirty (30) days after the end of each preceding six (6) month period ending June 30 and December 31 of each year that includes the following:

(1) A description of the actions taken following each bag leak detection system alarm pursuant to Condition F.1.1(a)(8).

(2) Calculations of the percentage of total operating time, or the total operating time in hours and minutes the alarm on the bag leak detection system was activated during the reporting period.

Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official", as defined by 326 IAC 2-7-1(35).
SECTION D.4  EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

**Insignificant Activities:**

(p) Cold cleaning degreasing operations that consist of two (2) parts washers, using less than 270 gal/year of cleaner, each.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards  [326 IAC 2-7-5(1)]

D.4.1 Cold Cleaner Degreaser Control Equipment and Operating Requirements [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control Equipment and Operating Requirements), the Permittee shall:

(a) Ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.

(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) Ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) A refrigerated chiller.

(D) Carbon adsorption.

(E) An alternative system of demonstrated equivalent or better control as
those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) must be a solid, fluid stream; and

(B) shall be applied at a pressure that does not cause excessive splashing.

D.4.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), the Permittee shall not operate a cold cleaning degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B-Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)]

D.4.4 Record Keeping Requirements

(a) To document the compliance status with Condition D.4.2, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

(1) The name and address of the solvent supplier.

(2) The date of purchase (or invoice/bill dates of contract servicer indicating service date).

(3) The type of solvent purchased.

(4) The total volume of the solvent purchased.

(5) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.
SECTION E.1 NSPS

Emissions Unit Description:
The affected sources are the existing reverberatory furnace, blast furnace (cupola), and twelve (12) pot furnaces.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]


- Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart L.

- Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:
  Indiana Department of Environmental Management
  Compliance and Enforcement Branch, Office of Air Quality
  100 North Senate Avenue
  MC 61-53 IGCN 1003
  Indianapolis, Indiana 46204-2251

E.1.2 Secondary Lead Smelters NSPS [326 IAC 12][40 CFR 60, Subpart L]
The Permittee shall comply with the following provisions of 40 CFR 60, Subpart L (included as Attachment A of the operating permit), which are incorporated by reference as 326 IAC 12:

- 40 CFR 60.120
- 40 CFR 60.121
- 40 CFR 60.122
- 40 CFR 60.123
SECTION E.2  NSPS

Emissions Unit Description:

(o) One (1) Diesel fuel-fired emergency generator, identified as EG9, manufactured in 2012, permitted in 2019, with a maximum output rating of 1,502 horsepower, using no control, and exhausting to the atmosphere.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered a new affected source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]


(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 60, Subpart IIII.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.2.2 Stationary Compression Ignition Internal Combustion Engines NSPS [326 IAC 12][40 CFR 60, Subpart IIII]

The Permittee shall comply with the following provisions of 40 CFR 60, Subpart IIII (included as Attachment F of the operating permit), which are incorporated by reference as 326 IAC 12:

(1) 40 CFR 60.4200(a)(2)(i), (a)(3), (a)(4), (c)
(2) 40 CFR 60.4205(d)(2), (3)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(a), (d)
(5) 40 CFR 60.4208(a), (i)
(6) 40 CFR 60.4209(a)
(7) 40 CFR 60.4211(a), (d)(1), (d)(2)(i-v), (f)(1), (f)(2)(i), (f)(3), (g)(3)
(8) 40 CFR 60.4213
(9) 40 CFR 60.4214(b)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) 40 CFR 60, Subpart IIII, Table 5
(13) 40 CFR 60, Subpart IIII, Table 7
(14) 40 CFR 60, Subpart IIII, Table 8

E.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for this facility and any control devices. Section B -
Preventive Maintenance Plan contains the Permittee’s obligation with regard to the preventive maintenance plan required by this condition.
SECTION E.3 NESHAP

Emissions Unit Description:

The affected sources are the existing reverberatory furnace, blast furnace (cupola), rotary dryer, twelve (12) pot furnaces, lead pig casting, lead battery crusher/breaker, material handling, roadway surface fugitive emissions and all processes contributing to fugitive emissions and fugitive dust emissions associated with secondary lead smelting.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]


(a) Pursuant to 40 CFR 63.1, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1-1 for the emission unit(s) listed above, except as otherwise specified in 40 CFR 63, Subpart X.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.3.2 Lead Smelting NESHAP [40 CFR Part 63, Subpart X]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart X (included as Attachment B of the operating permit):

(1) 40 CFR 63.541
(2) 40 CFR 63.542
(3) 40 CFR 63.543 (a), (c), (f), (g), (h), (i), (j), (k), (l), (m)
(4) 40 CFR 63.544
(5) 40 CFR 63.545
(6) 40 CFR 63.546
(7) 40 CFR 63.547
(8) 40 CFR 63.548
(9) 40 CFR 63.549
(10) 40 CFR 63.550
(11) 40 CFR 63.551
(12) 40 CFR 63.552
(13) Table 1 to Subpart X of Part 63
(14) Table 2 to Subpart X of Part 63
(15) Table 3 to Subpart X of Part 63

E.3.3 Testing Requirements [326 IAC 2-7-5(1)][326 IAC 2-6.1-5]

In order to demonstrate compliance with Condition E.3.2, the Permittee shall perform the testing required under 40 CFR 63, Subpart X, utilizing methods as approved by the Commissioner, and in
accordance with testing timeframes in 40 CFR 63, Subpart X. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.
SECTION E.4

Emissions Unit Description:

(n) One (1) diesel emergency generator, manufactured in 1983, permitted in 2018, with a maximum capacity of 569.9 HP, and exhausting to atmosphere.

(o) One (1) Diesel fuel-fired emergency generator, identified as EG9, manufactured in 2012, permitted in 2019, with a maximum output rating of 1,502 horsepower, using no control, and exhausting to the atmosphere.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered a new affected source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]


(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana  46204-2251

E.4.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment C to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission unit(s) listed above:

One (1) diesel emergency generator (569.9 hp):

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(1)(iii) and (iv)
(4) 40 CFR 63.6595(a)(1), (b), and (c)
(5) 40 CFR 63.6603(a)
(6) 40 CFR 63.6605
(7) 40 CFR 63.6625(e)(3), (f), (h), and (i)
(8) 40 CFR 63.6635
(9) 40 CFR 63.6640(a), (b), (e), and (f)
(10) 40 CFR 63.6645(a)(5)
One (1) Diesel fuel-fired emergency generator (1,502 hp), identified as EG9:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
(4) 40 CFR 63.6595(a)(7)
(5) 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675
SECTION E.5  NESHAP

Emissions Unit Description:

(b) One (1) 520 gallon Gasoline Dispensing Facility having a monthly throughput of less than 10,000 gallons of gasoline,

Under 40 CFR 63, Subpart CCCCCC, this is considered an existing affected source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]


(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 63, Subpart CCCCCC.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.4.2 Source Category: Gasoline Dispensing Facilities NESHAP [40 CFR Part 63, Subpart CCCCCC]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart CCCCCC (included as Attachment D to the operating permit), for the emission unit(s) listed above:

(1) 40 CFR 63.111110
(2) 40 CFR 63.111111
(3) 40 CFR 63.111112
(4) 40 CFR 63.111113(b), (c)
(5) 40 CFR 63.111115
(6) 40 CFR 63.111116
(7) 40 CFR 63.11125(d)
(8) 40 CFR 63.11130
(9) 40 CFR 63.11131
(10) 40 CFR 63.11132
(11) Table 3
SECTION F.1  326 IAC 20-13.1

**Emissions Unit Description:**

(a) One (1) natural gas-fired rotary dryer, identified as Unit 3, constructed in 1989 and modified in 2005, with a maximum capacity of 126,000 tons of lead scrap per year and a maximum heat input capacity of 13 million British thermal units per hour (MMBtu/hr), controlled by the rotary dryer baghouse.

(b) One (1) lead reverberatory furnace, identified as Unit 4, constructed in 1989, with a maximum capacity of 35 million British thermal units per hour (MMBtu/hr), rated at 100,000 tons of lead per year, controlled by the 10 MMBtu/hr natural gas fired afterburner constructed in 2015, the process baghouse, and by identical, individual, and parallel, North and South sodium carbonate packed tower scrubbers.

(c) One (1) blast furnace (cupola), identified as Unit 5, constructed in 1973 and modified in 1989, rated at 30,000 tons of metal per year, controlled by the 10 MMBtu/hr natural gas fired afterburner constructed in 2015, the process baghouse, and by identical, individual, and parallel, North and South sodium carbonate packed tower scrubbers.

(d) Emissions from the reverberatory furnace charge point, lead and slag tap points, and blast furnace (cupola) charge point hoods are controlled by the ventilation baghouse and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018).

(e) Two (2) lead pig casting machines, constructed in 1989, identified collectively as Unit 7, each rated at 120,000 tons of lead per year controlled by refinery baghouse No. 1 and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018).

(f) Eleven (11) natural gas-fired pot furnaces, identified as Units 6K1, 6K2 and Units 6K4 through 6K12, all controlled by refinery baghouse No. 1 and HEPA filters (baghouse replacement and HEPA filter installation approved in 2018), and including:

1. Two (2) rated at 120 tons holding capacity and 3.4 million British thermal units per hour (MMBtu/hr), constructed in 1989, identified as Units 6K1 and 6K2,

2. Two (2) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Units 6K9 and 6K10,

3. One (1) rated at 120 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Unit 6K11,

4. One (1) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1989, identified as Unit 6K12,

5. Two (2) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1973, identified as Units 6K5 and 6K6,

6. Two (2) rated at 100 tons holding capacity and 3.4 MMBtu/hr, constructed in 1973, identified as Units 6K7 and 6K8,

7. One (1) rated at 100 tons holding capacity and 3.0 MMBtu/hr, constructed in 1973 and modified in October 2009, identified as Unit 6K4.
(g) One (1) lead-battery crusher/breaker, identified as Unit 1, constructed in 1989, which is rated at 126,000 tons of scrap metal per year, with particulate matter (PM) emissions controlled by a venturi scrubber followed by a voluntarily installed dust collector.

(i) Material handling, identified as Unit 9, controlled by bin room baghouse No. 1 and bin room baghouse No. 2, each with HEPA filters, and each baghouse exhausting to a separate stack. (Bin room baghouse No. 1 modification and HEPA filter installation approved in 2018).

(1) One (1) slag crusher, constructed in 1994, with emissions controlled by a baghouse, identified as slag crusher baghouse, venting to bin room baghouses No.1 and No. 2.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]


(a) Pursuant to 326 IAC 20-13.1-1(c)(2) and 326 IAC 20-13.1-3(c), the Permittee shall comply with the following requirements by October 1, 2013 (included as Attachment E of this permit):

(1) 326 IAC 20-13.1-1 (Applicability)
(2) 326 IAC 20-13.1-2 (Definitions)
(3) 326 IAC 20-13.1-3(a) (Emission Limitations; lead standards for Exide Technologies, Incorporated)
(4) 326 IAC 20-13.1-5(b) and 5(h) (Emission limitations and operating provisions)
(5) 326 IAC 20-13.1-6 (Total enclosure requirements)
(6) 326 IAC 20-13.1-7 (Total enclosure monitoring requirements)
(7) 326 IAC 20-13.1-8 (Fugitive dust source requirements)
(8) 326 IAC 20-13.1-9 (Bag leak detection system requirements)
(9) 326 IAC 20-13.1-10(a) through 10(d) (Other requirements)
(10) 326 IAC 20-13.1-11(a) through 11(c) and 11(f) (Compliance testing)
(11) 326 IAC 20-13.1-12(a) (Compliance testing methods)
(12) 326 IAC 20-13.1-14(a), 14(b), 14(c)(1) through 14(c)(8), 14(c)(10) through 14(c)(13), 14(c)(15) through 14(c)(17), 14(d), 14(e)(1), 14(e)(4) through 14(e)(7), and 14(e)(9) through 14(e)(12) (Record keeping and reporting requirements)

(b) In addition to the requirements specified in Condition F.1.1(a) and pursuant to 326 IAC 20-13.1-1(c)(3), the Permittee shall comply with the following requirements beginning on January 6, 2014 (included as Attachment E of this permit):

(1) 326 IAC 20-13.1-5(d), 5(g), (5)(i), and (5)(j) (Emission limitations and operating provisions)
(2) 326 IAC 20-13.1-10(e) (Other requirements)
(3) 326 IAC 20-13.1-11(e) (Compliance testing)
(4) 326 IAC 20-13.1-12(b), 12(c), 12(d), 12(e) (Compliance testing methods)
(5) 326 IAC 20-13.1-13(a), 13(b), and (d) (Notification requirements)
(6) 326 IAC 20-13.1-14(c)(9), 14(e)(2), 14(e)(8) through 14(e)(7), 14(e)(13), and 14(e)(14) (Record keeping and reporting requirements)
(7) 326 IAC 20-13.1-15 (Affirmative defense to civil penalties for exceedance of emissions limit during malfunction)
ININDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
PART 70 OPERATING PERMIT  
CERTIFICATION

Source Name: Exide Technologies  
Source Address: 2601 West Mt. Pleasant Blvd., Muncie, Indiana 47302  
Part 70 Permit No.: T035-37825-00028

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter  
☐ Test Result (specify)  
☐ Report (specify)  
☐ Notification (specify)  
☐ Affidavit (specify)  
☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:
Printed Name:
Title/Position:
Phone:
Date:
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
Phone: (317) 233-0178  
Fax: (317) 233-6865

PART 70 OPERATING PERMIT  
EMERGENCY OCCURRENCE REPORT

Source Name: Exide Technologies  
Source Address: 2601 West Mt. Pleasant Blvd., Muncie, Indiana 47302  
Part 70 Permit No.: T035-37825-00028

This form consists of 2 pages   Page 1 of 2

☐ This is an emergency as defined in 326 IAC 2-7-1(12)  
  • The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime  
    business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and  
  • The Permittee must submit notice in writing or by facsimile within two (2) working days  
    (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

<table>
<thead>
<tr>
<th>Facility/Equipment/Operation:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Control Equipment:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Permit Condition or Operation Limitation in Permit:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Description of the Emergency:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Describe the cause of the Emergency:</th>
</tr>
</thead>
</table>
If any of the following are not applicable, mark N/A

<table>
<thead>
<tr>
<th>Date/Time Emergency started:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/Time Emergency was corrected:</td>
</tr>
<tr>
<td>Was the facility being properly operated at the time of the emergency?</td>
</tr>
<tr>
<td>Type of Pollutants Emitted: TSP, PM-10, SO₂, VOC, NOₓ, CO, Pb, other:</td>
</tr>
<tr>
<td>Estimated amount of pollutant(s) emitted during emergency:</td>
</tr>
<tr>
<td>Describe the steps taken to mitigate the problem:</td>
</tr>
<tr>
<td>Describe the corrective actions/response steps taken:</td>
</tr>
<tr>
<td>Describe the measures taken to minimize emissions:</td>
</tr>
</tbody>
</table>

If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: ________________________________
Title / Position: ________________________________
Date: ________________________________
Phone: ________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Exide Technologies
Source Address: 2601 West Mt. Pleasant Blvd., Muncie, Indiana 47302
Part 70 Permit No.: T035-37825-00028
Facility: Reverberatory Furnace (Unit ID#4) and Blast Furnace (Cupola) (Unit ID#5)
Parameter: Sulfur Dioxide (SO₂)
Limit: 93 tons per twelve (12) consecutive month period

QUARTER: ___________________ YEAR: ___________________

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tons of SO₂</td>
<td>Tons of SO₂</td>
<td>Tons of SO₂</td>
</tr>
<tr>
<td></td>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
</tr>
</tbody>
</table>

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
  Deviation has been reported on:

Submitted by: ______________________________
Title / Position: ___________________________
Signature: _________________________________
Date: ________________________________
Phone: ________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Exide Technologies
Source Address: 2601 West Mt. Pleasant Blvd., Muncie, Indiana 47302
Part 70 Permit No.: T035-37825-00028

Months: __________ to __________ Year: __________

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B -Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C -General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

- NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
- THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
<th>Date of Deviation:</th>
<th>Duration of Deviation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
<th>Date of Deviation:</th>
<th>Duration of Deviation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit Requirement (specify permit condition #)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of Deviation:</td>
<td>Duration of Deviation:</td>
<td></td>
</tr>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Deviation:</td>
</tr>
<tr>
<td>Number of Deviations:</td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
</tr>
<tr>
<td>Response Steps Taken:</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Deviation:</td>
</tr>
<tr>
<td>Number of Deviations:</td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
</tr>
<tr>
<td>Response Steps Taken:</td>
</tr>
</tbody>
</table>

Form Completed by: ____________________________  
Title / Position: ____________________________  
Date: ____________________________  
Phone: ____________________________
What This Subpart Covers

§60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.
(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

Emission Standards for Manufacturers

§60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and
(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

(h) Stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with auxiliary emission control devices (AECDs) as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new nonroad CI engines in 40 CFR 89.112 while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011; 81 FR 44219, July 7, 2016]

§60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and


(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.
(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011; 81 FR 44219, July 7, 2016]
§60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

Emission Standards for Owners and Operators

§60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NOx in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2} g/KW-hr (34 \cdot n^{-0.2} g/HP-hr)$ when maximum engine speed is 130 or more but less than 2,000 rpm, where $n$ is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NOx in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23} g/KW-hr (33 \cdot n^{-0.23} g/HP-hr)$ when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where $n$ (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NOx in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.20} g/KW-hr (6.7 \cdot n^{-0.20} g/HP-hr)$ where $n$ (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.
(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in §60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

(f) Owners and operators of stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with AECDs as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new nonroad CI engines in 40 CFR 89.112 while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011; 81 FR 44219, July 7, 2016]

§60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NOx in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NOx in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and
(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in §60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

§60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.


Other Requirements for Owners and Operators

§60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.
(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]
Compliance Requirements

§60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and (e) and §60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 1039, or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad CI engine regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.
(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words “and stationary” after the word “nonroad” or “marine,” as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner’s manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as “Fire Pump Applications Only”.

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers’ normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §60.4201 or §60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

(j) Stationary CI ICE manufacturers may equip their stationary CI internal combustion engines certified to the emission standards in 40 CFR part 1039 with AECDs for qualified emergency situations according to the requirements of 40 CFR 1039.665. Manufacturers of stationary CI ICE equipped with AECDs as allowed by 40 CFR 1039.665 must meet all of the requirements in 40 CFR 1039.665 that apply to manufacturers. Manufacturers must document that the engine complies with the Tier 1 standard in 40 CFR 89.112 when the AECD is activated. Manufacturers must provide any relevant testing, engineering analysis, or other information in sufficient detail to support such statement when applying for certification (including amending an existing certificate) of an engine equipped with an AECD as allowed by 40 CFR 1039.665.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 81 FR 44219, July 7, 2016]
§60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;
(ii) A discussion of the relationship between these parameters and NOX and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NOX and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.

2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

1) There is no time limit on the use of emergency stationary ICE in emergency situations.

2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent
performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to
demonstrate compliance with the applicable emission standards.

(h) The requirements for operators and prohibited acts specified in 40 CFR 1039.665 apply to owners or operators of
stationary CI ICE equipped with AECDs for qualified emergency situations as allowed by 40 CFR 1039.665.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011; 78 FR 6695, Jan. 30, 2013; 81 FR 44219,
July 7, 2016]

-testing Requirements for Owners and Operators

§60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal
combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct
performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart
F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042,
subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30
liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in
40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum
engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR
1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR
part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in
40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the
same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable,
determined from the following equation:

NTE requirement for each pollutant = (1.25) × (STD)  \quad \text{(Eq. 1)}

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112
or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year
engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to
the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c),
determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in
§60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.
(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

\[
\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 2})
\]

Where:

- \(C_i\) = concentration of NO\(_X\) or PM at the control device inlet,
- \(C_o\) = concentration of NO\(_X\) or PM at the control device outlet, and
- \(R\) = percent reduction of NO\(_X\) or PM emissions.

(2) You must normalize the NO\(_X\) or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O\(_2\)) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO\(_2\)) using the procedures described in paragraph (d)(3) of this section.

\[
C_{adj} = C_d \times \frac{5.9}{20.9 - \%\ O_2} \quad (\text{Eq. 3})
\]

Where:

- \(C_{adj}\) = Calculated NO\(_X\) or PM concentration adjusted to 15 percent O\(_2\).
- \(C_d\) = Measured concentration of NO\(_X\) or PM, uncorrected.

5.9 = 20.9 percent O\(_2\)−15 percent O\(_2\), the defined O\(_2\) correction value, percent.
%O₂ = Measured O₂ concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O₂ and CO₂ concentration is measured in lieu of O₂ concentration measurement, a CO₂ correction factor is needed. Calculate the CO₂ correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F₀ value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

\[ F₀ = \frac{0.209 F_d}{F_c} \quad (Eq. 4) \]

Where:

\( F₀ \) = Fuel factor based on the ratio of O₂ volume to the ultimate CO₂ volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O₂, percent/100.

\( F_d \) = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm³/J (dscf/10⁶ Btu).

\( F_c \) = Ratio of the volume of CO₂ produced to the gross calorific value of the fuel from Method 19, dsm³/J (dscf/10⁶ Btu).

(ii) Calculate the CO₂ correction factor for correcting measurement data to 15 percent O₂, as follows:

\[ X_{CO₂} = \frac{5.9}{F₀} \quad (Eq. 5) \]

Where:

\( X_{CO₂} \) = CO₂ correction factor, percent.

5.9 = 20.9 percent O₂−15 percent O₂, the defined O₂ correction value, percent.

(iii) Calculate the NOₓ and PM gas concentrations adjusted to 15 percent O₂ using CO₂ as follows:

\[ C_{adj} = C_d \frac{X_{CO₂}}{\%CO₂} \quad (Eq. 6) \]

Where:

\( C_{adj} \) = Calculated NOₓ or PM concentration adjusted to 15 percent O₂.

\( C_d \) = Measured concentration of NOₓ or PM, uncorrected.

\( \%CO₂ \) = Measured CO₂ concentration, dry basis, percent.

(e) To determine compliance with the NOₓ mass per unit output emission limitation, convert the concentration of NOₓ in the engine exhaust using Equation 7 of this section:
Where:

$$ ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{KW\text{-hour}} \quad (Eq.\ 7) $$

ER = Emission rate in grams per KW-hour.

$C_d = $ Measured NOX concentration in ppm.

$1.912 \times 10^{-3} = $ Conversion constant for ppm NOX to grams per standard cubic meter at 25 degrees Celsius.

$Q = $ Stack gas volumetric flow rate, in standard cubic meter per hour.

$T = $ Time of test run, in hours.

$KW\text{-hour} = $ Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ ER = \frac{C_{adj} \times Q \times T}{KW\text{-hour}} \quad (Eq.\ 8) $$

Where:

ER = Emission rate in grams per KW-hour.

$C_{adj} = $ Calculated PM concentration in grams per standard cubic meter.

$Q = $ Stack gas volumetric flow rate, in standard cubic meter per hour.

$T = $ Time of test run, in hours.

$KW\text{-hour} = $ Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Notification, Reports, and Records for Owners and Operators

§60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;
(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in §60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.
(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA’s Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4.

e) Owners or operators of stationary CI ICE equipped with AECDs pursuant to the requirements of 40 CFR 1039.665 must report the use of AECDs as required by 40 CFR 1039.665(e).


Special Requirements

§60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§60.4202 and 60.4205.

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO\textsubscript{X} in the stationary CI internal combustion engine exhaust to the following:

   (i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

   (ii) 45 \cdot n^{-0.2} g/KW-hr (34 \cdot n^{-0.2} g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

   (iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO\textsubscript{X} in the stationary CI internal combustion engine exhaust to the following:

   (i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

   (ii) 44 \cdot n^{-0.23} g/KW-hr (33 \cdot n^{-0.23} g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

   (iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]
§60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in remote areas of Alaska may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in §§60.4201(f) and 60.4202(g).

(c) Manufacturers, owners and operators of stationary CI ICE that are located in remote areas of Alaska may choose to meet the applicable emission standards for emergency engines in §§60.4202 and 60.4205, and not those for non-emergency engines in §§60.4201 and 60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in §§60.4201 and 60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of §60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in remote areas of Alaska.

(e) The provisions of §60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and §60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in remote areas of Alaska from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011, as amended at 81 FR 44219, July 7, 2016]

§60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4204 or §60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

General Provisions

§60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.
Definitions

§60.4219 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

_Alaska Railbelt Grid_ means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

_Certified emissions life_ means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

_Combustion turbine_ means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

_Compression ignition_ means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

_Date of manufacture_ means one of the following things:

1. For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

2. For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

3. Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

_Diesel fuel_ means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

_Diesel particulate filter_ means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

_Emergency stationary internal combustion engine_ means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in §60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in §60.4211(f), then it is not considered to be an emergency stationary ICE under this subpart.

1. The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied
to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §60.4211(f).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §60.4211(f)(2)(ii) or (iii) and §60.4211(f)(3)(i).

*Engine manufacturer* means the manufacturer of the engine. See the definition of “manufacturer” in this section.

*Fire pump engine* means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

*Freshly manufactured engine* means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

*Installed* means the engine is placed and secured at the location where it is intended to be operated.

*Manufacturer* has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

*Maximum engine power* means maximum engine power as defined in 40 CFR 1039.801.

*Model year* means the calendar year in which an engine is manufactured (see “date of manufacture”), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see “date of manufacture”), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see “date of manufacture”).

*Other internal combustion engine* means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

*Reciprocating internal combustion engine* means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

*Remote areas of Alaska* means areas of Alaska that meet either paragraph (1) or (2) of this definition.

(1) Areas of Alaska that are not accessible by the Federal Aid Highway System (FAHS).

(2) Areas of Alaska that meet all of the following criteria:

(i) The only connection to the FAHS is through the Alaska Marine Highway System, or the stationary CI ICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary CI ICE on an annual basis is used for residential purposes.
(iii) The generating capacity of the source is less than 12 megawatts, or the stationary CI ICE is used exclusively for backup power for renewable energy.

*Rotary internal combustion engine* means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

*Spark ignition* means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary internal combustion engine* means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

*Subpart* means 40 CFR part 60, subpart IIII.


**Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder**

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

<table>
<thead>
<tr>
<th>Maximum engine power</th>
<th>Emission standards for stationary pre-2007 model year engines with a displacement of &lt;10 liters per cylinder and 2007-2010 model year engines &gt;2,237 KW (3,000 HP) and with a displacement of &lt;10 liters per cylinder in g/KW-hr (g/HP-hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMHC + NOX</td>
<td>NOX</td>
</tr>
<tr>
<td>KW&lt;8 (HP&lt;11)</td>
<td>10.5 (7.8)</td>
</tr>
<tr>
<td>8≤KW&lt;19 (11≤HP&lt;25)</td>
<td>9.5 (7.1)</td>
</tr>
<tr>
<td>19≤KW&lt;37 (25≤HP&lt;50)</td>
<td>9.5 (7.1)</td>
</tr>
<tr>
<td>37≤KW&lt;56 (50≤HP&lt;75)</td>
<td>9.2 (6.9)</td>
</tr>
<tr>
<td>56≤KW&lt;75 (75≤HP&lt;100)</td>
<td>9.2 (6.9)</td>
</tr>
<tr>
<td>75≤KW&lt;130 (100≤HP&lt;175)</td>
<td>9.2 (6.9)</td>
</tr>
<tr>
<td>130≤KW&lt;225 (175≤HP&lt;300)</td>
<td>1.3 (1.0)</td>
</tr>
<tr>
<td>225≤KW&lt;450 (300≤HP&lt;600)</td>
<td>1.3 (1.0)</td>
</tr>
</tbody>
</table>
Table 2 to Subpart III of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in §60.4202(a)(1), you must comply with the following emission standards]

<table>
<thead>
<tr>
<th>Engine power</th>
<th>Model year(s)</th>
<th>NOX + NMHC</th>
<th>CO</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW&lt;8 (HP&lt;11)</td>
<td>2008 +</td>
<td>7.5 (5.6)</td>
<td>8.0 (6.0)</td>
<td>0.40 (0.30)</td>
</tr>
<tr>
<td>8≤KW&lt;19 (11≤HP&lt;25)</td>
<td>2008 +</td>
<td>7.5 (5.6)</td>
<td>6.6 (4.9)</td>
<td>0.40 (0.30)</td>
</tr>
<tr>
<td>19≤KW&lt;37 (25≤HP&lt;50)</td>
<td>2008 +</td>
<td>7.5 (5.6)</td>
<td>5.5 (4.1)</td>
<td>0.30 (0.22)</td>
</tr>
</tbody>
</table>

Table 3 to Subpart III of Part 60—Certification Requirements for Stationary Fire Pump Engines

As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

<table>
<thead>
<tr>
<th>Engine power</th>
<th>Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d)¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW&lt;75 (HP&lt;100)</td>
<td>2011</td>
</tr>
<tr>
<td>75≤KW&lt;130 (100≤HP&lt;175)</td>
<td>2010</td>
</tr>
<tr>
<td>130≤KW&lt;560 (175≤HP&lt;750)</td>
<td>2009</td>
</tr>
<tr>
<td>KW&gt;560 (HP&gt;750)</td>
<td>2008</td>
</tr>
</tbody>
</table>

¹Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 KW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]
Table 4 to Subpart III of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

<table>
<thead>
<tr>
<th>Maximum engine power</th>
<th>Model year(s)</th>
<th>NMHC + NOₓ</th>
<th>CO</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW&lt;8 (HP&lt;11)</td>
<td>2010 and earlier</td>
<td>10.5 (7.8)</td>
<td>8.0 (6.0)</td>
<td>1.0 (0.75)</td>
</tr>
<tr>
<td></td>
<td>2011 +</td>
<td>7.5 (5.6)</td>
<td></td>
<td>0.40 (0.30)</td>
</tr>
<tr>
<td>8≤KW&lt;19 (11≤HP&lt;25)</td>
<td>2010 and earlier</td>
<td>9.5 (7.1)</td>
<td>6.6 (4.9)</td>
<td>0.80 (0.60)</td>
</tr>
<tr>
<td></td>
<td>2011 +</td>
<td>7.5 (5.6)</td>
<td></td>
<td>0.40 (0.30)</td>
</tr>
<tr>
<td>19≤KW&lt;37 (25≤HP&lt;50)</td>
<td>2010 and earlier</td>
<td>9.5 (7.1)</td>
<td>5.5 (4.1)</td>
<td>0.80 (0.60)</td>
</tr>
<tr>
<td></td>
<td>2011 +</td>
<td>7.5 (5.6)</td>
<td></td>
<td>0.30 (0.22)</td>
</tr>
<tr>
<td>37≤KW&lt;56 (50≤HP&lt;75)</td>
<td>2010 and earlier</td>
<td>10.5 (7.8)</td>
<td>5.0 (3.7)</td>
<td>0.80 (0.60)</td>
</tr>
<tr>
<td></td>
<td>2011 +¹</td>
<td>4.7 (3.5)</td>
<td></td>
<td>0.40 (0.30)</td>
</tr>
<tr>
<td>56≤KW&lt;75 (75≤HP&lt;100)</td>
<td>2010 and earlier</td>
<td>10.5 (7.8)</td>
<td>5.0 (3.7)</td>
<td>0.80 (0.60)</td>
</tr>
<tr>
<td></td>
<td>2011 +¹</td>
<td>4.7 (3.5)</td>
<td></td>
<td>0.40 (0.30)</td>
</tr>
<tr>
<td>75≤KW&lt;130 (100≤HP&lt;175)</td>
<td>2009 and earlier</td>
<td>10.5 (7.8)</td>
<td>5.0 (3.7)</td>
<td>0.80 (0.60)</td>
</tr>
<tr>
<td></td>
<td>2010 +²</td>
<td>4.0 (3.0)</td>
<td></td>
<td>0.30 (0.22)</td>
</tr>
<tr>
<td>130≤KW&lt;225 (175≤HP&lt;300)</td>
<td>2008 and earlier</td>
<td>10.5 (7.8)</td>
<td>3.5 (2.6)</td>
<td>0.54 (0.40)</td>
</tr>
<tr>
<td></td>
<td>2009 +³</td>
<td>4.0 (3.0)</td>
<td></td>
<td>0.20 (0.15)</td>
</tr>
<tr>
<td>225≤KW&lt;450 (300≤HP&lt;600)</td>
<td>2008 and earlier</td>
<td>10.5 (7.8)</td>
<td>3.5 (2.6)</td>
<td>0.54 (0.40)</td>
</tr>
<tr>
<td></td>
<td>2009 +³</td>
<td>4.0 (3.0)</td>
<td></td>
<td>0.20 (0.15)</td>
</tr>
<tr>
<td>450≤KW≤560 (600≤HP≤750)</td>
<td>2008 and earlier</td>
<td>10.5 (7.8)</td>
<td>3.5 (2.6)</td>
<td>0.54 (0.40)</td>
</tr>
<tr>
<td></td>
<td>2009 +</td>
<td>4.0 (3.0)</td>
<td></td>
<td>0.20 (0.15)</td>
</tr>
<tr>
<td>KW&gt;560 (HP&gt;750)</td>
<td>2007 and earlier</td>
<td>10.5 (7.8)</td>
<td>3.5 (2.6)</td>
<td>0.54 (0.40)</td>
</tr>
<tr>
<td></td>
<td>2008 +</td>
<td>6.4 (4.8)</td>
<td></td>
<td>0.20 (0.15)</td>
</tr>
</tbody>
</table>

¹For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

²For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

³In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.
Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

<table>
<thead>
<tr>
<th>Engine power</th>
<th>Starting model year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$19 \leq \text{KW} &lt; 56$</td>
<td>2013</td>
</tr>
<tr>
<td>$56 \leq \text{KW} &lt; 130$</td>
<td>2012</td>
</tr>
<tr>
<td>$\text{KW} \geq 130$</td>
<td>2011</td>
</tr>
</tbody>
</table>

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

<table>
<thead>
<tr>
<th>Mode No.</th>
<th>Engine speed$^1$</th>
<th>Torque (percent)$^2$</th>
<th>Weighting factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rated</td>
<td>100</td>
<td>0.30</td>
</tr>
<tr>
<td>2</td>
<td>Rated</td>
<td>75</td>
<td>0.50</td>
</tr>
<tr>
<td>3</td>
<td>Rated</td>
<td>50</td>
<td>0.20</td>
</tr>
</tbody>
</table>

$^1$Engine speed: ±2 percent of point.

$^2$Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.
As stated in §60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:

<table>
<thead>
<tr>
<th>Each</th>
<th>Complying with the requirement to</th>
<th>You must</th>
<th>Using</th>
<th>According to the following requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stationary CI internal combustion engine with a displacement of ≥30 liters per cylinder</td>
<td>a. Reduce NO\textsubscript{X} emissions by 90 percent or more;</td>
<td>i. Select the sampling port location and number/location of traverse points at the inlet and outlet of the control device;</td>
<td>(a) For NO\textsubscript{X}, O\textsubscript{2}, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (&quot;3-point long line&quot;). If the duct is &gt;12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Measure O\textsubscript{2} at the inlet and outlet of the control device;</td>
<td>(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2;</td>
<td>(b) Measurements to determine O\textsubscript{2} concentration must be made at the same time as the measurements for NO\textsubscript{X} concentration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. If necessary, measure moisture content at the inlet and outlet of the control device; and</td>
<td>(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)</td>
<td>(c) Measurements to determine moisture content must be made at the same time as the measurements for NO\textsubscript{X} concentration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv. Measure NO\textsubscript{X} at the inlet and outlet of the control device.</td>
<td>(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)</td>
<td>(d) NO\textsubscript{X} concentration must be at 15 percent O\textsubscript{2}, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
<td></td>
</tr>
<tr>
<td>Each</td>
<td>Complying with the requirement to</td>
<td>You must</td>
<td>Using</td>
<td>According to the following requirements</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------</td>
<td>----------</td>
<td>-------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>b. Limit the concentration of NO\textsubscript{X} in the stationary CI internal combustion engine exhaust.</td>
<td>i. Select the sampling port location and number/location of traverse points at the exhaust of the stationary internal combustion engine;</td>
<td>(a) For NO\textsubscript{X}, O\textsubscript{2}, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (&quot;3-point long line&quot;). If the duct is &gt;12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Determine the O\textsubscript{2} concentration of the stationary internal combustion engine exhaust at the sampling port location; and</td>
<td>(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2</td>
<td>(b) Measurements to determine O\textsubscript{2} concentration must be made at the same time as the measurement for NO\textsubscript{X} concentration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and</td>
<td>(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)</td>
<td>(c) Measurements to determine moisture content must be made at the same time as the measurement for NO\textsubscript{X} concentration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv. Measure NO\textsubscript{X} at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.</td>
<td>(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)</td>
<td>(d) NO\textsubscript{X} concentration must be at 15 percent O\textsubscript{2}, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
</tr>
<tr>
<td></td>
<td>c. Reduce PM emissions by 60 percent or more</td>
<td>i. Select the sampling port location and the number of traverse points;</td>
<td>(1) Method 1 or 1A of 40 CFR part 60, appendix A-1</td>
<td>(a) Sampling sites must be located at the inlet and outlet of the control device.</td>
</tr>
<tr>
<td>Each</td>
<td>Complying with the requirement to</td>
<td>You must</td>
<td>Using</td>
<td>According to the following requirements</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------</td>
<td>----------</td>
<td>-------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii.</td>
<td>(2)</td>
<td>(b) Measurements to determine O₂ concentration must be made at the same time as the measurements for PM concentration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Measure O₂ at the inlet and outlet of the control device;</td>
<td>Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii.</td>
<td>(3)</td>
<td>(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If necessary, measure moisture content at the inlet and outlet of the control device; and</td>
<td>Method 4 of 40 CFR part 60, appendix A-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv.</td>
<td>(4)</td>
<td>(d) PM concentration must be at 15 percent O₂, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Measure PM at the inlet and outlet of the control device.</td>
<td>Method 5 of 40 CFR part 60, appendix A-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust</td>
<td>i.</td>
<td>(1)</td>
<td>(a) If using a control device, the sampling site must be located at the outlet of the control device.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select the sampling port location and the number of traverse points;</td>
<td>Method 1 or 1A of 40 CFR part 60, appendix A-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Determine the O₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;</td>
<td>(2)</td>
<td>(b) Measurements to determine O₂ concentration must be made at the same time as the measurements for PM concentration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and</td>
<td>(3)</td>
<td>(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Method 4 of 40 CFR part 60, appendix A-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv. Measure PM at the exhaust of the stationary internal combustion engine.</td>
<td>(4)</td>
<td>(d) PM concentration must be at 15 percent O₂, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Method 5 of 40 CFR part 60, appendix A-3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[79 FR 11251, Feb. 27, 2014]

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

<table>
<thead>
<tr>
<th>General Provisions citation</th>
<th>Subject of citation</th>
<th>Applies to subpart</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>§60.1</td>
<td>General applicability of the General Provisions</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.2</td>
<td>Definitions</td>
<td>Yes</td>
<td>Additional terms defined in §60.4219.</td>
</tr>
<tr>
<td>General Provisions citation</td>
<td>Subject of citation</td>
<td>Applies to subpart</td>
<td>Explanation</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------------</td>
<td>--------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>§60.3</td>
<td>Units and abbreviations</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.4</td>
<td>Address</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.5</td>
<td>Determination of construction or modification</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.6</td>
<td>Review of plans</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.7</td>
<td>Notification and Recordkeeping</td>
<td>Yes</td>
<td>Except that §60.7 only applies as specified in §60.4214(a).</td>
</tr>
<tr>
<td>§60.8</td>
<td>Performance tests</td>
<td>Yes</td>
<td>Except that §60.8 only applies to stationary CI ICE with a displacement of ≥30 liters per cylinder and engines that are not certified.</td>
</tr>
<tr>
<td>§60.9</td>
<td>Availability of information</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.10</td>
<td>State Authority</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.11</td>
<td>Compliance with standards and maintenance requirements</td>
<td>No</td>
<td>Requirements are specified in subpart III.</td>
</tr>
<tr>
<td>§60.12</td>
<td>Circumvention</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.13</td>
<td>Monitoring requirements</td>
<td>Yes</td>
<td>Except that §60.13 only applies to stationary CI ICE with a displacement of ≥30 liters per cylinder.</td>
</tr>
<tr>
<td>§60.14</td>
<td>Modification</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.15</td>
<td>Reconstruction</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.16</td>
<td>Priority list</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.17</td>
<td>Incorporations by reference</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§60.18</td>
<td>General control device requirements</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§60.19</td>
<td>General notification and reporting requirements</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Indiana Department of Environmental Management  
Office of Air Quality  
Technical Support Document (TSD) for a Part 70  
Significant Permit Modification

Source Description and Location

| Source Name: | Exide Technologies |
| Source Location: | 2601 West Mt. Pleasant Blvd., Muncie, IN 47302 |
| County: | Delaware (Center Township) |
| SIC Code: | 3341 (Secondary Smelting and refining of Nonferrous Metals) |
| Operation Permit No.: | T035-37825-00028 |
| Operation Permit Issuance Date: | January 9, 2018 |
| Significant Permit Modification No.: | 035-41906-00028 |
| Permit Reviewer: | Daniel W. Pell |

Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. T035-34825-00028 on January 9, 2018. There have been no subsequent approvals issued.

County Attainment Status

The source is located in Delaware County.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>Better than national standards.</td>
</tr>
<tr>
<td>CO</td>
<td>Unclassifiable or attainment effective November 15, 1990.</td>
</tr>
<tr>
<td>O₃</td>
<td>Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.¹</td>
</tr>
<tr>
<td>PM₂₅</td>
<td>Unclassifiable or attainment effective April 5, 2005, for the annual PM₂₅ standard.</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM₁₀ standard.</td>
</tr>
<tr>
<td>NO₂</td>
<td>Cannot be classified or better than national standards.</td>
</tr>
<tr>
<td>Pb</td>
<td>Nonattainment effective December 31, 2010, for a portion of the city of Muncie, Indiana bounded to the north by West Street/Hines Road, to the east by Cowan Road, to the south by West Fuson Road, and to the west by a line running south from the eastern edge of Victory Temple's driveway to South Hoyt Avenue and then along South Hoyt Avenue. Unclassifiable or attainment effective December 31, 2011, for the remainder of the county.</td>
</tr>
</tbody>
</table>

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NOₓ) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOₓ emissions are considered when evaluating the rule applicability relating to ozone. Delaware County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOₓ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM₂₅
Delaware County has been classified as attainment for PM₂₅. Therefore, direct PM₂₅, SO₂, and NOₓ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
(c) Lead (Pb)
The portion of Delaware County in the City of Muncie bounded by West 26th Street/Hines Road to the north, Cowan Road to the east, West Fuson Road to the south, and South Hoyt Avenue to the west has been classified as nonattainment for Pb in 75 FR 71033 dated November 22, 2010. Therefore, Pb emissions were evaluated pursuant to the requirements of Emission Offset, 326 IAC 2-3.

(d) Other Criteria Pollutants
Delaware County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this source is classified as a secondary lead smelting operation, it is considered one (1) of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B). Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

On June 23, 2014, in the case of Utility Air Regulatory Group v. EPA, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court’s decision. U.S. EPA’s guidance states that U.S. EPA will no longer require PSD or Title V permits for sources “previously classified as ‘Major’ based solely on greenhouse gas emissions.”

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

Source Status - Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits. If the control equipment
has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

<table>
<thead>
<tr>
<th>Source-Wide Emissions Prior to Modification (ton/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM(^1)</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Total PTE of Entire Source Including Fugitives*</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
</tr>
<tr>
<td>Emission Offset Major Source Thresholds</td>
</tr>
</tbody>
</table>

1Under the Part 70 Permit program (40 CFR 70), PM\(_{10}\) and PM\(_{2.5}\), not particulate matter (PM), are each considered as a "regulated air pollutant."
2PM\(_{2.5}\) listed is direct PM\(_{2.5}\).
3Single highest source-wide HAP.
*Fugitive HAP emissions are always included in the source-wide emissions.

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of one hundred (100) tons per year or more and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3), because lead is emitted at a rate of of less than five (5) tons per year.

(c) This existing source is not a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.

(d) These emissions are based on the TSD of Part 70 Operating Permit Renewal No. T035-37825-00028, issued on January 9, 2018.

**Description of Proposed Modification**

The Office of Air Quality (OAQ) has reviewed an application, submitted by Exide Technologies on September 11, 2019, relating to the addition of one (1) Diesel fuel-fired 1,502 horsepower emergency generator.

Due to the addition of the Diesel fuel-fired 1,502 horsepower emergency generator, the existing SO\(_2\) and PM\(_{10}\) limits for the Reverberatory Furnace (Unit 4), Blast Furnace (Cupola) (Unit 5), and the Afterburner, must be revised, in order to keep source-wide emissions < 100 tons/yr.

The following is a list of the new emission unit:

(a) One (1) Diesel fuel-fired emergency generator, identified as EG9, manufactured in 2012, permitted in 2019, with a maximum output rating of 1,502 horsepower, using no control, and exhausting to the atmosphere.

Under 40 CFR 60, Subpart III, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered a new affected source.
Enforcement Issues

There are no pending enforcement actions related to this modification.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70 Modification to an Existing Source

Pursuant to 326 IAC 2-1.1-1(12), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM(_{10})</th>
<th>PM(_{2.5})(^1)</th>
<th>SO(_2)</th>
<th>NO(_X)</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP(^2)</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Engine EG9</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.52</td>
<td>3.11</td>
<td>0.06</td>
<td>0.68</td>
<td>0.002 (Benzene)</td>
<td>4.14E-03</td>
</tr>
<tr>
<td>Total PTE Before Controls of the New Emission Units:</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.52</td>
<td>3.11</td>
<td>0.06</td>
<td>0.68</td>
<td>0.002 (Benzene)</td>
<td>4.14E-03</td>
</tr>
</tbody>
</table>

\(^1\)PM\(_{2.5}\) listed is direct PM\(_{2.5}\).
\(^2\)Single highest HAP.

Appendix A of this TSD reflects the detailed potential emissions of the modification.

Pursuant to 326 IAC 2-7-12(d)(1), this change to the permit is being made through a Significant Permit Modification because this modification does not qualify as a Minor Permit Modification or as an Administrative Amendment. This modification requires a revision to the existing source-wide SO\(_2\) limit and the combined PM\(_{10}\) emissions from the Reverberatory Furnace (Unit 4), Blast Furnace (Cupola) (Unit 5).

Permit Level Determination – PSD and Emission Offset

The table below summarizes the potential to emit of the modification, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of the Part 70 permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.
Exide Technologies  Page 5 of 18
Munice, Indiana  TSD for SPM No. 035-41906-00028
Permit Reviewer: Daniel W. Pell

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM₁₀</th>
<th>PM₂.₅¹</th>
<th>SO₂</th>
<th>NOₓ</th>
<th>VOC</th>
<th>CO</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Engine EG9</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.52</td>
<td>3.11</td>
<td>0.06</td>
<td>0.68</td>
<td>--</td>
</tr>
<tr>
<td><strong>Total for Modification</strong></td>
<td><strong>0.07</strong></td>
<td><strong>0.07</strong></td>
<td><strong>0.07</strong></td>
<td><strong>1.52</strong></td>
<td><strong>3.11</strong></td>
<td><strong>0.06</strong></td>
<td><strong>0.68</strong></td>
<td><strong>--</strong></td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>--</td>
</tr>
<tr>
<td>Emission Offset Major Source Thresholds</td>
<td>---</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>5</td>
</tr>
</tbody>
</table>

¹PM₂.₅ listed is direct PM₂.₅.

(a) This modification to an existing minor PSD stationary source is not major because the emissions increase of each PSD regulated pollutant is less than the PSD major source threshold. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

(b) This modification to an existing minor Emission Offset stationary source is not major because the emissions increase of Pb is less than the Emission Offset major source threshold. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

(c) This modification to an existing minor PSD stationary source requires a revision to the existing source-wide SO₂ limit and a revision to the existing combined PM₁₀ emissions from the Reverberatory Furnace (Unit 4), Blast Furnace (Cupola) (Unit 5), and the Afterburner.

**PTE of the Entire Source After Issuance of the Part 70 Modification**

The table below summarizes the after issuance source-wide potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of the Part 70 permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

<table>
<thead>
<tr>
<th>Source-Wide Emissions After Issuance (ton/year)</th>
<th>PM¹</th>
<th>PM₁₀¹</th>
<th>PM₂.₅¹,²</th>
<th>SO₂</th>
<th>NOₓ</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP³</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total PTE of Entire Source Including Fugitives</strong>*</td>
<td>99.17</td>
<td>99.98</td>
<td>98.74</td>
<td>95.69</td>
<td>51.87</td>
<td>4.65</td>
<td>37.92</td>
<td>4.86 (Pb)</td>
<td>5.67</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
<td>NA</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>10</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Emission Offset Major Source Thresholds</td>
<td>---</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

¹Under the Part 70 Permit program (40 CFR 70), PM₁₀ and PM₂.₅, not particulate matter (PM), are each considered as a "regulated air pollutant."
²PM₂.₅ listed is direct PM₂.₅.
³Single highest source-wide HAP
*Fugitive HAP emissions are always included in the source-wide emissions.

The source opted to revise existing SO₂ and PM₁₀ limits in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to this source. See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-2 (PSD) for more information regarding the limits.
(a) This existing minor PSD stationary source will continue to be minor under 326 IAC 2-2 because the emissions of each PSD regulated pollutant will continue to be less than the PSD major source thresholds.

(b) This existing minor Emission Offset stationary source will continue to be minor under 326 IAC 2-3 because the emissions of the nonattainment pollutant, Pb, will continue to be less than the Emission Offset major source threshold.

(c) This existing area source of HAP will continue to be an area source of HAP, as defined in 40 CFR 63.2, because HAP emissions will continue to be less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Federal Rule Applicability Determination

Due to the modification at this source, federal rule applicability has been reviewed as follows:

New Source Performance Standards (NSPS):

(a) The Diesel fuel-fired emergency generator, identified as EG9, (constructed in 2014, maximum output rating of 1,502 horsepower), is subject to the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart III and 326 IAC 12. This rule applies to owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) that commenced construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006 (manufactured in 2012), and are not fire pump engines. The displacement is greater than 30 liters per cylinder. The unit subject to this rule includes the following:

The Diesel fuel-fired emergency generator, identified as EG9, is subject to the following portions of Subpart III:

(1) 40 CFR 60.4200(a)(2)(i), (a)(3), (a)(4), (c)
(2) 40 CFR 60.4205(d)(2), (3)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(a), (d)
(5) 40 CFR 60.4208(a), (i)
(6) 40 CFR 60.4209(a)
(7) 40 CFR 60.4211(a), (d)(1), (d)(2)(i-v), (f)(1), (f)(2)(i), (f)(3), (g)(3)
(8) 40 CFR 60.4213
(9) 40 CFR 60.4214(b)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) 40 CFR 60, Subpart III, Table 5
(13) 40 CFR 60, Subpart III, Table 7
(14) 40 CFR 60, Subpart III, Table 8

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the Diesel fuel-fired emergency generator, identified as EG9, except as otherwise specified in 40 CFR 60, Subpart III.

Based on this evaluation, this source is subject to 40 CFR 60, Subpart III. On May 4, 2016, the U.S. Court of Appeals for the D.C. Circuit issued a mandate vacating paragraphs 40 CFR 60.4211(f)(2)(ii) - (iii) of NSPS Subpart III. Therefore, these paragraphs no longer have any legal effect and any engine that is operated for purposes specified in these paragraphs becomes a non-emergency engine and must comply with all applicable requirements for a non-emergency engine.
For additional information, please refer to the USEPA’s Guidance Memo: https://www.epa.gov/sites/production/files/2016-06/documents/ricevacaturguidance041516.pdf

Since the federal rule has not been updated to remove these vacated requirements, the text below shows the vacated language as strikethrough text. At this time, IDEM is not making any changes to the permit’s attachment due to this vacatur. However, the permit will not reference the vacated requirements, as applicable.

40 CFR 60.4211(f)(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(b) There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included in the permit for this proposed modification.

**National Emission Standards for Hazardous Air Pollutants (NESHAP):**

**New stationary RICE at an area source of HAP**

(a) Diesel fuel-fired emergency generator, identified as EG9, (constructed in 2014, maximum output rating of 1,502 horsepower), is subject the requirements of the 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (326 IAC 20-82), because it is considered a new (construction commenced on or after June 12, 2006; manufactured in 2012)), stationary reciprocating internal combustion engine (RICE) at an area source of hazardous air pollutants (HAP). The displacement is greater than 30 liters per cylinder.

The Diesel fuel-fired emergency generator, identified as EG9, is subject the following applicable portions of the NESHAP for new stationary RICE at an area source of HAP:

1. 40 CFR 63.6580
2. 40 CFR 63.6585
3. 40 CFR 63.6590(a)(2)(iii) and (c)(1)
4. 40 CFR 63.6595(a)(7)
5. 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675

Pursuant to 40 CFR 63.6665, the Diesel fuel-fired emergency generator, identified as EG9, does not have to meet the requirements of 40 CRF 63, Subpart A (General Provisions), since it is considered a new stationary RICE located at an area source of HAP emissions.

Based on this evaluation, this source is subject to 40 CFR 63, Subpart ZZZZ. On May 4, 2016, the U.S. Court of Appeals for the D.C. Circuit issued a mandate vacating paragraphs 40 CFR 63.6640(f)(2)(ii) - (iii) of NESHAP Subpart ZZZZ. Therefore, these paragraphs no longer have any legal effect and any engine that is operated for purposes specified in these paragraphs becomes a non-emergency engine and must comply with all applicable requirements for a non-emergency engine.

For additional information, please refer to the USEPA’s Guidance Memo: https://www.epa.gov/sites/production/files/2016-06/documents/ricevacaturguidance041516.pdf

Since the federal rule has not been updated to remove these vacated requirements, the text below shows the vacated language as strikethrough text. At this time, IDEM is not making any changes to the permit’s attachment due to this vacatur. However, the permit will not reference the vacated requirements, as applicable.

40 CFR 63.6640(f)(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(b) There are no other National Emission Standards for Hazardous Air Pollutants under 40 CFR 63, 326 IAC 14 and 326 IAC 20 included for this proposed modification.

Compliance Assurance Monitoring (CAM):

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each pollutant-specific emission unit that meets the following criteria:
The Diesel fuel-fired emergency generator, identified as EG9, does not have the potential to emit before controls greater than the major source threshold for any regulated pollutant and it does not use any control device. Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable to the Diesel fuel-fired emergency generator, identified as EG9, as part of this modification.

### State Rule Applicability - Entire Source

Due to this modification, state rule applicability has been reviewed as follows:

#### 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset)

PSD and Emission Offset applicability is discussed under the Permit Level Determination – PSD and Emission Offset section of this document.

#### PSD/EO Minor Source Limits

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable, the Permittee shall comply with the following:

(a) The combined PM10 emissions from the Reverberatory Furnace (Unit 4), Blast Furnace (Cupola) (Unit 5), and the Afterburner shall not exceed 4.99 lbs per hour.

(b) The combined SO2 emissions from the Reverberatory Furnace (Unit 4), Blast Furnace (Cupola) (Unit 5), and the Afterburner combustion emissions shall be limited to less than 93 tons per twelve (12) consecutive month period with compliance determined at end of each month.

Compliance with these limits, combined with the potential to emit PM10 and SO2 from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and SO2 to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

#### 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-1(a), this source (located in Delaware County) is not subject to the requirements of 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

#### 326 IAC 6.8 (Particulate Matter Limitations for Lake County)

Pursuant to 326 IAC 6.8-1-1(a), this source (located in Delaware County) is not subject to the requirements of 326 IAC 6.8 because it is not located in Lake County.
State Rule Applicability – Individual Facilities

Due to this modification, state rule applicability has been reviewed as follows:

**Diesel Fuel-Fired Emergency Generator, EG9**

**326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))**
The operation of the Diesel fuel-fired emergency generator, identified as EG9, will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

**326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)**
The Diesel fuel-fired emergency generator, identified as EG9, is not a source of indirect heating. Therefore, the Diesel fuel-fired emergency generator, identified as EG9, is not subject to the provisions of 326 IAC 6-2.

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The Diesel fuel-fired emergency generator, identified as EG9, is not subject to the requirements of 326 IAC 6-3-2. Pursuant to 326 IAC 6-3-1(a), the Diesel fuel-fired emergency generator, identified as EG9, is not used for manufacturing processes. Therefore, 326 IAC 6-3-2 does not apply to the Diesel fuel-fired emergency generator, identified as EG9.

**326 IAC 7-1.1 Sulfur Dioxide Emission Limitations**
The Diesel fuel-fired emergency generator, identified as EG9, is not subject to 326 IAC 326 IAC 7-1.1 because it has a potential to emit (or limited potential to emit) sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

**326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)**
Even though, the Diesel fuel-fired emergency generator, identified as EG9, was constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6 because its unlimited VOC potential emissions are less than twenty-five (25) tons per year.

**Compliance Determination and Monitoring Requirements**

Permits issued under 326 IAC 2-7 are required to assure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAP, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source’s failure to take the appropriate corrective actions within a specific time period.

(a) There are no new or modified compliance requirements included with this modification, beyond what is required in the NSPS and/or NESHAP.
Proposed Changes

As part of this permit approval, the permit may contain new or different permit conditions and some conditions from previously issued permits/approvals may have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes.

The following changes listed below are due to the proposed modification. Deleted language appears as strikethrough text and new language appears as bold text (these changes may include Title I changes):

1. The new emergency generator, EG9, has been added to Section A.2. Also, New Attachment F (40 CFR 60, Subpart IIII - Stationary Compression Ignition Internal Combustion Engines (NSPS)) was added to the Table of Contents and to the permit.

2. The PSD and Emission Offset Minor Limit for PM10 for the Reverberatory furnace (Unit 4), Blast furnace (cupola) (Unit 5), and Afterburner combustion emissions that are noted in Condition D.1.1(a), was revised from 5.0 lbs per hour to 4.99 lbs per hour. Also, the SO2 Limit for the Reverberatory furnace (Unit 4), Blast furnace (cupola) (Unit 5), and Afterburner combustion emissions that are noted in D.1.1(b), were revised from 98 tons per twelve (12) consecutive month period to 93 tons per twelve (12) consecutive month period.

3. A new Section E (40 CFR 60, NSPS) was added to the permit to note relevant Subpart IIII conditions that will pertain to the new emergency generator, EG9. The existing E Sections were renumbered.

4. The unit description for the new emergency generator, EG9, has been added to Section E.4 as well as pertinent NESHAP federal rules for Subpart ZZZZ for this emission unit.

5. The Part 70 Quarterly Report form for the Sulfur Dioxide (SO2) Limit for the Reverberatory Furnace (Unit ID#4) and Blast Furnace (Cupola) (Unit ID#5) was revised from 98 tons per twelve (12) consecutive month period to 93 tons per twelve (12) consecutive month period.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) *****

(n) One (1) diesel emergency generator, manufactured in 1983, permitted in 2018, with a maximum capacity of 569.9 HP, and exhausting to atmosphere,

(o) One (1) Diesel fuel-fired emergency generator, identified as EG9, manufactured in 2012, permitted in 2019, with a maximum output rating of 1,502 horsepower, using no control, and exhausting to the atmosphere.

Under 40 CFR 60, Subpart III, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered a new affected source.

(po) *****

(qp) *****
Emission Limitations and Standards  [326 IAC 2-7-5(1)]

D.1.1  PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) not applicable, the Permittee shall comply with the following:

(a) The PM, PM10, PM2.5 and lead emissions shall not exceed the emission limits listed in the table below:

<table>
<thead>
<tr>
<th>Emission Units</th>
<th>Control Equipment</th>
<th>PM Limit (lb/hr)</th>
<th>PM10 Limit (lb/hr)</th>
<th>PM2.5 Limit (lb/hr)</th>
<th>Lead Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotary dryer (Unit 3)</td>
<td>Rotary dryer baghouse</td>
<td>4.50</td>
<td>4.50</td>
<td>4.50</td>
<td>0.029</td>
</tr>
<tr>
<td>Reverberatory furnace (Unit 4), Blast furnace (cupola) (Unit 5), and Afterburner combustion emissions</td>
<td>Afterburner, process baghouse followed by North and South sodium carbonate packed tower scrubbers</td>
<td>4.60 combined</td>
<td>4.99 combined</td>
<td>5.00 combined</td>
<td>0.34 combined</td>
</tr>
<tr>
<td>Reverberatory furnace charge point, lead and slag tap points, and blast furnace charge point hoods emissions</td>
<td>Ventilation baghouse and HEPA filters</td>
<td>2.75</td>
<td>3.00</td>
<td>3.00</td>
<td>0.17</td>
</tr>
</tbody>
</table>

(b) The combined SO2 emissions from the reverberatory furnace, blast furnace (cupola), and afterburner combustion emissions shall be limited to less than 93 98 tons per twelve (12) consecutive month period with compliance determined at end of each month.

SECTION E.2  NSPS

Emissions Unit Description:

(o) One (1) Diesel fuel-fired emergency generator, identified as EG9, manufactured in 2012, permitted in 2019, with a maximum output rating of 1,502 horsepower, using no control, and exhausting to the atmosphere.

Under 40 CFR 60, Subpart III, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered a new affected source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements  [326 IAC 2-7-5(1)]


(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 60, Subpart III.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

E.2.2 Stationary Compression Ignition Internal Combustion Engines NSPS [326 IAC 12][40 CFR 60, Subpart III]

The Permittee shall comply with the following provisions of 40 CFR 60, Subpart III (included as Attachment F of the operating permit), which are incorporated by reference as 326 IAC 12:

(1) 40 CFR 60.4200(a)(2)(i), (a)(3), (a)(4), (c)
(2) 40 CFR 60.4205(d)(2), (3)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(a), (d)
(5) 40 CFR 60.4208(a), (i)
(6) 40 CFR 60.4209(a)
(7) 40 CFR 60.4211(a), (d)(1), (d)(2)(i-v), (f)(1), (f)(2)(i), (f)(3), (g)(3)
(8) 40 CFR 60.4213
(9) 40 CFR 60.4214(b)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) 40 CFR 60, Subpart III, Table 5
(13) 40 CFR 60, Subpart III, Table 7
(14) 40 CFR 60, Subpart III, Table 8

E.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for this facility and any control devices. Section B - Preventive Maintenance Plan contains the Permittee’s obligation with regard to the preventive maintenance plan required by this condition.

SECTION E.4 NESHAP

Emissions Unit Description:

(n) One (1) diesel emergency generator, manufactured in 1983, permitted in 2018, with a maximum capacity of 569.9 HP, and exhausting to atmosphere.

(o) One (1) Diesel fuel-fired emergency generator, identified as EG9, manufactured in 2012, permitted in 2019, with a maximum output rating of 1,502 horsepower, using no control, and exhausting to the atmosphere.

Under 40 CFR 60, Subpart III, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered a new affected source.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]


(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-
1, for the emission units unit listed above, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.4.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment C to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission unit(s) listed above:

One (1) diesel emergency generator (569.9 hp):

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(1)(iii) and (iv)
(4) 40 CFR 63.6595(a)(1), (b), and (c)
(5) 40 CFR 63.6603(a)
(6) 40 CFR 63.6605
(7) 40 CFR 63.6625(e)(3), (f), (h), and (i)
(8) 40 CFR 63.6635
(9) 40 CFR 63.6640(a), (b), (e), and (f)
(10) 40 CFR 63.6645(a)(5)
(11) 40 CFR 63.6650
(12) 40 CFR 63.6655
(13) 40 CFR 63.6660
(14) 40 CFR 63.6665
(15) 40 CFR 63.6670
(16) 40 CFR 63.6675
(17) Table 2d (item 4)
(18) Table 6 (item 9)
(19) Table 8

One (1) Diesel fuel-fired emergency generator (1,502 hp), identified as EG9:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
(4) 40 CFR 63.6595(a)(7)
(5) 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Exide Technologies
Source Address: 2601 West Mt. Pleasant Blvd., Muncie, Indiana 47302
Part 70 Permit No.: T035-37825-00028
Facility: Reverberatory Furnace (Unit ID#4) and Blast Furnace (Cupola) (Unit ID#5)
Parameter: Sulfur Dioxide (SO2)
Limit: 93 98 tons per twelve (12) consecutive month period

Additional Changes

IDEM, OAQ made additional changes to the permit as described below in order to update the language to match the most current version of the applicable rule, to eliminate redundancy within the permit, and to provide clarification regarding the requirements of these conditions.

These permit changes include model updates to standard permit language that are applicable to this source.

(1) A typographical error in the emission unit description was corrected in Section A.2(b) and in Section F.1. The word "and" was removed from the unit description as noted below.

(2) Permit language was updated in the following Conditions and are noted below:
D.1.1(b), D.1.5, D.1.9(b), D.1.13(a-c), D.1.14(a), D.2.1, D.2.3, D.2.9(a), D.3.1, D.3.4, and D.4.3.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

(a) *****

(b) One (1) lead reverberatory furnace and, identified as Unit 4, constructed in 1989, with a maximum capacity of 35 million British thermal units per hour (MMBtu/hr), rated at 100,000 tons of lead per year, controlled by the 10 MMBtu/hr natural gas fired afterburner constructed in 2015, the process baghouse, and by identical, individual, and parallel, North and South sodium carbonate packed tower scrubbers.

*****

SECTION F.1 326 IAC 20-13.1

Emissions Unit Description:

(a) *****

(b) One (1) lead reverberatory furnace and, identified as Unit 4, constructed in 1989, with a maximum capacity of 35 million British thermal units per hour (MMBtu/hr), rated at 100,000 tons of lead per year, controlled by the 10 MMBtu/hr natural gas fired afterburner constructed in 2015, the process baghouse, and by identical, individual, and parallel, North and South sodium carbonate packed tower scrubbers.
D.1.1  PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]

(a) *****

(b) *****

Compliance with these limits, in combination with the potential to emit PM, PM10, PM2.5, and SO2 from all other emission units at this source, shall limit the source-wide total potential to emit PM, PM10, PM2.5 and SO2 to less than one hundred (100) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

Compliance with these limits, in combination with the potential to emit lead from all other emission units at this source, shall limit the source-wide total potential to emit of lead to less than five (5) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

D.1.5  Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

D.1.9  Parametric Monitoring [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)][40 CFR 64]

(a) *****

(b) The Permittee shall monitor and record the total pressure drop across the HEPA filters for the ventilation baghouse at least once daily when the associated processes are in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.5 and 5.5 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.13  Record Keeping Requirements

(a) In order to document the compliance status with Condition D.1.8, the Permittee shall maintain a daily record of visible emission notations of the North and South sodium carbonate packed tower scrubber stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

(b) In order to document the compliance status with Condition D.1.9(a), the Permittee shall maintain a daily record of the pressure drop across the North and South sodium carbonate packed tower scrubber controlling the reverberatory furnace and blast furnace cupola. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
(c) In order to document the compliance status with Condition D.1.9(b), the Permittee shall maintain a daily record of the pressure drop across the HEPA filters for the ventilation baghouse. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

D.1.14 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.1.1(b) shall be submitted using the reporting form located at the end of this permit, or its equivalent, no later than thirty (30) calendar days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official", as defined by 326 IAC 2-7-1(35).

D.2.1 PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]

*****

Compliance with these limits combined in combination with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source wide total potential to emit PM, PM10, and PM2.5 to less than one hundred (100) tons per year, each, and will render the requirements of 326 IAC 2-2 (PSD) not applicable.

Compliance with these limits combined in combination with the potential to emit lead from all other emission units at this source, shall limit the source-wide total potential to emit of lead to less than five (5) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

D.2.9 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.2.6, the Permittee shall maintain a daily record of the pressure drop across the HEPA filters for refinery baghouse No. 1 used in conjunction with the two (2) lead pig casting machines and eleven (11) natural gas-fired pot furnaces. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

D.3.1 PSD and Emission Offset Minor Limits [326 IAC 2-2][326 IAC 2-3]

*****

Compliance with these limits combined in combination with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source wide total potential to emit PM, PM10, and PM2.5 to less than one hundred (100) tons per year, each, and will render the requirements of 326 IAC 2-2 (PSD) not applicable.

Compliance with these limits combined in combination with the potential to emit lead from all other emission units at this source, shall limit the source-wide total potential to emit of lead to less than five (5) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B-Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.
D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities units and any control devices. Section B-Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on September 11, 2019.

The operation of this proposed modification shall be subject to the conditions of the attached proposed Significant Permit Modification No. 035-41906-00028.

The staff recommends to the Commissioner that the Part 70 Significant Permit Modification be approved.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Daniel W. Pell, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 234-8532 or (800) 451-6027, and ask for Daniel W. Pell or (317) 234-8532.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: http://www.in.gov/idem/airquality/2356.htm; and the Citizens’ Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.
### Unlimited Potential to Emit (tons/year)

<table>
<thead>
<tr>
<th>Process</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery Crusher/Breaker</td>
<td>493</td>
<td>493</td>
<td>493</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14.3</td>
<td>14.3</td>
</tr>
<tr>
<td>Soda Ash Pneumatic Conveying thru 3 silos</td>
<td>2.88</td>
<td>2.88</td>
<td>2.88</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rotary Dryer (Including Combustion)</td>
<td>1,971</td>
<td>1,971</td>
<td>1,971</td>
<td>0.03</td>
<td>5.58</td>
<td>0.31</td>
<td>4.69</td>
<td>12.9</td>
<td>12.8</td>
</tr>
<tr>
<td>Reverberatory Furnace</td>
<td>16,150</td>
<td>9,690</td>
<td>9,690</td>
<td>4,000</td>
<td>15.00</td>
<td>0.83</td>
<td>12.62</td>
<td>2,124</td>
<td>2,124</td>
</tr>
<tr>
<td>Blast Furnace (Cupola)</td>
<td>4,605</td>
<td>1,935</td>
<td>1,935</td>
<td>795</td>
<td>1.50</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Afterburner</td>
<td>0.08</td>
<td>0.33</td>
<td>0.33</td>
<td>0.03</td>
<td>2.15</td>
<td>0.24</td>
<td>3.51</td>
<td>0.08</td>
<td>2.15E-05</td>
</tr>
<tr>
<td>Reverberatory and Blast Furnaces (Cupola) Charging Points combined</td>
<td>3,011</td>
<td>3,285</td>
<td>3,285</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>526</td>
<td>526</td>
</tr>
<tr>
<td>Eleven (11) Pot Furnaces (Stack 9)</td>
<td>2,081</td>
<td>2,301</td>
<td>2,301</td>
<td>0.09</td>
<td>14.86</td>
<td>0.82</td>
<td>12.48</td>
<td>9.3</td>
<td>9.0</td>
</tr>
<tr>
<td>Two (2) Pig Casting Machines</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material Handling/Slag Crusher</td>
<td>832</td>
<td>832</td>
<td>832</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74.3</td>
<td>74.3</td>
</tr>
<tr>
<td>Insignificant Melting Pots</td>
<td>0.03</td>
<td>0.11</td>
<td>0.11</td>
<td>0.01</td>
<td>1.46</td>
<td>0.08</td>
<td>1.23</td>
<td>0.03</td>
<td>7.30E-06</td>
</tr>
<tr>
<td>Emergency Engine EG8</td>
<td>0.31</td>
<td>0.31</td>
<td>0.31</td>
<td>0.29</td>
<td>4.42</td>
<td>0.36</td>
<td>0.95</td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td>Emergency Engine EG9</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.52</td>
<td>3.11</td>
<td>0.06</td>
<td>0.88</td>
<td>4.14E-03</td>
<td>0</td>
</tr>
<tr>
<td>RLS Line</td>
<td>0.61</td>
<td>0.61</td>
<td>0.61</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.15</td>
<td>1.53E-01</td>
</tr>
<tr>
<td>Other NG Combustion</td>
<td>0.02</td>
<td>0.09</td>
<td>0.09</td>
<td>0.01</td>
<td>1.20</td>
<td>0.07</td>
<td>1.01</td>
<td>0.02</td>
<td>6.01E-06</td>
</tr>
<tr>
<td>Gasoline dispensing</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.04</td>
<td>0.00</td>
<td>4.85E-04</td>
<td>0</td>
</tr>
<tr>
<td>Blasting</td>
<td>0.25</td>
<td>0.17</td>
<td>0.17</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kerosene heaters</td>
<td>0.26</td>
<td>0.31</td>
<td>0.28</td>
<td>0.74</td>
<td>2.60</td>
<td>0.04</td>
<td>0.65</td>
<td>8.91E-04</td>
<td>1.64E-04</td>
</tr>
<tr>
<td>Parts washers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.81</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fugitive Emissions - Paved Roads</td>
<td>0.77</td>
<td>0.15</td>
<td>0.04</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fugitive Emissions - Unpaved Roads</td>
<td>4.95</td>
<td>1.26</td>
<td>0.13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>29,153</strong></td>
<td><strong>20,513</strong></td>
<td><strong>20,512</strong></td>
<td><strong>4,798</strong></td>
<td><strong>51.87</strong></td>
<td><strong>4.65</strong></td>
<td><strong>37.92</strong></td>
<td><strong>2,761</strong></td>
<td><strong>2,761</strong></td>
</tr>
</tbody>
</table>

### Limited Potential to Emit (tons/year)

<table>
<thead>
<tr>
<th>Process</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery Crusher/Breaker</td>
<td>9.86</td>
<td>9.86</td>
<td>9.86</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Soda Ash Pneumatic Conveying thru 3 silos</td>
<td>1.01</td>
<td>1.01</td>
<td>1.01</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rotary Dryer (Including Combustion)</td>
<td>19.71</td>
<td>19.71</td>
<td>19.71</td>
<td>0.03</td>
<td>5.58</td>
<td>0.31</td>
<td>4.69</td>
<td>0.23</td>
<td>0.13</td>
</tr>
<tr>
<td>Reverberatory Furnace</td>
<td>20.15</td>
<td>21.86</td>
<td>21.90</td>
<td>93.00</td>
<td>15.00</td>
<td>0.83</td>
<td>12.62</td>
<td>1.77</td>
<td>1.49</td>
</tr>
<tr>
<td>Blast Furnace (Cupola)</td>
<td>2.15</td>
<td>0.24</td>
<td>3.61</td>
<td>0.08</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afterburner</td>
<td>12.05</td>
<td>13.14</td>
<td>13.14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.74</td>
<td>0.74</td>
</tr>
<tr>
<td>Reverberatory and Blast Furnaces (Cupola) Charging Points combined</td>
<td>20.81</td>
<td>23.00</td>
<td>23.00</td>
<td>0.09</td>
<td>14.86</td>
<td>0.82</td>
<td>12.48</td>
<td>1.59</td>
<td>1.31</td>
</tr>
<tr>
<td>Eleven (11) Pot Furnaces (Stack 9)</td>
<td>0.31</td>
<td>0.31</td>
<td>0.31</td>
<td>0.29</td>
<td>4.42</td>
<td>0.36</td>
<td>0.95</td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td>Emergency Engine EG8</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.52</td>
<td>3.11</td>
<td>0.06</td>
<td>0.88</td>
<td>4.14E-03</td>
<td>0</td>
</tr>
<tr>
<td>RLS Line</td>
<td>0.61</td>
<td>0.61</td>
<td>0.61</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>Melting Pot MP-1</td>
<td>0.02</td>
<td>0.07</td>
<td>0.07</td>
<td>0.01</td>
<td>0.94</td>
<td>0.05</td>
<td>0.79</td>
<td>0.02</td>
<td>4.72E-06</td>
</tr>
<tr>
<td>Melting Pot MP-2</td>
<td>0.01</td>
<td>0.04</td>
<td>0.04</td>
<td>0.00</td>
<td>0.52</td>
<td>0.03</td>
<td>0.43</td>
<td>0.01</td>
<td>2.59E-06</td>
</tr>
<tr>
<td>Other NG Combustion</td>
<td>0.02</td>
<td>0.09</td>
<td>0.09</td>
<td>0.01</td>
<td>1.20</td>
<td>0.07</td>
<td>1.01</td>
<td>0.02</td>
<td>6.01E-06</td>
</tr>
<tr>
<td>Gasoline dispensing</td>
<td>0.25</td>
<td>0.17</td>
<td>0.17</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>4.85E-04</td>
<td>0</td>
</tr>
<tr>
<td>Blasting</td>
<td>0.26</td>
<td>0.31</td>
<td>0.28</td>
<td>0.74</td>
<td>2.60</td>
<td>0.04</td>
<td>0.65</td>
<td>8.91E-04</td>
<td>1.64E-04</td>
</tr>
<tr>
<td>Kerosene heaters</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.81</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Parts washers</td>
<td>0.77</td>
<td>0.15</td>
<td>0.04</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fugitive Emissions - Paved Roads</td>
<td>4.95</td>
<td>1.26</td>
<td>0.13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99.17</strong></td>
<td><strong>99.98</strong></td>
<td><strong>98.74</strong></td>
<td><strong>95.69</strong></td>
<td><strong>51.87</strong></td>
<td><strong>4.65</strong></td>
<td><strong>37.92</strong></td>
<td><strong>5.67</strong></td>
<td><strong>4.86</strong></td>
</tr>
</tbody>
</table>
### Appendix A: Emission Calculations

**PTE Summary of Modification**

One (1) Diesel Fuel-Fired Emergency Generator, Identified as EG-9, Rated Output of 1,502 Horsepower

**Company Name:** Exide Technologies  
**Address City IN Zip:** 2601 West Mt. Pleasant Blvd., Muncie, IN 47302  
**Permit No.:** 035-41906-00028  
**Permit Reviewer:** Daniel W. Pell

<table>
<thead>
<tr>
<th>Process</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Single HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Engine EG9</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.52</td>
<td>3.11</td>
<td>0.06</td>
<td>0.68</td>
<td>4.14E-03</td>
<td>0.002 (Benzene)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.52</td>
<td>3.11</td>
<td>0.06</td>
<td>0.68</td>
<td>4.14E-03</td>
<td>0.002 (Benzene)</td>
</tr>
</tbody>
</table>
Appendix A: Emission Calculations
Natural Gas Combustion (Less than 100 MMBtu/hr)

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
 Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

PM*  PM10*  PM2.5*  SO2  NO**  VOC  CO
1.9    7.6    7.6    0.6    100.0   5.5    84.0

Emission Unit
Rotaory Dryer 13.00 111.65 0.106 0.424 0.424 0.033 5.582 0.307 4.689
Reverberatory Furnace 35.00 300.59 0.286 1.142 1.142 0.090 15.029 0.827 12.625
Eleven (11) Pot Furnaces 34.60 297.15 0.282 1.129 1.129 0.089 14.858 0.817 12.480
Melting Pot (MP-1) 2.20 18.89 0.018 0.072 0.072 0.006 0.945 0.052 0.794
Melting Pot (MP-2) 1.20 10.31 0.010 0.039 0.039 0.003 0.515 0.028 0.433
Afterburner 10.00 85.88 0.082 0.326 0.326 0.026 2.147 0.236 3.607

Total 0.78 3.13 3.13 0.25 39.08 2.27 34.63

Emission Factors are from AP-42, Tables 1.4-1 and 1.4-2.
*PM emission factor is filterable PM only. PM10 emission factor is filterable PM10 and condensable PM combined. PM2.5 emission factor is filterable PM2.5 and condensable PM combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Emission Unit
Rotary Dryer 13.00 111.65 0.106 0.424 0.424 0.033 5.582 0.307 4.689
Reverberatory Furnace 35.00 300.59 0.286 1.142 1.142 0.090 15.029 0.827 12.625
Eleven (11) Pot Furnaces 34.60 297.15 0.282 1.129 1.129 0.089 14.858 0.817 12.480
Melting Pot (MP-1) 2.20 18.89 0.018 0.072 0.072 0.006 0.945 0.052 0.794
Melting Pot (MP-2) 1.20 10.31 0.010 0.039 0.039 0.003 0.515 0.028 0.433
Afterburner 10.00 85.88 0.082 0.326 0.326 0.026 2.147 0.236 3.607

Total 0.78 3.13 3.13 0.25 39.08 2.27 34.63

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.
The five highest organic and metal HAPs emission factors are provided above. The total HAPs is the sum of all HAPs listed in AP-42, Tables 1.4-3 and 1.4-4.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology
Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,020 MMBtu
Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)
Appendix A: Emission Calculations
Rolled Lead Strip Line

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Part 70 Operating Permit Renewal No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

<table>
<thead>
<tr>
<th>Process</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Pb</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/ton</td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>tons/yr</td>
<td>tons/yr</td>
<td>tons/yr</td>
<td>lb/ton</td>
<td>tons/yr</td>
</tr>
<tr>
<td>RLS Line</td>
<td>0.04</td>
<td>0.14</td>
<td>0.14</td>
<td>0.61</td>
<td>0.61</td>
<td>0.61</td>
<td>0.01</td>
<td>0.15</td>
</tr>
<tr>
<td>Total (tons/yr)</td>
<td></td>
<td></td>
<td></td>
<td>0.61</td>
<td>0.61</td>
<td>0.61</td>
<td>0.01</td>
<td>0.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Pb</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>tons/yr</td>
<td>tons/yr</td>
<td>tons/yr</td>
<td>tons/yr</td>
<td>tons/yr</td>
</tr>
<tr>
<td>RLS Line</td>
<td>0.018</td>
<td>0.018</td>
<td>0.018</td>
<td>1.10E-04</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>4.82E-04</td>
</tr>
<tr>
<td>Total (tons/yr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>4.82E-04</td>
</tr>
</tbody>
</table>

Methodology
Uncontrolled emission factors in lb/ton based on AP-42, Chapter 12.11, Table 12.11-2 (SCC 3-04-004-09)
Controlled PM, PM10, and PM2.5 EFs based on stack test conducted on February 23, 2016
Controlled Emission factors based on stack test conducted on December 2, 2015
PTE (tons/yr) = emissions (lb/hr) x 8760 hr/yr /2000 lb/ton
## Appendix A: Emissions Calculations

### Reverberatory and Blast Melting Furnaces

**Company Name:** Exide Technologies  
**Address City IN Zip:** 2601 West Mt. Pleasant Blvd., Muncie, IN 47302  
**Permit No.:** 035-41906-00028  
**Permit Reviewer:** Daniel W. Pell

#### Reverberatory Furnace (SCC 3-04-004-02)

<table>
<thead>
<tr>
<th>Process Baghouse Specifications</th>
<th>Process Baghouse</th>
<th>Twin Packed Bed Sodium Carbonate Scrubber Specifications</th>
<th>Acid and Soda Wash1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Metal Throughput (tons/yr)</td>
<td>SO2 Control (%)</td>
<td>PM2.5 and Pb Control (%)</td>
<td>Air Flow Rate (ft³/min)</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>100,000</td>
<td>85.0%</td>
<td>85.0%</td>
<td>89.8%</td>
</tr>
</tbody>
</table>

**Emission Factors (lb/ton metal produced):**

- PM: 323.00
- PM10: 193.80
- PM2.5: 193.80
- SO2: 80.00
- NOx: 0.30
- Pb: N/A

**Uncontrolled Potential To Emit (tons/yr):**

- PM: 16,150
- PM10: 9,690
- PM2.5: 9,690
- SO2: 4,000
- NOx: 15
- Pb: 2,124

**Controlled Potential to Emit (tons/yr):**

- PM: 11.31
- PM10: 6.78
- PM2.5: 6.78
- SO2: 61.2
- NOx: 15
- Pb: 1.49

**Limited Potential to Emit (tons/yr):**

- PM: 4.60
- PM10: 4.99
- PM2.5: 5.00
- SO2: N/A
- NOx: N/A
- Pb: 0.34

### Methodology:

1. The SO2 emissions are controlled first by the acid and soda wash which is equivalent to 85% and then followed by the scrubbers.
2. Outlet grain loading based on stack test performed on August 23, 2005.
3. Lead emissions from the reverberatory and blast furnaces based on control specifications.
4. The PM, PM10, PM2.5, SO2, and Pb emission limits are combined for the reverberatory and blast furnaces since they have common control devices.

### Blast Furnace (Cupola) (SCC 3-04-004-26)

<table>
<thead>
<tr>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td>30,000</td>
<td>129.00</td>
<td>129.00</td>
<td>53.00</td>
<td>0.10</td>
<td>See Above</td>
</tr>
</tbody>
</table>

**Emission Factors (lb/ton metal produced):**

- PM: 307.00
- PM10: 129.00
- PM2.5: 129.00
- SO2: 53.00
- NOx: 0.10
- Pb: See Above

**Uncontrolled Potential To Emit (tons/yr):**

- PM: 4,605
- PM10: 1,935
- PM2.5: 1,935
- SO2: 795
- NOx: 1.50

**Controlled Potential to Emit (tons/yr):**

- PM: 3.22
- PM10: 1.35
- PM2.5: 1.35
- SO2: 12.16
- NOx: 1.50

**Limited Potential to Emit (tons/yr):**

- PM: N/A
- PM10: N/A
- PM2.5: N/A
- SO2: N/A
- NOx: N/A
- Pb: 1.49

### Reverberatory and Blast Furnace Charging Points

<table>
<thead>
<tr>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Pb</th>
</tr>
</thead>
</table>

**Charging Points Methodology:**

\[ \text{Charging Points Uncontrolled PTE (tons/yr)} = \frac{\text{Controlled PTE (tons/yr)}}{(1 - \text{CE \%})} \]

\[ \text{Charging Points Controlled/Limited PTE (tons/yr)} = \text{Limited PTE (lb/hr)} \times 8,760 \times \frac{1}{2,000} \]

### Ventilation Baghouse Specifications

<table>
<thead>
<tr>
<th>PM, PM10, PM2.5, and Pb Control</th>
<th>Air Flow Rate (ft³/min)</th>
<th>Outlet Grain Loading (gr/ft³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>99.6%</td>
<td>90,000</td>
<td>0.000218</td>
</tr>
</tbody>
</table>

### Reverberatory and Blast Furnace Charging Points

<table>
<thead>
<tr>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.05</td>
<td>13.14</td>
<td>13.14</td>
<td>0.74</td>
</tr>
</tbody>
</table>

**Charging Points Uncontrolled PTE (tons/yr) = Controlled PTE (tons/yr) / (1 - CE \%)**

**Charging Points Controlled/Limited PTE (tons/yr) = Limited PTE (lb/hr) \times 8,760 \times (1 - CE \%) \times (1 - Baghouse CE \%) \times (1 - Scrubber CE \%)**

**Charging Points Limited PTE (tons/yr) = Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min) \times 2 \times Scratchers \times 0.007 (lb/hr) \times 8,760 \times (1 - CE \%) \times (1 - Baghouse CE \%) \times (1 - Scrubber CE \%)**

**Charging Points Limited PTE (tons/yr) = Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min) \times 0.007 (lb/hr) \times 8,760 \times (1 - CE \%) \times (1 - Baghouse CE \%) \times (1 - Scrubber CE \%)**

**Charging Points Limited PTE (tons/yr) = Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min) \times 0.007 (lb/hr) \times 8,760 \times (1 - CE \%) \times (1 - Baghouse CE \%) \times (1 - Scrubber CE \%)**

**Charging Points Limited PTE (tons/yr) = Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min) \times 0.007 (lb/hr) \times 8,760 \times (1 - CE \%) \times (1 - Baghouse CE \%) \times (1 - Scrubber CE \%)**

**Charging Points Limited PTE (tons/yr) = Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min) \times 0.007 (lb/hr) \times 8,760 \times (1 - CE \%) \times (1 - Baghouse CE \%) \times (1 - Scrubber CE \%)**

**Charging Points Limited PTE (tons/yr) = Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min) \times 0.007 (lb/hr) \times 8,760 \times (1 - CE \%) \times (1 - Baghouse CE \%) \times (1 - Scrubber CE \%)**

**Charging Points Limited PTE (tons/yr) = Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min) \times 0.007 (lb/hr) \times 8,760 \times (1 - CE \%) \times (1 - Baghouse CE \%) \times (1 - Scrubber CE \%)**
Appendix A: Emissions Calculations
Rotary Dryer, Pot Furnaces, and Pig Casting

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

<table>
<thead>
<tr>
<th>Control Efficiency</th>
<th>Air Flow Rate</th>
<th>Outlet Grain Loading (Pb)(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>(ft(^3)/min)</td>
<td>(gr/ft(^3))</td>
</tr>
<tr>
<td>99.0%</td>
<td>15,500</td>
<td>0.00022</td>
</tr>
</tbody>
</table>

### Rotary Dryer

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM(_{10})</th>
<th>PM(_{2.5})</th>
<th>Pb(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncontrolled Potential To Emit (tons/yr)</td>
<td>1.971</td>
<td>1.971</td>
<td>1.971</td>
<td>12.8</td>
</tr>
<tr>
<td>Controlled Potential to Emit (tons/yr)</td>
<td>19.71</td>
<td>19.71</td>
<td>19.71</td>
<td>0.13</td>
</tr>
<tr>
<td>Limited Potential to Emit (lb/hr)</td>
<td>4.50</td>
<td>4.50</td>
<td>4.50</td>
<td>0.029</td>
</tr>
<tr>
<td>Limited Potential to Emit (tons/yr)</td>
<td>19.71</td>
<td>19.71</td>
<td>19.71</td>
<td>0.13</td>
</tr>
</tbody>
</table>

### Refinery Baghouse Specifications

<table>
<thead>
<tr>
<th>Control Efficiency</th>
<th>Air Flow Rate</th>
<th>Outlet Grain Loading (Pb)(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>(ft(^3)/min)</td>
<td>(gr/ft(^3))</td>
</tr>
<tr>
<td>99.0%</td>
<td>120,000</td>
<td>0.00002</td>
</tr>
</tbody>
</table>

### Pot Furnaces and Pig Casting

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM(_{10})</th>
<th>PM(_{2.5})</th>
<th>Pb(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncontrolled Potential To Emit (tons/yr)</td>
<td>2.081</td>
<td>2.300</td>
<td>2.300</td>
<td>9.0</td>
</tr>
<tr>
<td>Controlled Potential to Emit (tons/yr)</td>
<td>20.81</td>
<td>23.00</td>
<td>23.00</td>
<td>0.09</td>
</tr>
<tr>
<td>Limited Potential to Emit (lb/hr)</td>
<td>4.75</td>
<td>5.25</td>
<td>5.25</td>
<td>0.30</td>
</tr>
<tr>
<td>Limited Potential to Emit (tons/yr)</td>
<td>20.81</td>
<td>23.00</td>
<td>23.00</td>
<td>1.31</td>
</tr>
</tbody>
</table>

**Methodology:**

1 Outlet grain loading for lead based on stack test performed on August 23, 2005.
2 Lead emissions based on control specifications.

Pb = Lead
Uncontrolled PTE (tons/yr) = Controlled PTE (tons/yr) / (1 - CE %)
Controlled/Limited PTE (tons/yr) = Limited PTE (lb/hr) x 8,760 (hr/yr) x 1/2,000 (ton/lb)
Uncontrolled Pb PTE (tons/yr) = Controlled PTE (tons/yr) / (1 - Baghouse CE %)
Controlled Pb PTE (tons/yr) = Outlet Grain Loading (gr/ft\(^3\)) x Air Flow Rate (ft\(^3\)/min) x 60 (min/hr) x 1/7,000 (lb/gr) x 8,760 (hr/yr) x 1/2,000 (ton/lb)
Limited
## Appendix A: Emissions Calculations

### Battery Crusher/Breaker

**Material Handling/Slag Crushing**

**Company Name:** Exide Technologies  
**Address City IN Zip:** 2601 West Mt. Pleasant Blvd., Muncie, IN 47302  
**Permit No.:** 035-41906-00028  
**Permit Reviewer:** Daniel W. Pell

#### Control Efficiency

<table>
<thead>
<tr>
<th>Control Efficiency (%)</th>
<th>Air Flow Rate (ft³/min)</th>
<th>Outlet Grain Loading (gr/ft³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98.0%</td>
<td>35,000</td>
<td>0.000218</td>
</tr>
</tbody>
</table>

**Battery Crusher/Breaker**

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM₁₀</th>
<th>PM₂.₅</th>
<th>Pb³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncontrolled Potential To Emit (tons/yr)</td>
<td>493</td>
<td>493</td>
<td>493</td>
<td>14.3</td>
</tr>
<tr>
<td>Controlled Potential to Emit (tons/yr)</td>
<td>9.86</td>
<td>9.86</td>
<td>9.86</td>
<td>0.29</td>
</tr>
<tr>
<td>Limited Potential to Emit (lb/hr)</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td>0.065</td>
</tr>
<tr>
<td>Limited Potential to Emit (tons/yr)</td>
<td>9.86</td>
<td>9.86</td>
<td>9.86</td>
<td>0.28</td>
</tr>
</tbody>
</table>

**Material Handling/Slag Crushing**

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM₁₀</th>
<th>PM₂.₅</th>
<th>Pb³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncontrolled Potential To Emit (tons/yr)</td>
<td>832</td>
<td>832</td>
<td>832</td>
<td>74.3</td>
</tr>
<tr>
<td>Controlled Potential to Emit (tons/yr)</td>
<td>8.32</td>
<td>8.32</td>
<td>8.32</td>
<td>0.74</td>
</tr>
<tr>
<td>Limited Potential to Emit (lb/hr)</td>
<td>1.90</td>
<td>1.90</td>
<td>1.90</td>
<td>0.17</td>
</tr>
<tr>
<td>Limited Potential to Emit (tons/yr)</td>
<td>8.32</td>
<td>8.32</td>
<td>8.32</td>
<td>0.74</td>
</tr>
</tbody>
</table>

#### Methodology:

1. Outlet grain loading based on stack test performed on September 9, 2004 at the source.
2. Outlet grain loading based on stack test performed on August 23, 2005 at the source.
3. Lead emissions based on control specifications.

\[
Pb = \text{Lead} \\
\text{Uncontrolled PTE (tons/yr)} = \frac{\text{Controlled PTE (tons/yr)}}{1 - \text{CE} \%} \\
\text{Controlled/Limited PTE (tons/yr)} = \text{Limited PTE (lb/hr) \times 8,760 (hr/yr) \times 1/2,000 (ton/lb)} \\
\text{Uncontrolled Pb PTE (tons/yr)} = \frac{\text{Controlled PTE (tons/yr)}}{1 - \text{CE} \%} \\
\text{Controlled Pb PTE (tons/yr)} = \text{Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min) \times 60 (min/hr) \times 1/7,000 (lb/gr) \times 8,760 (hr/yr) \times 1/2,000 (ton/lb)} \\
\text{Limited PTE (lbs/hr)} = \frac{\text{Outlet Grain Loading (gr/ft³) \times Air Flow Rate (ft³/min)}}{7,000 (lb/gr)} \times 8,760 (hr/yr) \times 1/2,000 (ton/lb)
\]
Appendix A: Emissions Calculations
Soda Ash

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

<table>
<thead>
<tr>
<th>Maximum Soda Ash Throughput per Silo (tons/yr)</th>
<th>6,389</th>
</tr>
</thead>
</table>

Soda Ash Pneumatic Conveying thru 3 Silos

<table>
<thead>
<tr>
<th>Emission Factors (ton/ton of soda ash)</th>
<th>PM</th>
<th>PM_{10}</th>
<th>PM_{2.5}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncontrolled Potential To Emit (tons/yr)</td>
<td>2.88</td>
<td>2.88</td>
<td>2.88</td>
</tr>
<tr>
<td>Limited Potential to Emit (lb/hr)</td>
<td>0.23</td>
<td>0.23</td>
<td>0.23</td>
</tr>
<tr>
<td>Limited Potential to Emit (tons/yr)</td>
<td>1.01</td>
<td>1.01</td>
<td>1.01</td>
</tr>
</tbody>
</table>

Emission Factor from AP-42 Chapter 9 (grain silo loading)
Uncontrolled PTE (tons/yr) = Maximum Throughput (tons/yr) x EF (lb/ton) x 1/2,000 (ton/lb) x 3 Silos
Limited PTE (tons/yr) = Limited PTE (lb/hr) x 8,760 (hr/yr) x 1/2,000 (ton/lb)
Appendix A: Emission Calculations
Natural Gas Combustion (Less than 100 MMBtu/hr)

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

Natural Gas Combustion (Less than 100 MMBtu/hr)

<table>
<thead>
<tr>
<th>Criteria Pollutants</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>1.9</td>
<td>0.02</td>
</tr>
<tr>
<td>PM10*</td>
<td>7.6</td>
<td>0.09</td>
</tr>
<tr>
<td>PM2.5*</td>
<td>7.6</td>
<td>0.09</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
<td>0.007</td>
</tr>
<tr>
<td>NOx**</td>
<td>100.0</td>
<td>1.202</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5</td>
<td>0.066</td>
</tr>
<tr>
<td>CO</td>
<td>84.0</td>
<td>1.010</td>
</tr>
</tbody>
</table>

** see below

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Heat Input Capacity (MMBtu/hr)</th>
<th>Potential Throughput (MMCF/yr)</th>
<th>Potential Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 NG Space Heaters</td>
<td>2.80</td>
<td>24.05</td>
<td>0.02</td>
</tr>
<tr>
<td>Total</td>
<td>0.02</td>
<td></td>
<td>1.01</td>
</tr>
</tbody>
</table>

Emission Factors are from AP-42, Tables 1.4-1 and 1.4-2.

*PM emission factor is filterable PM only. PM10 emission factor is filterable PM10 and condensable PM combined. PM2.5 emission factor is filterable PM2.5 and condensable PM combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

<table>
<thead>
<tr>
<th>HAPs - Organics</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>2.1E-03</td>
<td></td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03</td>
<td></td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.5E-02</td>
<td></td>
</tr>
<tr>
<td>Hexane</td>
<td>1.8E+00</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>3.4E-03</td>
<td></td>
</tr>
</tbody>
</table>

Total

<table>
<thead>
<tr>
<th>HAPs - Metals</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>5.0E-04</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03</td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03</td>
<td></td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03</td>
<td></td>
</tr>
</tbody>
</table>

Total

Total HAPs: 1.8880

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.
The five highest organic and metal HAPs emission factors are provided above. The total HAPs is the sum of all HAPs listed in AP-42, Tables 1.4-3 and 1.4-4.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,020 MMBtu
Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)
### Appendix A: Emissions Calculations

#### Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)

**Kerosene heaters**

**Company Name:** Exide Technologies  
**Address City IN Zip:** 2601 West Mt. Pleasant Blvd., Muncie, IN 47302  
**Permit No.:** 035-41906-00028  
**Permit Reviewer:** Daniel W. Pell

<table>
<thead>
<tr>
<th>Heat Input Capacity MMBtu/hr</th>
<th>Potential Throughput kgals/year</th>
<th>S = Weight % Sulfur</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.15</td>
<td>259.67</td>
<td>0.04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10**</th>
<th>direct PM2.5***</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/kgal</td>
<td>2.0</td>
<td>2.38</td>
<td>2.13</td>
<td>5.68</td>
<td>20.0</td>
<td>0.34</td>
<td>5.0</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>0.26</td>
<td>0.31</td>
<td>0.28</td>
<td>0.74</td>
<td>2.60</td>
<td>0.04</td>
<td>0.65</td>
</tr>
</tbody>
</table>

#### Methodology

1 gallon of Kerosene has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are for Distillate Oil from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see errata file)

*PM emission factor is filterable PM only.

**PM10 emission factor is filterable PM10 of 1.08 lb/kgal + condensable PM emission factor of 1.3 lb/kgal.

***Direct PM2.5 emission factor is filterable PM2.5 of 0.83 lb/kgal + condensable PM emission factor of 1.3 lb/kgal.

**Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal)/2,000 lb/ton**

#### Hazardous Air Pollutants (HAPs)

**HAPs - Metals**

<table>
<thead>
<tr>
<th>Emission Factor in lb/mmBtu</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>4.0E-06</td>
</tr>
<tr>
<td>Beryllium</td>
<td>3.0E-06</td>
</tr>
<tr>
<td>Cadmium</td>
<td>3.0E-06</td>
</tr>
<tr>
<td>Chromium</td>
<td>3.0E-06</td>
</tr>
<tr>
<td>Chromium</td>
<td>9.0E-06</td>
</tr>
</tbody>
</table>

**HAPs - Metals (continued)**

<table>
<thead>
<tr>
<th>Emission Factor in lb/mmBtu</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>3.0E-06</td>
</tr>
<tr>
<td>Manganese</td>
<td>6.0E-06</td>
</tr>
<tr>
<td>Nickel</td>
<td>3.0E-06</td>
</tr>
<tr>
<td>Selenium</td>
<td>1.5E-05</td>
</tr>
</tbody>
</table>

**Total HAPs**

<table>
<thead>
<tr>
<th>Mercury</th>
<th>Manganese</th>
<th>Nickel</th>
<th>Selenium</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0E-06</td>
<td>6.0E-06</td>
<td>3.0E-06</td>
<td>1.5E-05</td>
</tr>
<tr>
<td>5.5E-05</td>
<td>1.1E-04</td>
<td>5.5E-05</td>
<td>2.7E-04</td>
</tr>
</tbody>
</table>

**Methodology**

Emission Factors are for Distillate Oil from AP 42, Tables 1.3-10

No data was available in AP-42 for organic HAPs.

**Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8.760 hrs/yr / 2,000 lb/ton**
Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
One (1) Emergency Diesel Air Compressor, EG8 - 125 hp

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

Emissions calculated based on output rating (hp)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0021</td>
<td>0.0310</td>
<td>0.0025</td>
<td>0.0067</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>0.31</td>
<td>0.31</td>
<td>0.31</td>
<td>0.29</td>
<td>4.42</td>
<td>0.36</td>
<td>0.95</td>
</tr>
</tbody>
</table>

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Emission Factors from AP-42, Table 3.3-1.

Potential Emission of Total HAPs (tons/yr) 0.0039

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Total PAH HAPs***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>6.53E-06</td>
</tr>
<tr>
<td>Toluene</td>
<td>2.86E-06</td>
</tr>
<tr>
<td>Xylene</td>
<td>2.00E-06</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>2.74E-07</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>8.26E-06</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>5.37E-06</td>
</tr>
<tr>
<td>Acrolein</td>
<td>6.48E-06</td>
</tr>
<tr>
<td>Total PAH HAPs***</td>
<td>1.18E-06</td>
</tr>
</tbody>
</table>

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-2).

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]
Appendix A: Emission Calculations

PTE from One (1) Diesel Fuel-Fired EG-9 with Rated Output of 1,502 Horsepower

Large Reciprocating Internal Combustion Engines - Diesel Fuel

Output Rating (>600 HP)

Maximum Input Rate (>4.2 MMBtu/hr)

Company Name: Exide Technologies
Source Address: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

<table>
<thead>
<tr>
<th>Output Horsepower Rating (hp)</th>
<th>1502.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Hours Operated per Year</td>
<td>500 hr/yr</td>
</tr>
<tr>
<td>Potential Throughput (hp-hr/yr)</td>
<td>751,000</td>
</tr>
<tr>
<td>Sulfur Content (S) of Fuel (% by weight)</td>
<td>0.500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5*</th>
<th>SO2 **</th>
<th>NOx *</th>
<th>VOC *</th>
<th>CO *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lbs/hp-hr</td>
<td>2.43E-04</td>
<td>2.43E-04</td>
<td>2.43E-04</td>
<td>4.05E-03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emission Factor in lbs/kW-hr</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>1.52</td>
<td>3.11</td>
<td>0.06</td>
<td>0.68</td>
</tr>
</tbody>
</table>

*Emission Factors for PM, NOx, VOC (as NMHC), and CO are based on US EPA Certified Emission Factors for this model year and engine family.

**Emission Factor for SO2 is from AP 42 (Supplement B 10/96) Table 3.4-1.

EPA Certified Emission Rates:

NOx = 5.03 grams/kW-hr = 1.11E-02 lbs/Kw-hr
CO = 1.1 grams/kW-hr = 2.43E-03 lbs/Kw-hr
VOC (as NMHC) = 0.1 grams/kW-hr = 2.20E-04 lbs/Kw-hr
PM = 0.11 grams/kW-hr = 2.43E-04 lbs/Kw-hr

Assume PM = PM10 = PM2.5

Conversion: 453.592 grams = 1 pounds
Conversion: 1 kW = 1.341 horsepower

Potential Emission of Total HAPs (tons/yr) = 4.14E-03

Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Total PAH HAPs****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr****</td>
<td>5.43E-06</td>
<td>1.97E-06</td>
<td>1.35E-06</td>
<td>5.52E-07</td>
<td>1.76E-07</td>
<td>5.52E-08</td>
<td>1.48E-06</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>2.04E-03</td>
<td>7.39E-04</td>
<td>5.07E-04</td>
<td>2.07E-04</td>
<td>6.62E-05</td>
<td>2.07E-05</td>
<td>5.57E-04</td>
</tr>
</tbody>
</table>

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Tables 3.3-1 and 3.4-1).

*****PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]
Appendix A: Emission Calculations

Maintenance Abrasive Blasting - Confined

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-0002B
Permit Reviewer: Daniel W. Pell

Table 1 - Emission Factors for Abrasives

<table>
<thead>
<tr>
<th>Abrasive</th>
<th>lb PM / lb abrasive</th>
<th>lb PM10 / lb PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>0.041</td>
<td>0.70</td>
</tr>
<tr>
<td>Grit</td>
<td>0.010</td>
<td>0.70</td>
</tr>
<tr>
<td>Steel Shot</td>
<td>0.004</td>
<td>0.86</td>
</tr>
<tr>
<td>Other</td>
<td>0.010</td>
<td></td>
</tr>
</tbody>
</table>

Potential to Emit Before Control

\[
	ext{Potential to Emit (before control)} = \text{EF} \times \text{FR} \times (1 - \frac{w}{200}) \times N
\]

Potential to Emit After Control

\[
\text{Potential to Emit (after control)} = \text{Potential to Emit (before control)} \times (1 - \text{control efficiency})
\]


METHODOLOGY

Source states blaster is used for maintenance, and lead contaminated items are prohibited. PTE is based on 8 hrs/week, which includes a safety margin.

PM2.5 emissions assumed equal to PM10 emissions.

Potential to Emit (before control) = \[\text{EF} \times \text{FR} \times (1 - \frac{w}{200}) \times N\] (where \(w\) should be entered in as a whole number (if \(w\) is 50%, enter 50))

Potential to Emit (after control) = \[\text{Potential to Emit (before control)} \times (1 - \text{control efficiency})\]

Potential to Emit (tons/year) = \[\text{Potential to Emit (lbs/hour)} \times \frac{8760 \text{ hours/year}}{760 \text{ hours/year}} \times \frac{1 \text{ ton}}{2000 \text{ lbs}}\]
Appendix A: Emissions Summary
Gasoline Fuel Transfer and Dispensing Operation

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation emission factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids were used. The total potential emission of VOC is as follows:

2016 Usage: 3285 gals/year

Gasoline Throughput = 9.0 gallons/day
Gasoline Throughput = 3.29 kgal/yr

Volatile Organic Compounds (VOC)

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Emission Factor (lb/kgal of throughput)*</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filling storage tank (splash filling)</td>
<td>11.50</td>
<td>0.0189</td>
</tr>
<tr>
<td>Tank breathing and emptying</td>
<td>1.00</td>
<td>0.0016</td>
</tr>
<tr>
<td>Vehicle refueling (displaced losses - uncontrolled)</td>
<td>11.00</td>
<td>0.0181</td>
</tr>
<tr>
<td>Spillage</td>
<td>0.70</td>
<td>0.0011</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>0.040</strong></td>
</tr>
</tbody>
</table>

Methodology
The gasoline throughput is based on the worst case assumption of 9,999 gallons per month (less than 10,000 gallons per month).

**Emission Factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids (dated 6/08), Table 5.2-7. Worst case emission factors used.**

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (gallons/day)] * [365 days/yr] * [kgal/1000 gal]
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Volatile Organic HAP</th>
<th>CAS#</th>
<th>Hazardous Air Pollutant (HAP) Content (vapor mass fraction)**</th>
<th>PTE of HAP (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>0.37%</td>
<td>1.5E-04</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>110-54-3</td>
<td>0.34%</td>
<td>1.4E-04</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>0.40%</td>
<td>1.6E-04</td>
</tr>
<tr>
<td>m-Xylenes</td>
<td>108-38-3</td>
<td>0.11%</td>
<td>4.4E-05</td>
</tr>
<tr>
<td><strong>Total PTE of HAPs</strong></td>
<td></td>
<td></td>
<td><strong>4.8E-04</strong></td>
</tr>
<tr>
<td><strong>PTE of Worst Single HAP</strong></td>
<td></td>
<td></td>
<td><strong>1.6E-04</strong>         (Toluene)</td>
</tr>
</tbody>
</table>

Methodology
**Source: US EPA TANKS Version 4.09 program**
PTE of Total HAPs (tons/yr) = [Total HAP Content (% by weight)] * [PTE of VOC (tons/yr)]
PTE of HAP (tons/yr) = [Hazardous Air Pollutant (HAP) Content (vapor mass fraction)] * [PTE of VOC (tons/yr)]
Appendix A: Emissions Calculations

VOC Emissions

Parts Washers

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

<table>
<thead>
<tr>
<th>Parts Washer Identification</th>
<th>Solvent Name</th>
<th>Solvent Density (lb/gal)</th>
<th>Annual Solvent Throughput (gal/yr)</th>
<th>Weight Percent VOC</th>
<th>Annual Emission Rate TPY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance Parts Washer</td>
<td>Safety-Kleen</td>
<td>6.70</td>
<td>270.00</td>
<td>100.00%</td>
<td>0.90</td>
</tr>
<tr>
<td>RLS Parts Washer</td>
<td>Safety-Kleen</td>
<td>6.70</td>
<td>270.00</td>
<td>100.00%</td>
<td>0.90</td>
</tr>
</tbody>
</table>

**Total Annual Emission Rate** 1.81

Note:
The annual throughput is based on a maximum monthly usage of 30 gal/month total for both parts washers, per the facility's waste reports. A 50% safety factor was applied for conservatism.

TPY = Tons per Year

Methodology:
Annual Emission Rate = Solvent Density (lb/gal) x Annual Throughput (gal) x Weight % VOC / 2,000 (lb/ton)
Material does not contain hazardous air pollutants
## Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

### Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles per day</th>
<th>Maximum one-way trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (mi/trip)</th>
<th>Maximum one-way miles (mi/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool Room deliveries - Sector 1, loaded</td>
<td>6.0</td>
<td>6.0</td>
<td>7.0</td>
<td>42.0</td>
<td>181</td>
<td>0.034</td>
<td>0.2</td>
</tr>
<tr>
<td>Refinery Fuel Station deliveries - Sector 1, loaded</td>
<td>1.0</td>
<td>1.0</td>
<td>7.0</td>
<td>251</td>
<td>0.048</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Bin Room to Maintenance Room - Sector 1, loaded</td>
<td>6.0</td>
<td>6.0</td>
<td>7.0</td>
<td>42.0</td>
<td>127</td>
<td>0.024</td>
<td>0.1</td>
</tr>
<tr>
<td>Tool Room deliveries - Sector 1, unloaded</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>30.0</td>
<td>181</td>
<td>0.034</td>
<td>0.2</td>
</tr>
<tr>
<td>Refinery Fuel Station deliveries - Sector 1, unloaded</td>
<td>1.0</td>
<td>1.0</td>
<td>5.0</td>
<td>5.0</td>
<td>251</td>
<td>0.048</td>
<td>0.0</td>
</tr>
<tr>
<td>Bin Room to Maintenance Room - Sector 1, unloaded</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>30.0</td>
<td>127</td>
<td>0.024</td>
<td>0.1</td>
</tr>
</tbody>
</table>

| Totals                                      | 26.0                              | 156.0                                   | 0.8                              | 290.2                                |

### Average Vehicle Weight Per Trip = 6.0 tons/trip

### Average Miles Per Trip = 0.03 miles/trip

### Unmitigated Emission Factor, \( E_f = \left[ k \cdot (sL)^{0.91} \cdot (W)^1.02 \right] \) (Equation 1 from AP-42 13.2.1)

\[
PM = \frac{E_f \cdot (p/4N)}{1000} \cdot \left[ \left( \frac{W}{VMT} \right)^{0.5} \cdot \left( \frac{sL}{g/m^2} \right) \right]
\]

where \( k = \) 0.011, \( W = 6.0 \) tons = average vehicle weight (provided by source), \( sL = 2.96 \) g/m² = silt loading value based on site specific source sample.

Taking natural mitigation due to precipitation into consideration, \( E_{ext} = E \cdot \left[ 1 - \left( \frac{p}{4N} \right) \right] \) (Equation 2 from AP-42 13.2.1)

### Process

<table>
<thead>
<tr>
<th>Process</th>
<th>Unmitigated PTE of PM (tons/yr)</th>
<th>Unmitigated PTE of PM10 (tons/yr)</th>
<th>Unmitigated PTE of PM2.5 (tons/yr)</th>
<th>Mitigated PTE of PM (tons/yr)</th>
<th>Mitigated PTE of PM10 (tons/yr)</th>
<th>Mitigated PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool Room deliveries - Sector 1, loaded</td>
<td>0.007</td>
<td>1.38E-03</td>
<td>3.76E-04</td>
<td>0.006</td>
<td>1.27E-03</td>
<td>3.11E-04</td>
</tr>
<tr>
<td>Refinery Fuel Station deliveries - Sector 1, loaded</td>
<td>1.59E-03</td>
<td>4.19E-04</td>
<td>7.83E-05</td>
<td>1.46E-03</td>
<td>2.93E-04</td>
<td>7.18E-05</td>
</tr>
<tr>
<td>Bin Room to Maintenance Room - Sector 1, loaded</td>
<td>4.84E-03</td>
<td>9.68E-04</td>
<td>2.38E-04</td>
<td>4.44E-03</td>
<td>8.89E-04</td>
<td>2.18E-04</td>
</tr>
<tr>
<td>Tool Room deliveries - Sector 1, unloaded</td>
<td>8.90E-03</td>
<td>1.38E-03</td>
<td>3.76E-04</td>
<td>0.006</td>
<td>1.27E-03</td>
<td>3.11E-04</td>
</tr>
<tr>
<td>Refinery Fuel Station deliveries - Sector 1, unloaded</td>
<td>1.59E-03</td>
<td>4.19E-04</td>
<td>7.83E-05</td>
<td>1.46E-03</td>
<td>2.93E-04</td>
<td>7.18E-05</td>
</tr>
<tr>
<td>Bin Room to Maintenance Room - Sector 1, unloaded</td>
<td>4.84E-03</td>
<td>9.68E-04</td>
<td>2.38E-04</td>
<td>4.44E-03</td>
<td>8.89E-04</td>
<td>2.18E-04</td>
</tr>
</tbody>
</table>

| Totals                                | 0.027                           | 0.005                             | 0.001                            | 0.024                         | 0.005                           | 0.001                            |

### Methodology

- **Total Weight driven per day (ton/day)** = \[\text{Maximum Weight Loaded (tons/day)} \times \text{Maximum trips per day (trip/day)}\]
- **Average Vehicle Weight Per Trip (ton/trip)** = \[\text{Average Weight (tons)} / \text{Average trips per day (trip/day)}\]
- **Average Miles Per Trip (mi/trip)** = \[\text{Average trips per year (trip/day)} / \text{Maximum trips per year (trip/day)}\]
- **Mitigated PTE (tons/yr)** = \[\text{Maximum one-way miles (mi/year)} \times \text{Mitigated Emission Factor (lb/mile)} / \text{2000 lbs}\]
**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

**Vehicle Information (provided by source)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles per day</th>
<th>Number of one-way trips per day per vehicle</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/trip)</th>
<th>Maximum one-way miles (miles/day)</th>
<th>Maximum one-way miles (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping dock - Sector 2, loaded</td>
<td>20.0</td>
<td>1.0</td>
<td>20.0</td>
<td>36.0</td>
<td>720.0</td>
<td>368</td>
<td>0.070</td>
<td>1.4</td>
<td>508.8</td>
</tr>
<tr>
<td>Pb to RLS - Sector 2, loaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>36.0</td>
<td>72.0</td>
<td>387</td>
<td>0.073</td>
<td>0.1</td>
<td>53.5</td>
</tr>
<tr>
<td>Slag out - Sector 2, loaded</td>
<td>4.0</td>
<td>1.0</td>
<td>4.0</td>
<td>36.0</td>
<td>144.0</td>
<td>132</td>
<td>0.025</td>
<td>0.1</td>
<td>36.5</td>
</tr>
<tr>
<td>Shipping dock - Sector 2, unloaded</td>
<td>20.0</td>
<td>1.0</td>
<td>20.0</td>
<td>16.0</td>
<td>320.0</td>
<td>368</td>
<td>0.070</td>
<td>1.4</td>
<td>508.8</td>
</tr>
<tr>
<td>Pb to RLS - Sector 2, unloaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>16.0</td>
<td>32.0</td>
<td>387</td>
<td>0.073</td>
<td>0.1</td>
<td>53.5</td>
</tr>
<tr>
<td>Slag out - Sector 2, unloaded</td>
<td>4.0</td>
<td>1.0</td>
<td>4.0</td>
<td>16.0</td>
<td>64.0</td>
<td>132</td>
<td>0.025</td>
<td>0.1</td>
<td>36.5</td>
</tr>
<tr>
<td>Maintenance deliveries - Sector 2, loaded</td>
<td>6.0</td>
<td>1.0</td>
<td>6.0</td>
<td>7.0</td>
<td>42.0</td>
<td>439</td>
<td>0.084</td>
<td>0.5</td>
<td>183.7</td>
</tr>
<tr>
<td>Tool Room deliveries - Sector 2, loaded</td>
<td>6.0</td>
<td>1.0</td>
<td>6.0</td>
<td>7.0</td>
<td>42.0</td>
<td>421</td>
<td>0.084</td>
<td>0.5</td>
<td>183.7</td>
</tr>
<tr>
<td>Refinery Fuel Station deliveries - Sector 2, loaded</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>7.0</td>
<td>42.0</td>
<td>439</td>
<td>0.084</td>
<td>0.5</td>
<td>183.7</td>
</tr>
<tr>
<td>Bin Room to Maintenance Room - Sector 2, loaded</td>
<td>6.0</td>
<td>1.0</td>
<td>6.0</td>
<td>5.0</td>
<td>30.0</td>
<td>439</td>
<td>0.084</td>
<td>0.5</td>
<td>183.7</td>
</tr>
<tr>
<td>Maintenance deliveries - Sector 2, unloaded</td>
<td>6.0</td>
<td>1.0</td>
<td>6.0</td>
<td>5.0</td>
<td>30.0</td>
<td>421</td>
<td>0.080</td>
<td>0.5</td>
<td>174.6</td>
</tr>
<tr>
<td>Tool Room deliveries - Sector 2, unloaded</td>
<td>6.0</td>
<td>1.0</td>
<td>6.0</td>
<td>5.0</td>
<td>30.0</td>
<td>439</td>
<td>0.083</td>
<td>0.5</td>
<td>182.1</td>
</tr>
<tr>
<td>Refinery Fuel Station deliveries - Sector 2, unloaded</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>5.0</td>
<td>5.0</td>
<td>439</td>
<td>0.083</td>
<td>0.5</td>
<td>182.1</td>
</tr>
<tr>
<td>Bin Room to Maintenance Room - Sector 2, unloaded</td>
<td>6.0</td>
<td>1.0</td>
<td>6.0</td>
<td>5.0</td>
<td>30.0</td>
<td>443</td>
<td>0.084</td>
<td>0.5</td>
<td>183.7</td>
</tr>
</tbody>
</table>

**Unmitigated Emission Factor, Ef = [k * (sL)*0.91] * ([W]*1.02)**  
(Summary 1 from AP-42 13.2.1)

**Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]**  
(Equation 2 from AP-42 13.2.1)

**Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]**

**Maximum one-way distance (miles/day) = [Maximum one-way distance (feet/trip)] / 5280 ft/mile**

**Maximum one-way miles (miles/day) = [Maximum one-way miles (miles/day)] / [SUM(Maximum trips per day (trip/day))]**

**Methodology**

- **Total Weight driven per day (ton/day)**
- **Maximum one-way distance (miles/day)**
- **Average Miles Per Trip (miles/trip)**
- **Unmitigated PTE (tons/yr)**
- **Mitigated PTE (tons/yr)**

**Appendix A: Emission Calculations**

**Fugitive Dust Emissions - Paved Roads (Sector 2)**

**Company Name:** Exide Technologies  
**Address City IN ZIP:** 2601 West Mt. Pleasant Blvd., Muncie, IN 47302  
**Permit No.:** 035-41906-00028  
**Permit Reviewer:** Daniel W. Pell

---

<table>
<thead>
<tr>
<th>Process</th>
<th>Unmitigated PTE of PM (tons/yr)</th>
<th>Unmitigated PTE of PM10 (tons/yr)</th>
<th>Unmitigated PTE of PM2.5 (tons/yr)</th>
<th>Mitigated PTE of PM10 (tons/yr)</th>
<th>Mitigated PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping dock - Sector 2, loaded</td>
<td>0.03</td>
<td>0.01</td>
<td>0.00</td>
<td>0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Pb to RLS - Sector 2, loaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Slag out - Sector 2, loaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Slag out - Sector 2, unloaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Maintenance deliveries - Sector 2, loaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Slag out - Sector 2, unloaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Tool Room deliveries - Sector 2, loaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Refinery Fuel Station deliveries - Sector 2, loaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Bin Room to Maintenance Room - Sector 2, loaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Maintenance deliveries - Sector 2, unloaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Tool Room deliveries - Sector 2, unloaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Refinery Fuel Station deliveries - Sector 2, unloaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Bin Room to Maintenance Room - Sector 2, loaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
</tr>
</tbody>
</table>

| Totals                                       | 0.12                            | 0.02                             | 0.01                              | 0.11                            | 0.02                            | 0.01                           |

---

**Page 17 of 22 TSD App A**
Appendix A: Emission Calculations

Fugitive Dust Emissions - Paved Roads (Sector 3)

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

Paved Roads at Industrial Site
The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles per day</th>
<th>Number of one-way trips per day per vehicle</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way distance (miles/yr)</th>
<th>Maximum one-way miles (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breaker deliveries - Sector 3, loaded</td>
<td>18.0</td>
<td>1.0</td>
<td>18.0</td>
<td>36.0</td>
<td>648.0</td>
<td>276</td>
<td>0.052</td>
<td>0.9</td>
<td>343.4</td>
</tr>
<tr>
<td>RLS deliveries - Sector 3, loaded</td>
<td>22.0</td>
<td>1.0</td>
<td>22.0</td>
<td>36.0</td>
<td>792.0</td>
<td>308</td>
<td>0.058</td>
<td>1.3</td>
<td>468.4</td>
</tr>
<tr>
<td>Bin Room deliveries - Sector 3, loaded</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>36.0</td>
<td>176</td>
<td>0.033</td>
<td>0.5</td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>Pb to RLS - Sector 3, loaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>36.0</td>
<td>72.0</td>
<td>0.049</td>
<td>0.1</td>
<td>35.7</td>
<td></td>
</tr>
<tr>
<td>Plastic out - Sector 3, loaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>36.0</td>
<td>72.0</td>
<td>0.058</td>
<td>0.3</td>
<td>25.6</td>
<td></td>
</tr>
<tr>
<td>Breaker deliveries - Sector 3, unloaded</td>
<td>18.0</td>
<td>1.0</td>
<td>18.0</td>
<td>16.0</td>
<td>288.0</td>
<td>176</td>
<td>0.033</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>RLS deliveries - Sector 3, unloaded</td>
<td>22.0</td>
<td>1.0</td>
<td>22.0</td>
<td>16.0</td>
<td>352.0</td>
<td>308</td>
<td>0.058</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Bin Room deliveries - Sector 3, unloaded</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>16.0</td>
<td>176</td>
<td>0.033</td>
<td>0.6</td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>Pb to RLS - Sector 3, unloaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>16.0</td>
<td>32.0</td>
<td>0.049</td>
<td>0.1</td>
<td>35.7</td>
<td></td>
</tr>
<tr>
<td>Plastic out - Sector 3, unloaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>16.0</td>
<td>32.0</td>
<td>0.058</td>
<td>0.3</td>
<td>25.6</td>
<td></td>
</tr>
<tr>
<td>Bin Room Fuel Station deliveries - Sector 3, loaded</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>7.0</td>
<td>186</td>
<td>0.035</td>
<td>0.0</td>
<td>12.9</td>
<td></td>
</tr>
</tbody>
</table>

Totals: 92.0 tons/yr 2352.0 lb/mile 4.9 1796.2 miles/yr

Unmitigated Emission Factor, \( Ef = \left( k \cdot (sL)^{0.91} \cdot (W)^{1.02} \right) \) (Equation 1 from AP-42 13.2.1)

where \( k = \frac{0.011}{0.0022} = 0.0054 \) lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)

\( W = 25.6 \) tons = average vehicle weight (provided by source)

\( sL = 0.90 \) g/m² = silt loading value based on site specific source sample

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, \( E_{ext} = E \cdot \left( 1 - \frac{p}{4N} \right) \) (Equation 2 from AP-42 13.2.1)

where \( p = 120 \) days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)

\( N = 365 \) days per year

Mitigated Emission Factor, \( E_{ext} = \frac{E_{f} \cdot E_{ext} \cdot 1}{1 - \frac{p}{4N}} \)

<table>
<thead>
<tr>
<th>Process</th>
<th>Unmitigated PTE of PM (tons/yr)</th>
<th>Unmitigated PTE of PM10 (tons/yr)</th>
<th>Unmitigated PTE of PM10 (tons/yr)</th>
<th>Unmitigated PTE of PM2.5 (tons/yr)</th>
<th>Unmitigated PTE of PM2.5 (tons/yr)</th>
<th>Unmitigated PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breaker deliveries - Sector 3, loaded</td>
<td>0.05</td>
<td>0.01</td>
<td>0.04</td>
<td>0.04</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>RLS deliveries - Sector 3, loaded</td>
<td>0.06</td>
<td>0.01</td>
<td>0.04</td>
<td>0.06</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Bin Room deliveries - Sector 3, loaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Pb to RLS - Sector 3, loaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Plastic out - Sector 3, loaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Breaker deliveries - Sector 3, unloaded</td>
<td>0.04</td>
<td>0.01</td>
<td>0.04</td>
<td>0.06</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>RLS deliveries - Sector 3, unloaded</td>
<td>0.04</td>
<td>0.01</td>
<td>0.04</td>
<td>0.06</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Bin Room deliveries - Sector 3, unloaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Pb to RLS - Sector 3, unloaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Plastic out - Sector 3, unloaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Bin Room Fuel Station deliveries - Sector 3, loaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Bin Room Fuel Station deliveries - Sector 3, unloaded</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Totals: 0.24 0.05 0.01 0.22 0.04 0.01

Methodology

Total Weight driven per day (ton/day) = \[ \text{Maximum Weight Loaded (tons/trip)} \times \text{Maximum trips per day (trip/day)} \]

Maximum one-way distance (mi/trip) = \[ \text{Maximum trips per year (trip/day)} \div \text{5280 ft/mile} \]

Average Miles Per Trip (ton/trip) = \[ \text{SUM}[\text{Maximum one-way distance (feet/trip)}] \times \text{Maximum trips per day (trip/day)} \]

Average Vehicle Weight Per Trip = \[ \frac{\text{Total Weight driven per day (ton/day)}}{\text{Maximum one-way distance (feet/trip)}} \]

Average Miles Per Trip = \[ \frac{\text{Average Vehicle Weight Per Trip (lbs/mile)}}{\text{Average Vehicle Weight Per Trip (tons/trip)}} \]

Unmitigated PTE (tons/yr) = \[ \text{Maximum one-way miles (miles/yr)} \times \text{Unmitigated Emission Factor (lb/mile)} \]
Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads (Sector 4)

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pel

Paved Roads at Industrial Site
The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles per day</th>
<th>Number of one-way trips per day per vehicle</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way distance (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLS deliveries - Sector 4, loaded</td>
<td>22.0</td>
<td>1.0</td>
<td>22.0</td>
<td>36.0</td>
<td>792.0</td>
<td>308</td>
<td>0.058</td>
<td>1.3</td>
</tr>
<tr>
<td>Pb to RLS - Sector 4, loaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>36.0</td>
<td>72.0</td>
<td>322</td>
<td>0.061</td>
<td>0.1</td>
</tr>
<tr>
<td>Junk Transfers - Sector 4, loaded</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
<td>36.0</td>
<td>288.0</td>
<td>399</td>
<td>0.076</td>
<td>0.6</td>
</tr>
<tr>
<td>Plastic out - Sector 4, loaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>36.0</td>
<td>72.0</td>
<td>309</td>
<td>0.059</td>
<td>0.1</td>
</tr>
<tr>
<td>RLS deliveries - Sector 4, unloaded</td>
<td>22.0</td>
<td>1.0</td>
<td>22.0</td>
<td>16.0</td>
<td>352.0</td>
<td>308</td>
<td>0.058</td>
<td>1.3</td>
</tr>
<tr>
<td>Pb to RLS - Sector 4, unloaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>16.0</td>
<td>32.0</td>
<td>322</td>
<td>0.061</td>
<td>0.1</td>
</tr>
<tr>
<td>Junk Transfers - Sector 4, unloaded</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
<td>16.0</td>
<td>128.0</td>
<td>399</td>
<td>0.076</td>
<td>0.6</td>
</tr>
<tr>
<td>Plastic out - Sector 4, unloaded</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>16.0</td>
<td>92.0</td>
<td>309</td>
<td>0.059</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>68.0</strong></td>
<td><strong>1,768.0</strong></td>
<td><strong>4.3</strong></td>
<td><strong>1,552.6</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Average Vehicle Weight Per Trip = 26.0 tons/trip
Average Miles Per Trip = 0.06 miles/trip

Unmitigated Emission Factor, $E_f = [k \cdot (sL)^{0.91} \cdot (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1)

where $k =$ 0.011 0.0022 0.00054 lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
$W =$ 26.0 26.0 26.0 tons = average vehicle weight (provided by source)
$sL =$ 1.85 1.85 1.85 g/m² = silt loading value based on site specific source sample

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E \cdot [1 - (p/N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, $E_{ext} = E_{f} \cdot [1 - (p/N)]$

where $p =$ 120 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
$N =$ 365 days per year

Unmitigated Emission Factor, $E_f =$ 0.533 0.107 0.0262 lb/mile
Mitigated Emission Factor, $E_{ext} =$ 0.489 0.098 0.0240 lb/mile

<table>
<thead>
<tr>
<th>Process</th>
<th>Unmitigated PTE of PM (tons/yr)</th>
<th>Unmitigated PTE of PM10 (tons/yr)</th>
<th>Unmitigated PTE of PM2.5 (tons/yr)</th>
<th>Mitigated PTE of PM (tons/yr)</th>
<th>Mitigated PTE of PM10 (tons/yr)</th>
<th>Mitigated PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLS deliveries - Sector 4, loaded</td>
<td>0.12</td>
<td>0.02</td>
<td>0.01</td>
<td>0.11</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Pb to RLS - Sector 4, loaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Junk Transfers - Sector 4, loaded</td>
<td>0.06</td>
<td>0.01</td>
<td>0.00</td>
<td>0.05</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Plastic out - Sector 4, loaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>RLS deliveries - Sector 4, unloaded</td>
<td>0.12</td>
<td>0.02</td>
<td>0.01</td>
<td>0.11</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Pb to RLS - Sector 4, unloaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Junk Transfers - Sector 4, unloaded</td>
<td>0.06</td>
<td>0.01</td>
<td>0.00</td>
<td>0.05</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Plastic out - Sector 4, unloaded</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>0.41</strong></td>
<td><strong>0.08</strong></td>
<td><strong>0.02</strong></td>
<td><strong>0.38</strong></td>
<td><strong>0.08</strong></td>
<td><strong>0.02</strong></td>
</tr>
</tbody>
</table>

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/year)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
## Appendix A: Emission Calculations

### Fugitive Dust Emissions - Paved Roads (Parking Lot #1)

**Company Name:** Exide Technologies  
**Address City IN Zip:** 2601 West Mt. Pleasant Blvd., Muncie, IN 47302  
**Permit No.:** 035-41906-00028  
**Permit Reviewer:** Daniel W. Peli

**Paved Roads at Industrial Site**  
The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

### Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles per day</th>
<th>Number of one-way trips per day per vehicle</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way distance (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved Parking Lot #1 - Employee Vehicles</td>
<td>40.0</td>
<td>1.0</td>
<td>40.0</td>
<td>2.1</td>
<td>84.0</td>
<td>450</td>
<td>0.085</td>
<td>3.4</td>
</tr>
</tbody>
</table>

### Unmitigated Emission Factor, $E_f = [k * (sL)^0.91 * (W)^1.02]$  
(Equation 1 from AP-42 13.2.1)

- $k = 0.011$  
- $W = 2.1$  
- $sL = 2.96$

### Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [1 - (p/4N)]$  
(Equation 2 from AP-42 13.2.1)

- $p = 120$ days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)  
- $N = 365$ days per year

### Methodology

Appendix A: Emission Calculations
Fugitive Dust Emissions - Unpaved Roads (Parking Lot #2)

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

Unpaved Roads at Industrial Site
The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (11/2006).

Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way distance (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unpaved Parking Lot #2 - Employee Vehicles</td>
<td>60.0</td>
<td>1.0</td>
<td>60.0</td>
<td>126.0</td>
<td>420</td>
<td>0.038</td>
<td>4.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way distance (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>126.0</td>
<td>420</td>
<td>0.038</td>
<td>4.8</td>
<td></td>
</tr>
</tbody>
</table>

Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way distance (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unpaved Parking Lot #2 - Employee Vehicles</td>
<td>60.0</td>
<td>1.0</td>
<td>60.0</td>
<td>126.0</td>
<td>420</td>
<td>0.038</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Average Vehicle Weight Per Trip = 2.1 tons/trip
Average Miles Per Trip = 0.08 miles/trip

Unmitigated Emission Factor, \( E_f = k \left[ \frac{(s/12)^a}{(W/3)^b} \right] \) (Equation 1a from AP-42 13.2.2)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way distance (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unpaved Parking Lot #2 - Employee Vehicles</td>
<td>60.0</td>
<td>1.0</td>
<td>60.0</td>
<td>126.0</td>
<td>420</td>
<td>0.038</td>
<td>4.8</td>
</tr>
</tbody>
</table>

\[ E_f = k \left[ \frac{(s/12)^a}{(W/3)^b} \right] \]

where:
- \( k = 4.9 \) lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
- \( s = 4.8 \) % = mean % silt content of unpaved roads (AP-42 Table 13.2.2-1 Sand/Gravel Processing Plant)
- \( a = 0.7 \) = constant (AP-42 Table 13.2.2-2 for Industrial Roads)
- \( W = 2.1 \) tons = average vehicle weight (provided by source)
- \( b = 0.45 \) = constant (AP-42 Table 13.2.2-2 for Industrial Roads)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, \( E_{ext} = E \times \left( \frac{365 - P}{365} \right) \) (Equation 2 from AP-42 13.2.2)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way distance (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unpaved Parking Lot #2 - Employee Vehicles</td>
<td>60.0</td>
<td>1.0</td>
<td>60.0</td>
<td>126.0</td>
<td>420</td>
<td>0.038</td>
<td>4.8</td>
</tr>
</tbody>
</table>

\[ E_{ext} = E \times \left( \frac{365 - P}{365} \right) \]

where \( P = 120 \) days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

Methodology


\[
\text{Total Weight driven per day (ton/day)} = \frac{\text{[Maximum Weight Loaded (tons/trip)] \times [Maximum trips per day (trip/day)]}}{[5280 \text{ ft/mile}]} \\
\text{Maximum one-way distance (mi/trip)} = \frac{[\text{Maximum trips per year (trip/day)] \times [\text{Maximum one-way distance (mi/trip)]}}{[5280 \text{ ft/mile}]} \\
\text{Average Vehicle Weight Per Trip (ton/trip)} = \frac{\text{[Total Weight driven per day (ton/day)]}}{\text{[Maximum trips per day (trip/day)]}} \\
\text{Average Miles Per Trip (miles/trip)} = \frac{\text{[Maximum one-way miles (miles/day)]}}{\text{[Maximum trips per year (trip/day)]}} \\
\text{Unmitigated PTE (tons/yr)} = \frac{\text{[Maximum one-way miles (miles/yr)] \times [\text{Unmitigated Emission Factor (lb/mile)] \times (ton/2000 lbs})}{\text{[Maximum trips per year (trip/day)]}} \\
\text{Mitigated PTE (tons/yr)} = \frac{\text{[Maximum one-way miles (miles/yr)] \times [\text{Mitigated Emission Factor (lb/mile)] \times (ton/2000 lbs})}{\text{[Maximum trips per year (trip/day)]}}
Appendix A: Emission Calculations
Fugitive Dust Emissions - Unpaved Roads (Truck Parking)

Company Name: Exide Technologies
Address City IN Zip: 2601 West Mt. Pleasant Blvd., Muncie, IN 47302
Permit No.: 035-41906-00028
Permit Reviewer: Daniel W. Pell

Unpaved Roads at Industrial Site
The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (11/2006).

Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles</th>
<th>Number of one-way trips per day per vehicle</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (tons/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (mi/trip)</th>
<th>Maximum one-way miles (miles/day)</th>
<th>Maximum one-way miles (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck Parking and Turnaround, loaded</td>
<td>50.0</td>
<td>1.0</td>
<td>50.0</td>
<td>36.0</td>
<td>1800.0</td>
<td>400</td>
<td>0.076</td>
<td>3.8</td>
<td>1382.6</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Average Vehicle Weight Per Trip = 36.0 tons/trip
Average Miles Per Trip = 0.38 miles/trip

Unmitigated Emission Factor, \( E_f = k \times \left( \frac{s}{12} \right)^a \times \left( \frac{W}{3} \right)^b \) (Equation 1a from AP-42 13.2.2)

where
- \( k = 4.9 \) lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
- \( s = 4.8 \) % = mean % silt content of unpaved roads (AP-42 Table 13.2.2-1 Sand/Gravel Processing Plant)
- \( a = 0.7 \) = constant (AP-42 Table 13.2.2-2 for Industrial Roads)
- \( W = 36.0 \) tons = average vehicle weight (provided by source)
- \( b = 0.45 \) = constant (AP-42 Table 13.2.2-2 for Industrial Roads)

Mitigated Emission Factor, \( E_{ext} = E_f \times \left( \frac{365 - P}{365} \right) \) (Equation 2 from AP-42 13.2.2)

where \( P = 120 \) days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

Unmitigated Emission Factor, \( E_f = 7.89 \) lb/mile
Mitigated Emission Factor, \( E_{ext} = 5.30 \) lb/mile

<table>
<thead>
<tr>
<th>Process</th>
<th>Unmitigated PTE of PM (tons/yr)</th>
<th>Unmitigated PTE of PM10 (tons/yr)</th>
<th>Unmitigated PTE of PM2.5 (tons/yr)</th>
<th>Mitigated PTE of PM (tons/yr)</th>
<th>Mitigated PTE of PM10 (tons/yr)</th>
<th>Mitigated PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck Parking and Turnaround, loaded</td>
<td>5.46</td>
<td>1.39</td>
<td>0.14</td>
<td>3.66</td>
<td>0.93</td>
<td>0.09</td>
</tr>
<tr>
<td>Totals</td>
<td>5.46</td>
<td>1.39</td>
<td>0.14</td>
<td>3.66</td>
<td>0.93</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Methodology


Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
November 15, 2019

Mr. Zachery Jackson  
Exide Technologies  
2601 West Mt. Pleasant Boulevard  
Muncie, Indiana  47302

Re: Public Notice  
Exide Technologies  
Permit Level: Title V Significant Permit Modification  
Permit Number: 035-41906-00028

Dear Mr. Jackson:

Enclosed is a copy of your draft Title V Significant Permit Modification, Technical Support Document, emission calculations, and the Public Notice.

The Public Notice period will begin the date the Notice is published on the IDEM Official Public Notice website. Publication has been requested and is expected within 2-3 business days. You may check the exact Public Notice begins and ends date here: https://www.in.gov/idem/5474.htm

Please note that as of April 17, 2019, IDEM is no longer required to publish the notice in a newspaper.

OAQ has submitted the draft permit package to the JFK Library – Muncie Branch, 1700 McGalliard Road in Muncie, Indiana. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Mr. Daniel Pell, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 4-8532 or dial (317) 234-8532.

Sincerely,

John F. Jackson

John F. Jackson  
Permits Branch  
Office of Air Quality

Enclosures

PN Applicant Cover Letter 4/12/19
November 15, 2019

To: JFK Library – Muncie Branch

From: Jenny Acker, Branch Chief
Permits Branch
Office of Air Quality

Subject: Important Information to Display Regarding a Public Notice for an Air Permit

Applicant Name: Exide Technologies
Permit Number: 035-41906-00028

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. Please make this information readily available until you receive a copy of the final package.

If you have any questions concerning this public review process, please contact Joanne Smiddle-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.
Notice of Public Comment

November 15, 2019
Exide Technologies
035-41906-00028

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has posted on IDEM’s Public Notice website at https://www.in.gov/idem/5474.htm.

The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana’s Air Permitting Program.

Please Note: If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.
AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD
DRAFT INDIANA AIR PERMIT

November 15, 2019

A 30-day public comment period has been initiated for:

Permit Number: 035-41906-00028
Applicant Name: Exide Technologies
Location: Muncie, Delaware County, Indiana

The public notice, draft permit and technical support documents can be accessed via the IDEM Air Permits Online site at:
http://www.in.gov/ai/appfiles/idem-caats/

Questions or comments on this draft permit should be directed to the person identified in the public notice by telephone or in writing to:

Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue
Indianapolis, IN 46204

Questions or comments regarding this email notification or access to this information from the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or (317) 233-2414.
Mail Code 61-53

<table>
<thead>
<tr>
<th>Line</th>
<th>Article Number</th>
<th>Name, Address, Street and Post Office Address</th>
<th>Postage</th>
<th>Handing Charges</th>
<th>Act. Value (If Registered)</th>
<th>Insured Value</th>
<th>Due Send if COD</th>
<th>R.R. Fee</th>
<th>S.D. Fee</th>
<th>S.H. Fee</th>
<th>Rest. Del. Fee</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Zachery Jackson  EXIDE TECHNOLOGIES 2601 W Mt Pleasant Blvd Muncie IN 47302 (Source CAATS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Steve Carter  Plant Manager EXIDE TECHNOLOGIES 2601 W Mt Pleasant Blvd Muncie IN 47302 (RO CAATS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Muncie City Council and Mayors Office 300 N. High St Muncie IN 47305 (Local Official)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Delaware County Health Department 200 W Main St, County Bldg Room 207-309 Muncie IN 47305-2874 (Health Department)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Delaware County Commissioners 100 West Main Street Muncie IN 47305 (Local Official)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>JFK Public Library - Muncie Branch 1700 McGalliard Road Muncie IN 47304 (Library)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Scott Underwood  The Herald Bulletin 1133 Jackson St Anderson IN 46016 (Affected Party)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 mail merchandise insurance is $500. The maximum indemnity payable for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on insured and COD mail. See International Mail Manual for limitations on coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.