Statement of Basis

Permit to Construct No. P-2012.0020
Project ID 61031

Idahoan Foods LLC - Idaho Falls
Idaho Falls, Idaho

Facility ID 019-00038

Final

August 26, 2013
Dan Pitman, P.E.
Permit Writer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

Btu	British thermal units
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
DEQ	Department of Environmental Quality
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
HAP	hazardous air pollutants
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O_2	oxygen
PAH	polyaromatic hydrocarbons
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	*Rules for the Control of Air Pollution in Idaho*
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
TAP	toxic air pollutants
VOC	volatile organic compounds
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

Idahoan Foods, LLC is a potato processing company that dehydrates potatoes to make flakes, slices, and dices in Idaho Falls, Idaho. The process includes dryers and dehydration lines, which are sources of particulate matter emissions.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

May 9, 2008	T2-2007.0116, Initial T2 Permit, Permit status (S)
April 13, 2009	T2-2009.0027, Modified T2 Permit, Permit status (A, but will become S upon issuance of this permit)

Application Scope

This PTC is for a minor modification at an existing minor facility. The facility has also requested to convert the existing Tier II operating permit to a permit to construct.

The applicant has proposed to:

- Install a new Flaker Drum Dryer
- Install two new fluidized bed dryers (Real Line #1 & #2)
- Install a new Creamy Mash Dryer
- Limit boiler fuel to natural gas
- Add baghouses to control emissions from Flaker Vaculifts

Application Chronology

April 16, 2012	DEQ received an application.
April 18, 2012	DEQ received application fee.
April 25, 2012 – May 10, 2013	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
April 23, 2012	DEQ determined that the application was incomplete.
May 31, 2012	DEQ received supplemental information from the applicant.
June 19, 2012	DEQ determined that the application was incomplete.
May 31, 2012	DEQ received supplemental information from the applicant.
July 2, 2012	DEQ determined that the application was incomplete.
December 10, 2012	DEQ received supplemental information from the applicant.
January 8, 2013	DEQ determined that the application was complete.
February 12, 2013	DEQ held a meeting with Idahoan Regarding outstanding emission inventory and modeling issues.
March 29, 1013	DEQ received an updated emission inventory and modeling analysis.

May 30, 2013	DEQ made available the draft permit and statement of basis for peer and regional office review.
June 4, 2013	DEQ made available the draft permit and statement of basis for applicant review.
June 12 – July 12, 2013	DEQ provided a public comment period on the proposed action.
June 11, 2013	DEQ received the permit processing fee.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Permit Section	Source	Control Equipment	New or Existing Equipment?
2..	Boiler BLR_1 Manufacturer: Cleaver Brooks Rated heat capacity: 61.1 MMBtu/hr Model: WT200x-CN5 Fuels: natural gas only Boiler BLR-2 Manufacturer: Cleaver Brooks Rated heat capacity: 26.7 MMBtu/hr Model: D34 Fuel: natural gas only	None	Existing
3.	Real Line #1 & #2 Fluidized Bed Dryer Manufacturer: Eclipse Capacity: 1.88 T/hr (each) Rated Input Capacity: 10 MMBtu/hr (each) Fuel: Natural Gas Only	Cyclone	New
	Flaker Drum Dryer #1 & #2 Manufacturer: Blaw Knox Capacity: 0.43 T/hr (each) flake production Steam Heated	None	Existing
	Flaker Drum Dryer #3 & #4 Manufacturer: Idaho Steel Capacity: 0.82 T/hr (each) flake production Steam Heated	None	Flaker Drum Dryer #4 is new.
	Creamy Mash Dryer Manufacturer: Welliver Capacity: 0.75 T/hr Steam Heated	Cyclone	New
	Flaker Line Vaculifts (#1-#4) Manufacturer: Vaculift	Cyclone & Baghouse	Flaker Line #4 Vaculift is new.
	Air Makeup Units (4) #1 & #2: 2.5 MMBtu/hr (each) #3: 5 MMBtu/hr #4: 6.6 MMBtu/hr	None	Air Makeup Unit #4 is new.
	Real Line Day Tanks (A & B)	Baghouse (Closed Loop system and does not vent to atmosphere)	New
	Material Transfer Day Tank A & B Real Line Flake Tank Rejects Product Transfer to Real Line #1 & #2 Product Transfer from Real Line #1 Raw Creamy Mash Loading Station Creamy Mash Product Transfer Vents inside Building	Baghouse	New Equipment: Day Tank A & B Real Line Product Transfer to Real Line #1 & #2 Product Transfer from Real Line #1 Raw Creamy Mash Loading Station Creamy Mash Product Transfer
	Building Exhaust	Baghouse	Existing

Emissions Inventories

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria and GHG pollutants from all emissions units at the facility as provided by Idahoan Foods LLC. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 2 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{2.5}$	PM_{10}	SO_2	NOx	CO	VOC	CO_2e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Boiler No.1 (NG)	1.98	1.98	0.16	26.03	21.87	1.43E+00	31,568
Boiler No.2 (NG)	0.86	0.86	0.07	11.38	9.56	6.26E-01	13,683
Four Flakers (Type 1, 2, 3, & 3)/Drum dryers (steam heated)	15.33	15.33					
Flaker Line 1 & 2 Vaculift	2.26E-03	2.26E-03					
Flaker line 3 Vaculift	2.15E-03	2.15E-03					
Flaker line 4 Vaculift & Baghouse	1.97E-03	1.97E-03					
Air Makeup Unit #1 (Waste Plant)	0.08	0.08	0.01	1.07	0.89	5.86E-02	1,281
Air Makeup Unit #2 (Flake Room)	0.08	0.08	0.01	1.07	0.89	5.86E-02	1,281
Air Makeup Unit #3 (Bag Room)	0.16	0.16	0.01	2.13	1.79	1.17E-01	2,562
Air Makeup Unit #4 (Warehouse)	0.21	0.21	0.02	2.81	2.36	1.55E-01	2,819
Baghouse, Day Tank A, Real Line	0.00E+00	0.00E+00					
Baghouse, Day Tank B, Real Line	0.00E+00	0.00E+00					
Baghouse Product Transfer to Real Line #1	0.00E+00	0.00E+00					
Baghouse Product Transfer to Real Line #2	0.00E+00	0.00E+00					
Baghouse for finish product from Real Line #1	0.00E+00	0.00E+00					
Real Line A Tote Loading Station	0.00E+00	0.00E+00					
Creamy Mash Loading Station	3.94E-02	3.94E-02					
Baghouse Finished Product Transfer, Creamy Mash	0.00E+00	0.00E+00					
Baghouse Exhaust Dust Collector System	3.94E-05	6.75E-10					
Real Line #1 fluidized bed dryer (natural gas-fired)	4.94	4.94	0.03	4.26	3.58	2.34E-01	5,125
Real Line #2 fluidized bed dryer (natural gas-fired)	4.94	4.94	0.03	4.26	3.58	2.34E-01	5,125
Cream mash dryer (steam heated) with cyclone	7.59E-01	7.59E-01					
Baghouse Flake Tank Rejects	0.00E+00	0.00E+00					
Snifter Vent, Flaker/drum #1	9.42E-01	9.42E-01					
Snifter Vent, Flaker/drum #2	9.42E-01	9.42E-01					
Snifter Vent, Flaker/drum #3	1.80E+00	1.80E+00					
Snifter Vent, Flaker/drum #4	1.80E+00	1.80E+00					
Fire Pump Engine	5.21E-03	5.21E-03	0.000157	0.10	0.09	3.96E-02	17
Total	**29.40**	**29.40**	**0.32**	**53.00**	**44.52**	**2.92**	**63,461**

Idahoan certified that the Real Line Day Tanks, Real Line product transfer, Real Line A Tote Loading Station, and Creamy Mash finished product transfer are closed loop systems that do not vent to the atmosphere.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 3 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

	PM2.5	PM_{10}	SO_2	NO_x	CO	VOC	CO^2e
Pre-Project	63.51	63.51	94.05	81.11	76.9	2.49	Not Calculated
Post Project	29.4	29.4	0.32	53.00	44.52	2.92	63,461
Change	-34.11	-34.11	-93.73	-28.11	-32.38	0.43	< 63,461

TAP Emissions

The change in toxic air pollutant (TAP) emissions from the project are below screening emissions levels. A summary of the emissions changes from the project and a comparison to the relevant TAP screening emissions levels (EL) is provided in Appendix C.

Ambient Air Quality Impact Analyses

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the Ambient Air Impact Analysis for TAP is provided in Appendix C – all TAPs are emitted below screening emissions levels.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Jefferson County, which is designated as attainment or unclassifiable for $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

A Actual or potential emissions of a pollutant are greater than or equal to the applicable major source threshold.

SM Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

SM80 Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations and permitted emissions are 80% of the major source threshold.

B Uncontrolled potential to emit is less than major facility thresholds.

C Class is unknown.

Table 4 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	> 100	29.4	100	SM
$PM_{10}/PM_{2.5}$	> 100	29.4	100	SM
SO_2	<100	0.32	100	B
NO_x	<100	53.0	100	B
CO	<100	44.52	100	B
VOC	<100	2.92	100	B
CO_2e	<100,000	63,461	100,000	B
HAP (single)	<10	<1E-3	10	B
HAP (Total)	<25	<1E-3	25	B

IDAPA 58.01.01.201 .....Permit to Construct Required

The permittee has requested that a PTC be issued to the facility to:

- Install a new Flaker Drum Dryer;

- Install two new fluidized bed dryers (Real Line #1 & #2);
- Install a new Creamy Mash Dryer;
- Limit boiler fuel to natural gas; and
- Add baghouses to control emissions from Flaker Vaculifts

Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

IDAPA 58.01.01.224 & 225

All applicants for a permit to construct shall pay a $1,000 application fee in accordance with IDAPA 58.01.01.224 and a processing fee in accordance with IDAPA 58.01.01.225. The applicant paid the application fee on April 18, 2013 and a $1,000 processing fee on June 11, 2013 (emission increase from the project are less than one ton per year).

IDAPA 58.01.01.401 ..... Tier II Operating Permit

Idahoan has requested to convert the existing Tier II operating permit to a permit to construct. This request is being processed in accordance with DEQ's guidance on converting Tier II operating permits to permits to construct.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 ..... Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than: 100 tons per year for (i.e., PM10, SO2, NOx, CO, VOC); 100,000 tons per year of carbon dioxide equivalent emissions; or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.008 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 ..... Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

40 CFR 60, Subpart Dc- Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

In accordance with 40 CFR 60.40c(a) boilers with a capacity between 10 MMBtu/hr and 100 MMBtu/hr constructed or modified after June 9, 1989 are subject to the standard. Boiler #1 is a 61.1 MMBtu/hr boiler but was not constructed or modified after the applicability date. Boiler #2 is a 26.7 MMBtu/hr boiler but was not constructed or modified after the applicability date. Therefore, neither boiler is subject to the standard.

NESHAP Applicability (40 CFR 61)

The proposed source is not an affected source subject to NESHAP in 40 CFR 61, and this permitting action does not alter the applicability status of existing affected sources at the facility.

MACT Applicability (40 CFR 63)

40 CFR 63, Subpart ZZZZ–National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

A regulatory applicability analysis is provided in detail in Appendix E. In summary the source's 315 horse-power diesel fire pump engine is subject to the provisions of this subpart though as specified by 40 CFR 63.6590(c) the source meets the requirements of this subpart by complying with the requirements of 40 CFR 60 Subpart IIII.

A regulatory applicability analysis is provided in detail in Appendix E for 40 CFR 60 Subpart IIII-Standards of Performance for Stationary Compression Ignition Intemal Combustion Engines.

40 CFR 63, Subpart JJJJJJ-National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.

In accordance with § 63.11195(e) the two existing boilers at the facility are not subject to this subpart because they are permitted to burn natural gas only.

Permit Conditions Review

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Permit Condition 2.3

The existing emission rate limits for Boiler No. 1 were amended to reflect the change in fuel from fuel oil and natural gas to natural gas exclusively. Also VOC and CO emission limits were removed from the permit for Boiler No. 1 and Boiler No. 2. Potential emissions of these pollutants are below major facility thresholds and ambient standards without a need for emission rate limits.

Permit Condition 2.4

This condition limits boiler fuel to natural gas exclusively consistent with the applicant's request. All existing permit conditions relevant to fuel oil combustion have been removed.

Permit Condition 3.2

This condition limits PM_{10} and $PM_{2.5}$ emissions from potato drying operations. The existing bin dryers and Proctor Dryers (belt type dryers) have been removed from the facility and from the permit. Previously PM_{10} emissions were limited on a pound per day basis making compliance determinations based on source tests impractical they are now limited to units of pounds of emissions per ton of output. The emission rate limits are consistent with the emission rates used in the modeling analysis that demonstrated compliance with ambient standards.

Permit Condition 3.3

Consistent with the previous permit the total production of the Flaker Drum D Dryers are limited on a daily basis. The Real Line fluidized bed dryers production also have a combined throughput limit. The production limits are consistent with rates used to estimate emissions and determine ambient impacts.

Permit Condition 3.4

This permit condition specifies the air pollution control equipment that shall be used to control emissions from the dryers and material handling equipment.

Permit Condition 3.5

This permit condition includes DEQ's standard permit language for baghouses.

Permit Condition 3.6

Requires monitoring of production/output to demonstrate compliance with the throughput limits. This monitoring requirement is consistent with the previous permit.

Permit Condition 3.7, 3.8 & 3.9

Requires conducting a PM_{10} and PM2.5 source test on: the #4 Flaker Drum dryer main stack and snifter stack; one of the new Real Lines fluidized bed dryers; and the Creamy Mash Dryer.

The applicant used emissions factors for the dryers that are based on engineering judgment for each of these dryers. These emissions factors are lower than many of the source tests reported to DEQ on similar units. Many of the historical source tests, which give higher emissions rates than what Idahoan estimates, were conducted by the same source test company. Idahoan asserts that the higher measured emissions rates reported by that company are not representative of actual emissions because other test companies consistently give lower emission rates for similar units. Source testing is warranted because of the wide range of emission rates that have been reported to DEQ on potato drying operations and because Idahoan has not used the highest tested emissions rates that have been reported to DEQ to estimate emissions. Also, given the current uncertainty of reported emissions rates, requiring source tests on Idahoan's dryers is consistent with other permits issued by DEQ to other potato drying operations. If actual emissions are higher than what Idahoan has the estimated modeled ambient impact may increase so that a facility-wide model is required for particulate matter.

A source test is not required to be conducted on the vaculifts in part because Idahoan provided emission calculations based on vendor data. Idahoan's Vaculifts emission estimates are based on the following:

1) Of all the material processed through the vaculifts only a fraction of it is PM_{10} or smaller. Idahoan provided a graph showing that only 0.3 percent of the material in the vaculift is PM_{10} or smaller.
2) 95% of the material less than 10 microns will be captured by the cyclone. This is supported by vendor supplied control efficiencies for the cyclones on the vaculift.
3) The baghouse controls 99.9% of the mass of the material processed based on a particle size of 2 microns and larger based on vendor supplied information.

The primary reason source testing is not required on the vaculifts is because the currently reasonably available source testing methods are not suitable for emission rate limits that are on the order of 10^{-4} pounds per hour as they are for the vaculifts.

Permit Condition 3.10

This permit conditions specifies that testing shall be conducted in accordance with IDAPA 58.01.01.157 and encourages Idahoan to submit a source testing protocol 30 days prior to the test.

The source is required to determine the output of the dryers during the source test. Output shall be measured at least every 15 minutes.

Permit Conditions 4.2 – 4.7

These conditions incorporate the provisions of 40 CFR 60 Subpart IIII. A detailed regulatory breakdown of 40 CFR 60 Subpart IIII is provided in Appendix E.

Permit Condition 4.8

Operation of the fire pump engine is limited to one hour per week consistent with the modeling analysis provided by Idahoan.

Permit Condition 4.9

Requires monitoring the date, time and duration of operation of the fire pump engine to determine compliance with operational limits.

Permit Condition 4.10

This permit condition includes DEQ's standard language for incorporating NSPS.

Permit Condition 5.1

The duty to comply general compliance provision requires that the permittee comply with all of the permit terms and conditions pursuant to Idaho Code §39-101.

Permit Condition 5.2

The maintenance and operation general compliance provision requires that the permittee maintain and operate all treatment and control facilities at the facility in accordance with IDAPA 58.01.01.211.

Permit Condition 5.3

The obligation to comply general compliance provision specifies that no permit condition is intended to relieve or exempt the permittee from compliance with applicable state and federal requirements, in accordance with IDAPA 58.01.01.212.01.

Permit Condition 5.4

The inspection and entry provision requires that the permittee allow DEQ inspection and entry pursuant to Idaho Code §39-108.

Permit Condition 5.5

The permit expiration construction and operation provision specifies that the permit expires if construction has not begun within two years of permit issuance or if construction has been suspended for a year in accordance with IDAPA 58.01.01.211.02.

Permit Condition 5.6

The notification of construction and operation provision requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.03.

Permit Condition 5.7

The performance testing notification of intent provision requires that the permittee notify DEQ at least 15 days prior to any performance test to provide DEQ the option to have an observer present, in accordance with IDAPA 58.01.01.157.03.

Permit Condition 5.8

The performance test protocol provision requires that any performance testing be conducted in accordance with the procedures of IDAPA 58.01.01.157, and encourages the permittee to submit a protocol to DEQ for approval prior to testing.

Permit Condition 5.9

The performance test report provision requires that the permittee report any performance test results to DEQ within 30 days of completion, in accordance with IDAPA 58.01.01.157.04-05.

Permit Condition 5.10

The monitoring and recordkeeping provision requires that the permittee maintain sufficient records to ensure compliance with permit conditions, in accordance with IDAPA 58.01.01.211.

Permit Condition 5.11

The excess emissions provision requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130-136.

Permit Condition 5.12

The certification provision requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123.

Permit Condition 5.13

The false statement provision requires that no person make false statements, representations, or certifications, in accordance with IDAPA 58.01.01.125.

Permit Condition 5.14

The tampering provision requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126.

Permit Condition 5.15

The transferability provision specifies that this permit to construct is transferable, in accordance with the procedures of IDAPA 58.01.01.209.06.

Permit Condition 5.16

The severability provision specifies that permit conditions are severable, in accordance with IDAPA 58.01.01.211.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there were no comments on the application and there was a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

Public Comment Period

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.01.c. During this time, comments were submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

A response to public comments document has been crafted by DEQ based on comments submitted during the public comment period. That document is part of the final permit package for this permitting action.

APPENDIX A – EMISSIONS INVENTORIES

Source ID	Source	$PM_{2.5}$	PM_{10}	SO_2	NOx	CO	VOC	CO_2e
		T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
1	Boiler No.1 (NG)	1.98	1.98	0.16	26.03	21.87	1.43E+00	31,568
2	Boiler No.2 (NG)	0.86	0.86	0.07	11.38	9.56	6.26E-01	13,683
3, 4, 5, & 6	Four Flakers (Type 1, 2, 3, & 3)/Drum dryers (steam heated)	15.33	15.33					
7	Flaker Line 1 & 2 Vaculift	2.26E-03	2.26E-03					
8	Flaker line 3 Vaculift	2.15E-03	2.15E-03					
9	Flaker line 4 Vaculift & Baghouse	1.97E-03	1.97E-03					
10	Air Makeup Unit #1 (Waste Plant)	0.08	0.08	0.01	1.07	0.89	5.86E-02	1,281
11	Air Makeup Unit #2 (Flake Room)	0.08	0.08	0.01	1.07	0.89	5.86E-02	1,281
12	Air Makeup Unit #3 (Bag Room)	0.16	0.16	0.01	2.13	1.79	1.17E-01	2,562
13	Air Makeup Unit #4 (Warehouse)	0.21	0.21	0.02	2.81	2.36	1.55E-01	2,819
~~14~~	Baghouse, Day Tank A, Real Line	0.00E+00	0.00E+00					
~~15~~	Baghouse, Day Tank B, Real Line	0.00E+00	0.00E+00					
~~16~~	Baghouse Product Transfer to Real Line #1	0.00E+00	0.00E+00					
~~17~~	Baghouse Product Transfer to Real Line #2	0.00E+00	0.00E+00					
~~18~~	Baghouse for finish product from Real Line #1	0.00E+00	0.00E+00					
~~19~~	Real Line A Tote Loading Station	0.00E+00	0.00E+00					
14 (old 20)	Creamy Mash Loading Station	3.94E-02	3.94E-02					
~~21~~	Baghouse Finished Product Transfer, Creamy Mash	0.00E+00	0.00E+00					
15 (old 22)	Baghouse Exhaust Dust Collector System	3.94E-05	6.75E-10					
16 (old 23)	Real Line #1 fluidized bed dryer (natural gas-fired)	4.94	4.94	0.03	4.26	3.58	2.34E-01	5,125
17 (old 24)	Real Line #2 fluidized bed dryer (natural gas-fired)	4.94	4.94	0.03	4.26	3.58	2.34E-01	5,125
18 (old 25)	Cream mash dryer (steam heated) with cyclone	7.59E-01	7.59E-01					
19 (old 26)	Baghouse Flake Tank Rejects	0.00E+00	0.00E+00					
20	Snifter Vent, Flaker/drum #1	9.42E-01	9.42E-01					
21	Snifter Vent, Flaker/drum #2	9.42E-01	9.42E-01					
22	Snifter Vent, Flaker/drum #3	1.80E+00	1.80E+00					
23	Snifter Vent, Flaker/drum #4	1.80E+00	1.80E+00					
24	Fire Pump Engine	5.21E-03	5.21E-03	0.000157	0.10	0.09	3.96E-02	17
Total		**29.40**	**29.40**	**0.32**	**53.00**	**44.52**	**2.92**	**63,461**

PM/PM10/PM2.5 Emissions from dryers

Source ID number	Status	Sources	Production rate (T/hr, output)	PM/PM_{10} Emissions Factor (EF, lb PM/T output)	Annual operating hours	Control Efficiency	Condensable PM Ratio, %	$PM_{2.5}$ Emission lb/hr	$PM_{2.5}$ Emission lb/day	$PM_{2.5}$ Emission Ton/yr	PM_{10} Emission lb/hr	PM_{10} Emission lb/day	PM_{10} Emission Ton/yr	EF Reference and notes
3	existing	Flaker/Drum dryer type #1 (steam heated)	0.43 Max	1.4	8760	0	—	0.60	14.45	2.64	0.60	14.45	2.64	
4	existing	Flaker/Drum dryer type #2 (steam heated)	0.43 Max	1.4	8760	0	—	0.60	14.45	2.64	0.60	14.45	2.64	
5	existing	Flaker/Drum dryer type #3 (steam heated)	0.82 Max	1.4	8760	0	—	1.15	27.55	5.03	1.15	27.55	5.03	
6	new	Flaker/Drum dryer type #4 (steam heated)	0.82 Max	1.4	8760	0	—	1.15	27.55	5.03	1.15	27.55	5.03	
3-6		Four flakers combined (2.5 T/hr combined):	2.5 four flakers combined total	1.4	8760	0%	—	3.50	84.00	15.33	3.50	84.00	15.33	Emission rate based on 200% of the Average Non-spidell testing factors
20	existing	Flaker/Drum dryer type #1 (steam heated), Snifter Fan Exhaust	0.43 Max	0.5	8760	0	—	0.22	5.16	0.94	0.22	5.16	0.94	
21	existing	Flaker/Drum dryer type #2 (steam heated), Snifter Fan Exhaust	0.43 Max	0.5	8760	0	—	0.22	5.16	0.94	0.22	5.16	0.94	
22	existing	Flaker/Drum dryer type #3 (steam heated), Snifter Fan Exhaust	0.82 Max	0.5	8760	0	—	0.41	9.84	1.80	0.41	9.84	1.80	
23	new	Flaker/Drum dryer type #4 (steam heated), Snifter Fan Exhaust	0.82 Max	0.5	8760	0	—	0.41	9.84	1.80	0.41	9.84	1.80	Emission factor based on the 3/12/2004 testing of Snifter no. 2 at the Nonpareil facility. The rate includes both condensables and filterable emissions, although the source test was for filterable emissions only. Other Spidell testing results are significantly higher than those performed by other testing companies, so the emission factor used is condered to be more then adequete to account for potential emission from the snifter vents.
16 (old 23)	new	Real Line #1 fluidized bed dryer (natural gas-fired)	1.83	0.6	8760	95%	—	1.13	27.07	4.94	1.13	27.07	4.94	0.4 lb/T product is the average of the 12/1/2005 test of fluidized bed dryer 92 line 4 cyclone at Idahoan Lewisville facility by Avogadro Group and the .... Test at the the .... facility A safety factor of 1.5 was applied to the average emission factor to account for any variations between processes that may occur, resulting in an emission factor of 0.6 lb/ton. Spidell testing on similar units is not considered accurate and therefore will not be considered.
17 (old 24)	new	Real Line #2 fluidized bed dryer (natural gas-fired)	1.83	0.6	8760	95%	—	1.13	27.07	4.94	1.13	27.07	4.94	
18 (old 25)	new	Cream mash dryer (steam heated) with cyclone	0.75	0.44	8760	95%	50.00%	0.17	4.16	0.76	1.73E-01	4.16	7.59E-01	9/21/2011 P_{M10} and $PM_{2.5}$ test on Bubble sheet dryer (mash dryer) at Gem State from TS source test log. Gem State Dryer does not have control device. A 50% level of condensable emissions has been assumed for this dryer. The dryer is not expected to be at the same level as the dryer at the Gem State facility as the product entering the creamy mash dryer has already been dried once, at which point it is coated in oil and re-dried to end up with the creamy mash product. Also, the heat source for the creamy mash dryer is steam from the boiler and is not a direct fired unit, resulting in a lower level of condensables.
Total from new dryers								3.58	85.85	17.46	3.58	85.85	17.46	

NG Emission Factors

NOx	100 lb/10^6 scf	AP-42, Table 1.4-1, 1998
CO	84 lb/10^6 scf	AP-42, Table 1.4-1, 1998
PM_{10}	7.6 lb/10^6 scf	AP-42, Table 1.4-2, 1998
SOx	0.6 lb/10^6 scf	AP-42, Table 1.4-2, 1998
VOC	5.5 lb/10^6 scf	AP-42, Table 1.4-2, 1998
Lead	0.0005 lb/10^6 scf	AP-42, Table 1.4-2, 1998

NG heating value	1,028 MMBtu/10^6 scf	40 CFR 98 Table C-1
No.2 fuel oil heating value	138 MMBtu/10^3gal	40 CFR 98 Table C-1

Source ID No.		Description	Capacity (MMBtu/hr)	Throughput (10^3 gal/hr) or (10^6 scf/hr)	Hour/yr	$PM/PM_{10}/PM_{2.5}$ Emissions (lb/hr)[1]	$PM/PM_{10}/PM_{2.5}$ Emissions (ton/yr)	NOx Emissions (lb/hr)	NOx Emissions (ton/yr)	SOx Emissions (lb/hr)	SOx Emissions (ton/yr)	CO Emissions (lb/hr)	CO Emissions (ton/yr)	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)	Lead Emissions (lb/hr)	Lead Emissions (ton/yr)
1	existing	Boiler No.1 (NG)	61.1	5.9436E-02	8760	0.45	1.98	5.94	26.03	3.57E-02	0.16	4.99	21.87	3.27E-01	1.43E+00	2.97E-05	1.30E-04
2	existing	Boiler No.2 (NG)	26.7	2.5973E-02	8760	0.20	0.86	2.60	11.38	1.56E-02	0.07	2.18	9.56	1.43E-01	6.26E-01	1.30E-05	5.69E-05
10	existing	Air Makeup Unit #1 (Waste Plant)	2.5	2.4319E-03	8760	0.018	0.08	0.24	1.07	1.46E-03	0.01	0.20	0.89	1.34E-02	5.86E-02	1.22E-06	5.33E-06
11	existing	Air Makeup Unit #2 (Flake Room)	2.5	2.4319E-03	8760	0.018	0.08	0.24	1.07	1.46E-03	0.01	0.20	0.89	1.34E-02	5.86E-02	1.22E-06	5.33E-06
12	existing	Air Makeup Unit #3 (Bag Room)	5	4.8638E-03	8760	0.037	0.16	0.49	2.13	2.92E-03	0.01	0.41	1.79	2.68E-02	1.17E-01	2.43E-06	1.07E-05
13	new	Air Makeup Unit #4 (Warehouse)	6.6	6.4202E-03	8760	0.05	0.21	0.64	2.81	3.85E-03	0.02	0.54	2.36	3.53E-02	1.55E-01	3.21E-06	1.41E-05
16 (old 23)	new	Real Line #1 fluidized bed dryer (natural gas-fired)	10	9.7276E-03	8760	— [2]	— [2]	0.97	4.26	5.84E-03	0.03	0.82	3.58	5.35E-02	2.34E-01	4.86E-06	2.13E-05
17 (old 24)	new	Real Line #2 fluidized bed dryer (natural gas-fired)	10	9.7276E-03	8760	— [2]	— [2]	0.97	4.26	5.84E-03	0.03	0.82	3.58	5.35E-02	2.34E-01	4.86E-06	2.13E-05
Total			124.4	1.21E-01													
Total from two new natural gas-fired FDBs						—	—	1.95	8.52	0.01	0.05	1.62	7.16	0.11	0.47	9.73E-06	4.26E-05

[1] Assume $PM=PM_{10}=PM_{2.5}$

[2] It has been counted under "Dryers".

Idahoan Foods, Inc. - Idaho Falls
EI Verification

NG Emission Factors

NOx	100 lb/10^6 scf	AP-42, Table 1.4-1, 1998
CO	84 lb/10^6 scf	AP-42, Table 1.4-1, 1998
PM-10	7.6 lb/10^6 scf	AP-42, Table 1.4-2, 1998
SOx	0.6 lb/10^6 scf	AP-42, Table 1.4-2, 1998
VOC	5.5 lb/10^6 scf	AP-42, Table 1.4-2, 1998
Lead	0.0005 lb/10^6 scf	AP-42, Table 1.4-2, 1998

Source ID No.	Description	Capacity (MMBtu/hr)	Throughput (10^3 gal/hr) or (10^6 scf/hr)	Hour/yr	$PM_{2.5}$ Emissions (lb/hr)[1]	$PM_{2.5}$ Emissions (ton/yr)	PM/PM_{10} Emissions (lb/hr)[1]	PM/PM_{10} Emissions (ton/yr)	NOx Emissions (lb/hr)	NOx Emissions (ton/yr)	SOx Emissions (lb/hr)	SOx Emissions (ton/yr)	CO Emissions (lb/hr)	CO Emissions (ton/yr)	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)	Lead Emissions (lb/hr)	Lead Emissions (ton/yr)
1	Boiler No.1 (NG)	61.1	5.9436E-02	8760	4.52E-01	1.98	4.52E-01	1.98	5.94	26.03	3.57E-02	0.16	4.99	21.87	0.33	1.43	3.0E-05	1.30E-04
1	Boiler No.1 (No.2 fuel oil)[2]	61.1	4.4275E-01		4.98	21.76	5.10	22.30	13.50	52.90	31.9	93.90	10.3	45.30	0.30	1.50	ND	ND
Boiler No.1 emissions decrease by removing No.2 fuel oil					4.53	19.79	4.65	20.32	7.56	26.87	31.86	93.74	5.31	23.43	-0.03	0.07	ND	ND

[1] PM2.5/PM10 ratio of 97.6% applied based on CARB data

[2] Taken from SOB for the 2008 PTC except for lead

Diesel Engine Emission Factors

NOx	3	g/bhp-hr	40 CFR 60 Subpart IIII Tier 3 Emission Standard, NMHC+NOx
CO	2.6	g/bhp-hr	40 CFR 60 Subpart IIII Tier 3 Emission Standard
PM_{10}	0.15	g/bhp-hr	40 CFR 60 Subpart Tier 3 IIII Emission Standard
SOx	0.6	lb/10^6 scf	SO2 Calculations[b]
VOC	2.51E-03	lb/bhp-h	AP-42 3.3-1
Lead	0.0005	lb/10^6 scf	AP-42, Table 1.4-2, 1998

Inputs			SO2 Calculations		
Engine Mechanical Power Outp	315	hp	Liquid Fuel (No. 2 Fuel Oil)		
Fuel Flow	104.85	lbs/hr	S % by weight	0.000015	ULSD
Fuel Flowa	15	gal/hr @ 100%	Fuel feed	104.85	lb/hr
Fuel Heat Content	137000	Btu/gal	S	0.00157275	lb/hr
Fuel Density	6.99	lb/gal	S	4.91484E-05	mol/hr
Heat Input Rate	2.055	MMBtu/hr	SO2 mol wt	64	lb/lb-mols
Testing and Maintenance Hours	100	hours	SO2 ER	0.0031455	lb/hr

Source ID No.		Description	Capacity (HP)	Throughput (gal/hr)	Hour/yr	$PM/PM_{10}/PM_{2.5}$ Emissions (lb/hr)[1]	$PM/PM_{10}/PM_{2.5}$ Emissions (ton/yr)	NOx Emissions (lb/hr)	NOx Emissions (ton/yr)	SOx Emissions (lb/hr)	SOx Emissions (ton/yr)	CO Emissions (lb/hr)	CO Emissions (ton/yr)	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)
	24 New	Fire Pump Engine	315	15.00	100	0.10	0.01	2.08	0.10	3.1E-03	1.5E-04	1.81	0.09	7.92E-01	3.96E-02

Notes

a. Manufacturer's specifications

b. SO2 is calculated by fuel sulfur content, not provided by vendor.

GHG EMISSIONS

Calculation Method- Tier 1

$CO_2 = 1x10^{-3} * Fuel * HHV * EF$

NG Emission Factors

CO_2	53.02	kg/MMBtu	40 CFR 98 Table C-1
CH_4	0.001	kg/MMBtu	40 CFR 98 Table C-2
N_2O	0.0001	kg/MMBtu	40 CFR 98 Table C-2

Diesel Emission Factors

CO_2	73.96	lb/MMBtu	40 CFR 98 Table C-1
CH_4	0.003	kg/MMBtu	40 CFR 98 Table C-2
N_2O	0.0006	kg/MMBtu	40 CFR 98 Table C-2

High Heating Value

NG HHV	1.028E-03	MMBtu/scf	40 CFR 98 Table C-1
#2 Fuel Oil	1.380E-01	MMBtu/gal	40 CFR 98 Table C-1

Global Warming Potentials

CO_2	1	40 CFR 98 Appendix Table A
CH_4	21	40 CFR 98 Appendix Table A
N_2O	310	40 CFR 98 Appendix Table A

Source ID No.	Combustion Source	Capacity (MMBtu/hr)	Fuel	Annual operting hours	Throughput (scf/yr)	CO_2 (metric ton/yr)	CH_4 (metric ton/yr)	N_2O (metric ton/yr)	CO_2e (metric ton/yr)	CO_2e (ton/yr)
1	Boiler No.1 - NG	61.6	Nat. Gas	8760	524,918,287.9	28,610	0.54	0.05	28,638.5	31,568
2	Boiler No.2 - NG	26.7	Nat. Gas	8760	227,521,400.8	12,401	0.23	0.02	12,413.1	13,683
10	Air Makeup Unit #1 (Waste Plant)	2.5	Nat. Gas	8760	21,303,501.9	1,161	0.02	0.00	1,162.3	1,281
11	Air Makeup Unit #2 (Flake Room)	2.5	Nat. Gas	8760	21,303,501.9	1,161	0.02	0.00	1,162.3	1,281
12	Air Makeup Unit #3 (Bag Room)	5	Nat. Gas	8760	42,607,003.9	2,322	0.04	0.00	2,324.6	2,562
13	Air Makeup Unit #4 (Warehouse)	5.5	Nat. Gas	8760	46,867,704.3	2,555	0.05	0.00	2,557.0	2,819
16	Fluidized bed dryer Real #1	10	Nat. Gas	8760	85,214,007.8	4,645	0.09	0.01	4,649.1	5,125
17	Fluidized bed dryer Real #2	10	Nat. Gas	8760	85,214,007.8	4,645	0.09	0.01	4,649.1	5,125
24	Fire Pump Engine	2.1	Diesel	100	N/A	15	6.17E-04	1.23E-04	15.2	17
GHG TOTAL										**63,461**

Idahoan Foods, Inc. - Idaho Falls

EI Verification

Source ID number	Product transfer	Status	Throughput (T/hr)	Throughput PM < 10 um (T/hr)	Annual operating hours hr/yr	Control Efficiency	Control Efficiency	Post Baghouse Condensable PM Ratio, %	PM2.5, lb/hr controlled, using control efficiency	PM2.5, tpy controlled, using control efficiency	PM10 lb/hr controlled using control efficiency	PM10 T/yr, controlled use control efficiency
*old 14	Baghouse, Day Tank A, Real Line	new	3.75	0.01125	8760		99.90%	50%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*old 15	Baghouse, Day Tank B, Real Line	new	3.75	0.01125	8760		99.90%	50%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19 (old 26)	Baghouse Flake Tank Rejects	existing	2.43	0.00729	8760	95.00%	99.90%	50%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	Flaker Line 1 & 2 Vaculift	existing	0.86	0.00258	8760	95.00%	99.90%	50%	5.16E-04	2.26E-03	5.16E-04	2.26E-03
8	Flaker line 3 Vaculift	existing	0.82	0.00246	8760	95.00%	99.90%	50%	4.92E-04	2.15E-03	4.92E-04	2.15E-03
9	Flaker line 4 Vaculift & Baghouse	new	0.75	0.00225	8760	95%	99.90%	50%	4.50E-04	1.97E-03	4.50E-04	1.97E-03
*old 16	Baghouse Product Transfer to Real Line #1	new	1.88	0.00564	8760		99.90%	50%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*old 17	Baghouse Product Transfer to Real Line #2	new	1.88	0.00564	8760		99.90%	50%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*old 18	Baghouse for finish product from Real Line #1	new	1.88	0.00564	8760		99.90%	50%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*old 19	Real Line A Tote Loading Station*	new	1.88	0.00564	8760		99.90%	50%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14 (old 20)	Creamy Mash Loading Station (Product Transfer Raw, Creamy Mash)	new	0.75	0.00225	8760		99.90%	50%	9.00E-03	3.94E-02	9.00E-03	3.94E-02
* old 21	Baghouse Finished Product Transfer, Creamy Mash	new	0.75	0.00225	8760		99.90%	50%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15 (old 22)	Baghouse Exhaust Dust Collector System	existing	0.00075	2.25E-06	8760		99.90%	50%	9.00E-06	3.94E-05	9.00E-06	6.75E-10
Total from the new equipment									4.50E-04	1.97E-03	4.50E-04	1.97E-03
				0.000225	90.00%	0.94905						

Notes from applicant's EI submitted on May 31, 2012:

fraction of product that is PM for normal Flake

0.003

* According to applicant's 9/27/2012 email, these units are re-engineered. The air flows from the baghouses are sent back to the units and are self-contained.

NG Emission Factors

NOx	100 lb/10^6 scf	AP-42, Table 1.4-1, 1998
CO	84 lb/10^6 scf	AP-42, Table 1.4-1, 1998
PM_{10}	7.6 lb/10^6 scf	AP-42, Table 1.4-2, 1998
SOx	0.6 lb/10^6 scf	AP-42, Table 1.4-2, 1998
VOC	5.5 lb/10^6 scf	AP-42, Table 1.4-2, 1998
Lead	0.0005 lb/10^6 scf	AP-42, Table 1.4-2, 1998

NG heating value	1,028 MMBtu/10^6 scf	40 CFR 98 Table C-1
No.2 fuel oil heating value	138 MMBtu/10^3gal	40 CFR 98 Table C-1

Source ID No.		Description	Capacity (MMBtu/hr)	Throughput (10^3 gal/hr) or (10^6 scf/hr)	Hour/yr	$PM/PM_{10}/PM_{2.5}$ Emissions (lb/hr)[1]	$PM/PM_{10}/PM_{2.5}$ Emissions (ton/yr)	NOx Emissions (lb/hr)	NOx Emissions (ton/yr)	SOx Emissions (lb/hr)	SOx Emissions (ton/yr)	CO Emissions (lb/hr)	CO Emissions (ton/yr)	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)	Lead Emissions (lb/hr)	Lead Emissions (ton/yr)
1	existing	Boiler No.1 (NG)	61.1	5.9436E-02	8760	0.45	1.98	5.94	26.03	3.57E-02	0.16	4.99	21.87	3.27E-01	1.43E+00	2.97E-05	1.30E-04
2	existing	Boiler No.2 (NG)	26.7	2.5973E-02	8760	0.20	0.86	2.60	11.38	1.56E-02	0.07	2.18	9.56	1.43E-01	6.26E-01	1.30E-05	5.69E-05
10	existing	Air Makeup Unit #1 (Waste Plant)	2.5	2.4319E-03	8760	0.018	0.08	0.24	1.07	1.46E-03	0.01	0.20	0.89	1.34E-02	5.86E-02	1.22E-06	5.33E-06
11	existing	Air Makeup Unit #2 (Flake Room)	2.5	2.4319E-03	8760	0.018	0.08	0.24	1.07	1.46E-03	0.01	0.20	0.89	1.34E-02	5.86E-02	1.22E-06	5.33E-06
12	existing	Air Makeup Unit #3 (Bag Room)	5	4.8638E-03	8760	0.037	0.16	0.49	2.13	2.92E-03	0.01	0.41	1.79	2.68E-02	1.17E-01	2.43E-06	1.07E-05
13	new	Air Makeup Unit #4 (Warehouse)	6.6	6.4202E-03	8760	0.05	0.21	0.64	2.81	3.85E-03	0.02	0.54	2.36	3.53E-02	1.55E-01	3.21E-06	1.41E-05
16 (old 23)	new	Real Line #1 fluidized bed dryer (natural gas-fired)	10	9.7276E-03	8760	— [2]	— [2]	0.97	4.26	5.84E-03	0.03	0.82	3.58	5.35E-02	2.34E-01	4.86E-06	2.13E-05
17 (old 24)	new	Real Line #2 fluidized bed dryer (natural gas-fired)	10	9.7276E-03	8760	— [2]	— [2]	0.97	4.26	5.84E-03	0.03	0.82	3.58	5.35E-02	2.34E-01	4.86E-06	2.13E-05
Total			124.4	1.21E-01													
Total from two new natural gas-fired FD3s						—	—	1.95	8.52	0.01	0.05	1.63	7.16	0.11	0.47	9.73E-06	4.26E-05

[1] Assume $PM=PM_{10}=PM_{2.5}$

[2] It has been counted under "Dryers".

Emissions Unit	PM2.5a		PM10		SO2		NOx		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Boiler No. 1	5.1	22.3	5.1	22.3	31.9	93.9	13.5	52.9	10.3	45.3	0.3	1.5
Boiler No. 2	0.4	1.8	0.4	1.8	0.02	0.1	4	17.5	4.5	19.6	0.15	0.6
Bin Dryers (2)	0.1	0.42	0.1	0.42	0.004	0.02	0.95	4.14	1.06	4.64	0.03	0.15
Dryer, Proctor and Schwartz, belt type; combined emissions dryers Nos. 1-3 (steam heated)	2.48	10.81	2.48	10.81	---	---	---	---	---	---	---	---
Dryer, Flaker/Drum type, Nos. 1-3	5.88	25.8	5.88	25.8	---	---	---	---	---	---	---	---
Air Makeup Units (3)	0.2	0.67	0.2	0.67	0.007	0.03	1.51	6.57	1.68	7.36	0.05	0.24
Bag Room Vaculift, Canline Vaculift,	0.08	0.35	0.08	0.35	---	---	---	---	---	---	---	---
Flaker Line 1 & 2 Vaculift	0.17	0.73	0.17	0.73	---	---	---	---	---	---	---	---
Flaker Line 3 Vaculift	0.14	0.63	0.14	0.63	---	---	---	---	---	---	---	---
Totals	14.55	63.51	14.55	63.51	31.93	94.05	19.96	81.11	17.54	76.9	0.53	2.49
Taken from the SOB for the PTC issued on 5/9/2008.												

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: May 28, 2013

TO: Dan Pitman, P.E., Senior Permit Writer, Air Quality Division

FROM: Cheryl Robinson, P.E., NSR Modeling Analyst, Air Quality Division

PROJECT NUMBER: P-2012.0020 PROJ 61031

SUBJECT: Modeling Review for Idahoan Foods, LLC, Idaho Falls, Facility ID 019-00038
Install Dryer Flaker #4, Two Fluidized-bed dryers, a creamy mash Dryer, Air Makeup Unit #4, and Pollution Control Devices, and Remove (slice line) three existing Proctor and Schwartz Belt Dryers and Two Bin Dryers, cease using biofuels and diesel in Boiler No. 1, and remove a 200,000 gallon fuel oil storage tank.

1.0 Summary

On March 16, 2012 DEQ received an application from Idahoan Foods, LLC (Idahoan) to make several modifications to their Idaho Falls potato processing facility located at 6140 West River Road near Idaho Falls. The application, emissions inventory, and modeling analyses were prepared by Bison Engineering, Inc. (Bison), of Helena, Montana. The modeling history for this project is as follows:

- August 30, 2012, DEQ received a modeling protocol by email from Bison Engineering, Inc. (Bison) of Helena, Montana. The modeling protocol was not reviewed or approved by DEQ because the modeling and modeling report were submitted only a day after the protocol was received.
- August 31, 2012, DEQ received a modeling report and modeling analyses for increased NO_2 emissions from this project.
- October 2, 2012, DEQ received a revised report and modeling analyses for 1-hr and annual NO_2, 24-hr PM_{10}, and 24-hr and annual $PM_{2.5}$ to reflect substantial engineering and process changes identified by Idahoan on September 27, 2012 and corrections to the emissions inventory recommended by DEQ's permit writer.
- October 12, 2012, DEQ received revised modeling files for PM_{10} and $PM_{2.5}$.
- November 20, 2012, DEQ received a revised report, emissions inventory, and modeling files for significant impact modeling for PM_{10}, $PM_{2.5}$, and NO_2. Revisions reflected additional changes to the emission inventory to speciate $PM_{2.5}$ (previously presumed to be equal to PM_{10}), and to adjust stack heights for drum dryer #4 (Source ID #6, from 42 feet to 52 feet) and fluidized bed dryers #1 and #2 (Real Line #1 and #2, Source ID #16 and #17, from 37.2 feet to 42 feet).
- December 4, 2012, DEQ received a revised emission inventory which included emissions from the snifter vents (as recommended by DEQ's permit writer) and a proposal to install baghouse controls on the vaculifts for flaker lines 1, 2, and 3 (Source ID #7 and #8) similar to the baghouse proposed for flaker line 4 (Source ID #6), and to increase stack heights for drum dryer #4 (from 52 feet to 60 feet) and fluidized bed dryers #1 and #2 (from 42 feet to 60 feet) with no reduction in the exhaust velocities or temperatures from these stacks.
- December 7, 2012, DEQ received a revised modeling report and modeling files.
- Week of January 14, 2013, DEQ identified additional concerns regarding the emissions inventory.

- February 12, 2013 meeting at DEQ with Idahoan Foods and Bison Engineering regarding dryer emission factors, emissions inventory, and snifter and fire pump engine modeling. Emissions from snifter vents 1 through 3 may be excluded from modeling for the current project if 1) the facility-wide PM_{10} analyses conducted in 2008 are rerun including the snifter emissions, and 2) compliance with the 24-hour PM_{10} NAAQS is still demonstrated. Idahoan will submit fire pump data and testing schedule for DEQ review.
- February 14, 2013, DEQ received diesel fire pump specification sheet and testing schedule.
- February 15, 2013, DEQ received snifter and fire pump stack parameters and emission rates.
- February 20, 2013, DEQ received corrected snifter stack diameters.
- February 27, 2013, DEQ provided electronic copies of a random hourly *.prn file and the Excel spreadsheet used to generate the file for weekly testing of the fire pump engine for years 2000-2004 (same five years as the INL-Roberts met data being used for this project).
- March 29, 2013, DEQ received electronic copies of revised emissions inventory, modeling report, and modeling files.
- April 10, 2013, DEQ received an electronic copy of the signed certification statement required by Idaho Air Rules Section 123 ("true, accurate, and complete" certification by the applicant's responsible official).

Air quality analyses involving atmospheric dispersion modeling of emissions associated with the facility were performed to demonstrate the facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02 [Idaho Air Rules Section 203.02]) or Toxic Air Pollutant (TAP) increment (Idaho Air Rules Section 203.03).

Air impact analyses are required by Idaho Air Rules to be conducted according to methods outlined in 40 CFR 51, Appendix W (Guideline on Air Quality Models). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition. The submitted information demonstrated to the satisfaction of the Department that operation of the proposed facility or modification will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
• Boiler No. 1 is operated on natural gas, exclusively.	• Compliance with TAPs increments and PM_{10} and $PM_{2.5}$ SILs was demonstrated using the net change in TAPs emissions, which included the decrease in TAPs emitted from Boiler No. 1 by removing fuel oil as an approved fuel for the boiler.
• New combustion equipment installed as part of this project is operated on natural gas, exclusively.	• Compliance with TAPs increments and with criteria pollutant NAAQS was demonstrated presuming the Real Line #1 and #2 fluidized bed dryers and the new Air Makeup Unit (AMU) No.4 serving the warehouse are operated using only natural gas as a fuel.
• Routine testing of the 315 hp Fire Pump Engine is limited to a maximum of 1 hour per week and 100 hours per year.	• Compliance with 1-hr and annual NOx NAAQS was based on these operating limits and a maximum hourly emission rate of 2.1 lb/hr NOx.

2.0 Background Information

2.1 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality limits and analyses used to demonstrate compliance for this facility located at 6140 West River Road in Eagle Rock, about 2.5 miles north of Idaho Falls, Idaho. Approximate UTM coordinates for the facility are 414.6 km Easting and 4822.5 km Northing, in UTM Zone 12 (Datum WGS84). The base elevation at the facility is approximately 1,448 m (4,750 ft).

2.1.1 Area Classification

The facility is located within Bonneville County which is designated as an attainment or unclassifiable area for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone, particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers ($PM_{2.5}$), and sulfur oxides (SO_x). There are no Class I areas within 10 kilometers of this location.

2.1.2 DEQ Modeling Thresholds

Modeling is typically not required if the changes in estimated criteria pollutant emission rates for a proposed project are below DEQ's modeling thresholds, shown in Table 2. "Case-by-case" thresholds may be used only with prior DEQ approval. Because DEQ approval was not obtained prior to submitting the modeling analyses, "Threshold I" values must be used for this project.

Table 2. DEQ CRITERIA POLLUTANT MODELING THRESHOLDS

Criteria Air Pollutants	Averaging Period	DEQ Modeling Threshold			
		Threshold I		Threshold II (Case-by-Case)	
PM_{10}	24-hr	0.22	lb/hr	2.6	lb/hr
$PM_{2.5}$	24-hr	0.054	lb/hr	0.63	lb/hr
	Annual	0.35	T/yr	4.1	T/yr
CO	1-hr, 8-hr	15	lb/hr	175	lb/hr
NO_2	1-hour	0.20	lb/hr	2.4	lb/hr
	Annual	1.2	T/yr	14	T/yr
SO_2	1-hr	0.21	lb/hr	2.5	lb/hr
	24-hr	0.22	lb/hr	2.6	lb/hr
	Annual	1.2	T/yr	14	T/yr
Lead	3-month rolling avg	14	lb/mo		

Information provided in the emissions inventory submitted to DEQ on March 29, 2013 demonstrated that the increase in emissions of criteria pollutants associated with this project were below DEQ's modeling thresholds for all pollutants and averaging times, except for 24-hr and annual $PM_{2.5}$, 24-hr PM_{10}, and 1-hr and annual NO_2.

Table 3. CRITERIA POLLUTANT EMISSIONS INCREASE[a] COMPARED TO MODELING THRESHOLDS

Description	$PM_{2.5}$		PM_{10}	NOx		SOx		CO		Lead	
	lb/hr	T/yr	lb/hr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
New Air Makeup Unit #4 (Warehouse)	4.88E-02	0.21	4.88E-02	0.64	2.81	0.00	0.02	0.54	2.36	3.2E-06	1.41E-05
New dryers (Flaker No.4, two FBDs, and one mash dryer)	3.58	17.46	3.58	1.95	8.52	0.01	0.05	1.63	7.16	9.7E-06	4.26E-05

Table 3. CRITERIA POLLUTANT EMISSIONS INCREASE[a] COMPARED TO MODELING THRESHOLDS											
	$PM_{2.5}$		PM_{10}	NOx		SOx		CO		Lead	
Description	lb/hr	T/yr	lb/hr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
New Material Transfer Equipment	4.50E-04	1.97E-03	4.50E-04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fire Pump Engine	1.04E-01	5.21E-03	1.04E-01	2.08	0.10	0.00	0.00	1.81	0.09	0.00	0.00
TOTAL	3.63	17.68	3.63	2.59	11.33	0.02	0.07	2.17	9.52	1.3E-05	5.67E-05 (9.4E-03 lb/mo)
Level I Modeling Thresholds	0.054	0.35	0.22	0.2	1.2	0.21	1.2	15	---	14 lb/mo	---
Level II Modeling Threshold	0.63	4.1	2.6	2.4	14	2.5	14	175	---	14 lb/mo	---
Exceeds Level I?	Yes	Yes	Yes	Yes	Yes	No	No	No	---	---	No
Exceeds Level II?	---	---	---	---	---	---	---	---	---	---	---
Modeling Required?	Yes	Yes	Yes	Yes	Yes	No	No	No	---	---	No

[a] Taken from the updated emissions inventory received by DEQ on March 29, 2013

2.1.3 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

> *Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.*

Permit requirements for toxic air pollutants (TAPs) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

Per Section 210, if the emissions increase associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated.

In accordance with Section 210.20 of the Idaho Air Rules, a demonstration of compliance with state-only TAPs standards is not required for any TAP that is regulated at the time of permit issuance under 40 CFR Part 60 (New Source Performance Standards [NSPS]), 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants [NESHAP], or 40 CFR Part 63 (NESHAP for Source Categories / MACT standards).

3.0 Modeling Impact Assessment

3.1 Modeling Methodology

This section describes the modeling methods used by the applicant to demonstrate compliance with applicable air quality standards.

3.1.1 Overview of Analyses

Bison's Helena, Montana office performed air quality analyses using AERMOD in support of the submitted permit application. A brief description of parameters used in the modeling analyses is provided in Table 4.

Table 4. MODELING PARAMETERS

Parameter	Description/Values	Documentation/Addition Description
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 12060
Meteorological data	INL-Roberts 2000-2004	DEQ provided AERMOD-ready surface (.sfc) and upper air profile (.pfl) files for the years 2000-2004 developed using surface data collected at the Idaho National Laboratory (INL) met tower located near Roberts, and upper air soundings collected at the Boise Airport.
Terrain	NED 1/3 arc-sec	AERMAP v. 11103, using 1/3 arc-second NED terrain data files (NAD83/WGS84).
Building downwash	BPIP-PRIME v. 04274	Building downwash parameters were calculated using the BPIP PRIME algorithm (version 04274).
Receptor Grid	Receptors	Receptor locations were defined in UTM coordinates (NAD83)
	Nested Square Grids	50-meter (m) spacing along the ambient air boundary 100-meter (m) spacing from the facility fence line out to 1000 m (1 km) 250-meter (m) spacing between 1 km and 3 km 500-m spacing from 3 km to 10 km

3.1.2 Modeling Protocol and Methodology

A modeling protocol for this project was submitted by email to DEQ on August 30, 2012, followed only a day later by submission of the modeling report and modeling files. Due to the short time frame involved, DEQ did not issue a protocol approval letter. Modeling was generally conducted using data described in the protocol and methods described in the *State of Idaho Air Quality Modeling Guideline*. Default rural dispersion was used.

3.1.3 Model Selection

Idaho Air Rules Section 202.02 requires that estimates of ambient concentrations be based on air quality models specified in 40 CFR 51, Appendix W (Guideline on Air Quality Models). The refined, steady state, multiple source, Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. EPA provided a one-year transition period during which either ISCST3 or AERMOD could be used at the discretion of the permitting agency. AERMOD must be used for all air impact analyses, performed in support of air quality permitting, conducted after November 2006.

AERMOD retains the single straight line trajectory of ISCST3, but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD offers the following improvements over ISCST3:

- Improved dispersion in the convective boundary layer and the stable boundary layer.
- Improved plume rise and buoyancy calculations.
- Improved treatment of terrain effects on dispersion.
- New vertical profiles of wind, turbulence, and temperature.

3.1.4 Meteorological Data

DEQ recommended using the AERMOD-ready meteorological data set with surface data collected at a tower operated by the Idaho National Laboratory (INL) near Roberts and upper air data collected at the Boise Airport for the years 2000-2004. The INL-Roberts meteorological tower is located about 14 miles NNW of the Idahoan Foods site near Idaho Falls, as shown in Figure 3-1.

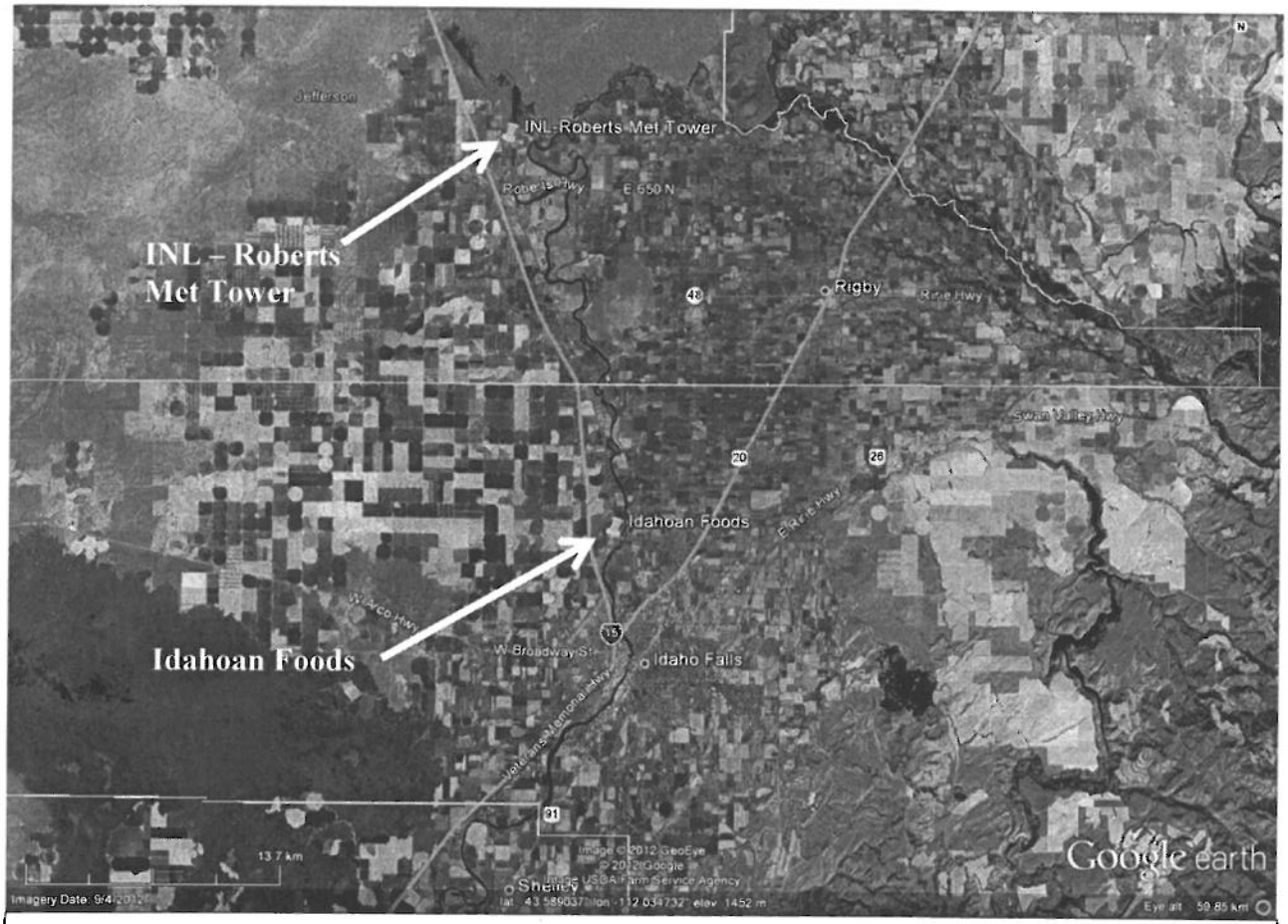


Figure 3-1. PROXIMITY OF INL-ROBERTS MET TOWER TO IDAHOAN FOODS, IDAHO FALLS FACILITY

3.1.5 Terrain Effects

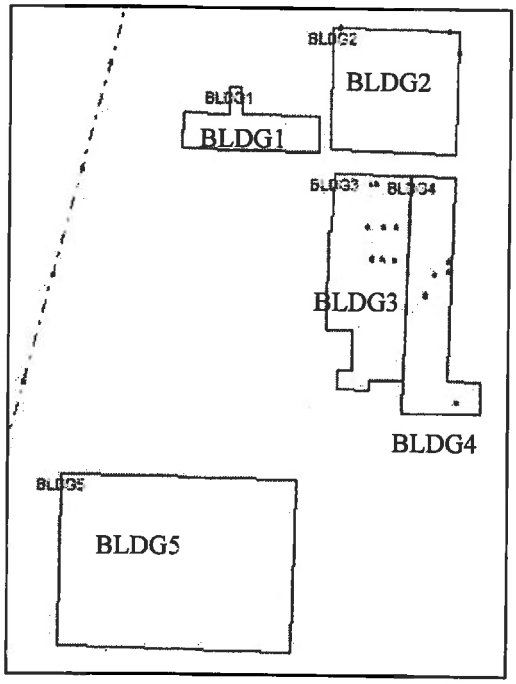
Terrain effects on dispersion were considered in these analyses. Bison used AERMAP v. 11103 to extract the actual elevation of each receptor and determine the controlling hill height elevation from sixteen 1/3-arc second (about 10 meter resolution) tiff files downloaded from the Seamless National Elevation Database (NED). The NED files encompassed the area between -111.75 and -112.250 degrees longitude and 43.250 and 43.750 degrees north latitude (datum NAD83).

3.1.6 Building Downwash

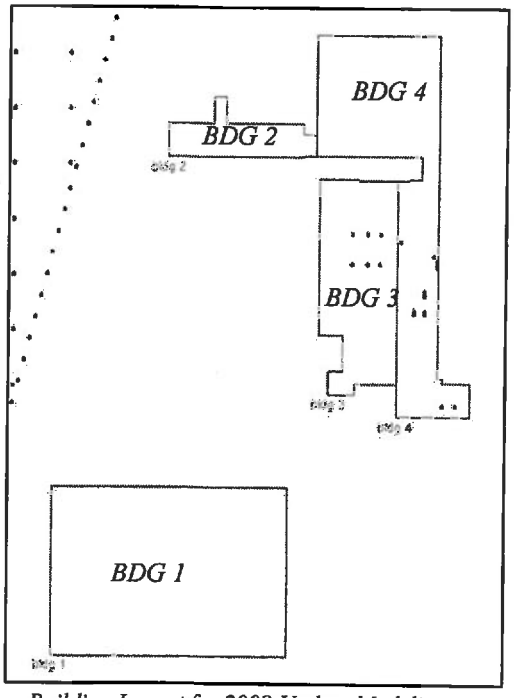
Plume downwash effects caused by structures present at the facility were accounted for in the submitted modeling analyses. The Building Profile Input Program with Plume RIse Model Enhancements (BPIP-PRIME) was used to calculate direction-specific building dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and emission release parameters for input to AERMOD. Building parameters are shown in Table 5 for both the 2013 and updated 2008 modeling. **No information was included in the application to explain why the building heights for the 2013 modeling were consistently higher than the values used for the 2008 modeling, or why the base elevations of the buildings in 2013 varied by as much as 2.4 m higher and 2.0 m lower than elevations used in 2008.**

Table 5. BUILDING PARAMETERS FOR 2013 AND UPDATED 2008 MODELING			
BLDG 1, UTM (NAD83)		***BDG2, UTM (NAD27)***	
Ht: 6.71 m	Elev 1445.0	*Ht: 5.79m*	*Elev. 1447.1*
414532.0	4822583.2	*414569.2*	*4822353.2*
414537.3	4822583.0	*414629.5*	*4822353.2*
414537.7	4822571.0	*414629.5*	*4822354.1*
414571.6	4822570.1	*414635.6*	*4822354.1*
414571.4	4822554.4	*414635.6*	*4822363.9*
414511.2	4822555.7	*414629.5*	*4822363.9*
414511.8	4822571.8	*414629.5*	*4822368.7*
414531.6	4822571.3	*414594.8*	*4822368.7*
		414594.8	*4822380.6*
		414589.5	*4822380.6*
		414589.5	*4822368.7*
		414569.2	*4822368.7*
BLDG 2		***BDG 4***	
Ht: 8.23 m	Elev. 1445.6	*Ht: 7.92 m*	*Elev. 1444.5*
414577.3	4822610.4	*414672.2*	*4822236.5*
414633.9	4822609.0	*414705.5*	*4822236.5*
414632.7	4822553.7	*414705.5*	*4822251.6*
414576.5	4822555.8	*414693.1*	*4822251.6*
BLDG 4		*414693.1*	*4822254.2*
8.23	1446.10	*414690.7*	*4822254.2*
414613.0	4822543.9	*414690.5*	*4822408.8*
414632.5	4822543.4	*414635.6*	*4822408.8*
414630.2	4822452.6	*414635.6*	*4822354.1*
414644.8	4822451.9	*414683.2*	*4822354.1*
414644.6	4822437.4	*414683.2*	*4822343.5*
414609.6	4822437.9	*414672.3*	*4822343.3*
BLDG 3		***BLDG 3***	
Ht: 8.23 m	Elev. 1445.5	*Ht: 7.32 m*	*Elev. 1444.4*
414578.4	4822544.9	*414641.6*	*4822246.7*
414612.9	4822544.3	*414653.4*	*4822246.7*
414609.9	4822452.2	*414653.4*	*4822251.3*
414594.7	4822452.2	*414672.2*	*4822251.3*
414594.7	4822447.8	*414672.3*	*4822343.3*
414580.3	4822448.3	*414637.0*	*4822343.5*
414580.6	4822456.8	*414637.0*	*4822273.3*
414586.8	4822456.8	*414648.0*	*4822273.3*
414587.0	4822474.6	*414648.0*	*4822257.3*
414575.4	4822474.6	*414641.6*	*4822257.3*
414576.3	4822519.3		
414577.6	4822519.3		

BLDG 5		***BDG 1***	
Ht: 6.71 m	Elev1449.4	*HT: 5.79m*	*Elev. 1447.0*
414458.12	4822409.5	*414517.7*	*4822127.7*
414562.34	4822407.4	*414623.6*	*4822127.7*
414560.96	4822330.0	*414623.6*	*4822204.2*
414457.09	4822332.4	*414517.7*	*4822204.2*



Building Layout for 2013 Modeling



Building Layout for 2008 Update Modeling

3.1.7 Facility Layout

The graphics insets in Table 5 show the location of the modeled buildings for Idahoan's Idaho Falls facility. The locations of the modeled emission sources in the 2013 and updated 2008 modeling are shown in Figure 3-2.

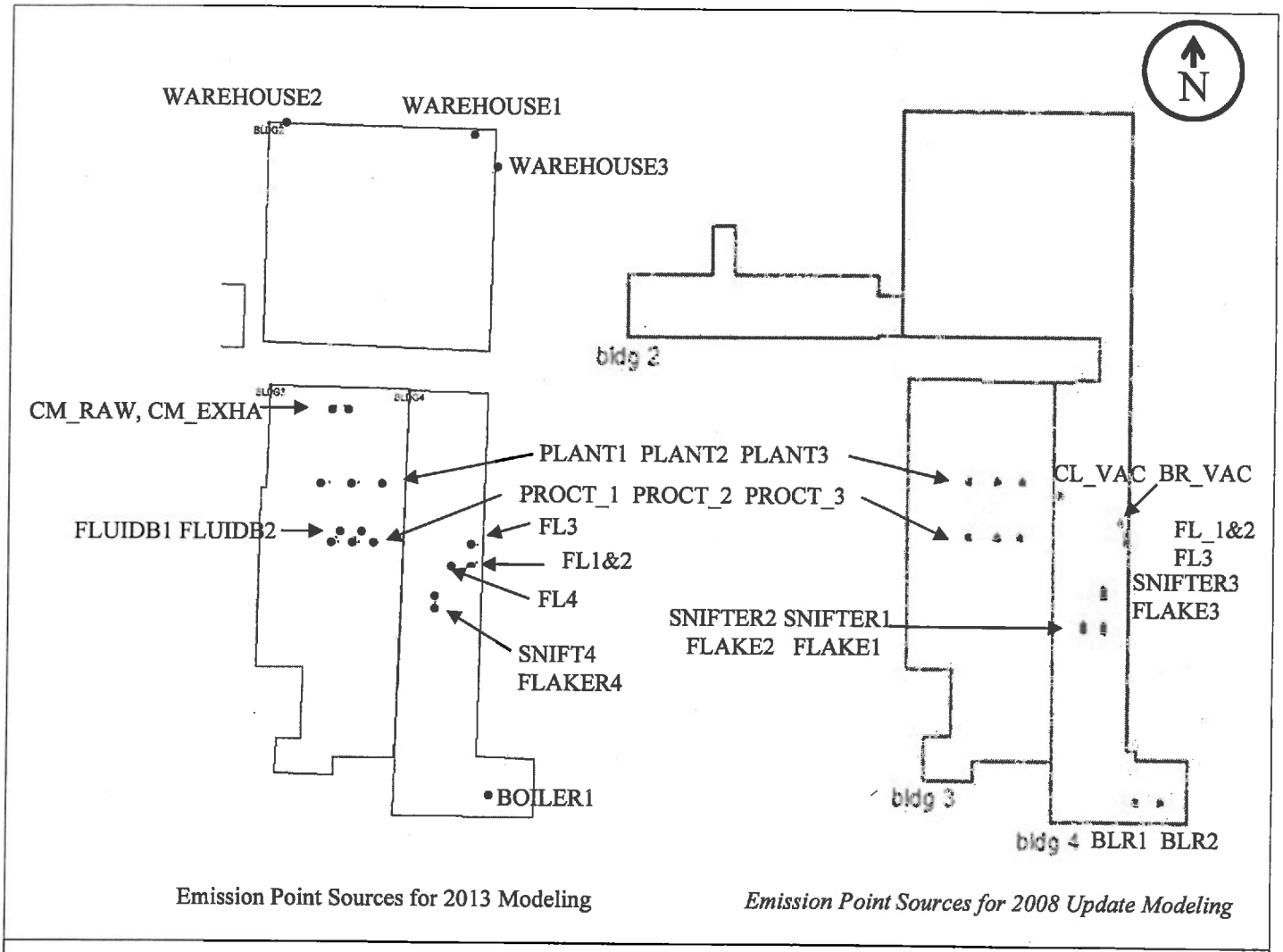


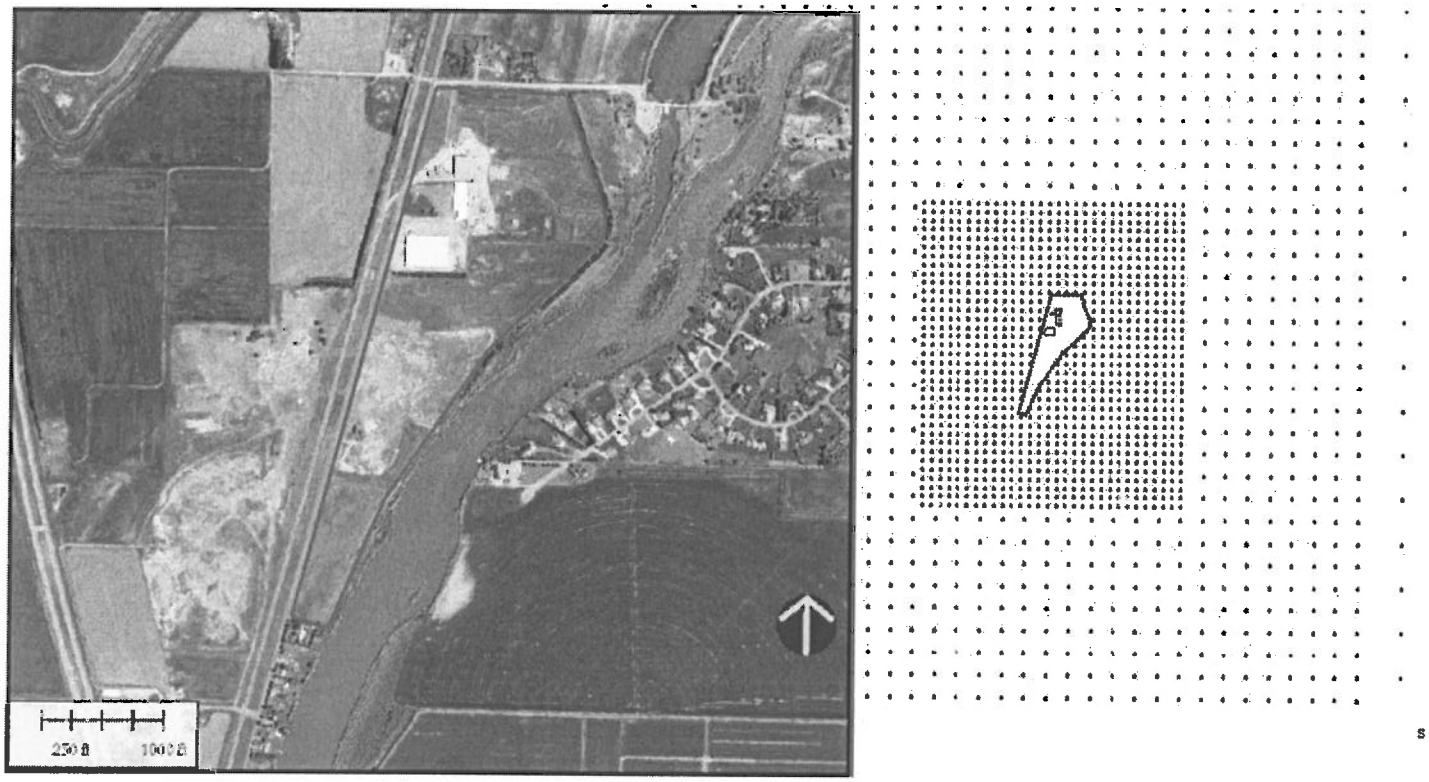
Figure 3-2 EMISSION POINT LAYOUT FOR 2013 and UPDATED 2008 MODELING

3.1.8 Ambient Air Boundary

Ambient air is defined in Section 006 of the Idaho Air Rules as "that portion of the atmosphere, external to buildings, to which the general public has access. As shown in Figure 3-4, the fenced boundary was used as the ambient air boundary for the modeling analyses for this project, except along the eastern boundary adjacent to the Snake River. The public has access to the high water line along the river, and a line of trees reduces the chances that facility personnel would see anyone entering the site from the riverbank. The ambient air boundary along the river was defined by a line along the "near side" of the tree line where facility personnel have a clear view from the plant to deter entry by members of the public.

3.1.9 Receptor Network

The receptor grids used for the submitted modeling analyses are summarized in Table 4, and shown graphically in Figure 3-4.



3.2 Emission Release Parameters

The emission release parameters used in the March 2013 significance modeling analyses for PM_{10} and $PM_{2.5}$ and full-impact NAAQS analyses for NO_2 are shown in Table 5. Emission parameters for point sources modeled in the updated 2008 analyses, if different from 2013, are shown in parentheses in Table 5.

Although the description of changes in the March 2013 submission states that building vent exhaust heights had been changed back to 27 feet, the modeled release height was unchanged at 28 ft.

Table 5. EMISSION RELEASE PARAMETERS								
Source Description	UTM Zone 12 (NAD83, *NAD27*) Easting, X (m)	Northing, Y (m)	Base Elevation (m)	Stack Height	Exit Temp	Exit Velocity (m/s)	Stack Dia	Stack Orient.
BOILERS								
Fuel Change, No fuel oil BOILER1 (NG)	414634.0 *414692.9*	4822442.5 *4822241.5*	1446.1 *1443.32*	11.90 m 39.0 ft	472 K 389.9 °F	8.44	1.04 m 3.41 ft	Default
BOILER2 (NG)	414640.5 *414698.6*	4822442.5 *4822241.5*	1446.1 *1443.32*	11.90 m 39.0 ft	472 K 105 °F	8.85	0.79	Default
CREAMY MASH								
CM_EXHA, Cyclone Exhaust Creamy Mash	414597.0	4822540.0	1445.8	7.92 m 26 ft	344.26 K 160 °F	10.65	0.82 m 2.7 ft	Horizontal
CM_RAW, Cream Mash Product Transfer Raw	414594.6	4822540.0	1445.8	10.97 m 36 ft	302.6 K 85 °F	1.01	0.79 1 m 2.6 ft	Horizontal
BELT DRYERS								
Removed PROCT_1, Belt Dryer 1	414595.7	4822506.0	1445.9	8.53 m 28 ft	355 K 179.3 °F	7.18	0.91m 3.0 ft	Horizontal
Removed PROCT_2, Belt Dryer 2	414600.8	4822506.0	1446.0	8.53 m 28 ft	355 K 179.3 °F	7.18	0.91m 3.0 ft	Horizontal
Removed PROCT_2, Belt Dryer 3	414605.5	4822506.0	1446.0	8.53 m 28 ft	355 K 179.3 °F	7.18	0.91m 3.0 ft	Horizontal
FLUIDIZED BED DRYERS								
New, FLUIDBD1, Fluidized Bed Dryer 1 (NG)	414595.2	4822507.0	1445.9	18.29 m 60 ft	333.15 K 140 °F	18.66	1.28 m 4.20 ft	Default
New, FLUIDBD2, Fluidized Bed Dryer 2 (NG)	414599.9	4822507.0	1446.0	18.29 m 60 ft	333.15 K 140 °F	18.66	1.28 m 4.20 ft	Default
FLAKER LINES								
BR_VAC, Bag room vaculift	*414688.8*	*4822309.0*	*1445.08*	*9.1 m 29.9 ft*	*316.48*	*0.001*	*0.001 m*	*horizontal*
CL_VAC, Can line vaculift	*414674.0*	*4822315.5*	*1444.96*	*8.5 m 27.9 ft*	*0.00*	*0.001*	*0.001 m*	*horizontal*
FLAKE_1, Flaker Line 1	*414684.6*	*4822283.0*	*1444.53*	*10.1 m 33.0 ft*	*109.1 °F*	*39.7 (12.2)**	*3.74 ft*	*Default*
FLAKE_2, Flaker Line 2	*414679.7*	*4822283.0*	*1444.57*	*10.4 m 34.0 ft*	*109.1 °F*	*39.7 (12.2)**	*3.74 ft*	*Default*
FLAKE_3, Flaker Line 3	*414684.6*	*4822291.5*	*1444.74*	*10.4 m 34.0 ft*	*109.1 °F*	*35.9 (12.2)**	*3.74 ft*	*Default*
New, FLAKER4, Flaker Line 4	414619.9	4822490.0	1445.6	19.8 m 65.0 ft	305 K 89.3 °F	8.09	1.22 m 4.0 ft	Default
VACULIFTS						**2008 DEQ verification analyses, based on source test*		
New BH, FL_1&2, Flaker Line 1&2 Vaculift w/BH	414630.1	4822501.2	1445.9 *1445.7*	11.88 m 39 ft *9.1 m 29.9 ft*	316.5 K 110 °F	11.52 *0.001*	0.24 m 0.80 ft *0.001 m*	Horizontal
New BH, FL_3, Flaker Line 3 Vaculift w/BH	414630.2	4822505.6	1446.0	11.88 m 39 ft *9.1 m 29.9 ft*	316.5 K 110 °F	10.01 *0.001*	0.24 m 0.80 ft *0.001 m*	Horizontal
New Line, FL_4, Flaker line 4 Vaculift & Baghouse	414623.5	4822500.0	1445.9	12.8 m 42 ft	305 K 89.3 °F	13.86	0.21 m 0.7 ft	Horizontal
BR_VAC, Bag room vaculift	*414688.8*	*4822309.0*	*1445.08*	*9.1 m 29.9 ft*	*316.48*	*0.001*	*0.001 m*	*horizontal*

Table 5. EMISSION RELEASE PARAMETERS								
Source Description	UTM Zone 12 (NAD83, *NAD27*)		Base Elevation (m)	Stack Height	Exit Temp	Exit Velocity (m/s)	Stack Dia	Stack Orient.
	Easting, X (m)	Northing, Y (m)						
CL_VAC, Can line vaculift	*414674.0*	*4822315.5*	*1444.96*	*8.5 m 27.9 ft*	*0.00*	*0.001*	*0.001 m*	*horizontal*
SNIFTERS								
Included in "2008" Modeling SNIFT_1, Snifter Vent #1	*414684.6*	*4822284.52*	*1444.53*	*10.6 m 34.8 ft*	*315.4 K 108 °F*	*24.0*	*0.197 m 0.65 ft*	*Default*
Included in "2008" Modeling SNIFT_2, Snifter Vent #2	*414679.7*	*4822284.52*	*1444.57*	*8.8 m 28.9 ft*	*314.3 K 106 °F*	*12.0*	*0.213 m 0.70 ft*	*Default*
Included in "2008" Modeling SNIFT_3, Snifter Vent #3	*414684.6*	*4822293.02*	*1444.74*	*10.6 m 34.8 ft*	*305.9 K 91.0 °F*	*16.0*	*0.213 m 0.70 ft*	*Default*
New, SNIFT_4, Snifter Vent #4	414619.9	4822491.1	1445.6	18.3 m 60 ft	300 K 80.3 °F	21.50	0.22 m 0.72 ft	Default
PLANT EXHAUST								
PLANT1, Plant Exhaust 1	414593.5 414651.6	4822521.0 4822305.5	1445.8 1444.7	**8.53 m 28 ft**	313.7 K 105.0 °F	5.25	0.71 m 2.33 ft	Horizontal
PLANT2, Plant Exhaust 2	414600.5	4822521.0	1445.9	**8.53 m 28 ft**	313.7 K 105.0 °F	5.25	0.71 m 2.33 ft	Horizontal
PLANT 3, Plant Exhaust 3	414606.5	4822521.0	1446.0	**8.53 m 28 ft**	313.7 K 105.0 °F	5.25	0.71 m 2.33 ft	Horizontal
WAREHOUSE AIR MAKEUP UNIT								
WAREHOUSE1, 2, and 3 New AMU4, 6.6 MMBtu/hr Note: 2013 base elevation of Bldg 2 (Warehouse) is 1445.6 m	414629.4	4822609.0	1447.0	3.0 m 10.0 ft	297.4 K 75.0 °F	0.85	3.77 m 12.37 ft	Horizontal
	414580.5	4822610.3	1445.7	3.0 m 10.0 ft	297.4 K 75.0 °F	0.85	3.77 m 12.37 ft	Horizontal
	414633.9	4822598.7	1446.8	1.8 m 6.0 ft	297.4 K 75.0 °F	0.85	3.77 m 12.37 ft	Horizontal
FIRE PUMP ENGINE								
New Fire Pump Engine, 315 hp	414605.9	4822609.8	1446.3	2.8 m 9.33 ft	789.3 K 961 °F	36.2	0.152 m 0.5 ft	Default

Abbreviations: m = meters, ft = feet, m/sec= meters per second, K = Kelvin, °F = degrees Fahrenheit
Stack Orientation: Default = vertical and uncapped Horizontal = nonregulatory horizontal AERMOD option

3.3 Emission Rates

The modeled emission rates used in the March 2013 significance modeling analyses for PM_{10} and $PM_{2.5}$ and full-impact NAAQS analyses for NO_2 are shown in Table 6. Emission rates for point sources modeled in the updated 2008 analyses for 24-hr PM_{10} are shown in parentheses in Table 6. No information was provided in the application to explain why:

- PLANT1 and PLANT3 are modeled with positive emissions of NO_x, or why no NOx emission are modeled for PLANT2 (2013 NO_x modeling).
- Modeled emissions are in some cases substantially different from the emission rates presented in the 3/38/13 emissions inventory, as noted in the table.

Table 6. MODELED EMISSION RATES						
Source Description	**2013 PM_{10} (lb/hr, 24-hr average)**	***2008 Update PM_{10} (lb/hr, 24-hr average)***	**$PM_{2.5}$ (lb/hr, 24-hr average)**	**$PM_{2.5}$ (lb/hr, annual average)**	**NO_2 (lb/hr, 1-hr average)**	**NO_2 (lb/hr, annual average)**
BOILERS						
Fuel Change, No fuel oil BOILER1 (NG)	-4.643 (EI: -4.640)	*5.101*	-4.516 (EI: -4.517)	-4.516 (EI: -4.517)	5.945	5.945
BOILER2 (NG)	---	*0.406*	---	---	2.60	2.60
CREAMY MASH						
CM_EXHA, Cyclone Exhaust Creamy Mash	0.175 (EI: 0.173)	---	0.175 (EI: 0.173)	0.175 (EI: 0.173)	---	---
CM_RAW, Cream Mash Loading Station (Product Transfer Raw)	0.008 (EI: 0.009)	---	**0.230 (EI: 0.009)**	**0.230 (EI: 0.009)**	---	---
BELT DRYERS						
Removed PROCT_1, Belt Dryer 1	-0.825 (EI: -0.823)	*0.825*	-0.825 (EI: -0.823)	-0.825 (EI: -0.823)	---	---
Removed PROCT_2, Belt Dryer 2	-0.825 (EI: -0.823)	*0.825*	-0.825 (EI: -0.823)	-0.825 (EI: -0.823)	---	---
Removed PROCT_2, Belt Dryer 3	-0.825 (EI: -0.823)	*0.825*	-0.825 (EI: -0.823)	-0.825 (EI: -0.823)	---	---
FLUIDIZED BED DRYERS						
New, FLUIDBD1, Real Line #1 Fluidized Bed Dryer 1 (NG)	1.127	---	1.127	1.127	0.976	---
New, FLUIDBD2, Real Line #2 Fluidized Bed Dryer 2 (NG)	1.127	---	1.127	1.127	0.976	---
FLAKER LINES						
BR_VAC, Bag room vaculift	---	*0.080*	---	---	---	---
CL_VAC, Can line vaculift	---	*0.066*	---	---	---	---
FLAKE_1, Flaker Line 1	---	*1.963*	---	---	---	---
FLAKE_2, Flaker Line 2	---	*1.963*	---	---	---	---
FLAKE_3, Flaker Line 3	---	*1.963*	---	---	---	---
New, FLAKER4, Flaker Line 4	1.151 (EI: 1.148)	---	1.151 (EI: 1.148)	1.151 (EI: 1.148)	---	---
VACULIFTS						
New BH, FL_1&2, Flaker Line 1&2 Vaculift w/BH	**0.349 (EI: -0.165)**	*0.166*	-0.167 (EI: -0.165)	-0.167 (EI: -0.165)	---	---
New BH, FL_3, Flaker Line 3 Vaculift w/BH	**0.349 (EI: -0.144)**	*0.144*	-0.143 (EI: -0.144)	-0.143 (EI: -0.144)	---	---
New Line, FL_4, Flaker line 4 Vaculift & Baghouse	**0.450 (EI: 4.5E-04)**	---	4.50E-04	4.50E-04	---	---
BR_VAC, Bag room vaculift	---	---	---	---	---	---
CL_VAC, Can line vaculift	---	---	---	---	---	---
SNIFTERS						
Included in "2008" Modeling SNIFT_1, Snifter Vent #1	---	*0.215*	---	---	---	---
Included in "2008" Modeling SNIFT_2, Snifter Vent #2	---	*0.215*	---	---	---	---

Table 6. MODELED EMISSION RATES						
Source Description	**2013 PM_{10} (lb/hr, 24-hr average)**	***2008 Update PM_{10} (lb/hr, 24-hr average)***	**$PM_{2.5}$ (lb/hr, 24-hr average)**	**$PM_{2.5}$ (lb/hr, annual average)**	**NO_2 (lb/hr, 1-hr average)**	**NO_2 (lb/hr, annual average)**
Included in "2008" Modeling SNIFT_3, Snifter Vent #3	---	*0.410*	---	---	---	---
New, SNIFT_4, Snifter Vent #4	0.413 (EI: 0.410)	---	0.413 (EI: 0.410)	0.413 (EI: 0.410)	---	---
PLANT EXHAUST – emission reductions						
PLANT1, Plant Exhaust 1	-0.056 (EI: -0.058)	*0.083*	-0.056 (EI: -0.058)	-0.056 (EI: -0.058)	0.484 (EI: 0.49)	0.484 (EI: 0.49)
PLANT2, Plant Exhaust 2	-0.056 (EI: -0.058)	*0.083*	-0.056 (EI: -0.058)	-0.056 (EI: -0.058)	---	---
PLANT 3, Plant Exhaust 3	-0.056 (EI: -0.058)	*0.083*	-0.056 (EI: -0.058)	-0.056 (EI: -0.058)	0.484 (EI: 0.49)	0.484 (EI: 0.49)
WAREHOUSE AIR MAKEUP UNIT, New AMU4, 6.6 MMBtu/hr						
WAREHOUSE1	0.016	---	0.016	0.016	0.214	0.214
WAREHOUSE2	0.016	---	0.016	0.016	0.214	0.214
WAREHOUSE3	0.016	---	0.016	0.016	0.214	0.214
FIRE PUMP ENGINE – existing, not previously modeled						
Fire Pump Engine	---	---	---	---	2.103	---

Abbreviations: m = meters, ft = feet, m/sec= meters per second, K = Kelvin, °F = degrees Fahrenheit
Stack Orientation: Default = vertical and uncapped Horizontal = nonregulatory horizontal AERMOD option

3.4 Modeling Results

The modeled ambient impacts for the March 2013 significance modeling analyses for PM_{10} and $PM_{2.5}$ and full-impact NAAQS analyses for NO_2 are shown in Table 7. Model results for point sources included in the updated 2008 analyses for 24-hr PM_{10} (2008 full-impact sources plus snifters 1, 2, and 3) are shown in parentheses in Table 7.

Table 7. MODELING RESULTS								
Pollutant	**Averaging Period**	**Significance Analysis, Max Impact ($\mu g/m^3$)**	**SIL ($\mu g/m^3$)**	**Full Impact Analysis, Modeled Maximum Ambient Impact ($\mu g/m^3$)**	**Background ($\mu g/m^3$)**	**Total Ambient Impact ($\mu g/m^3$)**	**NAAQS ($\mu g/m^3$)**	**Percent of NAAQS**
PM_{10} (2008 Analysis)	*24-hr*	---	---	*54*	*73*	*127*	*150*	*85%*
PM_{10} (2008 Update, with snifters 1,2, and 3)	*24-hr*	---	---	*59*	*73*	*132*	*150*	*88%*
PM_{10}	24-hr	0.85	5	---	---	---	---	---
$PM_{2.5}$	24-hr	0.84	1.2	---	---	---	---	---
	Annual	0.00	0.3	---	---	---	---	---
NOx	1-hr	Not reported	7.5	141.33	HROF DAY	141.33	188	75%
	Annual	Not reported	1.0	44.25	HROF DAY	44.25	100	44%

As noted in the submitted modeling analyses, DEQ provided a 24-hour set of NO_2 background concentrations (HROFDAY), which were included the AERMOD analyses. NO_2 background values are shown in Table 8.

Table 8. NO_2 BACKGROUND CONCENTRATIONS	
Hour of Day	**NO_2 Background Concentration ($\mu g/m^3$)**
1	37.6
2	28.2
3	28.24
4	28.2
5	32.09
6	37.6
7	37.6
8	39.48
9	37.6
10	33.84
11	32.64
12	27.52
13	21.73
14	27.45
15	30.08
16	31.96
17	35.72
18	50.76
19	48.88
20	43.24
21	43.24
22	37.67
23	35.78
24	33.84

Conclusions

The submitted ambient air impact analyses demonstrated to DEQ's satisfaction that ambient air quality impacts from this project will not cause or significantly contribute to a violation of any air quality standard.

APPENDIX C – TOXIC AIR POLLUTANT EMISSION CHANGES

	Toxic Air Pollutant Project Increases or Decreases*				
Pollutant	Total lb/hr - 24 avg.	Total lb/hr - Ann. Avg.	EL lb/hr 24 hr	EL lb/hr Annual	Exceeds Screen?
2-Methylnaphthalene	NA	NA			
Methylchloranthrene	NA	NA			
Dimethylbenz(a)anthracene		-1.25E-07		9.10E-05	no
Acenaphthene		-7.42E-06		9.10E-05	no
Acenaphthylene		1.62E-07		9.10E-05	no
Acetaldehyde		1.80E-05		3.00E-03	no
Acrolein	1.90E-04		0.017		no
Anthracene		-2.44E-07		9.10E-05	no
Benz(a)anthracene		-1.27E-06		9.10E-05	no
Benzene		1.02E-04		8.00E-04	no
Benzo(a)pyrene		3.57E-08		2.00E-06	no
Benzo(b)fluoranthene		4.93E-08		9.10E-05	no
Benzo(g,h,i)perylene		-7.11E-07		9.10E-05	no
Benzo(b)fluoranthene	NA	NA			
Benzo(k)fluoranthene		5.06E-08		9.10E-05	no
1,3-Butadiene		9.17E-07		2.40E-05	no
Butane	NA	NA			
Chrysene		-7.13E-07		9.10E-05	no
Dibenzo(a,h)anthracene		-4.97E-07		9.10E-05	no
Dichlorobenzene	3.13E-05		20		no
Ethane					
Ethylbenzene	-2.82E-05		29		no
Fluoranthene		-1.34E-06		9.10E-05	no
Fluorene		-7.12E-07		9.10E-05	no
Formaldehyde		-6.23E-03		5.10E-04	no
Hexane	4.69E-02		12		no
Indeno(1,2,3-cd)pyrene		-6.26E-07		9.10E-05	no
Naphthalene		-3.59E-04		9.10E-05	no
OCDD	NA	NA			
Pentane	6.78E-02		118		no
Phenanathrene		-1.81E-06		9.10E-05	no
7-PAH		-2.59E-06		2.00E-06	no
Propane	NA	NA			
Propylene	NA	NA			
Pyrene		-1.04E-06		9.10E-05	no
Toluene	-1.82E-03		25		no
1,1,1-Trichloroethane	NA	NA			
Xylenes	5.37E-04		29		no
Arsenic		-1.44E+00		1.50E-06	no
Barium	1.15E-04		0.033		no
Beryllium		-1.08E+00		2.80E-05	no
Cadmium		-1.08E+00		3.70E-06	no
Chromium		-1.08E+00	0.033	5.60E-07	no
Cobalt	2.19E-06		0.0033		no
Copper	-2.16E+00		0.013		no
Manganese	-2.66E+00		0.067		no
Mercury	NA	NA			
Molybdenum	2.87E-05		0.333		no
Nickel		-1.08E+00		2.70E-05	no
Selenium	2.06E-06		0.013		no
Vanadium	6.00E-05		0.003		no
Zinc	-1.77E+00		0.067		no

* Actual Decrease are larger than calculated because the shutdown of existing natural gas combustion sources were not included in the table

APPENDIX D – 40 CFR 63 SUBPART ZZZZ & 40 CFR 60 SUBPART IIII

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Contents

OTHER REQUIREMENTS AND INFORMATION

SOURCE: 69 FR 33506, June 15, 2004, unless otherwise noted.

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What This Subpart Covers

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§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

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§ 63.6585 Am I subject to this subpart?

Link to an amendment published at 78 FR 6700, January 30, 2013.

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 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 as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

Idahoan Foods' (IFL) Idaho Falls Facility is an area source of HAP emissions. IFL operates one stationary RICE engine which is subject to the requirements of this subpart. As an area source, IFL is not required to obtain a part 70 or part 71 permit as a result of being subject to this rule.

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§ 63.6590 What parts of my plant does this subpart cover?

Link to an amendment published at 78 FR 6700, January 30, 2013.

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of § 63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of § 63.6645(f) and the requirements of §§ 63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

(c) *Staticnary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

The RICE engine located at IFL's Idaho Falls facility meets the definition or a new or reconstructed station RICE located at an area source. As such, the engine is subject to the requirements of 40 CFR part 60 subpart IIII. IFL has analyzed and will comply with these requirements. No further requirements under Subpart ZZZZ apply.

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

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e evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

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§ 63.6675 What definitions apply to this subpart?

Link to an amendment published at 78 FR 6706, January 30, 2013.

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

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 fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2 .

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE 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 RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under § 63.6640(f). All emergency stationary RICE must comply with the requirements specified in § 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in § 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2 .

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_x) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_x , CO, and volatile organic compounds (VOC) into CO_2 , nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in § 63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to § 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to § 63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure $C_3 H_8$.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_x (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no

manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-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 reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

IFL has read and understands the definitions presented in this subpart as they apply to IFL facility equipment and operations.

Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Contents

SOURCE: 71 FR 39172, July 11, 2006, unless otherwise noted.

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What This Subpart Covers

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§ 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]

Idahoan Foods, LLC (IFL) is considered an owner/operator of a stationary CI ICE as defined 60.4219 which is a certified NFPA fire pump engine and was manufactured after July 1, 2006. IFL is therefore subject to this subpart.

Emission Standards for Manufacturers

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§ 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) Areas of Alaska not accessible by the Federal Aid Highway System (FAHS); 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.

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

IFL is not an engine manufacturer and is therefore not subject to this section.

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§ 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

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(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) Areas of Alaska not accessible by the FAHS; 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]

IFL is not an engine manufacturer and is therefore not subject to this section. Back to Top

§ 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]

IFL is not an engine manufacturer and is therefore not subject to this section.

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Emission Standards for Owners and Operators

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§ 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 NO_x 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 NO_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) For engines installed on or after January 1, 2016, limit the emissions of NO_x 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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

IFL's fire pump engine meets the definition of an emergency stationary CI ICE under 60.and is therefore not subject to any of the requirements of 60.4219.

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§ 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 NO_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_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).

(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]

IFL operates an engine that meets the definition of an emergency stationary CI ICE which is a fire pump, with displacement of less than 30 liters per cylinder. As such, it is required to meet the emission standards in Table 4 of this subpart. IFL has complied with this requirement by purchasing an engine certified to meet those standards.

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§ 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]

IFL is required to meet the emission standards as defined in 60.4205 and will meet those emission standards for the entire life of the engine.

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Fuel Requirements for Owners and Operators

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§ 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?

Link to an amendment published at 78 FR 6695, Jan. 30, 2013.

(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 purchase only diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

(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.

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

IFL is subject to and will comply with the diesel fuel requirements highlighted above. IFL will comply with the requirements by purchasing and using only fuel that meets the standards of 40 CFR 80.510(b). Title 40 CFR 80.510(b) requires fuel to contain no more than 15 ppm sulfur and has a maximum cetane index of less than 40 or has a maximum aromatic content of 35 volume percent.

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Other Requirements for Owners and Operators

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§ 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.

The fire pump engine at IFL is not directly subject to the requirements of 40.4208, but IFL will not violate any of the requirements of this section.

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

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§ 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]

IFL is subject to the requirement to install a non-resettable hour meter and has complied with this requirement by having a non-resettable hour meter installed on the engine.

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Compliance Requirements

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§ 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 94 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 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.

IFL is not an engine manufacturer and is therefore not subject to this section.

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

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§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

Link to an amendment published at 78 FR 6695, Jan. 30, 2013.

(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.

IFL must comply with the emission standards of 40 CFR 60.4205(b) and will follow all requirements and instructions for the fire pump engine as required by the manufacturer.

(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.

IFL has purchased a fire pump engine certified to meet the emission standards provided in 60.4205(b). IFL will install, configure and operate the fire pump engine according to the manufacturer's emission-related specifications.

(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 NO_x 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 NO_x 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) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. 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 year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

IFL's fire pump engine is considered an emergency engine and is subject to the operational limitations as described in the paragraph above. IFL will not exceed the limitations as listed and will track the hours of operation of the fire pump in order to ensure compliance with these requirements.

(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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011]

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Testing Requirements for Owners and Operators

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§ 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:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

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).

Performance testing is not required on IFL's fire pump engine. The requirements of performance testing are not applicable.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

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§ 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:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 2)}$$

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.

$$C_{adj} = C_d \frac{5.9}{20.9 - \%O_2} \qquad \text{(Eq. 3)}$$

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.

$\%O_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \qquad \text{(Eq. 4)}$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3/J ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3/J ($dscf/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 5)}$$

Where:

X_{CO_2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 – 15 percent O_2, the defined O_2 correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \qquad \text{(Eq. 6)}$$

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.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{KW-hour}} \qquad \text{(Eq. 7)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x 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-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:

$$ER = \frac{C_{adj} \times Q \times T}{\text{KW-hour}} \qquad \text{(Eq. 8)}$$

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-hour = Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

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Performance testing is not required on IFL's fire pump engine. The requirements of performance testing are not applicable.

Notification, Reports, and Records for Owners and Operators

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§ 60.4214 What are my notification, reporting, and recordkeeping requirements if

Link to an amendment published at 78 FR 6696, Jan. 30, 2013.

(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.

IFL's fire pump engine is classified as an emergency stationary internal combustion engine. As stated in 60.4214(b) above, IFL is not required to submit an initial notification. IFL will keep records of the both the time of and reason for operation of the fire pump engine in both emergency and non-emergency service that are recorded through the non-resettable hour meter installed on the engine.

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Special Requirements

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§ 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_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_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]

IFL does not own or operate any engines in the areas listed above. This section does not apply.

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§ 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 areas of Alaska not accessible by the FAHS 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 sections §§ 60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS 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 areas of Alaska not accessible by the FAHS.

(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 areas of Alaska not accessible by the FAHS 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.

IFL does not own or operate any engines in the area listed above. This section does not apply.

[76 FR 37971, June 28, 2011]

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§ 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]

IFL will not be using special fuels. This section does not apply.

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General Provisions

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§ 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.

IFL understands that sections of the general provisions of Part 60 apply to them as listed in Table 8. IFL will comply with any requirements listed in these sections.

DEFINITIONS

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§ 60.4219 What definitions apply to this subpart?

Link to an amendment published at 78 FR 6696, Jan. 30, 2013.

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.

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 internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. 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. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

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.

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.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

IFL has read and understands these definitions and used them in providing this regulatory analysis.

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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]

Maximum engine power	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 in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

IFL's fire pump engine was manufactured after 2010. Table 1 does not apply.

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Table 2 to Subpart IIII 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]

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	NO_X+ NMHC	CO	PM
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

IFL's fire pump engine size is greater than 50 HP. Table 2 does not apply.

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Table 3 to Subpart IIII 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:

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to § 60.4202(d)[1]
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1]Manufacturers 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]

IFL has purchased a fire pump engine which was manufactured after 2009 and has been certified according to 60.4202(d).

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Table 4 to Subpart IIII 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]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+ [2]	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

[1] For 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.

[2] For 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.

[3] In 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.

IFL is required to meet the emission limitations highlighted above. The fire pump engine at IFL has been certified to meet the applicable emission limitations of Table 4 above. IFL has complied with these emission limitations by purchasing a fire pump engine certified to meet these limits.

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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:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 5 applies to manufacturer engine certification and does not apply to IFL.

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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:]

Mode No.	Engine speed [1]	Torque (percent) [2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[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.

Table 6 applies to manufacturer engine certification and does not apply to IFL.

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Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

[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:]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion	a. Reduce NO_X emissions by 90 percent or more	i. Select the sampling port location and the number of traverse	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.

engine with a displacement of≥ 30 liters per cylinder		points;		
		ii. Measure O_2at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for NO_Xconcentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_Xconcentration.
		iv. Measure NO_Xat the inlet and outlet of the control device	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO_Xconcentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO_Xin the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurement for NO_Xconcentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_Xconcentration.
		iv. Measure NO_Xat the exhaust of the stationary internal combustion engine	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO_Xconcentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

IFL is not required to perform performance tests; Table 7 does not apply.

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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:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.1	General applicability of the General Provisions	Yes	
§ 60.2	Definitions	Yes	Additional terms defined in § 60.4219.
§ 60.3	Units and abbreviations	Yes	
§ 60.4	Address	Yes	
§ 60.5	Determination of construction or modification	Yes	
§ 60.6	Review of plans	Yes	
§ 60.7	Notification and Recordkeeping	Yes	Except that § 60.7 only applies as specified in § 60.4214(a).
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§ 60.9	Availability of information	Yes	
§ 60.10	State Authority	Yes	
§ 60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	Yes	Except that § 60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§ 60.14	Modification	Yes	
§ 60.15	Reconstruction	Yes	
§ 60.16	Priority list	Yes	
§ 60.17	Incorporations by reference	Yes	
§ 60.18	General control device requirements	No	
§ 60.19	General notification and reporting requirements	Yes	

IFL is required to maintain compliance with the highlighted conditions shown in Table 8 above.

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