Statement of Basis

Permit to Construct No. P-2015.0017
Project ID 61508

Nunhems USA, Inc.
Parma, Idaho

Facility ID 027-00130

FINAL

June 9, 2016
Randy Stegen
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.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
CAA	Clean Air Act
CFR	Code of Federal Regulations
CI	compression ignition
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
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
PC	permit condition
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
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
RICE	reciprocating internal combustion engines
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SCL	significant contribution limits
SO_2	sulfur dioxide
SO_x	sulfur oxides
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

Nunhems USA, Inc. operates a seed treatment processing facility at 1200 Anderson Corner Road in Parma, Idaho. There are five processing stages:

- **Warehousing** – When seeds are received at the facility, they are inspected to determine if they are "dirt seed" or "clean seed". Both dirt seed and clean seed are sampled and analyzed to determine trueness to type, purity, vigor, seed health, and seed count. Seeds are then analyzed for moisture content and dried, if needed. A fumigation process is also performed, as needed, in order to eliminate insect infestation that may damage the seeds. Fumigation is accomplished using phosphine gas within a fumigation chamber.
- **Seed Conditioning** – Seed conditioning, also referred to as seed cleaning or seed milling, is the process of extracting the clean, pure seed from the plant parts that came with the seed from the field. Product considered dirt seed is received and stored within an adjacent building before it is conditioned in the conditioning building. Once received in the conditioning building, dirt seed goes through a scalping, or pre-cleaning process where product is run across an air screen cleaner to remove the largest and smallest plant parts from the seed. The seed then goes through another process known as brushing, where the awns, or hairs, of the seed are removed. After scalping and/or brushing, the seed is sent through the conditioning lines where they are further cleaned, density separated, color sorted, and size sorted. If the quality standards are met the seed is moved to climate controlled storage.
- **Seed Enhancement** – During the seed enhancement process, seeds are: 1) disinfected using a 1-percent chlorine solution, 2) primed (pre-germinated), 3) dried, 4) sorted, and 5) pelleted (the application of a polymer and filler to the seed to create a more uniform shape). Additional drying may be conducted following the application of the polymer in the pelleting process.
- **Seed Treatment** – After seed enhancement, seeds are sent for treatment where a thin layer of water-based polymer is applied in order to encapsulate the seed and hold pesticide to the seed.
- **Packaging and Shipment** – The seed is packaged in a variety of containers (pails, cans, pouches). The packaged seed can be stocked on site or distributed for sale.

Nunhems maintains eight Carothers dust collectors, six FARR cartridge dust collectors, one Murphy Rodgers baghouse, and two Herding filtration units to control particulate matter. The process heaters and building heaters use propane exclusively as the fuel source. Nunhems maintains three emergency IC engines for backup power. The engines are fueled exclusively with ultra-low sulfur diesel fuel and each engine is operated less than 100 hours per year for maintenance and testing.

Permitting History

This is the initial PTC for an existing facility, thus there is no permitting history. On October 19, 2012, Nunhems was issued Consent Order (E-2012.0007) for operating without an air quality PTC. On April 26, 2012 Nunhems submitted a PTC application (P-2012.0024, project #61035). After a review of the submitted application, DEQ determined on June 28, 2013 that emissions from the facility may cause a violation of an ambient air quality standard and denied the PTC in accordance with IDAPA 58.01.01.203.02.

Application Scope

This permit is the initial PTC for this existing facility.

Application Chronology

April 23, 2015	DEQ received an application.
April 24, 2015	DEQ received an application fee.

May 4 – May 19, 2015	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
May 22, 2015	DEQ determined that the application was incomplete.
September 8, 2015	DEQ received supplemental information from the applicant.
October 8, 2015	DEQ determined that the application was complete.
January 29, 2016	DEQ made available the draft permit and statement of basis for peer and regional office review.
February 10, 2016	DEQ made available the draft permit and statement of basis for applicant review.
May 2 – June 1, 2016	DEQ provided a public comment period on the proposed action.
March 1, 2016	DEQ received the permit processing fee.
June 9, 2016	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment
Caterpillar Generator	Emergency IC Engine Manufacturer: Caterpillar Model: C9-2008 Manufacture Date: 2008 Rating: 398 bhp Fuel: ULSD	None
Generac Generator	Emergency IC Engine Manufacturer: New Holland Model: SD080 Manufacture Date: 2002 Rating: 125 bhp Fuel: ULSD	None
Cummins Generator	Emergency IC Engine Manufacturer: Cummins Model: QSK50-G4 NR2 Manufacture Date: 2009 Rating 2,205 bhp Fuel: ULSD	None
DC-1	Seed Conditioning (Lines 3-4)	CSL Dust Collector No. 1 Control Efficiency: 99.995%
DC-2	Seed Conditioning (AIM Blending Line)	CSL Dust Collector No. 2 Control Efficiency: 99.995%
DC-3	Seed Conditioning (Lines 1-2)	CSL Dust Collector No. 3 Control Efficiency: 99.995%
DC-4	Seed Conditioning (Carrot Seed Brushing)	CSL Dust Collector No. 4 Control Efficiency: 99.995%
DC-5	Seed Conditioning (Scalping Lines 3-4)	CSL Dust Collector No. 5 Control Efficiency: 99.995%
DC-6	Seed Conditioning (Scalping Lines 1-2)	CSL Dust Collector No. 6 Control Efficiency: 99.995%
DC-7	Seed Conditioning (Scalping and Brush Lines)	CSL Dust Collector No. 7 Control Efficiency: 99.995%
DC-8	Seed Packaging and Shipping	CSL Dust Collector No. 8 Control Efficiency: 99.995%
FARR 1	Seed Treatment (Film Coating)	FARR Cartridge Collector No. 1 Control Efficiency: 99.99%
FARR 2	Seed Treatment (Film Coating)	FARR Cartridge Collector No. 2 Control Efficiency: 99.99%
FARR 3	Seed Enhancement (Pelleting)	FARR Cartridge Collector No. 3 Control Efficiency: 99.99%
FARR 4	Seed Enhancement (Pelleting)	FARR Cartridge Collector No. 4 Control Efficiency: 99.99%
FARR 5	Warehousing (Bulk Unloading)	FARR Cartridge Collector No. 5 Control Efficiency: 99.99%

Source ID No.	Sources	Control Equipment
FARR 6	Warehousing (Bulk Unloading)	FARR Cartridge Collector No. 6 Control Efficiency: 99.99%
MR BH 1	Seed Enhancement (Priming)	Murphy-Rodgers Baghouse Control Efficiency: 99.9%
HERD 1	Seed Enhancement (Powder/Blending)	Herding Filtration Unit No. 1 Control Efficiency: 99.97%
HERD 2	Seed Enhancement (Pelleting)	Herding Filtration Unit No. 2 Control Efficiency: 99.97%
HEAT 1	Two Propane Building Heaters Manufacturer: RAE Corporation Model No. RCUAC4CD50-H4 Rating: 1 MMBtu/unit (each)	None
HEAT 2	Four Propane Building Heaters South of Building "L" Rating: 0.25 MMBtu/hr (each)	None
DRYER 1	Two Enclosed Propane Seed Dryers within Building "L" Rating: 1 MMBtu/hr (each)	None
DRYER 2	Propane Seed Dryer Northwest of Building "K" Rating: 2.5 MMBtu/hr	None
DRYER 3	Propane Seed Dryer Northwest of Building "L" Rating: 2.0 MMBtu/hr	None
DRYER FARR 3	Two Propane Seed Dryers inside Building "L" Vents through FARR 3 Rating: 0.5 MMBtu/hr (each)	None
DRYER FARR 4	Three Propane Seed Dryers inside Building "L" Vents through FARR 4 Rating: 0.5 MMBtu/hr (each)	None
FUME	Fumigation Chamber Length: 60'9" Width: 9'6" Interior Height: 13'1"	None

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air 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 state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the point sources at the facility. Emissions estimates of criteria pollutant, GHG, and HAP were based on emission factors from AP-42 for the LPG combustion sources and manufacturer data for the filtration units and emergency IC engines.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air 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 **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a "Synthetic Minor" source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for regulated air pollutants as submitted by the applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. Particulate matter emissions from the seed processing operations are controlled by filtration devices. The uncontrolled PTE shown in Table 2 does not include any PM emission control for the seed processing operations.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$	SO_2	NO_x	CO	VOC	CO_2e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Caterpillar Generator	0.017	0.20	0.65	0.08	0.25	114
Generac Generator	0.068	0.06	0.46	0.13	0.02	36
Cummins Generator	0.036	0.13	6.93	0.69	0.10	639
DC-1 - Seed Conditioning (Lines 3-4)	44.9/12.7	--	--	--	--	--
DC-2 - Seed Conditioning (AIM Blending Line)	44.9/12.7	--	--	--	--	--
DC-3 - Seed Conditioning (Line 1-2)	45.1/12.7	--	--	--	--	--
DC-4 - Seed Conditioning (Carrot Seed Brushing)	16.5/4.6	--	--	--	--	--
DC-5 - Seed Conditioning (Scalping Lines 3-4)	25.8/7.3	--	--	--	--	--
DC-6 - Seed Conditioning (Scalping Lines 1-2)	41.9/11.8	--	--	--	--	--
DC-7 - Seed Conditioning (Scalping and Brush Lines)	8.8/2.5	--	--	--	--	--
DC-8 - Seed Packaging and Shipping	32.2/9.1	--	--	--	--	--
FARR 1 - Seed Treatment (Film Coating)	21.5/6.0	--	--	--	0.011	--
FARR 2 - Seed Treatment (Film Coating)	20.2/5.7	--	--	--	0.001	--
FARR 3 - Seed Enhancement (Pelleting)	24.1/6.8	--	--	--	--	--
FARR 4 - Seed Enhancement (Pelleting)	28.8/8.1	--	--	--	--	--
FARR 5 - Warehousing (Bulk Unloading)	39.1/11.0	--	--	--	--	--
FARR 6 – Warehousing (Bulk Unloading)	39.1/11.0	--	--	--	--	--

Source	$PM_{10}/PM_{2.5}$	SO_2	NO_x	CO	VOC	CO_2e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
MR BH 1 - Seed Enhancement (Priming)	1.45/0.41	--	--	--	--	--
HERD 1 - Seed Enhancement (Powder/Blending)	1.45/0.41	--	--	--	--	--
HERD 2 - Seed Enhancement (Pelleting)	16.86/4.75	--	--	--	0.187	--
HEAT 1 - Two Propane Building Heaters	0.025	0.054	0.467	0.269	0.036	449
HEAT 2 - Four Propane Building Heaters	0.013	0.027	0.233	0.016	0.018	224
DRYER 1 - Two Enclosed Propane Seed Dryers	0.068	0.144	1.245	0.718	0.096	1,196
DRYER 2 – Seed Dryer	0.035	0.075	0.648	0.374	0.050	623
DRYER 3 – Seed Dryer	0.005	0.010	0.087	0.050	0.007	83.3
DRYER FARR 3 – Seed Dryer	0.034	0.072	0.062	0.360	0.048	598
DRYER FARR 4 – Seed Dryer	0.050	0.108	0.933	0.539	0.072	897
Total, Point Sources	**453/128**	**0.88**	**11.72**	**3.23**	**0.90**	**4,859**

The following table presents the uncontrolled Potential to Emit for HAP pollutants as submitted by the applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. The PTE is based upon a worst-case for operations at the facility.

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS

Hazardous Air Pollutants	PTE (T/yr)
Acrolein	3.72E-05
Benzene	1.36E-03
Ethylene Glycol	9.83E-04
Formaldehyde	4.44E-04
Hydrochloric Acid	5.78E-05
Methanol	1.90E-01
Naphthalene	2.08E-04
Phosphine	1.79E-02
Toluene	5.12E-04
Xylene	1.11E-02
Total	**0.22**

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of a project. However, this is an existing facility that has been operating without a PTC. Because this is the first time the facility is receiving a permit, pre-project emissions are set to zero for all criteria and GHG pollutants.

Post Project Potential to Emit

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 submitted by the applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 4 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_x		CO		VOC		CO_2e	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Caterpillar Generator	0.069	0.017	0.82	0.20	2.61	0.65	0.32	0.08	0.98	0.25	458	114
Generac Generator	0.270	0.068	0.26	0.06	1.86	0.46	0.52	0.13	0.06	0.02	144	36
Cummins Generator	0.146	0.036	0.53	0.13	27.71	6.93	2.77	0.69	0.39	0.10	2,558	639
DC-1 - Seed Conditioning (Lines 3-4)	0.103/0.029	0.45/0.13	--	--	--	--	--	--	--	--	--	--
DC-2 - Seed Conditioning (AIM Blending Line)	0.103/0.029	0.45/0.13	--	--	--	--	--	--	--	--	--	--
DC-3 - Seed Conditioning (Line 1-2)	0.103/0.030	0.45/0.13	--	--	--	--	--	--	--	--	--	--
DC-4 - Seed Conditioning (Carrot Seed Brushing)	0.038/0.011	0.16/0.05	--	--	--	--	--	--	--	--	--	--
DC-5 - Seed Conditioning (Scalping Lines 3-4)	0.059/0.017	0.26/0.07	--	--	--	--	--	--	--	--	--	--
DC-6 - Seed Conditioning (Scalping Lines 1-2)	0.096/0.027	0.42/0.12	--	--	--	--	--	--	--	--	--	--
DC-7 - Seed Conditioning (Scalping and Brush Lines)	0.020/0.006	0.09/0.03	--	--	--	--	--	--	--	--	--	--
DC-8 - Seed Packaging and Shipping	0.074/0.021	0.32/0.09	--	--	--	--	--	--	--	--	--	--
FARR 1 - Seed Treatment (Film Coating)	0.049/0.014	0.21/0.06	--	--	--	--	--	--	0.0024	0.011	--	--
FARR 2 - Seed Treatment (Film Coating)	0.046/0.013	0.20/0.06	--	--	--	--	--	--	0.0002	0.001	--	--
FARR 3 - Seed Enhancement (Pelleting)	0.055/0.016	0.24/0.07	--	--	--	--	--	--	--	--	--	--
FARR 4 - Seed Enhancement (Pelleting)	0.066/0.019	0.29/0.08	--	--	--	--	--	--	--	--	--	--
FARR 5 -	0.089/0.025	0.39/0.11	--	--	--	--	--	--	--	--	--	--

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_x		CO		VOC		CO_2e	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Warehousing (Bulk Unloading)												
FARR 6 – Warehousing (Bulk Unloading)	0.089/0.025	0.39/0.11	--	--	--	--	--	--	--	--	--	--
MR BH 1 - Seed Enhancement (Priming)	0.005/0.002	0.02/0.01	--	--	--	--	--	--	--	--	--	--
HERD 1 - Seed Enhancement (Powder/Blending)	0.010/0.003	0.04/0.01	--	--	--	--	--	--	--	--	--	--
HERD 2 - Seed Enhancement (Pelleting)	0.116/0.033	0.51/0.14	--	--	--	--	--	--	0.043	0.187	--	--
HEAT 1 - Two Propane Building Heaters	0.015	0.025	0.033	0.054	0.284	0.467	0.164	0.269	0.022	0.036	273	449
HEAT 2 - Four Propane Building Heaters	0.008	0.013	0.016	0.027	0.142	0.233	0.082	0.016	0.011	0.018	137	224
DRYER 1 - Two Enclosed Propane Seed Dryers	0.015	0.068	0.033	0.144	0.284	1.245	0.164	0.718	0.022	0.096	273	1,196
DRYER 2 – Seed Dryer	0.019	0.035	0.041	0.075	0.356	0.648	0.205	0.374	0.027	0.050	342	623
DRYER 3 – Seed Dryer	0.015	0.005	0.033	0.010	0.284	0.087	0.164	0.050	0.022	0.007	273	83.3
DRYER FARR 3 – Seed Dryer	0.008	0.034	0.016	0.072	0.142	0.062	0.082	0.360	0.011	0.048	137	598
DRYER FARR 4 – Seed Dryer	0.012	0.050	0.024	0.108	0.213	0.933	0.123	0.539	0.016	0.072	205	897
Post Project Totals	**1.70/0.90**	**5.24/1.75**	**1.81**	**0.88**	**33.89**	**11.72**	**4.59**	**3.23**	**1.61**	**0.90**	**4,800**	**4,859**

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

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 5 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_x		CO		VOC		CO_2e	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	0.0/0.0	0.0/0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Potential to Emit	1.7/0.9	5.2/1.8	1.81	0.88	33.89	11.72	4.59	3.23	1.61	0.90	4,800	4,859
Changes in Potential to Emit	**1.7/0.9**	**5.2/1.8**	**1.81**	**0.88**	**33.89**	**11.72**	**4.59**	**3.23**	**1.61**	**0.90**	**4,800**	**4,859**

Comparison of the Project Emissions Increase to the PSD Significance Thresholds

The comparison of the change in projected actual emissions from baseline actual emissions to the PSD significance thresholds is presented in the following table.

Table 7 COMPARISON OF THE PROJECT EMISSIONS INCREASE TO THE PSD MAJOR MODIFICATION THRESHOLDS

Emissions	$PM_{10}/PM_{2.5}$	SO_2	NO_x	CO	VOC	CO_2e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources						
Project Emissions Increase	5.2/1.8	0.9	11.7	3.2	0.9	4,859
PSD Significance Threshold	15	40	40	100	40	100,000
Does the Project Emissions Increase Exceed the PSD Major Modification Threshold?	No	No	No	No	No	No

As presented in the preceding table this project does not constitute a PSD Major Modification and is not subject to PSD permitting requirements.

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of non-carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 8 POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Acrolein	6.19E-06	1.7E-02	No
Ammonia	1.01E-03	1.2E+00	No
Aluminum Oxide; Al_2O_3	3.96E-06	6.67E-01	No
Calcium Carbonate	3.29E-03	6.67E-01	No
Chlorpyrifos	2.44E-06	1.30E-02	No
Ethylene Glycol	2.24E-04	8.46E-01	No
Hydrogen Chloride (HCl)	1.32E-05	5.00E-02	No
Kaolin	3.93E-06	1.33E-01	No
Magnesium Oxide	3.30E-06	6.67E-01	No
Methanol	4.26E-02	1.73E+01	No
Mica	3.51E-04	2.00E-01	No
Naphthalene	3.46E-05	3.33E+00	No

Non-Carcinogenic Toxic Air Pollutants	24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Perlite	7.15E-04	6.67E-01	No
Phosphine	4.10E-03	2.70E-02	No
Silica - amorphous-Diatomaceous Earth	1.59E-03	6.67E-01	No
Silica, crystalline - Cristobalite	3.17E-04	3.30E-03	No
Silica, crystalline - Quartz	5.51E-04	6.70E-03	No
Sodium Hydroxide	1.10E-02	1.33E-01	No
Thiram	1.41E-01	3.33E-01	No
Toluene	8.53E-05	2.5E+01	No
Xylene	2.50E-03	2.90E+01	No

None of the PTEs for non-carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average non-carcinogenic screening ELs identified in IDAPA 58.01.01.585 were exceeded.

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 9 POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Benzene	3.10E-04	8.0E-04	No
Formaldehyde	3.30E-04	5.1E-04	No
Naphthalene	3.46E-05	9.1E-05	No
Thiourea	1.25E-06	1.5E-06	No
Benzo(a)pyrene	9.50E-08	2.0E-06	No
Benz(a)anthracene	3.09E-07	NA	No
Benzo(b)fluoranthene	3.64E-07	NA	No
Benzo(k)fluoranthene	8.03E-08	NA	No
Chrysene	5.16E-07	NA	No
Dibenzo(a,h)anthracene	1.49E-07	NA	No
Indeno(1,2,3-cd)pyrene	1.58E-07	NA	No
Total PAHs	7.91E-05	9.1E-05	No

None of the PTEs for carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any carcinogenic TAP because none of the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 10 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (lb/hr)	PTE (T/yr)
Acrolein	6.19E-06	3.72E-05
Benzene	3.10E-04	1.36E-03
Ethylene Glycol	2.24E-04	9.83E-04
Formaldehyde	3.30E-04	4.44E-04
Hydrochloric Acid	1.32E-05	5.78E-05
Methanol	4.26E-02	1.90E-01
Naphthalene	3.46E-05	2.08E-04
Phosphine	4.10E-03	1.79E-02
Toluene	8.53E-05	5.12E-04
Xylene	2.50E-03	1.11E-02
Totals	**0.05**	**0.22**

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 A.

An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action (see Appendix B).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Payette 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:

For THAPs (Total Hazardous Air Pollutants) Only:

A = Use when any one HAP has actual or potential emissions $\geq$ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions $\geq$ 25 T/yr.

SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits $\geq$ 8 T/yr. of a single HAP or $\geq$ 20 T/yr. of THAP.

SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr. of a single HAP and/or < 20 T/yr. of THAP.

B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr. major source threshold

UNK = Class is unknown

For All Other Pollutants:

A = Actual or potential emissions of a pollutant are ≥ 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr. if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are ≥ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr. if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.

B = Actual and potential emissions are < 100 T/yr. without permit restrictions.

UNK = Class is unknown.

Table 11 UNCONTROLLED PTE AND PTE FOR REGULATED AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS

Pollutant	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM_{10}	453	5.24	100	SM
$PM_{2.5}$	128	1.75	100	SM
SO_2	0.88	0.88	100	B
NO_x	11.72	11.72	100	B
CO	3.23	3.23	100	B
VOC	0.90	0.90	100	B
CO_2e	4,859	4,859	100,000	B
HAP (single)	0.19	0.19	10	B
HAP (total)	0.22	0.22	25	B

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 ..... Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the existing unpermitted emissions sources. 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.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 ..... Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 ..... Visible Emissions

The sources of PM_{10} emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 2.4, 3.3 and 3.17.

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 PM10, SO2, NO_x, CO, VOC, and HAP or 10 tons per year for any single HAP or 25 tons per year for any combination of HAP's as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 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 change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, 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 IIII .....Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The facility is subject to the requirements of 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The applicable requirements of the subpart are underlined for identification.

§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 is:

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

The Cummins generator is a 2009 model year, rated at 1645 kW (2,205 hp) and is an emergency IC engine used to produce power in the event that local utility power is interrupted. The engine is not a fire pump engine. The engine was installed after July 11, 2005. The Caterpillar generator is a 2008 model year, rated at 250 kW (398 hp) and is an emergency IC engine used to produce power in the event that local utility power is interrupted. The engine is not a fire pump engine. The engine was installed after July 11, 2005.

(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.

The Cummins generator was manufactured in 2009 and was installed after July 11, 2005 and is therefore subject to §60.4200(a)(4). The Caterpillar generator was manufactured in 2008 and was installed after July 11, 2005 and is therefore subject to §60.4200(a)(4).

(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.

The applicant is not required to obtain a Part 70 permit because: (1) the facility's PTE is less than all applicable major source thresholds and because; (2) Subpart IIII exempts owners or operators of area sources subject to this from the obligation to obtain a Part 70 permit.

(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.

§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.

This section is applicable as referenced by §60.4205(b). The Cummins engine has a displacement of 3.14 liters/cylinder and must meet the emission standards of 40 CFR 89.112 and 40 CFR 89.113. The Caterpillar engine has a displacement of 1.47 liters/cylinder and must meet the emission standards of 40 CFR 89.112 and 40 CFR 89.113.

(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.

§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.

The Cummins and Caterpillar generators have been designed to meet the emission standards of 40 CFR 89.112 and 40 CFR 89.113 as specified in §60.4202.

(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.

§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.

The Cummins and Caterpillar generators have been designed to meet the emission standards of 40 CFR 89.112 and 40 CFR 89.113 as specified in §60.4202. The engines have been designed to meet the emission standards over the life of the engine.

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

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

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

The permittee will be required to only use No. 2 diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel with a maximum sulfur content of 15 ppm in the engines.

(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.

§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.

The Cummins and Caterpillar generators must meet all 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.

The Cummins and Caterpillar generators have displacements of less than 10 liters per cylinder and maximum engine power greater than 25 hp. Therefore, the engines must meet the requirements specified in paragraph (a) of this section for engines newer than 2007 models.

(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.

§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.

A non-resettable hour meter will be required on the Cummins and Caterpillar generators.

(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.

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

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

The permittee will be required to operate and maintain the Cummins and Caterpillar engines according to the manufacturer's emission-related written instructions and change only those emission-related settings that are permitted by the manufacturer or comply with paragraph (g) of this section. The requirements of 40 CFR parts 89, 94, and/or 1068 must be met as they apply.

(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.

The Cummins and Caterpillar generators meet the emission standards in 60.4205(b) for the latest model year and maximum engine power. The engines are installed and configured 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) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

The permittee will be required to only operate the Cummins and Caterpillar engines during emergency operations, and for maintenance and testing. The engines may not be used for emergency demand response. Each engine will be limited to operation for a total of 100 hours per year or less for maintenance and testing. The operation in non-emergency situations will be limited to 50 hours of the 100 hour of operation per year.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

The permittee will be required to install, configure, operate, and maintain the Cummins and Caterpillar engines according to the manufacturer's emission-related written instructions or keep a maintenance plan and maintenance records on site as well as operate and maintain the engine to the extent possible to minimize emissions. If the latter option is chosen, the applicant will conduct an initial performance test on each engine within one year of the startup and every three years thereafter.

§60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

The permittee will be required to maintain a log of engine operations for the Cummins and Caterpillar engines, including the reason for the engine operation and the length of time of the operation.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in §60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

MACT Applicability (40 CFR 63)

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

The facility has proposed to operate as a minor source of hazardous air pollutant (HAP) emissions, and is subject to the requirements of 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The applicable requirements of the subpart are underlined for identification.

§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.

§63.6585 Am I subject to this subpart?

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.

The permittee maintains and operates one emergency IC engine that was installed prior to June 12, 2006. The engine is rated at 80 kw (125 hp), manufactured by Generac. The facility is classified as an area source of HAP emissions with PTE of 10 tpy or less for any single HAP and less than 25 tpy for all HAPs combined.

(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.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

Per §63.6675 the definition of 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.

The facility is not a residential, commercial, or institution as defined above.

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

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.

The Generac generator was constructed in 2001.

§63.6595 When do I have to comply?

(a) Affected sources. (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI 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 stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI 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 stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

The Generac generator is an existing emergency RICE with a rating of 125 hp at an area source of HAP emissions.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your 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 before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your 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 after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) Area sources that become major sources. If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

Table 2d applies to emergency stationary RICE. It establishes the following O&M requirements for the engine:

- Change oil and filter every 500 hours of operation or annually, whichever comes first
- Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are

shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in §63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in §63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

The permittee will be required to only use diesel fuel that meets the requirements of 40 CFR 80.510(b) in the Generac generator engine.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2), or are on offshore vessels that meet §63.6603(c) are exempt from the requirements of this section.

§63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing 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 stationary RICE located at an area source of HAP emissions?

If you own or operate an existing 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 stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

There are no established emission limits for CO or formaldehyde for this stationary emergency IC engine, therefore there is no requirement to perform any performance testing.

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O_2 or CO_2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance 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) <u>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:</u>

(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;

The Generac generator is an existing emergency stationary RICE with a rating of 125 hp.

(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 stationary RICE located at an area 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.

(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.

The permittee will be required to maintain a non-resettable hour meter on the Generac generator engine.

(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 (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 that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

(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 business 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 business 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 business 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 business 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.

The permittee will be required to maintain the Generac generator engine as established in this section.

§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

The Generac generator is not required to meet emission limits for CO or formaldehyde.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate 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 (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) <u>If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.</u>

(1) <u>There is no time limit on the use of emergency stationary RICE in emergency situations.</u>

(2) <u>You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).</u>

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

The permittee will be required to operate the Generac generator in compliance with the requirements of this section.

§63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(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 keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

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

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) 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 that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

The permittee will be required to maintain records of the maintenance and operation of the Generac generator engine as established in this section.

§63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

The permittee will be required to maintain records as established in this section.

Permit Conditions Review

This section describes the permit conditions for this initial permit.

Initial Permit Conditions 2.1 and 2.2

These permit conditions describe the three emergency IC engines that are permitted in this section of the permit.

Initial Permit Condition 2.3

This permit condition establishes emission limits for each of the three engines. The emission limits are based on the emissions estimates provided in the PTC application.

Initial Permit Condition 2.4

This permit condition establishes the opacity limit from IDAPA 58.01.01.625.

Initial Permit Condition 2.5

This permit condition establishes ULSD fuel specifications.

Initial Permit Conditions 2.6 through 2.12

These permit conditions establish the requirements of 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. These requirements apply to the Caterpillar and Cummins emergency IC engines.

Initial Permit Conditions 2.13 through 2.19

These permit conditions establish the requirements of 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. These requirements apply to the Generac emergency engine.

Initial Permit Condition 2.20

This permit condition establishes recordkeeping requirements regarding the ULSD fuel.

Initial Permit Condition 2.21

This permit condition establishes the incorporation of federal requirements by reference.

Initial Permit Conditions 3.1 and 3.2

These permit conditions describe the seed processing equipment that is permitted in this section of the permit.

Initial Permit Condition 3.3

This permit condition establishes the opacity limit for the seed processing equipment in accordance with IDAPA 58.01.01.625.

Initial Permit Condition 3.4

This permit condition establishes PM_{10}, $PM_{2.5}$, VOC, and NO_x emission limits for the seed processing operation based on estimated emissions as presented in the PTC application.

Initial Permit Condition 3.5

This permit condition establishes a seed processing throughput limit of 10,000 tons/yr in order to comply with the emission limits permit condition.

Initial Permit Condition 3.6

This permit condition establishes that the building heaters and seed dryers shall only use propane fuel in accordance with the PTC application and the modeling assumptions.

Initial Permit Condition 3.7

This permit condition establishes operating limits for Dryer 2 of 8:00 a.m. to 6:00 p.m., 10 hours per day, and 3,650 hours per year in accordance with the PTC application and the modeling assumptions.

Initial Permit Condition 3.8

This permit condition establishes operating limits for Dryer 3 of 6:00 a.m. to 4:00 p.m., 10 hours per day, operation is only allowed during the months of August and September and only from Monday through Saturday, and 530 hours per year in accordance with the PTC application and the modeling assumptions.

Initial Permit Condition 3.9

This permit condition establishes operations and maintenance manual requirements for the baghouses, dust collectors, and filtration units.

Initial Permit Condition 3.10

This permit condition establishes the PM_{10} control efficiency of the CSL Dust Collectors at 99.995% as provided in the PTC application and modeling assumptions.

Initial Permit Condition 3.11

This permit condition establishes the PM_{10} control efficiency of the FARR Cartridge Collectors at 99.99% as provided in the PTC application and modeling assumptions.

Initial Permit Condition 3.12

This permit condition establishes the PM_{10} control efficiency of the Murphy-Rodgers Baghouses at 99.9% as provided in the PTC application and modeling assumptions.

Initial Permit Condition 3.13

This permit condition establishes the PM_{10} control efficiency of the Herding Filtration Units at 99.97% as provided in the PTC application and modeling assumptions.

Initial Permit Condition 3.14

This permit condition requires the permittee to maintain and operate the baghouses, dust collectors, and filtration units in accordance with manufacturer's and O&M Manual specifications and recommendations. This condition also requires the devices to be in operation when the respective processing lines are in operation.

Initial Permit Condition 3.15

This permit condition requires the permittee to monitor and record monthly and annual seed throughput from the seed processing operations.

Initial Permit Condition 3.16

This permit condition requires the permittee to monitor and record the date, start and stop time, and total daily hours of operation of Dryer 2 and Dryer 3 to show compliance with permit conditions 3.9 and 3.10.

Initial Permit Condition 3.17

This permit condition requires the permittee to conduct monthly inspections of visible emissions from the seed processing baghouses, dust collectors, and filtration units.

Initial Permit Condition 3.18

This permit condition requires the permittee to comply with the Recordkeeping General Provision.

Initial Permit Condition 4.1

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.

Initial Permit Condition 4.2

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.

Initial Permit Condition 4.3

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.

Initial Permit Condition 4.4

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

Initial Permit Condition 4.5

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.

Initial Permit Condition 4.6

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.

Initial Permit Condition 4.7

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.

Initial Permit Condition 4.8

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.

Initial Permit Condition 4.9

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.

Initial Permit Condition 4.10

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.

Initial Permit Condition 4.11

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.

Initial Permit Condition 4.12

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

Initial Permit Condition 4.13

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

Initial Permit Condition 4.14

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

Initial Permit Condition 4.15

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

Initial Permit Condition 4.16

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 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 not submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

APPENDIX A – EMISSIONS INVENTORIES

CRITERIA POLLUTANTS PTE							
Source Descriptions	Emission Controls	PM-Total		PM-10*		PM-2.5*	
		lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Backup Diesl Generators							
(3) Backup Diesel Generators	None	0.455	0.121	0.455	0.121	0.455	0.121
Filtration Units							
Seed Conditioning, Lines 3-4	DC-1 CSL Dust Collector	0.209	0.917	0.103	0.449	0.029	0.127
Seed Conditioning, AIM Blending Line	DC-2 CSL Dust Collector	0.209	0.917	0.103	0.449	0.029	0.127
Seed Conditioning, Line 1-2	DC-3 CSL Dust Collector	0.210	0.920	0.103	0.451	0.029	0.127
Seed Conditioning, Carrot Seed Brush	DC-4 CSL Dust Collector	0.077	0.336	0.038	0.165	0.011	0.046
Seed Conditioning, Scalping Lines 3-4	DC-5 CSL Dust Collector	0.120	0.526	0.059	0.258	0.017	0.073
Seed Conditioning, Scalping Lines 1-2	DC-6 CSL Dust Collector	0.195	0.854	0.096	0.419	0.027	0.118
Seed Conditioning, Scalping and Brust	DC-7 CSL Dust Collector	0.041	0.179	0.020	0.088	0.006	0.025
Seed Packaging and Shipping	DC-8 CSL Dust Collector	0.150	0.657	0.074	0.322	0.021	0.091
Seed Treatment (Film Coating)	(FARR 1) FARR Cartridge Collector No. 1	0.100	0.438	0.049	0.215	0.014	0.060
Seed Treatment (Film Coating)	(FARR 2) FARR Cartridge Collector No. 2	0.094	0.411	0.046	0.202	0.013	0.057
Seed Enhancement (Pelleting)	(FARR 3) FARR Cartridge Collector No. 3	0.112	0.491	0.055	0.241	0.015	0.068
Seed Enhancement (Pelleting)	(FARR 4) FARR Cartridge Collector No. 4	0.134	0.588	0.066	0.288	0.019	0.081
Warehousing (Bulk Unloading)	(FARR 5) FARR Cartridge Collector No. 5	0.182	0.798	0.089	0.391	0.025	0.110
Warehousing (Bulk Unloading)	(FARR 6) FARR Cartridge Collector No. 6	0.182	0.798	0.089	0.391	0.025	0.110
Seed Enhancement (Priming)	(MR BH 1) Murphy-Rodgers Baghouse	0.011	0.050	0.089	0.024	0.002	0.007
Seed Enhancement (Powder Blending)	(HERD 1) Herding Filtration Unit No. 1	0.020	0.089	0.010	0.043	0.003	0.012
Seed Enhancement (Pelleting)	(HERD 2) Herding Filtration Unit No. 2	0.236	1.032	0.1155	0.506	0.0325	0.142
LPG Combustion							
Two propane building heaters ("Q") for temperature and humidity control (Heater 1)	None	0.015	0.025	0.015	0.025	0.015	0.025
Four building heaters south of building "L" (Heater 2)	None	0.008	0.013	0.008	0.013	0.008	0.013
Enclosed Propane Seed Dryer within building "L" (Dryer 1A)	None	0.008	0.034	0.008	0.034	0.008	0.034
Enclosed Propane Seed Dryer within building "L" (Dryer 1B)		0.008	0.034	0.008	0.034	0.008	0.034
Seed Dryer northwest of building "K" (Dryer 2)	None	0.019	0.035	0.019	0.035	0.019	0.035
Seed Dryer northwest of building "L" (Dryer 3)	None	0.015	0.005	0.015	0.005	0.0153005	0.005
Seed Dryer inside Building L (2 500,000 BTU units, Vent through FARR03)	None	0.008	0.034	0.008	0.034	0.008	0.034
Seed Dryer inside Building L (3 500,000 BTU units; Vent through FARR04)	None	0.011	0.050	0.011	0.050	0.011	0.050
	FACILITY-WIDE TOTAL EMISSIONS	2.83	10.26	2.826	5.16	0.86	1.64

*PM-10 = particulate matter less than or equal to 10 um aerodynamic diameter. All particulate is assumed to be < or = 1 um in size.

CRITERIA POLLUTANTS PTE											
NO_x		CO		CO_2e		SO_x		VOC		Lead	
lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
32.17	8.04	3.61	0.90	3,159.3	789.8	1.61	0.40	1.44	0.36	-	-
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.45E-03	1.07E-02	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.29E-04	1.00E-03	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.26E-02	1.87E-01	n/a	n/a
0.28	0.4667	0.16	0.27	273.2	448.8	0.033	0.054	0.022	0.036		
0.14	0.2334	0.08	0.13	136.6	224.4	0.016	0.027	0.011	0.018		
0.14	0.6223	0.08	0.36	136.6	598.4	0.016	0.072	0.011	0.048		
0.14	0.6223	0.08	0.36	136.6	598.4	0.016	0.072	0.011	0.048		
0.36	0.6482	0.20	0.37	341.5	623.3	0.041	0.075	0.027	0.050		
0.28	0.0667	0.16	0.05	273.2	83.3	0.033	0.010	0.022	0.007		
0.14	0.6223	0.08	0.36	136.6	598.4	0.016	0.072	0.011	0.048		
0.21	0.0503	0.12	0.54	204.9	897.5	0.025	0.108	0.016	0.072		
33.24	10.64	4.23	2.40	4183.8	3283.0	1.73	0.70	1.56	0.76	-	-

CRITERIA EMISSIONS - LIQUEFIED PETROLEUM GAS COMBUSTION - Nunhems USA, Inc.

Emission Factors

NOx	13.0 lb/10^3 gal	AP-42, Table 1.5-1, EMISSION FACTORS FOR LPG COMBUSTION*, 1998
CO	7.5 lb/10^3 gal	AP-42, Table 1.5-1, EMISSION FACTORS FOR LPG COMBUSTION*, 1998
CO_2e	12,500 lb/10^3 gal	AP-42, Table 1.5-1, EMISSION FACTORS FOR LPG COMBUSTION*, 1998
PM-Total	0.7 lb/10^3 gal	AP-42, Table 1.5-1, EMISSION FACTORS FOR LPG COMBUSTION*, 1998
SOx[2]	1.5 lb/10^3 gal	AP-42, Table 1.5-1, EMISSION FACTORS FOR LPG COMBUSTION*, 1998
VOC[3]	1.0 lb/10^3 gal	AP-42, Table 1.5-1, EMISSION FACTORS FOR LPG COMBUSTION*, 1998
Lead		

Conversion Factor
91.5 x 10^6 Btu/10^3 gal
1.09E-05

a Assumes PM, CO, and TOC emissions are the same, on a heat input basis, as for natural gas combustion. Use heat contents of 91.5 x 10^6 Btu/10^3 gallon for propane, 102 x 106 Btu/103 gallon for butane, 1020 x 106 Btu/106 scf for methane when calculating an equivalent heat input basis. For example, the equation for converting from methane's emissions factors to propane's emissions factors is as follows: lb pollutant/103 gallons of propane = (lb pollutant /106 ft3 methane) * (91.5 x 106 Btu/103 gallons of propane) / (1020 x 106 Btu/106 scf of methane). The NOx emission factors have been multiplied by a correction factor of 1.5, which is the approximate ratio of propane/butane NOx emissions to natural gas NOx emissions. To convert from lb/103 gal to kg/103 L, multiply by 0.12. SCC = Source Classification Code.

[2] The sulfur emission factor for propane is 0.10S, where S = sulfur fuel content in grains/100 ft^3, assumed to be 15 (per the Gas Processors Association Engineering Data Book, standard for commercial grade propane).

#REF!

[3] VOC assumed to be equal to TOC.

Description	Capacity (BTU/hr)/unit	Throughput (hours of operation/unit)	PM-Total* lb/hr	PM-Total* T/yr	PM-10 Emissions* lb/hr	PM-10 Emissions* T/yr	PM-2.5 Emissions* lb/hr	PM-2.5 Emissions* T/yr	NOx Emissions lb/hr	NOx Emissions T/yr	CO Emissions lb/hr	CO Emissions T/yr	CO_2e Emissions lb/hr	CO_2e Emissions T/yr	SOx Emissions lb/hr	SOx Emissions T/yr	VOC** Emissions lb/hr	VOC** Emissions T/yr
Two propane building heaters ("Q") for temperature and humidity control (Heat 01)	1,000,000	3,265	0.0153	0.0251	0.0153	0.0251	0.0153	0.0251	0.2842	0.4667	0.1639	0.2693	273.2	448.8	0.0328	0.0539	0.0219	0.0359
Ten blower fans on south side of building "Q"	Ambient Air																	
Eight fans off east side of building "G" for temperature and humidity control.	Ambient Air																	
Twenty-Nine Total fans (Nine off of the east side of each of the "D" buildings) for temperature and humidity control.	Ambient Air																	
Four building heaters south of building "L" (Heat 02)	250,000	3,265	0.0077	0.0126	0.0077	0.0126	0.0077	0.0126	0.1421	0.2334	0.0820	0.1346	136.6	224.4	0.0164	0.0269	0.0109	0.0180
Seed Dryers within building "L" (Dryer 01A)	1,000,000	8,760	0.0077	0.0335	0.0077	0.0335	0.0077	0.0335	0.1421	0.6223	0.0820	0.3590	136.6	598.4	0.0164	0.0718	0.0109	0.0479
Seed Dryers within building "L" (Dryer 01B)	1,000,000	8,760	0.0077	0.0335	0.0077	0.0335	0.0077	0.0335	0.1421	0.6223	0.0820	0.3590	136.6	598.4	0.0164	0.0718	0.0109	0.0479
Seed Dryer northwest of building "L" (Dryer 3)	2,000,000	610	0.0153	0.0047	0.0153	0.0047	0.0153	0.0047	0.2842	0.0867	0.1639	0.0500	273.2	83.3	0.0328	0.0100	0.0219	0.0067
Dryer 4A (Vent through FARR03)	1,000,000	8,760	0.0077	0.0335	0.0077	0.0335	0.0077	0.0335	0.1421	0.6223	0.0820	0.3590	136.6	598.4	0.0164	0.0718	0.0109	0.0479
Dryer 4B (Vent through FARR04)	1,500,000	8,760	0.0115	0.0503	0.0115	0.0503	0.0115	0.0503	0.2131	0.9334	0.1230	0.5385	204.9	897.5	0.0246	0.1077	0.0164	0.0718
Seed Dryer northwest of building "K" (Dryer 2)	2,500,000	3,650	0.0191	0.0349	0.0191	0.0349	0.0191	0.0349	0.3552	0.6482	0.2049	0.3740	341.5	623.3	0.0410	0.0748	0.0273	0.0499
		TOTAL[1]	0.0518	0.2281	0.0518	0.2281	0.0518	0.2281	1.7043	4.2353	0.9836	2.4434	1639.3	4072.4	0.1967	0.4887	0.1311	0.3258

[1] PM Total Emission factor given in AP 42; assume that PM_{10} and $PM_{2.5}$ are the same as PM Total

**VOC assumed to be equal to TOC.

CRITERIA EMISSIONS - DIESEL COMBUSTION - Nunhems USA, Inc.

Emission Factors: Stationary Internal Combustion Sources (AP-42, Chapter 3)[1]

Small Engines (<600 hp): From Table 3.3-1						Large Engines (>600 hp): From Table 3.4-1					
	(power output)		(fuel input)		Reference		(power output)		(fuel input)		Reference
NOx	3.10E-02	lb/hp-hr	4.41E+00	lb/MMBtu	AP-42, Table 3.3-1, 1997	NOx	2.42E-02	lb/hp-hr	3.20E+00	lb/MMBtu	AP-42, Table 3.4-1, 1996
CO	6.68E-03	lb/hp-hr	9.50E-01	lb/MMBtu	AP-42, Table 3.3-1, 1997	CO	5.50E-03	lb/hp-hr	8.50E-01	lb/MMBtu	AP-42, Table 3.4-1, 1997
CO_2e	1.15E+00	lb/hp-hr	1.64E+02	lb/MMBtu	AP-42, Table 3.3-1, 1997	CO_2e	1.16E+00	lb/hp-hr	1.65E+02	lb/MMBtu	AP-42, Table 3.4-1, 1998
PM-10*	2.20E-03	lb/hp-hr	3.10E-01	lb/MMBtu	AP-42, Table 3.3-1, 1998	PM Total	7.00E-04	lb/hp-hr	1.00E-01	lb/MMBtu	AP-42, Table 3.4-1, 1998
						PM10		lb/hp-hr	5.73E-01	lb/MMBtu	AP-42, Table 3.4-2, 1996
SOx	2.05E-03	lb/hp-hr	2.90E-01	lb/MMBtu	AP-42, Table 3.3-1, 1999	CO	1.21E-03	lb/hp-hr	1.72E-01	lb/MMBtu	AP-42, Table 3.4-1, 1999
VOC	2.47E-03	lb/hp-hr	3.50E-01	lb/MMBtu	AP-42, Table 3.3-1, 2001	VOC	7.05E-04	lb/hp-hr	9.00E-02	lb/MMBtu	AP-42, Table 3.4-1, 2001
Lead	0.00E+00	lb/hp-hr	0.00E+00	lb/MMBtu	AP-42, Table 3.3-1, 2002	Lead	0.00E+00	lb/hp-hr	0.00E+00	lb/MMBtu	AP-42, Table 3.4-1, 2002

[1] Manufacturers' specific emission factors were used when available. Otherwise, the appropriate AP-42 emission factors were utilized.

*PM-10 = particulate matter less than or equal to 10 um aerodynamic diameter. All particulate is assumed to be < or = 1 um in size.

Emission Factors: Manufacturers' Specific Information[1]

CAT C9-2008 3 Phase Diesel Generator					General 2000 Series 3-Phase Diesel Generator				Stamford Cummins 3-Phase Diesel Generator			
See "CAT GEN Mfg spec.pdf" for specific manufacturing data.					See "GEN GEN Emission Factors.pdf" for specific manufacturing data.				See "Cummins generator manuf emiss specs.pdf" for specific manufacturing data.			
NOx	2.97	g/hp-hr	6.55E-03	lb/hp-hr	NOx	6.74	g/hp-hr	1.49E-02	lb/hp-hr	NOx	5.7	g/hp-hr	1.26E-02	lb/hp-hr
CO	0.36	g/hp-hr	7.94E-04	lb/hp-hr	CO	1.3	g/hp-hr	4.19E-03	lb/hp-hr	CO	0.57	g/hp-hr	1.26E-03	lb/hp-hr
HC	0.11	g/hp-hr	2.32E-04	lb/hp-hr	PM	0.99	g/hp-hr	2.16E-03	lb/hp-hr	HC	0.29	g/hp-hr	1.76E-04	lb/hp-hr
PM	0.079	g/hp-hr	1.74E-04	lb/hp-hr	THC	0.23	g/hp-hr	5.07E-04	lb/hp-hr	PM	0.03	g/hp-hr	6.61E-05	lb/hp-hr
										SO_2	0.11	g/hp-hr	2.43E-04	lb/hp-hr

[1] Manufacturers' specific emission factors were used when available. Otherwise, the appropriate AP-42 emission factors were utilized.

Calculated Emissions

Description	kW[a]	MMBtu/hr	hp[b]	Hours of Operation / Year	NOx Emissions (lb/hr)	NOx Emissions (T/yr)	CO Emissions (lb/hr)	CO Emissions (T/yr)	CO_2e Emissions (lb/hr)	CO_2e Emissions (T/yr)	PM-Total Emissions* (lb/hr)	PM-Total Emissions* (T/yr)	PM-10 Emissions* (lb/hr)	PM-10 Emissions* (T/yr)	PM-2.5 Emissions* (lb/hr)	PM-2.5 Emissions* (T/yr)	SOx Emissions (lb/hr)	SOx Emissions (T/yr)	VOC Emissions** (lb/hr)	VOC Emissions** (T/yr)	Lead Emissions (lb/hr)	Lead Emissions (T/yr)
CAT C9-2008 3 Phase Diesel Generator (at pumphouse)	250	0.85	398	500	2.61	0.65	0.32	0.08	458	114	0.069	0.017	0.069	0.017	0.0693	0.017	0.62	0.20	0.98	0.25	0	0
Generac 2000 Series 3-Phase Diesel Generator (South of Building "C")	80	0.27	125	500	1.56	0.46	0.52	0.13	144	36	0.270	0.068	0.270	0.068	0.27	0.068	0.26	0.06	0.06	0.02	0	0
		1.13																				
Stamford Cummins 3-Phase Diesel Generator[c]	1656	5.65	2205	500	27.71	6.93	2.77	0.69	2558	639	0.145	0.036	0.145	0.036	0.15	0.036	0.53	0.13	0.39	0.10	0	0
		5.65			32.17	8.04	3.61	0.90	3159	790	0.49	0.12	0.49	0.12	0.49	0.12	1.61	0.40	1.435	0.36	0.0	0.0

[a] 1 kW = 0.003412 MMBtu/hr;

[b] Brake hp range provided for all generators; based upon manufacturer's specification information provided in Form EU1 for each unit.

[c] >600 hp; uses AP 42, Table 3.4-1 emissions factors

*PM-10 = particulate matter less than or equal to 10 um aerodynamic diameter. All particulate is assumed to be < or = 1 um in size.

** VOC assumed to be equal to TOC.

TOXIC AIR POLLUTANT EMISSION INVENTORY - NUNHEMS USA, INC. TAPs & HAPs Summary

NON-CARCINOGENS

Pollutant	Hourly Emissions (lb/hr)	Screening Level (lb/hr)	Modeling? (Y/N)	Emissions (tons/yr)
Acrolein*	6.19E-06	1.7E-02	N	3.72E-05
Ammonia	1.01E-03	1.2E+00	N	1.10E-03
Aluminum Oxide: Al2O3	3.96E-06	6.67E-01	N	1.7E-05
Calcium Carbonate	3.29E-03	6.67E-01	N	1.4E-02
Chlorpyrifos	2.44E-06	1.30E-02	N	1.1E-05
Ethylene Glycol*	2.24E-04	8.46E-01	N	9.8E-04
Hydrogen Chloride (HCL)	1.32E-05	5.00E-02	N	5.8E-05
Kaolin	3.93E-06	1.33E-01	N	1.7E-05
Magnesium Oxide	3.30E-06	6.67E-01	N	1.4E-05
Methanol*	4.26E-02	1.73E+01	N	1.9E-01
Mica	3.51E-04	2.00E-01	N	1.5E-03
Naphthalene**	3.46E-05	3.33E+00	N	2.08E-04
Perlite	7.15E-04	6.67E-01	N	3.1E-03
Phosphine*	4.10E-03	2.70E-02	N	1.79E-02
Silica - amorphous- Diatomaceous Earth	1.59E-03	6.67E-01	N	7.0E-03
Silica, crystalline - Cristobalite	3.17E-04	3.30E-03	N	1.4E-03
Silica, crystalline - Quartz	5.51E-04	6.70E-03	N	2.4E-03
Sodium Hydroxide	1.10E-02	1.33E-01	N	4.8E-02
Thiram	1.41E-01	3.33E-01	N	6.2E-01
Toluene*	8.53E-05	2.5E+01	N	5.12E-04
Xylene*	2.50E-03	2.90E+01	N	1.1E-02
TOTAL	**2.09E-01**			**9.14E-01**

a Although listed as a noncarcinogen in the Rules, DEQ has determined that naphthalene is a possible/probable carcinogen. Compliance for naphthalene emissions should be based on the EL or AACC listed in Section 586 for PAH.

* Also listed Hazardous Air Pollutants. See HAPs inventory list below.

TOXIC AND HAZARDOUS AIR POLLUTANT EMISSION INVENTORY - NUNHEMS USA, INC. SEED COATINGS

NON-CARCINOGENIC TAPs				
Pollutant	Hourly Emissions	Screening Level	Modeling?	Emissions
	(lb/hr)	(lb/hr)	(Y/N)	(tons/yr)
Aluminum Oxide; Al2O3	3.96E-06	6.67E-01	N	1.7E-05
Calcium Carbonate	3.29E-03	6.67E-01	N	1.4E-02
Chlorpyrifos	2.44E-06	1.30E-02	N	1.1E-05
Ethylene Glycol*	2.24E-04	6.67E-01	N	9.8E-04
Hydrogen Chloride (HCL)*	1.32E-05	5.00E-02	N	5.8E-05
Kaolin	3.93E-06	1.33E-01	N	1.7E-05
Magnesium Oxide	3.30E-06	6.67E-01	N	1.4E-05
Methanol*	4.26E-02	1.73E+01	N	1.9E-01
Mica	3.51E-04	2.00E-01	N	1.5E-03
Perlite	7.15E-04	6.67E-01	N	3.1E-03
Phosphine*	4.10E-03	2.70E-02	N	1.8E-02
Silica - amorphous- Diatomaceous Earth	1.59E-03	6.67E-01	N	7.0E-03
Silica, crystalline - Cristobalite	3.17E-04	3.30E-03	N	1.4E-03
Silica, crystalline - Quartz	5.51E-04	6.70E-03	N	2.4E-03
Sodium Hydroxide	1.10E-02	1.33E-01	N	4.8E-02
Thiram	1.41E-01	3.33E-01	N	6.2E-01
Xylene*	2.45E-03	2.90E+01	N	1.1E-02

* Also listed Hazardous Air Pollutants. See HAPs Inventory list below.

CARCINOGENIC TAPs				
Pollutant	Max. Hourly Emissions	Screening Level	Modeling?	Emissions
	(lb/hr)	(lb/hr)	(Y/N)	(tons/yr)
Thiourea	1.25E-06	1.5E-06	N	1.31E-09
Formaldehyde*	2.29E-04	5.1E-04	N	6.97E-09

* Also listed Hazardous Air Pollutants. See HAPs Inventory list below.

HAPs Inventory	
Pollutant	Emissions
	(tons/yr)
Ethylene Glycol	9.83E-04
Formaldehyde	7.0E-09
Hydrochloric Acid	5.78E-05
Methanol	1.9E-01
Phosphine	1.8E-02
Xylene	1.07E-02
Total	**1.88E-01**

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: December 7, 2015

TO: Randy Stegen, Permit Writer, Air Program

FROM: Darrin Mehr, Analyst, Air Program

PROJECT: P-2015.0017 PROJ 61508 – Initial PTC for Nunhems USA, an Existing Carrot and Onion Seed Processing and Shipping Facility at the Facility Near Parma, Idaho

SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs)

1.0 Summary

1.1 General Project Summary

On April 23, 2015, Nunhems USA (Nunhems) submitted a Permit to Construct (PTC) application for their existing carrot and onion seed processing and shipping facility located near Parma, Idaho, in Canyon County. The primary purpose of this application is to resolve permitting issues contained in Consent Order No. E2012.0007, finalized October 19, 2012. A facility-wide PTC was applied for by Nunhems.

Project-specific air quality impact analyses involving atmospheric dispersion modeling of estimated emissions associated with the identified project were submitted to DEQ to demonstrate that the facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02 and 203.03 [Idaho Air Rules Section 203.02 and 203.03]).

CH2M HILL (CH2M), Nunhem's permitting consultant, submitted analyses and applicable information and data to enable DEQ to evaluate potential impacts to ambient air. CH2M performed project-specific air quality impact analyses to demonstrate compliance of allowable facility emissions with air quality standards. The DEQ review summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the pollutant dispersion modeling analyses used to demonstrate that the estimated emissions associated with operation of the facility as modified will not cause or significantly contribute to a violation of the applicable air quality standards. This review did not evaluate compliance with other rules or analyses that do not pertain to the air impact analyses. This modeling review also did not evaluate the accuracy of emissions estimates. Evaluation of emissions estimates was the responsibility of the permit writer and is addressed in the main body of the DEQ Statement of Basis.

The submitted air quality impact analyses: 1) utilized appropriate methods and models according to established DEQ/EPA rules, policies, guidance, and procedures; 2) was conducted using reasonably accurate or conservative model parameters and input data (review of emissions estimates was addressed by the DEQ permit writer); 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the facility as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from applicable emissions associated with the project as modeled, when appropriately combined with co-contributing sources and background concentrations, were below applicable National Ambient Air Quality Standards (NAAQS) at ambient air locations where and when the project has a significant impact. Table 1 presents key assumptions and results to be considered in the development of the permit.

Table 1. KEY CONDITIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
Limitations on Hours of Operation for Seed Dryers and Heaters **HEAT01 (Building L Heaters) and HEAT02 (Building Q Heaters):** Daily: 8 am to 5 pm or 9 hours per day. Annual: 365 days per year for a total of approximately 3,285 hours per year for each unit. **DRYER02 (Seed Dryer 02)** Daily: 8 am to 6 pm or 10 hours per day Annual: 365 days per year for 3,650 hours per year **DRYER03 (Seed Dryer 03)** Daily: 6 am to 4 pm or 10 hours per day. Weekly: Monday through and including Saturday only. Annually: Operational only during August and September. Nonoperational during other 10 months during calendar year. Assuming about 26 days per month August and 26 days per month September, the annual hours of operation are approximately 520 hours per year.	The issued permit must effectively limit the total operational hours and operational time periods in a manner consistent with what was used in the impact analyses. The following restricting assumptions reduced ambient impacts for these sources in order to demonstrate compliance with the applicable NAAQS—with impacts for the 1-hour NO_2 NAAQS being the primary concern at 96% the allowable ambient standard. Compliance has not been demonstrated with additional operating hours and these assumptions must be regarded as PTC operating requirements for the sources. **HEAT01 and HEAT02:** • 9 hours per 24-hour period during the period of 8 am to 5 pm. • 3,285 hours per year limits annual average impacts. **DRYER02:** • 10 hours per 24-hour period during the period of 8 am to 6 pm. • 3,650 hours per year limits annual average impacts. **DRYER03:** • 10 hours per 24-hour period during the period of 6 am to 4 pm. • 6 days per week operation. • Approximately 520 hours per year limits annual average impacts.
Particulate Matter Emissions and Ambient Impacts $PM_{2.5}$ and PM_{10} emissions from processes are low due to the use of baghouses or fabric filtration systems. All of these emissions sources were modeled as point sources with control effiicencies (and grain loadings): • Dust Collectors 01-08 (modeling IDs DC01-DC08): 99.995% control efficiency or 0.0007 grains/dry standard cubic foot of exhaust gas (gr/dscf); • Farr cartridge dust collectors 01-06 (Modeling IDs FARR01-FARR06): 99.99% control efficiency or 0.002 gr/dscf ; • Murphy Rodgers Baghouse (MRBH01): 99.9% control efficiency; and • Herding Filtration Units 01 and 02 (HERD01, HERD02): 99.97% control efficiency.	The collection and control systems used on the particulate-emitting sources are effective at reducing emissions and limit the amount of ambient impacts of PM_{10} and $PM_{2.5}$ emissions. It is critical that the claimed control efficiencies are realized by the equipment and that emissions are not greater than what was used in the impact analyses.
Operating Hours for the Emergency Generator Engines • **CUMGEN: Cummins Generator** • **CATGEN: Caterpillar Generator** • **GENGEN: Generac Generator** Daily and annual hours of operation: Emissions for 1 hour per day and 500 hours per year were accounted for in the modeling. Ultra- low sulfur distillate fuel oil was assumed in the emissions estimates for the generator engines, which limited SO_2 emissions. These are the only appreciable sources of SO_2 at the facility per the submitted emissions inventory.	Compliance with 24-hour PM_{10}, 24-hour $PM_{2.5}$, annual $PM_{2.5}$, and annual NO_2 NAAQS was demonstrated using these limitations on operating hours. Facility-wide emissions of SO_2 were below the Below Regulatory Concern (BRC) threshold of 4 tons per year and the project would qualify for a permitting exemption as per Idaho Air Rules Section 221 except for the emissions quantities of other criteria pollutants. Therefore, Idaho Air Rules Section 203.02 is not applicable for SO_2 and an SO_2 air impact analysis is not required. Use of ULSD specification diesel and operating hours were the primary methods of limiting potential to emit SO_2.

Location of DRYER03 – Seed Dryer #3 Seed Dryer #3 must be moved to a new location prior to operation of this source. The source is currently located near Buildings L and M along the northern ambient air boundary. Dryer #3 will be moved to a location that is on the northwest corner of Building Q. Building Q is southeast of the current location and will change the location where ambient impacts from DRYER03 occur.	Compliance with the 1-hour NO_2 NAAQS was not established at this source's current location. The source must be moved to comply with the assumptions used in the modeling demonstration which DEQ concurred complied with the 1-hour NO_2 NAAQS. This source is a primary contributor to the facility's ambient impacts for the 1-hour NO_2 NAAQS at the original location.

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 and analyses demonstrated to the satisfaction of the Department, using DEQ/EPA established guidance, policies, and procedures, 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.

1.2 Summary of Submittals and Actions

This summary is limited to permit project number 61508 documentation.

September 5, 2014:	DEQ received a modeling protocol via email from CH2M.
January 29, 2015:	DEQ issued a modeling protocol approval letter to CH2M and Nunhems via email.
April 23, 2015:	DEQ received a permit application from Nunhems including a modeling demonstration.
May 22, 2015:	DEQ declared the application incomplete.
June 1, 2015:	CH2M and Nunhems submitted a formal request and justification to use the Tier 2 ARM2 compliance method for the 1-hour NO_2 NAAQS demonstration.
June 12, 2015:	CH2M and Nunhems requested a response deadline extension to await DEQ approval of the Tier 2 ARM2 compliance method for 1-hour NO_2 NAAQS compliance.
June 30, 2015:	CH2M and Nunhems requested a second response deadline extension to await DEQ approval of the Tier 2 ARM2 compliance method for 1-hour NO_2 NAAQS compliance.
July 20, 2015:	CH2M informed DEQ that the request to use the Tier 2 ARM2 method would be dropped and other compliance methods would be investigated in lieu of waiting for a formal approval of the Tier 2 ARM2 non-regulatory guideline compliance method.
September 8, 2015:	CH2M and Nunhems submitted a revised ambient impact demonstration, modeling report in response to the May 22, 2015 application incompleteness letter. The Tier 2 ARM2 method was replaced by Tier 2 ARM for the 1-hour NO_2 NAAQS compliance demonstration.
October 8, 2015:	DEQ declared the permit application complete.

2.0 Background Information

2.1 Permit Requirements for Permits to Construct

PTCs are issued to authorize the construction of a new source or modification of an existing source or permit. Idaho Air Rules Section 203.02 requires that emissions from the new source or modification not cause or significantly contribute to a violation of an air quality standard, and Idaho Air Rules Section 203.03 requires that emissions from a new source or modification comply with applicable toxic air pollutant (TAP) increments of Idaho Air Rules Sections 585 and 586.

This project is an initial facility-wide permit to construct. The allowable emissions from the existing facility are required to comply with Idaho Air Rules Sections 203.02 and 203.03. The facility is subject to the requirement to obtain a PTC, per applicable regulations and ambient air quality standards, in accordance with an October 19, 2012, Consent Order (Case No. E-2012.0007).

2.2 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality standards and analyses used to demonstrate compliance with air quality standards.

2.2.1 Area Classification

The facility is located near Parma, Idaho, in Canyon County. The area is designated as attainment or unclassifiable for all pollutants.

2.2.2 Modeling Applicability for Criteria Pollutants

Idaho Air Rules Section 203.02 state that a PTC cannot be issued unless the application demonstrates to the satisfaction of DEQ that the new source or modification will not cause or significantly contribute to a NAAQS violation. Atmospheric dispersion modeling is used to evaluate the potential impact of a proposed project to ambient air and demonstrate NAAQS compliance.

Facility-wide potential to emit (PTE) values for CO, SO_2, Pb, and VOCs would qualify for a below regulatory concern (BRC) permit exemption as per Idaho Air Rules Section 221 if it were not for potential emissions of NO_x, PM_{10}, and $PM_{2.5}$ exceeding the BRC threshold of 10 percent of emissions defined as significant. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules is that: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant.[1]" The interpretation policy also states that the exemption criteria of uncontrolled PTE not to exceed 100 tons per year (Idaho Air Rules Section 220.01.a.i) is not applicable when evaluating whether a NAAQS impact analyses is required. A permit will be issued limiting PTE below 100 tons per year, thereby negating the need to maintain calculated uncontrolled PTE under 100 tons per year. Table 2 provides a summary of the NAAQS compliance demonstration applicability.

Table 2. CRITERIA POLLUTANT NAAQS COMPLIANCE DEMONSTRATION APPLICABILITY

Criteria Pollutant	BRC Level (ton/year)	Applicable Facility Wide PTE Emissions (ton/year)	Air Impact Analyses Required?
PM_{10}[a]	1.5	>1.5	Yes
$PM_{2.5}$[b]	1.0	>1.0	Yes
Carbon Monoxide (CO)	10.0	7.6	No
Sulfur Dioxide (SO_2)	4.0	1.7	No
Nitrogen Oxides (NO_x)	4.0	>4.0	Yes
Lead (Pb)	0.06	<0.06	No

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

A NAAQS compliance demonstration is required for emissions increases that do not qualify for a BRC exemption. However, if the emissions increases associated with a project are below modeling applicability thresholds established in the *Idaho Air Modeling Guideline* ("State of Idaho Guideline for Performing Air Quality Impact Analyses," available at http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf, then a project-

specific analysis is not required. Modeling applicability emissions thresholds were developed by DEQ based on modeling of a hypothetical source and were designed to reasonably ensure that impacts are below the applicable SIL. DEQ has established two threshold levels: Level 1 thresholds are unconditional thresholds, requiring no approval for use by DEQ; Level 2 thresholds are conditional upon DEQ approval, which depends on evaluation of the project and the site, including emissions quantities, stack parameters, number of sources emissions are distributed amongst, distance between the sources and the ambient air boundary, and the presence of sensitive receptors near the ambient air boundary. Emissions of PM_{10}, $PM_{2.5}$, and NO_x qualify for Level 1 or Level 2 modeling thresholds.

2.2.3 Significant and Cumulative NAAQS Impact Analyses

If maximum modeled pollutant impacts to ambient air from emissions sources associated with a new facility or the emissions increase associated with a modification exceed the SILs of Idaho Air Rules Section 006 (referred to as a significant contribution in Idaho Air Rules) or as incorporated by reference as per Idaho Air Rules Section 107.03.b, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and Idaho Air Rules Section 203.02. A cumulative NAAQS impact analysis may also be required for permit revisions driven by compliance/enforcement actions, any correction of emissions limits or other operational parameters that may affect pollutant impacts to ambient air, or other cases where DEQ believes NAAQS may be threatened by the emissions associated with the facility or proposed project.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts, according to established DEQ/EPA guidance, policies, and procedures, from applicable facility-wide emissions and emissions from any nearby co-contributing sources. A DEQ-approved background concentration value is then added to the modeled result that is appropriate for the criteria pollutant/averaging-time at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 3. Table 3 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis.

Table 3. APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels[a] ($\mu g/m^3$)[b]	Regulatory Limit[c] ($\mu g/m^3$)	Modeled Design Value Used[d]
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 $\mu g/m^3$)	75 ppb[p] (196 $\mu g/m^3$)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 $\mu g/m^3$)	100 ppb[s] (188 $\mu g/m^3$)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]
Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	75 ppb[w]	Not typically modeled

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.

b. Micrograms per cubic meter.

c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.

d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.

e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

f. Not to be exceeded more than once per year on average over 3 years.

g. Concentration at any modeled receptor when using five years of meteorological data.

h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.

j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.

k. 3-year mean of annual concentration.

l. 5-year mean of annual averages at the modeled receptor.

m. Not to be exceeded more than once per year.

n. Concentration at any modeled receptor.

o. Interim SIL established by EPA policy memorandum.

p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.

q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.

r. Not to be exceeded in any calendar year.

s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.

t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.

u. 3-month rolling average.

v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O_3.

w. Annual 4th highest daily maximum 8-hour concentration averaged over three years. The O_3 standard was revised (the notice was signed by the EPA Administrator on October 1, 2015) to 70 ppb. However, this standard will not be applicable for permitting purposes until it is incorporated by reference *sine die* into Idaho Air Rules.

If the cumulative NAAQS impact analysis shows a violation of the standard, the permit cannot be issued if the proposed project or facility has a significant contribution (exceeding the SIL) to the modeled violation. This evaluation is made specific to both time and space. The facility or project does not have a significant contribution to a violation if impacts are below the SIL at all specific receptors showing violations during the time periods when modeled violations occurred.

Compliance with Idaho Air Rules Section 203.02 is demonstrated if: a) all modeled impacts of the SIL analysis are below the applicable SIL or other level determined to be inconsequential to NAAQS compliance; or b) modeled design values of the cumulative NAAQS impact analysis (modeling applicable emissions from the facility and co-contributing sources, and adding a background concentration) are less than applicable NAAQS at receptors where impacts from the proposed facility/modification exceeded the SIL or other identified level of consequence; or c) if the cumulative NAAQS analysis showed NAAQS violations, the impact of proposed facility/modification to any modeled violation was inconsequential (typically assumed to be less than the established SIL) for that specific receptor and for the specific modeled time when the violation occurred.

2.2.4 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.*

Permitting 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 total project-wide emissions increase of any TAP 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.

Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP.

2.3 Background Concentrations

A background concentration tool was used to establish ambient background concentrations for this project. A beta version of the background concentration tool was developed by the Northwest International Air Quality Environmental Science and Technology Consortium (NW AirQuest) and provided through Washington State University (located at http://lar.wsu.edu/nw-airquest/lookup.html). The tool uses regional scale modeling of pollutants in Washington, Oregon, and Idaho, with modeling results adjusted according to available monitoring data. The background is added to the design value for each pollutant and averaging period.

DEQ provided the ambient backgrounds to CH2M in the modeling protocol approval letter (K. Schilling, DEQ, to R. McCormick, CH2M). Ambient background values are listed in Table 4.

Table 4. BACKGROUND CONCENTRATIONS

Pollutant	Averaging Period	NW AIRQUEST Background Concentration ($\mu g/m^3$)[a]
NO_2[b]	1-hour	49
NO_2	Annual	5.6
PM_{10}[c]	24-hour	73[f]
$PM_{2.5}$[d]	24-hour	19
	Annual	7.3
SO_{2e}	1-hour	5.5

a. Micrograms per cubic meter.

b. Nitrogen dioxide.

c. Particulate matter with a mean aerodynamic diameter of ten microns or less.

d. Particulate matter with a mean aerodynamic diameter of 2.5 microns or less.

e. Sulfur dioxide.

f. Extreme values were removed.

3.0 Modeling Impact Assessment

3.1 Modeling Methodology

This section describes the modeling methods used by the applicant's consultant, CH2M, to demonstrate compliance with applicable air quality standards.

3.1.1 Overview of Analyses

CH2M performed project-specific air impact analyses that were determined by DEQ to be reasonably representative of the facility, using established DEQ policies, guidance, and procedures. Results of the submitted analyses, in combination with DEQ's analyses, demonstrated compliance with applicable air quality standards to DEQ's satisfaction, provided the facility is operated as described in the submitted application and in this memorandum.

Table 5 provides a brief description of parameters used in the modeling analyses.

Table 5. MODELING PARAMETERS

Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Parma	The area is an attainment or unclassified area for all criteria pollutants.
Model	AERMOD Beta Algorithms	AERMOD with the PRIME downwash algorithm, version 14134. Beta algorithms for horizontal and rain-capped point sources were used in the demonstration.
Meteorological Data	Boise	2008-2012 - See Section 3.1.5 of this memorandum. Surface and upper air data from Boise, Idaho.
Terrain	Considered	Receptor, building, and emissions source stack base elevations were determined using USGS 1/3 arc second National Elevation Dataset (NED) files based on the NAD83 datum. The facility is located within Zone 11.
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility.
Receptor Grid	Grid 1	25-meter spacing along the ambient air boundary.
	Grid 2	25-meter spacing in an 875-meter (x) by 525-meter (y) grid centered on the facility. This grid provides 25-meter resolution for at least 100 meters distance in all directions.
	Grid 3	100-meter spacing in a rectangular grid with outer dimensions of 2,800-meter (x) by 2,400-meter (y) centered on Grid 2.
	Grid 4	500-meter spacing in an 11,000-meter (x) by 11,000-meter (y) rectangular grid roughly centered on Grid 3.

3.1.2 Modeling Protocol and Methodology

A modeling protocol was submitted to DEQ prior to submittal of the application by CH2M on behalf of Nunhems USA. This project's modeling protocol was submitted via email on September 5, 2014. DEQ responded with a protocol approval letter, with comments, on January 29, 2015. The DEQ-generated and recommended 5-year meteorological dataset was sent with the modeling protocol approval letter via email.

Final project-specific modeling was generally conducted using data and methods described in this project's modeling protocol and the *Idaho Air Modeling Guideline*, except for the 1-hour NO_2 NAAQS demonstration which utilized the Tier 2 ARM compliance method in place of the approved Tier 3 PVMRM compliance method approved in this project's modeling protocol. DEQ approval is not required for the Tier 2 ARM compliance method.

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. 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 version 14134 was used by CH2M for the modeling analyses to evaluate impacts of the facility. This was the version of the regulatory guideline model at the time of modeling protocol approval and submittal of the initial PTC application and modeling demonstration. The current version of AERMOD is version 15181.

NO_2 1-hour impacts can be assessed using a tiered approach to account for $NO/NO_2/O_3$ chemistry. Tier 1 assumes full conversion of NO to NO_2. Tier 2 Ambient Ratio Method (ARM) assumes a 0.80 default ambient ratio of NO_2/NO_x.

Tier 2 ARM2 was recently developed for demonstrating compliance with the 1-hour NO_2 standard. Per the most recent EPA guidance[2] on compliance methods for the 1-hour NO_2 NAAQS:

> "This method is based on an evaluation of the ratios of NO_2/NO_x from the EPA's Air Quality System (AQS) record of ambient air quality data. The ARM2 development report (API, 2013) specifies that ARM2 was developed by binning all the AQS data into bins of 10 ppb increments for NO_x values less than 200 ppb and into bins of 20 ppb for NO_x in the range of 200-600 ppb. From each bin, the 98th percentile NO_2/NO_x ratio was determined and finally, a sixth-order polynomial regression was generated based on the 98th percentile ratios from each bin to obtain the ARM2 equation, which is used to compute a NO_2/NO_x ratio based on the total NO_x levels."

This method is a Beta method and requires DEQ approval for use in NAAQS compliance demonstrations.

Tier 3 accounts for more refined assessment of the NO to NO_2 conversion, using a supplemental modeling program with AERMOD to better account for $NO/NO_2/O_3$ atmospheric chemistry. Either the Plume Volume Molar Ratio Method (PVMRM) or the Ozone Limiting Method (OLM) can be specified within the AERMOD input file for the Tier 3 approach. EPA guidance (Memorandum: from Tyler Fox, Leader, Air Quality Modeling Group, C439-01, Office of Air Quality Planning and Standards, USEPA; to Regional Air Division Directors. *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard.* March 01, 2011) has not indicated a preference for one option over the other (PVMRM vs OLM) for particular applications. The Tier 3 methods are considered to be non-regulatory guideline methods and must be approved for the applicant's use on a case-by-case basis.

The final submittal's 1-hour NO_2 NAAQS demonstration was based on the Tier 2 ARM approach with the standard 0.8 NO_2/NO_x equilibrium ratio. No additional documentation or reviewing agency approval is required for the use of Tier 2 ARM.

3.1.4 Meteorological Data

DEQ provided CH2M with a model-ready meteorological dataset processed from Boise surface data and Boise upper air meteorological data covering the years 2008-2012. The dataset for this project was based on Boise airport surface and Automated Surface Observing System (ASOS) data and upper air data from the Boise National Weather Service (NWS) Station site. Surface characteristics were processed by DEQ staff using AERSURFACE version 13016. AERMINUTE version 11325 was used to process ASOS wind data for use in

AERMET. The threshold wind velocity was set at 0.5 meters per second. AERMET version 12345 was used to process surface and upper air data. The met dataset wind rose and cumulative frequency diagrams from DEQ's met dataset preparation memorandum are included as Figures 1 and 2, respectively.

Figure 1. BOISE MET DATA WIND ROSE

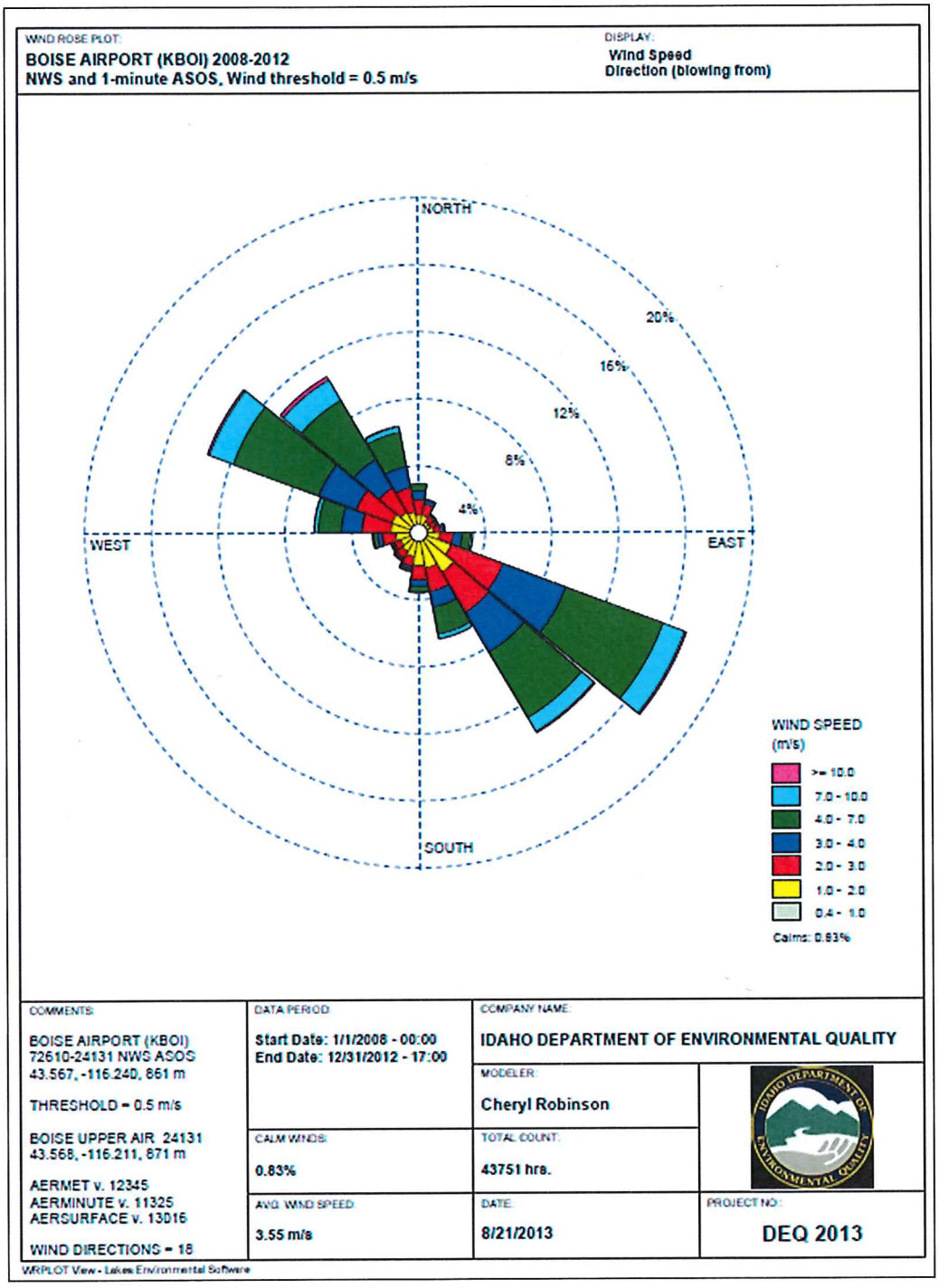
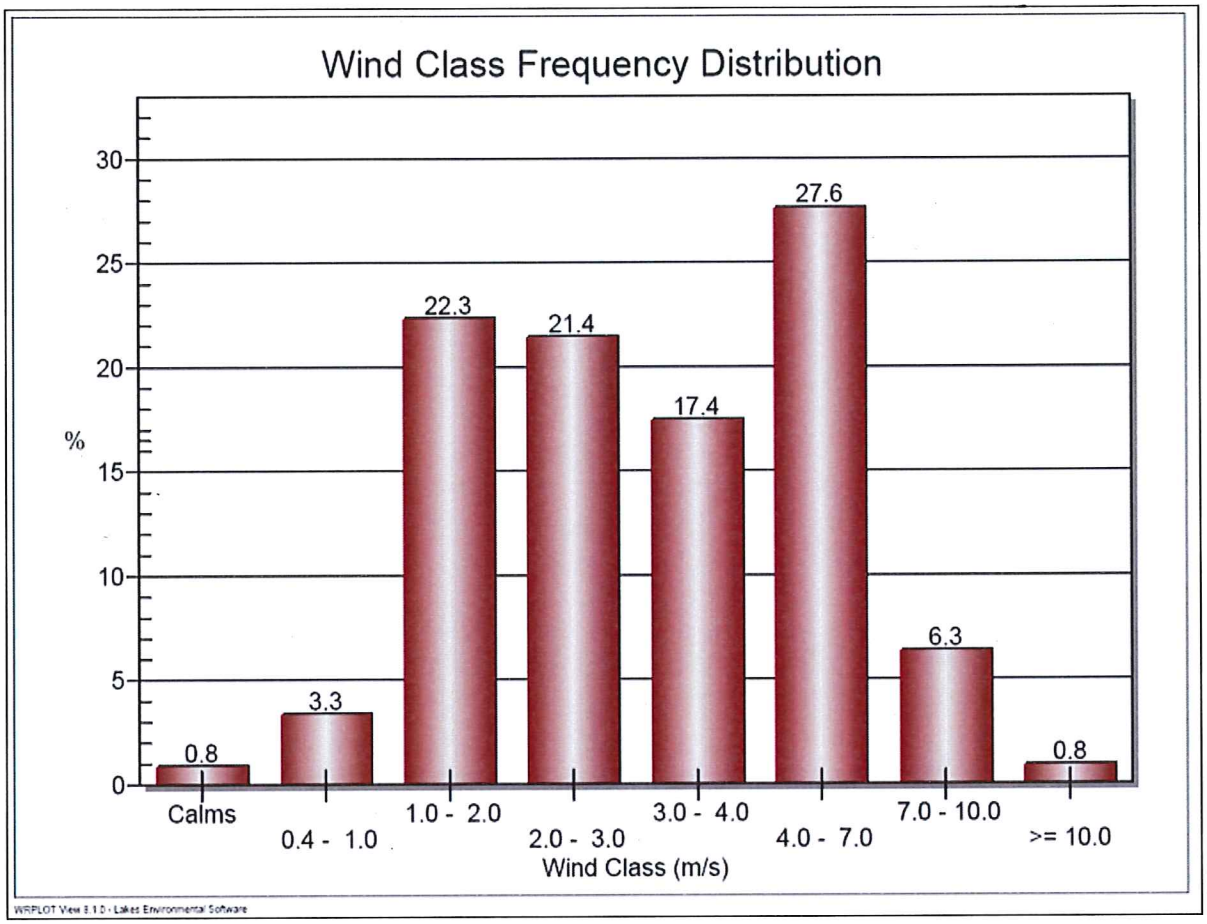


Figure 2. BOISE MET DATA FREQUENCY HISTOGRAM



3.1.5 Terrain Effects

CH2M used 1/3 arc second National Elevation Dataset (NED) files, in the North American Datum 1983 (NAD83), to calculate elevations of receptors, emission sources, and buildings. The terrain preprocessor AERMAP version 11103 was used to extract the elevations from the NED files and assign them to receptors in the modeling domain in a format usable by AERMOD. AERMAP also determined the hill-height scale for each receptor. The hill-height scale is an elevation value based on the surrounding terrain which has the greatest effect on that individual receptor. AERMOD uses those heights to evaluate whether the emissions plume has sufficient energy to travel up and over the terrain or if the plume will travel around the terrain.

3.1.7 Building Downwash

Potential downwash effects on the emissions plume were accounted for in the model by using building parameters developed by CH2M and Nunhems. The Building Profile Input Program for the PRIME downwash algorithm (BPIP-PRIME) was used to calculate direction-specific dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and release parameters for input to AERMOD. Building heights and building base elevations were accepted as submitted. Generally, stack base elevations were established at the same or lower base elevation as the building where the source was located.

Table 6 lists the structures represented in the model setup with the base elevations and tier heights. The tier height represents the roof line of the structure. In addition to proximity of the structure location and the emission source location, the structure tier height and the structure base elevation are important values for evaluating downwash-induced effects using BPIP-PRIME, in relation to the base elevation and release height of the emission sources being evaluated for building-induced downwash effects on the exhaust plume. See Figures 3 and 4 to view the locations of the structures listed in Table 6.

Table 6. NUNHEMS BUILDING BASE ELEVATIONS AND HEIGHTS

Building Name	Tier	Tier Height Above Grade (m)[a]	Base Elevation (m)
L	1	7.9	690.9
P	1	9.5	692.7
	2	11.0	
K	1	5.2	690.9
	2	6.1	
	3	8.5	
Q	1	10.4	694.6
A	1	5.8	694.8
	2	9.1	
B	1	6.5	694.2
G	1	5.8	692.5
C	1	4.9	692.2
pmphouse	1	3.1	693.5
M	1	4.7	690.7
N	1	5.5	693.2
DEF	1	5.6	692.5
H	1	7.6	690.9
FUNIGATE	1	3.7	692.5

a. Meters.

3.1.8 Facility Layout

Nunhems' modeled emission points, structures, and ambient air boundary as represented in the model setup are shown in Figures 3 and 4. NO_2 (1-hour average) sources are included in Figure 3. Sources of $PM_{2.5}$, PM_{10}, and annual NO_2 sources are included in Figure 4. The facility's structure locations and horizontal dimensions closely matched those presented in Google earth photographic imagery depicted in Figure 3. The only notable difference was for Building "M" where the modeled footprint appears smaller than the April 29, 2015 image date on the Google earth software. Emergency generator engines locations are noted in Figure 4.

Figure 3. NUNHEMS USA FACILITY LAYOUT

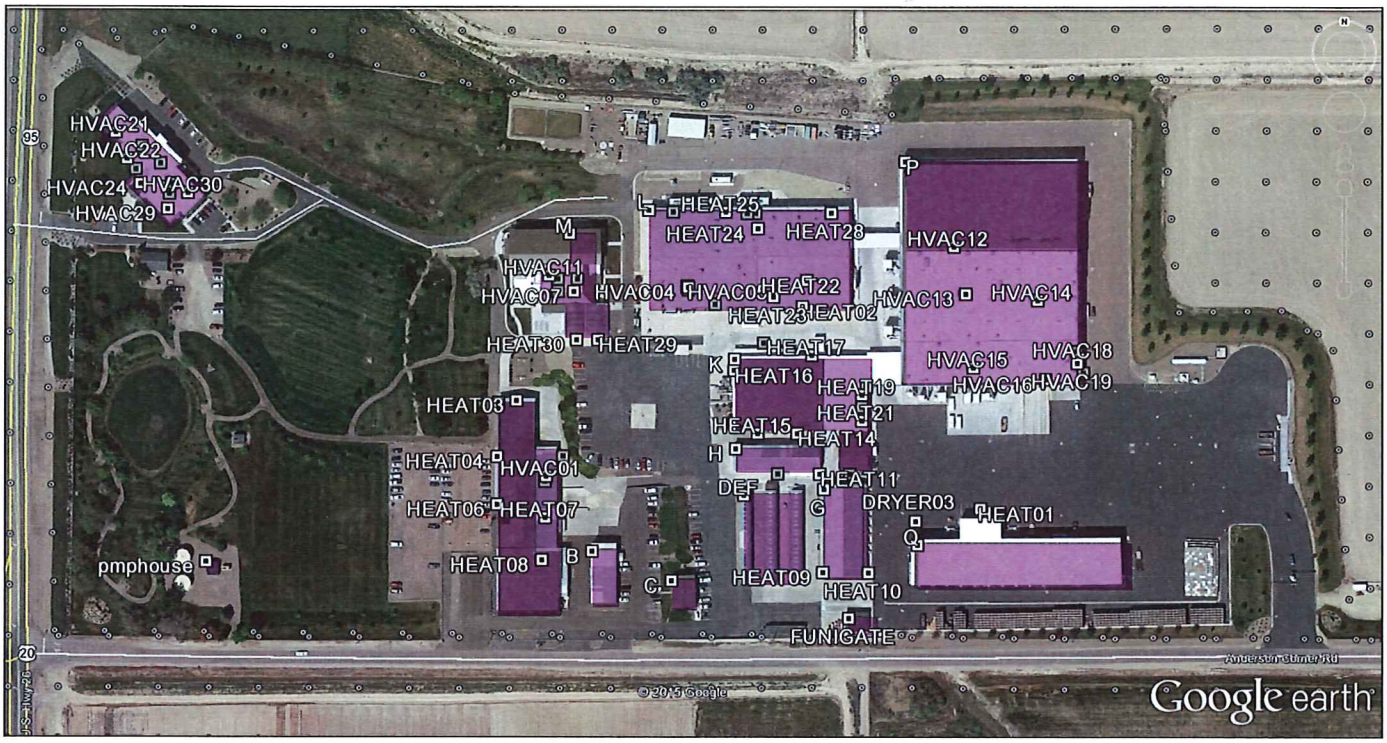
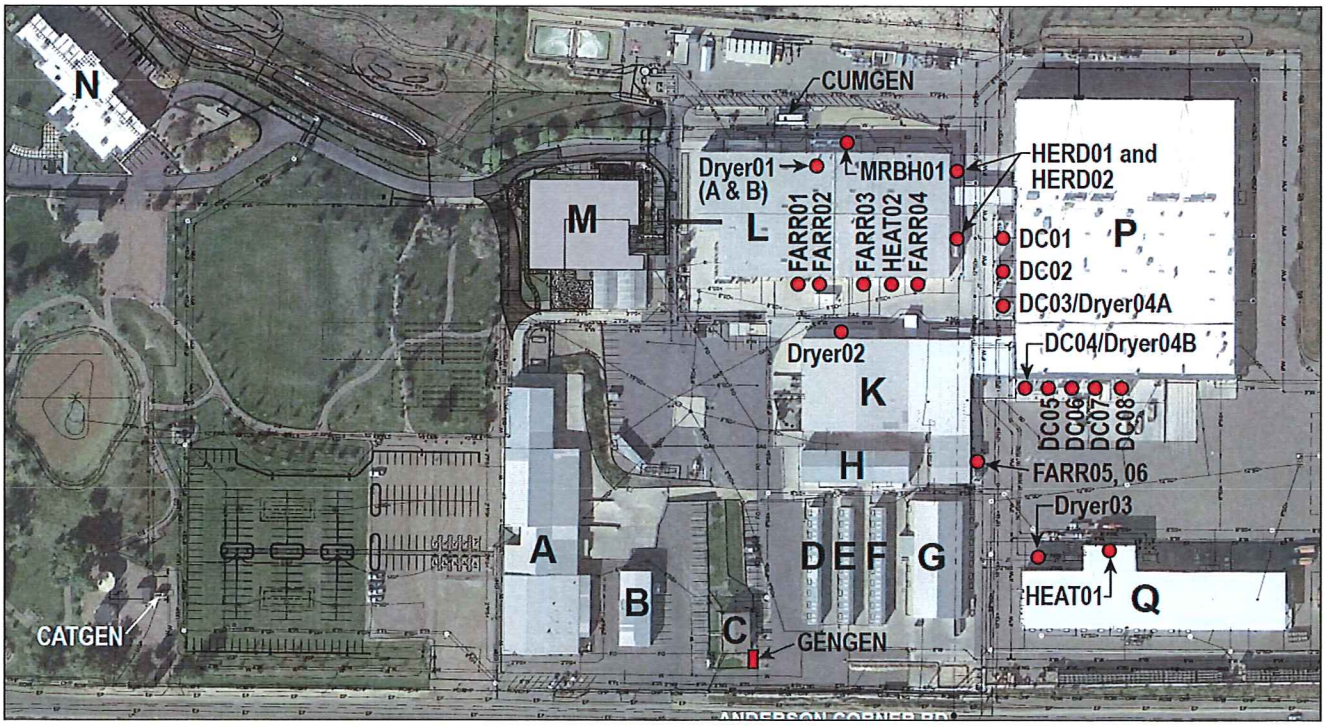


Figure 4. NUNHEMS MODELING REPORT FACILITY LAYOUT – DETAIL

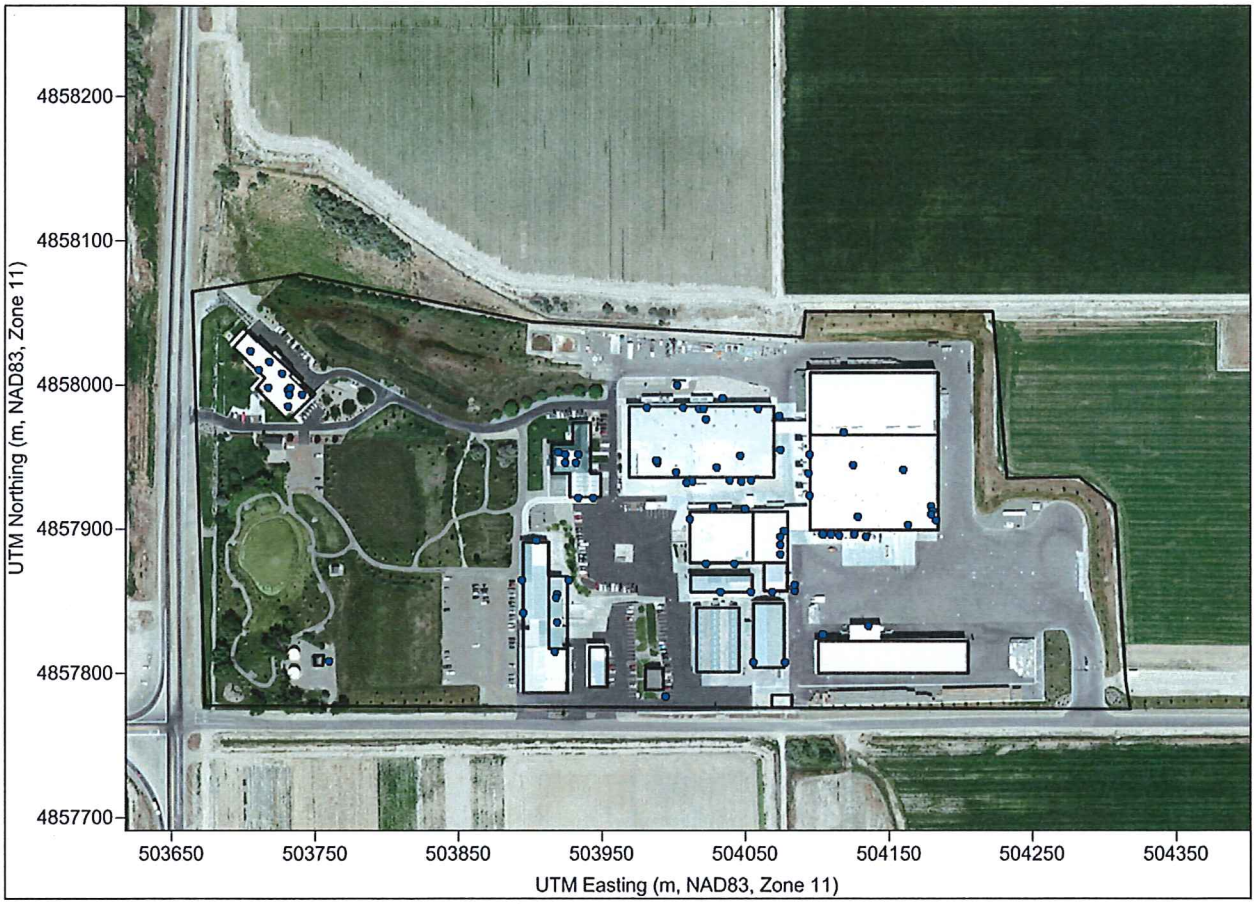


3.1.8 Ambient Air Boundary

The ambient air boundary for this project is represented in Figure 5 by the black outline in the image submitted by Nunhems in the modeling report. The boundary depicted in Figure 4 matches the model setup's ambient air boundary shown in Figure 3 as the innermost set of receptors, which are depicted with dots.

The modeling report describes the ambient air boundary as the "facility fenceline." A fenceline that completely surrounds a facility is an appropriate method to preclude public access from the area excluded from ambient air. DEQ determined the ambient air boundary described in the application uses appropriate methods to control access as described in DEQ's *Modeling Guideline*.

Figure 5. NUNHEMS USA AMBIENT AIR BOUNDARY



3.1.9 Receptor Network

Table 5 describes the receptor network used in the submitted modeling analyses. DEQ determined that the receptor network was adequate to reasonably assure compliance with applicable air quality standards at all ambient air locations. Figures 6 and 7 below present the modeled receptor network for the project.

Figure 6. NUNHEMS USA FULL RECEPTOR GRID

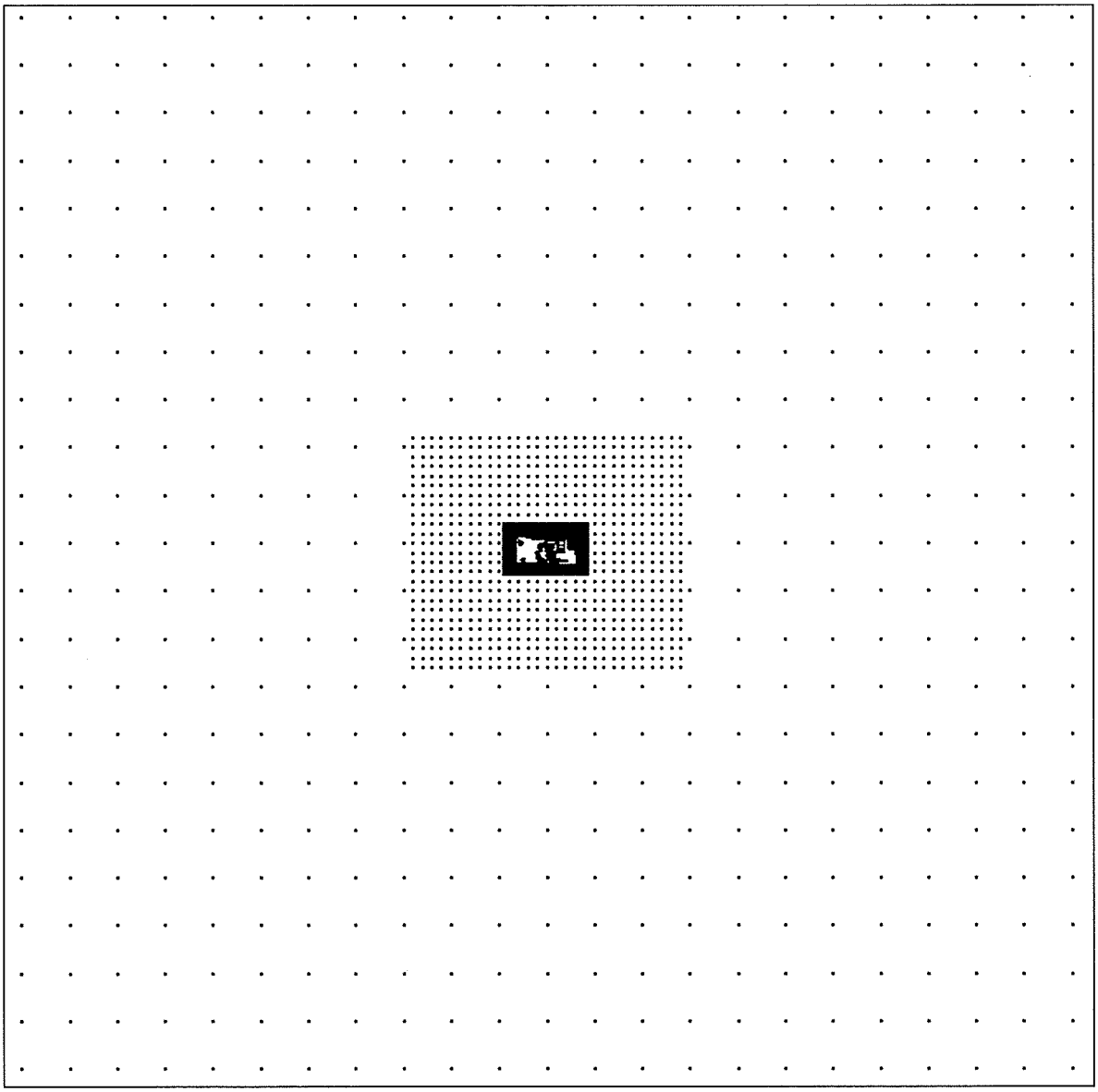
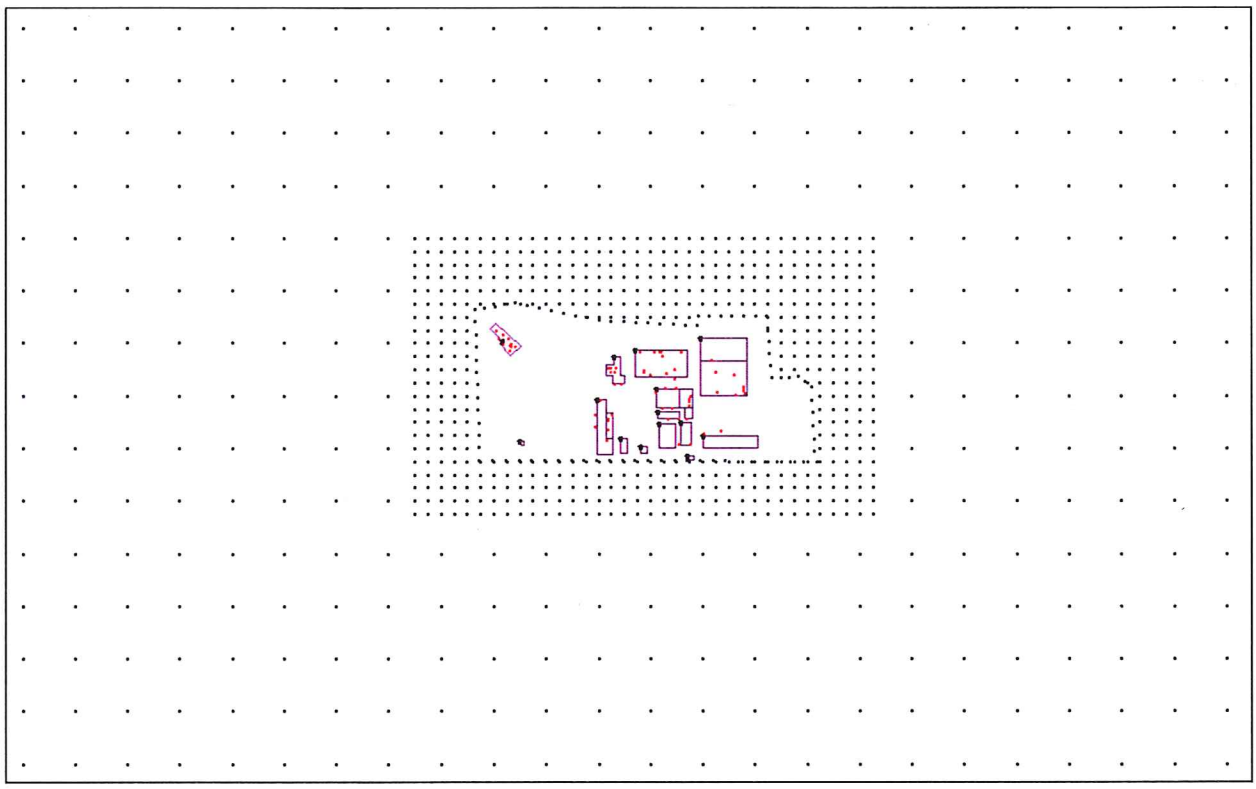


Figure 7. NUNHEMS USA NEAR-FACILITY RECEPTOR GRID



3.2 Emission Rates

Emissions rates of criteria air pollutants and toxic air pollutants were provided by the applicant. DEQ modeling review, described in this memorandum, did not include review of emissions rates for accuracy. Review and approval of estimated emissions was the responsibility of the DEQ permit writer. DEQ modeling staff provided the model inputs for the permit writer to review and determine whether facility-wide potential emissions had been modeled correctly. Hours of operation within a 24-hour period, day of week, and monthly operating assumptions used in the model for this analysis were provided to the permit writer for consideration with regard to requested potential to emit calculations and appropriate permit provisions and restrictions.

3.2.1 Criteria Pollutant Emissions Rates

Table 7 lists criteria pollutant continuous (24 hours per day) emissions rates used to evaluate NAAQS compliance for standards with averaging periods of 24 hours or less. Table 8 lists criteria pollutant continuous (8,760 hours per year) emissions rates used to evaluate NAAQS compliance for standards with an annual averaging period. These modeled rates must represent allowable facility-wide emissions for the listed averaging period. The emission rates for the significant impact analyses and the NAAQS demonstration were identical.

Daily emissions rates for some sources were limited by operational factors to a reduced level of emissions per 24-hour period. The requested 1.0 hour per day of operation averaged over 24 hours was used for all three generator engines (GENGEN, CUMGEN, and CATGEN) emissions. Emissions for other sources with reduced levels of operating hours within a daily period included the following elevated volume sources—HEAT01, HEAT02, DRYER02, and DRYER03. As described in Table 1 of this memo, maximum hourly emissions were modeled and operating factors were applied within the model for hours per day reductions for HEAT01, HEAT02, and DRYER02. Hours per day, days per week, and months per calendar year were further limited for DRYER03.

The annual average emission rates matched the short term hourly emission rates except for the three generators, which modeled average hourly emissions that were calculated by multiplying maximum potential hourly emissions by a factor of 500 hours per year divided by 8,760 hours per year. This method appropriately accounts for testing, maintenance, and some level of emergency operations on an annual basis and follows DEQ's requested approach for calculating allowable annual emergency generator engine operations.

The operational factors described in Table 1 of this memo were also applied in the annual average NO_2 and $PM_{2.5}$ analyses, limiting the pounds per year of the pollutants modeled for DRYER02, DRYER 03, HEAT01, and HEAT02.

The hourly emission rates of all point sources were modeled at the rate listed in Table 7 for the hourly and 24-hour averaging periods except where the operational factors listed in Table 1 of this memo affect the short-term modeled emissions. The hourly emissions listed in Table 8 were modeled for 8,760 hours per year for the annual averaging period except where the operational factors listed in Table 1 of this memo affect the emissions modeled for annual averaging periods.

Table 7. SHORT-TERM EMISSIONS RATES USED IN MODELING ANALYSES				
Modeled Emissions Point	**Description**	**PM_{10}[a] (lb/hr)[b]**	**$PM_{2.5}$[c] (lb/hr)**	**NO_x[d] (lb/hr)**
CUMGEN	Cummins generator engine	0.0061	0.0061	0.0[e]
MRBH	Murphy Rogers baghouse	0.0055	0.0016	0.0
HERD01	Herding fabric filter #1	0.0099	0.0028	0.0
HERD02	Herding fabric filter #2	0.1155	0.0325	0.0
FARR04	FARR cartridge filter #4	0.0658	0.0185	0.0
FARR03	FARR cartridge filter #3	0.0549	0.0155	0.0
FARR02	FARR cartridge filter #2	0.0460	0.0130	0.0
FARR01	FARR cartridge filter #1	0.0490	0.0138	0.0
DC01	Dust collector #1	0.1026	0.0289	0.0
DC02	Dust collector #2	0.1026	0.0289	0.0
DC03	Dust collector #3	0.1029	0.0290	0.0
DC04	Dust collector #4	0.0376	0.0106	0.0
DC05	Dust collector #5	0.0588	0.0166	0.0
DC06	Dust collector #6	0.0955	0.0269	0.0
DC07	Dust collector #7	0.0200	0.0056	0.0
DC08	Dust collector #8	0.0735	0.0207	0.0
GENGEN	Generac generator engine	0.0113	0.0112	0.0[e]
CATGEN	Caterpillar generator engine	0.0029	0.0029	0.0[e]
FARR05	FARR cartridge filter #5	0.0893	0.0251	0.0
FARR06	FARR cartridge filter #6	0.0893	0.0251	0.0
DRYER1A	Enclosed seed dryer A --Building L	0.0077	0.0076	0.1421
DRYER1B	Enclosed seed dryer B – Building L	0.0077	0.0076	0.1421
HEAT03	Bldg A – Heater 1	0.0011	0.0011	0.0213
HEAT04	Bldg A –Heater 2	0.0011	0.0011	0.0213
HEAT05	Bldg A—Heater 3	0.0005	0.0005	0.0085
HEAT06	Bldg A – Heater 4	0.0011	0.0011	0.0213
HEAT07	Bldg A – Heater 5	0.0011	0.0011	0.0213
HEAT08	Bldg A – Heater 6	0.0011	0.0011	0.0213
HEAT09	Bldg G – Heater 1	0.0015	0.0015	0.0277
HEAT10	Bldg G – Heater 2	0.0011	0.0011	0.0213
HEAT11	Bldg H – Heater 1	0.0006	0.0006	0.0107
HEAT12	Bldg H – Heater 2	0.0011	0.0011	0.0213
HEAT13	Bldg K – Heater 1	0.0011	0.0011	0.0213
HEAT14	Bldg K – Heater 2	0.0011	0.0011	0.0213
HEAT15	Bldg K – Heater 3	0.0011	0.0011	0.0213
HEAT16	Bldg K – Heater 4	0.0011	0.0011	0.0213
HEAT17	Bldg K – Heater 5	0.0011	0.0011	0.0213

HEAT22	Bldg L – Heater 1	0.0006	0.0006	0.0107
HEAT23	Bldg L – Heater 2	0.0015	0.0015	0.0284
HEAT24	Bldg L – Heater 3	0.0008	0.0008	0.0142
HEAT25	Bldg L – Heater 4	0.0010	0.0010	0.0178
HEAT26	Bldg L – Heater 5	0.0010	0.0010	0.0178
HEAT29	Bldg M – Heater 1	0.0015	0.0015	0.0277
HEAT30	Bldg M – Heater 2	0.0015	0.0015	0.0277
HEAT27	Bldg L – Heater 6	0.0010	0.0010	0.0178
HEAT28	Bldg L – Heater 7	0.0008	0.0008	0.0142
HVAC01	Bldg A – HVAC 1	0.0007	0.0007	0.0128
HVAC02	Bldg A – HVAC 2	0.0007	0.0007	0.0128
HVAC03	Bldg L – HVAC 1	0.0006	0.0006	0.0102
HVAC04	Bldg L – HVAC 2	0.0006	0.0006	0.0102
HVAC05	Bldg L – HVAC 3	0.0006	0.0006	0.0102
HVAC06	Bldg L – HVAC 4	0.0006	0.0006	0.0102
HVAC12	Bldg P – HVAC 1	0.0019	0.0019	0.0355
HVAC13	Bldg P – HVAC 2	0.0027	0.0027	0.0502
HVAC14	Bldg P – HVAC 3	0.0027	0.0027	0.0502
HVAC15	Bldg P – HVAC 4	0.0027	0.0027	0.0502
HVAC16	Bldg P – HVAC 5	0.0027	0.0027	0.0502
HVAC17	Bldg P – HVAC 6	0.0003	0.0003	0.0064
HVAC18	Bldg P – HVAC 7	0.0003	0.0003	0.0064
HVAC19	Bldg P – HVAC 8	0.0003	0.0003	0.0064
HVAC20	Bldg P – HVAC 9	0.0003	0.0003	0.0064
HVAC21	Bldg N – HVAC 1	0.0014	0.0014	0.0256
HVAC22	Bldg N – HVAC 2	0.0009	0.0009	0.0163
HVAC23	Bldg N – HVAC 3	0.0009	0.0009	0.0163
HVAC24	Bldg N – HVAC 4	0.0014	0.0014	0.0256
HVAC25	Bldg N – HVAC 5	0.0009	0.0009	0.0163
HVAC26	Bldg N – HVAC 6	0.0009	0.0009	0.0163
HVAC27	Bldg N – HVAC 7	0.0009	0.0009	0.0163
HVAC28	Bldg N – HVAC 8	0.0009	0.0009	0.0163
HVAC29	Bldg N – HVAC 9	0.0009	0.0009	0.0163
HVAC30	Bldg N – HVAC 10	0.0009	0.0009	0.0163
HEAT18	Bldg K – Heater 6	0.0011	0.0011	0.0213
HEAT19	Bldg K – Heater 7	0.0006	0.0006	0.0114
HEAT20	Bldg K – Heater 8	0.0006	0.0006	0.0114
HEAT21	Bldg K – Heater 9	0.0006	0.0006	0.0114
HVAC07	Bldg M – HVAC 1	0.0009	0.0009	0.0163
HVAC08	Bldg M - HVAC 2	0.0009	0.0009	0.0163

HVAC09	Bldg M - HVAC 3	0.0009	0.0009	0.0163
HVAC10	Bldg M - HVAC 4	0.0009	0.0009	0.0163
HVAC11	Bldg M - HVAC 5	0.0027	0.0027	0.0502
DRYER02	Seed dryer #2 – building K	0.0191	0.0191	0.3552
DRYER03	Seed dryer #3 – relocated near northwest corner of building Q	0.0153	0.0153	0.2841
HEAT01	Building Q heaters	0.0153	0.0153	0.2841
HEAT02	Building L heaters	0.0076	0.0076	0.1421

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

b. Pounds per hour.

c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

d. Nitrogen oxides.

e. Emergency electrical generator engines are exempt from modeling to demonstrate compliance with the 1-hr NO_2 NAAQS per DEQ policy.

Table 8. LONG-TERM EMISSIONS RATES USED IN MODELING ANALYSES			
Modeled Emissions Point	**Description**	**$PM_{2.5}$[a] (lb/hr)[b]**	**NO_x[c] (lb/hr)**
CUMGEN	Cummins generator engine	0.0083	1.5815
MRBH	Murphy Rogers baghouse	0.0016	0.0
HERD01	Herding fabric filter #1	0.0028	0.0
HERD02	Herding fabric filter #2	0.0325	0.0
FARR04	FARR cartridge filter #4	0.0185	0.0
FARR03	FARR cartridge filter #3	0.0155	0.0
FARR02	FARR cartridge filter #2	0.0130	0.0
FARR01	FARR cartridge filter #1	0.0138	0.0
DC01	Dust collector #1	0.0289	0.0
DC02	Dust collector #2	0.0289	0.0
DC03	Dust collector #3	0.0290	0.0
DC04	Dust collector #4	0.0106	0.0
DC05	Dust collector #5	0.0166	0.0
DC06	Dust collector #6	0.0269	0.0
DC07	Dust collector #7	0.0056	0.0
DC08	Dust collector #8	0.0207	0.0
GENGEN	Generac generator engine	0.0154	0.1060
CATGEN	Caterpillar generator engine	0.0040	0.1487
FARR05	FARR cartridge filter #5	0.0251	0.0
FARR06	FARR cartridge filter #6	0.0251	0.0
DRYER1A	Enclosed seed dryer A --Building L	0.0076	0.1421
DRYER1B	Enclosed seed dryer B – Building L	0.0076	0.1421
HEAT03	Bldg A – Heater 1	0.0011	0.0213
HEAT04	Bldg A –Heater 2	0.0011	0.0213
HEAT05	Bldg A—Heater 3	0.0005	0.0085
HEAT06	Bldg A – Heater 4	0.0011	0.0213
HEAT07	Bldg A – Heater 5	0.0011	0.0213
HEAT08	Bldg A – Heater 6	0.0011	0.0213
HEAT09	Bldg G – Heater 1	0.0015	0.0277
HEAT10	Bldg G – Heater 2	0.0011	0.0213
HEAT11	Bldg H – Heater 1	0.0006	0.0107
HEAT12	Bldg H – Heater 2	0.0011	0.0213
HEAT13	Bldg K – Heater 1	0.0011	0.0213
HEAT14	Bldg K – Heater 2	0.0011	0.0213
HEAT15	Bldg K – Heater 3	0.0011	0.0213
HEAT16	Bldg K – Heater 4	0.0011	0.0213

HEAT17	Bldg K – Heater 5	0.0011	0.0213
HEAT22	Bldg L – Heater 1	0.0006	0.0107
HEAT23	Bldg L – Heater 2	0.0015	0.0284
HEAT24	Bldg L – Heater 3	0.0008	0.0142
HEAT25	Bldg L – Heater 4	0.0010	0.0178
HEAT26	Bldg L – Heater 5	0.0010	0.0178
HEAT29	Bldg M – Heater 1	0.0015	0.0277
HEAT30	Bldg M – Heater 2	0.0015	0.0277
HEAT27	Bldg L – Heater 6	0.0010	0.0178
HEAT28	Bldg L – Heater 7	0.0008	0.0142
HVAC01	Bldg A – HVAC 1	0.0007	0.0128
HVAC02	Bldg A – HVAC 2	0.0007	0.0128
HVAC03	Bldg L – HVAC 1	0.0006	0.0102
HVAC04	Bldg L – HVAC 2	0.0006	0.0102
HVAC05	Bldg L – HVAC 3	0.0006	0.0102
HVAC06	Bldg L – HVAC 4	0.0006	0.0102
HVAC12	Bldg P – HVAC 1	0.0019	0.0355
HVAC13	Bldg P – HVAC 2	0.0027	0.0502
HVAC14	Bldg P – HVAC 3	0.0027	0.0502
HVAC15	Bldg P – HVAC 4	0.0027	0.0502
HVAC16	Bldg P – HVAC 5	0.0027	0.0502
HVAC17	Bldg P – HVAC 6	0.0003	0.0064
HVAC18	Bldg P – HVAC 7	0.0003	0.0064
HVAC19	Bldg P – HVAC 8	0.0003	0.0064
HVAC20	Bldg P – HVAC 9	0.0003	0.0064
HVAC21	Bldg N – HVAC 1	0.0014	0.0256
HVAC22	Bldg N – HVAC 2	0.0009	0.0163
HVAC23	Bldg N – HVAC 3	0.0009	0.0163
HVAC24	Bldg N – HVAC 4	0.0014	0.0256
HVAC25	Bldg N – HVAC 5	0.0009	0.0163
HVAC26	Bldg N – HVAC 6	0.0009	0.0163
HVAC27	Bldg N – HVAC 7	0.0009	0.0163
HVAC28	Bldg N – HVAC 8	0.0009	0.0163
HVAC29	Bldg N – HVAC 9	0.0009	0.0163
HVAC30	Bldg N – HVAC 10	0.0009	0.0163
HEAT18	Bldg K – Heater 6	0.0011	0.0213
HEAT19	Bldg K – Heater 7	0.0006	0.0114
HEAT20	Bldg K – Heater 8	0.0006	0.0114
HEAT21	Bldg K – Heater 9	0.0006	0.0114
HVAC07	Bldg M – HVAC 1	0.0009	0.0163

HVAC08	Bldg M - HVAC 2	0.0009	0.0163
HVAC09	Bldg M - HVAC 3	0.0009	0.0163
HVAC10	Bldg M - HVAC 4	0.0009	0.0163
HVAC11	Bldg M - HVAC 5	0.0027	0.0502
DRYER02	Seed dryer #2 – building K	0.0080	0.1480
DRYER03	Seed dryer #3 – relocated near northwest corner of building Q	0.0011	0.0198
HEAT01	Building Q heaters	0.0057	0.1066
HEAT02	Building L heaters	0.0029	0.0533

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

b. Pounds per hour.

c. Nitrogen oxides.

3.2.2 TAP Emissions Rates

The increase in emissions from the proposed project are required to demonstrate compliance with the toxic air pollutant (TAP) increments, with an ambient impact analyses required for any TAP having a requested potential emission rate that exceeds the screening emissions level (EL) specified by Idaho Air Rules Section 585 or 586. Modeling staff compared the average hourly emission rates listed in the September 8, 2015, Revision 4 version of the Nunhems project modeling report to the TAPs ELs and verified that listed project emissions rates were below the ELs. Review of the TAPs emissions inventory, and authority to request alterations to the inventory, is the responsibility of the permit writer/project manager.

This project's emissions inventory did not present any TAPs with emission rates that exceeded the non-carcinogenic and carcinogenic screening emission rate limits (ELs) specified in Sections 585 and 586 of the Idaho Air Rules.

3.3 Emission Release Parameters

Table 9 lists emissions release parameters for modeled sources. All point sources were modeled as rain-capped or horizontal releases. Each project's permit application is to have stand-alone documentation to support the exhaust parameters used in the modeling demonstration. CH2M supplied support documentation to DEQ prior to submittal of the September 2014 modeling protocol in emails to DEQ modeling staff dated August 7, 2013. This email information listed assumptions for exhaust parameters and listed modeling input stack heights and diameters, location, and exit temperatures, primarily for propane-fired heaters and HVAC units. CH2M indicated that the stack release heights and exit diameters were determined by CH2M and Nunhems with an on-site validation. Field notes were not available for DEQ review to corroborate the tables of information provided in the August 7, 2013 submittals or the final modeling analyses. However, support documentation including vendor data and manufacturer's catalog specifications were included in Appendix C of the permit application.

Generator engines CATGEN, GENGEN, and CUMGEN were each modeled as having a rain cap, which impedes vertical plume rise. The actual stack diameter, flow rate, and exhaust temperature were input in the model for each of the engines as recommended by EPA guidance. Manufacturer's specification sheets, providing exhaust characteristics, were provided in the permit application. Modeled exhaust flow rates for the Generac and Cummins were lower than listed in the manufacturer specification sheets and the Cummins generator exit temperature was modeled with a slightly lower temperature than the supporting documentation provided for a standby generator at full load. The Generac and Caterpillar engines documentation listed an exhaust flange diameter values of 4 inches and 7 inches in diameter, respectively, matching the modeling input. Stack height documentation was limited to the preliminary summary sheet provided by CH2M to DEQ prior to the submittal of the final modeling protocol. These sources were modeled with the Beta algorithm rain cap treatment so exit velocity's effect on momentum buoyancy is minimized by the model and thermal buoyancy is considered for the high temperature exhaust. This approach is conservative for the generator stacks because generator engines are usually equipped with a spring-hinged rain flap that moves out of the way and does not impede the flow of the

exhaust stream during operations. When the engine is not in operation the spring-loaded flap protects the engine from rain or pest intrusion. The high exit temperature is the only parameter providing the generator engine exhaust plumes with buoyancy effects. Therefore, the assumptions are determined to be acceptable by DEQ modeling staff as acceptable for these analyses.

All sources modeled as horizontal releases were modeled with an exit velocity of 0.001 meters per second. These sources included all baghouses and fabric filtration systems (DC01 through DC08, FARR01 through FARR06, MRBH, HERD01, and HERD02). This low velocity will minimize any dispersion for these sources and is accepted as a conservative approach for these modeling analyses.

One issue noted for the baghouses was the exit temperature for Dust Collectors #3 and #4 (DC03 and DC04). Each was modeled with an exit temperature of 111 degrees Fahrenheit versus the 73 degree Fahrenheit temperature used for all other baghouses and fabric filter sources. The DC03 and DC04 sources only emit 0.03 lb/hr and 0.01 lb/hr of $PM_{2.5}$, respectively, and 0.10 lb/hr and 0.04 lb/hr of PM_{10}, respectively. They were modeled as horizontal point sources with minimized flow velocity at 0.001 meters per second. These are not NO_x emission sources, and the 1-hour NO_2 NAAQS was the only ambient standard with impacts plus background close to the allowable NAAQS. Based on consideration of these points DEQ modeling staff asserts that even if appropriate, the reduction of the exit temperature to 73 degrees Fahrenheit will not affect PM_{10} and $PM_{2.5}$ NAAQS compliance.

Documentation on the heater and HVAC equipment was spot-checked and was supported by manufacturer specification sheet data. CH2M modeled many of these sources as horizontal releases with a very conservative 0.001 meter per second exit velocity so a verified volumetric flow rate or velocity was not pertinent. Actual exit velocity or volumetric flow rate values for those heater and HVAC stacks are negated for those emergency generator, heaters, dryers, and HVAC point source stacks modeled as capped sources, with the exhaust plume momentum being minimized by the Beta algorithms. The exit gas temperature for capped sources is still is an important parameter, as it provides some level of plume buoyancy if the exit temperature is high enough compared to the ambient temperature.

Four volume sources were included in the modeling analyses. DEQ requested justification of why the sources were to be treated as volume sources in the May 22, 2015 incompleteness letter, with the following:

> "Please provide a discussion and justification of why Dryer 2, Dryer 3, Heater 1 and Heater 2 were modeled as volume sources instead of point sources. If the sources are equipped with one or more actual exhaust vents with a fan producing consistent airflow these sources should typically be modeled as point sources, even if they have a horizontal release. The use of Beta algorithms for capped and horizontal release point sources is approved for this project and is being used for the majority of sources in the modeling demonstration. "

CH2M and Nunhems submitted support documentation in the September 8, 2015 incompleteness response on the volume sources. The primary reason for modeling the sources as volume sources appears to be they produce "intermittent airflow." The operating schedules for these sources have no bearing on whether they should be modeled as a point source or a volume source. The physical characteristics of how the emissions are exhausted to the air are the points DEQ must consider in evaluating whether a source is a true point source or may be modeled as a volume source.

HEATER01 and HEATER02 sources are rectangular vents within a building that exhaust heated air out of the building for periods of time when onion bulbs are heated for processing. Based upon CH2M's description it is assumed that the venting does not occur consistently. CH2M's September 8, 2014 response states that,

> "The onion bulbs are stacked in crates near a plenum wall. Heated air is circulated throughout the building area and may or may not exit the building. However, if heated exhaust does exit the building it is released out the side of the building via large rectangle openings."

The primary basis for DEQ agreeing that these sources are in fact volume sources is that CH2M's documentation for the sources does not indicate that there is any fan-assisted exhaust from these vents. DEQ's incompleteness determination letter specifically addressed that these sources must be treated as point sources if a fan was present.

DEQ agrees that treatment of these sources as volume sources venting emissions as passively exhausted sources is acceptable for these modeling analyses.

DRYER02 and DRYER03 are made of a group of regularly-spaced vents along a rectangular platform where heat is applied to crates of materials being dried, and were each represented as a single volume source. The emissions from the dryer propane combustion units are distributed through the crates stacked on top of these vents. The height of both seed dryers was 3.66 meters (or 12 feet above grade). This height was used for the release height of the source and for calculating the vertical dispersion coefficient for each dryer. Volume source horizontal dispersion coefficients for the seed drying plenum and onion crate setups were calculated using a total source horizontal length of 25.3 meters for DRYER02 and 8.2 meters for DRYER03. The volume source approach for modeling these sources and the calculated parameters appears reasonable to be DEQ and are accepted for these analyses.

Table 9. EMISSIONS RELEASE PARAMETERS

Point Sources

Release Point	Description	Release Type	UTM[a] Coordinates, Zone 11		Source Base Elevation (m)	Stack Release Height (m)	Stack Gas Temp (K)[c]	Stack Flow Velocity (m/s)[d]	Modeled Diameter (m)
			Easting (x) (m)[b]	Northing (y) (m)					
CUMGEN	Cummins generator engine	Raincap	504002.54	4857999.4	691.4	4.57	763.71	43.898	0.406
GENGEN	Generac generator engine	Raincap	503994	4857784	693.6	1.52	783.15	49.37	0.076
CATGEN	Caterpillar generator engine	Raincap	503760	4857808	693.5	3.35	729.76	58.01	0.178
MRBH	Murphy Rogers baghouse	Horizontal	504034	4857990.9	690.3	9.14	295.96	0.001	0.305
HERD01	Herding fabric filter #1	Horizontal	504073.48	4857978.42	690.3	5.40	295.96	0.001	0.638
HERD02	Herding fabric filter #2	Horizontal	504073.98	4857954.94	690.3	8.28	295.96	0.001	0.762
FARR06	FARR cartridge filter #6	Horizontal	504084	4857861	690.8	6.55	295.96	0.001	0.457
FARR05	FARR cartridge filter #5	Horizontal	504083.89	4857857	690.8	6.55	295.96	0.001	0.457
FARR04	FARR cartridge filter #4	Horizontal	504054	4857934	690.3	9.04	295.96	0.001	0.457
FARR03	FARR cartridge filter #3	Horizontal	504039	4857934	690.3	9.04	295.96	0.001	0.457
FARR02	FARR cartridge filter #2	Horizontal	504013.03	4857932.96	690.3	9.04	295.96	0.001	0.457
FARR01	FARR cartridge filter #1	Horizontal	504009.04	4857931.96	690.3	9.12	295.96	0.001	0.457
DC01	Dust collector #1	Horizontal	504094.24	4857951.7	692.0	8.23	295.96	0.001	1.298
DC02	Dust collector #2	Horizontal	504093.46	4857938.95	692.0	8.23	295.96	0.001	1.298
DC03	Dust collector #3	Horizontal	504094.46	4857923.47	692.0	8.23	317.16	0.001	1.298
DC04	Dust collector #4	Horizontal	504103.45	4857895.99	692.0	8.23	317.16	0.001	1.021
DC05	Dust collector #5	Horizontal	504108.94	4857895.99	692.0	8.23	295.96	0.001	0.988

DC06	Dust collector #6	Horizontal	504114.44	4857895.49	692.0	8.23	295.96	0.001	1.298
DC07	Dust collector #7	Horizontal	504125.43	4857896.49	692.0	8.23	295.96	0.001	0.516
DC08	Dust collector #8	Horizontal	504133.92	4857894.5	692.0	8.23	295.96	0.001	1.298
DRYER1A	Enclosed seed dryer A - -Building L	Raincap	504017.5	4857983.4	690.3	9.14	317.16	24.53	0.457
DRYER1B	Enclosed seed dryer B – Building L	Raincap	504021.5	4857983.4	690.3	9.14	317.16	19.46	0.457
HEAT03	Bldg A – Heater 1	Horizontal	503903.8	4857891.9	693.1	5.49	334.26	0.001	0.102
HEAT04	Bldg A –Heater 2	Horizontal	503894.4	4857864.5	693.1	5.49	334.26	0.001	0.102
HEAT05	Bldg A—Heater 3	Horizontal	503926.7	4857864.7	693.1	5.49	328.71	0.001	0.102
HEAT06	Bldg A – Heater 4	Horizontal	503894.5	4857841.2	693.1	5.49	334.26	0.001	0.102
HEAT07	Bldg A – Heater 5	Raincap	503918.2	4857834.8	693.1	6.71	334.26	35.00	0.102
HEAT08	Bldg A – Heater 6	Raincap	503917	4857814.6	693.1	9.75	334.26	35.00	0.102
HEAT09	Bldg G – Heater 1	Horizontal	504055.1	4857807.7	693.2	5.18	334.26	0.001	0.127
HEAT10	Bldg G – Heater 2	Horizontal	504077.5	4857807.7	693.2	5.18	334.26	0.001	0.102
HEAT11	Bldg H – Heater 1	Horizontal	504053.4	4857856	691.2	5.18	334.26	0.001	0.152
HEAT12	Bldg H – Heater 2	Horizontal	504032.8	4857856	691.2	5.18	334.26	0.001	0.102
HEAT13	Bldg K – Heater 1	Horizontal	504068.34	4857855.9	690.8	4.27	334.26	0.001	0.102
HEAT14	Bldg K – Heater 2	Horizontal	504042.1	4857875.9	690.8	7.32	334.26	0.001	0.102
HEAT15	Bldg K – Heater 3	Horizontal	504022.8	4857875.9	690.8	7.32	334.26	0.001	0.102
HEAT16	Bldg K – Heater 4	Horizontal	504011.2	4857906.8	690.8	6.40	334.26	0.001	0.102
HEAT17	Bldg K – Heater 5	Horizontal	504049.5	4857914.2	690.8	6.40	334.26	0.001	0.102
HEAT18	Bldg K – Heater 6	Raincap	504076.58	4857898.62	690.8	5.79	334.26	35.00	0.102
HEAT19	Bldg K – Heater 7	Raincap	504074.35	4857894.81	690.8	5.79	329.26	18.67	0.102
HEAT20	Bldg K – Heater 8	Raincap	504074.35	4857888.85	690.8	5.79	329.26	18.67	0.102
HEAT21	Bldg K – Heater 9	Raincap	504074.35	4857882.1	690.8	5.79	329.26	18.67	0.102
HEAT22	Bldg L – Heater 1	Raincap	504046.65	4857950.59	690.3	8.53	329.26	5.90	0.127
HEAT23	Bldg L – Heater 2	Raincap	504030.35	4857942.61	690.3	8.53	329.26	6.20	0.204
HEAT24	Bldg L – Heater 3	Raincap	504022.72	4857976.05	690.3	8.53	329.26	6.90	0.152
HEAT25	Bldg L – Heater 4	Raincap	504006.85	4857984.17	690.3	8.53	329.26	6.8	0.178
HEAT26	Bldg L – Heater 5	Raincap	504001.55	4857939.04	690.3	8.53	329.26	6.8	0.178
HEAT27	Bldg L – Heater 6	Raincap	503980.84	4857984.24	690.3	8.53	329.26	6.80	0.178
HEAT28	Bldg L – Heater 7	Raincap	504058.65	4857983.61	690.3	8.53	329.26	6.90	0.152
HEAT29	Bldg M – Heater 1	Horizontal	503943.6	4857921.8	690.1	4.42	334.26	0.001	0.127
HEAT30	Bldg M – Heater 2	Horizontal	503932.95	4857921.8	690.1	4.42	334.26	0.001	0.127
HVAC01	Bldg A – HVAC 1	Raincap	503918.6	4857855	693.1	6.71	334.26	21.00	0.102
HVAC02	Bldg A – HVAC 2	Raincap	503918	4857852.5	693.1	6.71	334.26	21.00	0.102
HVAC03	Bldg L – HVAC 1	Raincap	503988.36	4857946.15	690.3	8.53	323.15	28.17	0.051
HVAC04	Bldg L – HVAC 2	Raincap	503988.32	4857947.34	690.3	8.53	323.15	28.17	0.051
HVAC05	Bldg L – HVAC 3	Raincap	503987.68	4857947.38	690.3	8.53	323.15	28.17	0.051

HVAC06	Bldg L – HVAC 4	Raincap	503987.93	4857947.93	690.3	8.53	323.15	28.17	0.051
HVAC07	Bldg M – HVAC 1	Horizontal	503931.6	4857945.5	690.1	5.33	334.26	0.001	0.081
HVAC08	Bldg M - HVAC 2	Horizontal	503923.9	4857945.5	690.1	5.33	334.26	0.001	0.081
HVAC09	Bldg M - HVAC 3	Horizontal	503923.8	4857951.7	690.1	5.33	334.26	0.001	0.081
HVAC10	Bldg M - HVAC 4	Horizontal	503933.4	4857951.7	690.1	5.33	334.26	0.001	0.081
HVAC11	Bldg M - HVAC 5	Raincap	503919.4	4857953.4	690.1	5.33	344.26	1.11	1.000
HVAC12	Bldg P – HVAC 1	Horizontal	504118.2	4857966.9	692.0	11.58	353.71	0.001	0.021
HVAC13	Bldg P – HVAC 2	Horizontal	504124.4	4857944	690.1	10.06	344.26	0.001	0.021
HVAC14	Bldg P – HVAC 3	Horizontal	504159.8	4857940.9	690.1	10.06	344.26	0.001	0.021
HVAC15	Bldg P – HVAC 4	Horizontal	504127.9	4857908.2	690.1	10.06	344.26	0.001	0.021
HVAC16	Bldg P – HVAC 5	Horizontal	504163.3	4857902.4	690.1	10.06	344.26	0.001	0.021
HVAC17	Bldg P – HVAC 6	Horizontal	504178.9	4857916.1	690.1	10.06	323.15	0.001	0.021
HVAC18	Bldg P – HVAC 7	Horizontal	504179.9	4857912.7	690.1	10.06	323.15	0.001	0.021
HVAC19	Bldg P – HVAC 8	Horizontal	504179.2	4857910.4	690.1	10.06	323.15	0.001	0.021
HVAC20	Bldg P – HVAC 9	Horizontal	504182.1	4857905.6	690.1	10.06	323.15	0.001	0.021
HVAC21	Bldg N – HVAC 1	Horizontal	503705.25	4858023	692.1	6.10	339.82	0.001	0.021
HVAC22	Bldg N – HVAC 2	Horizontal	503711	4858010	692.1	6.10	334.26	0.001	0.021
HVAC23	Bldg N – HVAC 3	Horizontal	503718	4858016.3	692.1	6.10	334.26	0.001	0.021
HVAC24	Bldg N – HVAC 4	Horizontal	503717.6	4857997.8	692.1	6.10	339.82	0.001	0.021
HVAC25	Bldg N – HVAC 5	Horizontal	503727.3	4858007.9	692.1	6.10	334.26	0.001	0.021
HVAC26	Bldg N – HVAC 6	Horizontal	503731	4857996.3	692.1	6.10	334.26	0.001	0.021
HVAC27	Bldg N – HVAC 7	Horizontal	503733	4857998	692.1	6.10	334.26	0.001	0.021
HVAC28	Bldg N – HVAC 8	Horizontal	503732	4857993	692.1	6.10	334.26	0.001	0.021
HVAC29	Bldg N – HVAC 9	Horizontal	503731.3	4857985.4	692.1	6.10	334.26	0.001	0.021
HVAC30	Bldg N – HVAC 10	Horizontal	503741	4857993.42	692.1	6.10	334.26	0.001	0.021

Volume Sources

Release Point	Description	Location UTM Coordinates Easting (x) (m)	Location UTM Coordinates Northing (y) (m)	Source Base Elevation (m)	Release Height (m)	Initial Horizontal Dimension (m)	Initial Vertical Dimension (m)
DRYER02	Seed dryer #2 – building K	504027.8	4857914.7	690.97	3.66	5.88	1.7
DRYER03	Seed dryer #3 – to be relocated near northwest corner of building Q	504103.19	4857826.84	691.4	3.66	1.91	1.7
HEAT01	Building Q heaters	504135.5	4857833	694.65	3.048	3.76	1.42
HEAT02	Building L heaters	504047	4857932.7	690.97	3.048	2.41	1.42

a. Universal Transverse Mercator.
b. Meters.
c. Temperature—units of Kelvin.
d. Meters per second.

3.4 Results for Air Impact Analyses

3.4.1 Results for Significant Impact Analyses

Table 10 provides results for the 24-hour and annual $PM_{2.5}$, 24-hour PM_{10}, and annual and 1-hour NO_2 significant impacts level analyses (SIL) analyses.

Emissions increases of other criteria pollutants resulting from the proposed project were below applicable DEQ BRC permitting or DEQ modeling thresholds that trigger site-specific impact analyses. Cumulative NAAQS impact analyses were needed for all pollutants modeled in the SIL analyses because the applicable SILs were exceeded.

Table 10. RESULTS FOR SIGNIFICANT IMPACT ANALYSES

Pollutant	Averaging Period	Modeled Design Value Concentration ($\mu g/m^3$)[a]	SIL[b] ($\mu g/m^3$)	Percent of SIL
$PM_{2.5}$[c]	24-hour	9.5[f]	1.2	792%
	Annual	2.4[g]	0.3	800%
PM_{10}[d]	24-hour	45.3[h]	5.0	906%
NO_2[e]	1-hour	274.1[i]	7.5	3655%
	Annual	18.9[j]	1.0	1890%

a. Micrograms per cubic meter.

b. Significant impact level.

c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

d. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

e. Nitrogen dioxide.

f. Modeled design value is the maximum 5-year mean of highest 24-hour values from each year of a 5-year meteorological dataset.

g. Modeled design value is the maximum 5-year mean of annual average values from each year of a 5-year meteorological dataset.

h. Modeled design value is the maximum of highest 24-hour values from a 5-year meteorological dataset, or the maximum of 24-hour value from five individual years of meteorological data.

i. Modeled design value is the maximum 5-year mean of maximum 1st highest daily 1-hour maximum impacts for each year of a 5-year meteorological dataset. The SIL compliance design value was calculated by using the total NO_x SIL design value multiplied by the 0.80 Tier 2 ARM NO_2/NO_x conversion factor.

j. Modeled design value is the maximum annual impact of the individual years of a 5-year meteorological dataset.

3.4.2 Results for Cumulative NAAQS Impact Analyses

The results for the cumulative impact analyses are listed in Table 11. Ambient impacts for the facility were below the applicable NAAQS.

Table 11. RESULTS FOR CUMULATIVE IMPACT ANALYSES						
Pollutant	**Averaging Period**	**Modeled Design Value Concentration ($\mu g/m^3$)[a]**	**Background Concentration[k] ($\mu g/m^3$)**	**Total Ambient Impact ($\mu g/m^3$)**	**NAAQS[b] ($\mu g/m^3$)**	**Percent of NAAQS**
$PM_{2.5}$[c]	24-hour	6.5[f]	19	25.5	35	73%
	Annual	2.4[g]	7.3	9.7	12	81%
PM_{10}[d]	24-hour	32.4[h]	73	105.4	150	70%
NO_2[e]	1-hour	130.9[i]	49	179.9	188	96%
	Annual	13.3	5.6	18.9	100	19%

a. Micrograms per cubic meter.

b. National ambient air quality standards.

c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

d. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

e. Nitrogen dioxide.

f. Modeled design value is the maximum 5-year mean of 8th highest 24-hour values from each year of a 5-year meteorological dataset.

g. Modeled design value is the maximum 5-year mean of annual average values from each year of a 5-year meteorological dataset.

h. Modeled design value is the maximum of 6th highest 24-hour values from a 5-year meteorological dataset. Real Alloy's demonstration used the 1st highest 24-hour value from the 5-year dataset. This is conservative.

i. Modeled design value is the maximum 5-year mean of 8th highest daily 1-hour maximum impacts for each year of a 5-year meteorological dataset. Conversion of NO_x to NO_2 was calculated by multiplying the total NO_x design value by the 0.8 value for the Tier 2 ARM. Use of the Tier 2 ARM does not require approval by the regulatory agency before its use.

4.0 Conclusions

The ambient air impact analyses demonstrated to DEQ's satisfaction that emissions from the Nunhems facility will not cause or significantly contribute to a violation of any NAAQS.

References

1.0 *Policy on NAAQS Compliance Determination Requirements*. Idaho Department of Environmental Quality Policy Memorandum. July 11, 2014.

2.0 Memo titled "Clarification on the Use of AERMOD Dispersion Modeling for Demonstrating Compliance with the NO_2 National Ambient Air Quality Standard," by R. Chris Owen and Roger Brode, Environmental Protection Agency, September 30, 2014.

APPENDIX C – PROCESSING FEE

Company: **Nunhems USA, Inc.**
Address: **1200 Anderson Corner Road**
City: **Parma**
State: **ID**
Zip Code: **83660**
Facility Contact: **Shane Roe**
Title: **Facilities Manager**
AIRS No.: **027-00130**

N Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

Y Did this permit require engineering analysis? Y/N

N Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_X	12.0	0	12.0
SO_2	1.0	0	1.0
CO	3.0	0	3.0
PM10	2.0	0	2.0
VOC	1.0	0	1.0
TAPS/HAPS	1.0	0	1.0
Total:	20.0	0	**20.0**
Fee Due	**$ 5,000.00**		