Statement of Basis

Permit to Construct No. P-2015.0058
Project ID 61634

Great Western Malting Co.
Pocatello, Idaho

Facility ID 005-00035

Final

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Shawnee Chen, P.E.
Senior Air Quality Engineer

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

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
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
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
MMcf	million cubic feet
MT	metric ton (1,000 kg)
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide

NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O_2	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SOB	statement of basis
SO_x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd^3	cubic yards
$\mu g/m^3$	micrograms per cubic meter

Project Specific Acronyms

BA1	analysis bin for Malthouse B (Kiln 2)
BA2	analysis bin for Malthouse B (Kiln 2)
BH1	Baghouse 1
BH2	Baghouse 2
BH3	Baghouse 3
bhp	brake horsepower
BS1	Malt House Boilers 1&2

BS2	Pellet Mill Boiler
CS	Pellet Mill Cooler
EG1	Emergency Generator-diesel
GBE 1-6	Germination Beds Exhaust 1 to 6
GV1-GV4	Germination Vessels 1 to 4
GVB1	Germination Vessel Boiler 1
GVB2	Germination Vessel Boiler 2
GVB3	Germination Vessel Boiler 3
GVB4	Germination Vessel Boiler 4
GVB5	Germination Vessel Boiler 5
GVB6	Germination Vessel Boiler 6
GWM	Great Western Malting Company Pocatello facility
KB1	Malthouse B (Kiln 2) Burner 1
KB2	Malthouse B (Kiln 2) Burner 2
KB3	Malthouse B (Kiln 2) Burner 3
KB4	Malthouse B (Kiln 2) Burner 4
KBPC	kiln by-product cyclone
KSE01-05	Malthouse A Kilning- Kiln 1 (Stacks 1 to 5)
KS1	Malthouse A (Kiln 1) Burner K1
KS2	Malthouse A (Kiln 1) Burners K2 -K5
KS3	Malthouse A (Kiln 1) Burner K6
KS4	Malthouse A (Kiln 1) Burners K7 - K9
KS5	Malthouse A (Kiln 1) Burner K10
K2	Malthouse B Kiln 2
KB1	Malthouse B (Kiln 2) burner 1
KB2	Malthouse B (Kiln 2) burner 2
KB3	Malthouse B (Kiln 2) burner 3
KB4	Malthouse B (Kiln 2) burner 4
MAU1	Steep Building Makeup Air Unit 1
MAU2	Steep Building Makeup Air Unit 2
MBC	Micro Bin fill conveyor
MT	metric tons
MT/hr	metric tons per hour
NMC2	New Malt Conveyor 2
NML	the new malt leg conveyor
RB	Rail Bay for Loading/Unloading
STC1	Steep Tanks Fill Conveyor 1
STC2	Steep Tanks Fill Conveyor 2
TB	Truck Bay for loading/Unloading

FACILITY INFORMATION

Description

Great Western Malting Co. produces high quality malted barley and other malted grains that are basic ingredients in beer. The processes of the plant can be divided into four main areas:

- Grain Handling (grain receiving, storage, cleaning, and conveying);
- Malting (steeping, germination, and kilning);
- Malt Handling (storage, cleaning, conveying, and shipping), and
- By-product Handling (pellet making, storage, conveying, and shipping).

Grain Handling

Most of the grain received at the plant is barley but the plant also processes wheat and could process rye, rice or other grains, only in much smaller amounts. In the flow diagrams and process descriptions, whenever barley is mentioned, the description also applies to other grains.

Grain is received by truck or railcar and unloading operations occur at the truck bay (TB) and rail bay (RB). During unloading, the trucks or railcars discharge grain into hoppers, from which the grain is conveyed through the headhouse. Unloading operations result in the generation of particulate matter (PM) emissions. The truck bay receiving pit is equipped with side draw vacuums with exhaust to Baghouse 1 (BH1). Hopper-type trucks account for a majority of the truck receiving operations. These trucks and railcar unloading operations employ choke feed to the receiving pit to minimize fugitive particulate emissions.

The grain is transferred through the headhouse to the grain storage silos. PM emissions generated by headhouse transfer operations are controlled by BH1. The grain is cleaned and graded. The grain transfers, and the cleaning device emissions are controlled by baghouse 2 (BH2.) "Thin" grain is transferred to Feed Barley transfer bins, and the material is trucked offsite for use as animal feed. Feed Barley transfer operations are controlled by BH1. Feed Barley truck loadout operations are controlled by a cyclone side vacuum draw system that exhausts to baghouse 3 (BH3). Materials collected by all of the centralized baghouse systems (BH1, BH2 and BH3) are sent to the pellet mill.

Malting

Existing Malting Process

After cleaning, the grain is transferred to the malting operations. Currently there is one malting process at the plant that takes place in the Malthouse. The existing Malthouse contains steeping tanks and six germination beds. The grain is conveyed to steep tanks where it is steeped by placing it in large tanks with cool water. Following steeping, the grain is dropped into one of six temperature and humidity controlled germination beds and allowed to grow.

The steeping and germination processes are served by chilled water systems. The germination beds are periodically sanitized with hypochlorite resulting in minor emissions of chlorine through the Germination Bed Exhaust emission points (GBE 1-6). The sanitizing is performed on one germination bed on any given day with emissions lasting for a period of about 2 hours. The germination process requires heated air provided by the two existing natural gas-fired hot water boilers (Malthouse Boilers 1 & 2) that exhaust to a common stack (BS1).

Following germination, "green" malt or original grain is dried in an indirect natural gas-fired malt kiln (Malthouse A). The malt kiln has two levels. Green malt enters the upper deck and is dried. The green malt is then transferred to the lower deck of the kiln where it is further dried to about 4% moisture content. During a portion of the kilning, sulfur may be burned in a sulfur stove and exhausted into the kiln, primarily as sulfur dioxide. Sulfur is only burned if customer product specifications require its use. The kiln emits PM, volatile organic compounds (VOC) and sulfur dioxide (SO_2) that are vented through five stacks (KSE01-05).

Currently, heat for the kiln is provided by ten natural gas-fired Malthouse A (Kiln 1) burners that exhaust through 5 Malthouse A burner stacks. The burners for the existing kiln will be replaced with ten air-to-air heat exchangers to provide drying air to the kiln. The new heat exchangers will have ten natural gas-fired low NOx burners, one for each heat exchanger. Each burner will have a 7.9 MMBtu/hr heat input capacity. The exhausts from the new heat exchanger burners will discharge through the 5 malt kiln burner stacks (KS1-KS5).

New Malting Process

The project will add a new malting process line to the plant. The new malting equipment will include 16 new steep tanks, 4 new germination vessels, and 1 new kiln (Malthouse B).

There will be two new conveyor transfer points as grain is conveyed to the new steep tanks. Steep tank fill conveyor 1 (STC1) and steep tank fill conveyor 2 (STC2) will each have a new dust filter to capture particulate matter from the grain transfers into the new steeps. The steep tanks will be located in a Steep House in an upper group of eight tanks and a lower group of eight tanks. Each steep tank will have its own stack for exhausting carbon dioxide (CO_2) emissions.

Heat for the Steep House building will be provided by two natural gas-fired makeup air heaters (MAU1- MAU2). Each heater will have a 2.188 MM Btu/hr heat input capacity.

Four new germination vessels (GV1- GV4) will be constructed. Each vessel will be an independent structure. There will be two stacks for each GV for a total of eight stacks. Just like in the existing germination equipment, the new germination vessels will be sanitized using hypochlorite, which may produce minor amounts of chlorine emissions. Only one germination vessel will be sanitized on any given day with emissions lasting up to 2 hours per cleaning event.

The hot water for germination will be provided by six new natural gas-fired boilers. Each boiler will have a 2 MMBtu/hr heat input capacity. Three boilers (GVB1-GVB3) will serve GV1 and GV2 but only two boilers will operate at any one time and one will serve as a backup. Similarly, three boilers (GVB4-GVB6) will serve GV3 and GV4 with only two boilers operating at any one time.

A new malt kiln (Malthouse B, Kiln 2) will be constructed in a new separate building at the plant. The new kiln will use four air-to-air heat exchangers to provide the drying air for the kiln. The heat exchangers will have a total of four natural gas-fired burners (KB1- KB4), one for each heat exchanger. Each burner will have an 18.15 MMBtu/hr heat input capacity and its own exhaust stack. The sulfur will not be burned in the new kiln. Air from Malthouse B will be discharged from a single stack.

Biogenic CO_2 is given off during the malting process and is generated from combustion equipment. This pollutant will need to be added to the permit for the existing and new equipment.

Malt Handling

After the malt is dried in the kiln, it is conveyed and placed into bins for analysis, then it is cleaned and transferred to malt storage silos until it is shipped.

Two new 375 metric ton (MT) malt analysis bins (BA1 and BA2) will be added to handle the malt from the new kiln (Malthouse B). The malt analysis bins will have fill conveyors and dust filters for capturing particulate matter when filling the bins. These bins are used as temporary storage while the malt is being analyzed for product quality.

There will be two new malt conveyer transfer points when moving the malt from the new kiln to the existing malt handling conveyors. One transfer point is called the new malt leg conveyor (NML) and the other is called New Malt Conveyor 2 (NMC2). Each conveyor transfer point will have a dust filter to control particulate emissions.

After analysis, the malt is cleaned before it is placed into storage. A new drum scalper and aspirator will be replacing some of the existing malt cleaning equipment at the plant. Particulate matter generated during cleaning is collected in existing BH2. Grain transfer emissions are collected in existing BH3. The existing baghouses have enough capacity to control the additional throughputs.

The increase in malt production will require the addition of storage to the existing plant. The plan is to add 10 new 750 MT malt storage bins. There will be two new fill conveyors, one for each group of five malt storage bins.

The dust from the malt storage bins during filling will be captured in the enclosed conveyor and vented through a new dust filter, one filter for each conveyor .

Before shipping, the malt is transferred from the storage bins into smaller loadout bins. The project will add four new 40 MT Micro Bins (loadout bins). The Micro Bin fill conveyor (MBC) will have a dust filter for controlling dust during bin filling. The Micro Bins will be used to store specific qualities and mixes of malts for micro-brew customer orders.

The malt is shipped by railcar and truck. The malt is gravity fed into trucks in the existing Truck Bay or railcars in the existing Rail Bay. There will be an increase in the number of trucks and railcars after the project starts operation as a result of the increase in production.

By-Product Handling

By-products are produced from the kilning process. By-products from the new kiln will be pneumatically conveyed to a new cyclone that feeds into an existing by-product storage bin. A dust filter will be used to control emissions from the kiln by-product cyclone (KBPC) exhaust.

By-products from the kilns and material collected by the baghouses are sent to an existing pellet mill system where the material is pelletized and shipped offsite. The pellet mill mixer requires steam provided by an existing steam boiler (pellet mill boiler) that exhausts through its own boiler stack (BS2). After pellets are formed, they are cooled using the existing pellet mill cooler cyclone and stored in a pellet bin. The cooler cyclone exhausts directly to atmosphere through its own stack (CS). The loadout of pelletized material into trucks results in fugitive emissions. The existing pellet mill system has enough capacity to handle the grain residues, malt by-products and baghouse material from the expansion so no changes are planned to the pellet mill system or pellet mill boiler.

Permitting History

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

October 4, 2006	P-060312, renewing the Tier II operating permit, converting it to a PTC, and increasing the permitted pellet production rate from 2.4 tons per hour to 5.0 tons per hour, Permit status (A, but will become S upon issuance of this permit)
January 26, 2001	T2-990007, issued a Tier II operating permit for the pellet mill operation. Permit status (S)
June 29, 1981	Amendment to the January 25, 1980 PTC, issued June 29, 1981, Permit status (S)
January 25, 1980	Permit to Construct to a barley storage, cleaning, handling and malting operation with air pollution control baghouses controlling particulate emissions, Permit status (S)

Application Scope

This PTC is for a minor modification at an existing minor facility. The malting expansion project will result in an increase in grain throughput and malt production.

The proposed project will

- Add a second malting line (i.e., two new conveyors, two new makeup air heaters, 16 new steep tanks, four new germination vessels, six new natural-gas fired boilers to supply hot water, one new kiln with four burners),
- Add new malting line handling equipment (i.e., two new malt analysis bins with two filling conveyors, and two transfer conveyors moving malt from the new kiln to the existing malt handling conveyors),
- Replace some of the existing malt cleaning equipment with a new drum scalper and two aspirators, but still use the existing baghouse 2 and baghouse 3,
- Increase malt storage capacity (i.e., 10 new storage bins with two conveyors, one conveyor for each group of five malt storage bins),

- Add loadout bins (i.e., four new loadout bins with a Micro Bin fill conveyor),
- Add a new kiln byproduct cyclone with a dust filter to transfer new kiln byproduct to the existing byproduct bin, and
- Replace the heaters in the existing malt kiln (Malthouse A) with 10 air-to-air heat exchanges supported by 10 low NOx burners.

The expected maximum production rates are:

Material	Existing T/yr (from 2006 PTC)	Facility Final Total T/yr (to-be-permitted)
Barley & other grains	171,000	356,400
Malt	130,000	321,200
Pelletized/Feed	12,400	29,700

The project will be constructed in two phases. Phase 1 includes the construction and testing of the new malting and material handling equipment in the malting expansion. Phase 2 covers the replacement of the heaters in the existing kiln with new air-to-air heat exchangers.

Phase 1: Malting Expansion

- Foundations and Utilities: December 2015 to May 2016
- Equipment Installations: April 2016 to February 2017
- Start-up Trials: January 2017 to May 2017
- Begin Production: May 2017

Phase 2: Heater Replacement

- Stop Production in Existing Kiln: May 2017
- Heater Installations: May to June 2017
- Begin Production in Existing Kiln: July 2017

Application Chronology

December 7, 2015	DEQ received an application.
December 8, 2015	DEQ received an application fee.
January 5 – January 20, 2016	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
December 21, 2015	DEQ approved pre-permit construction.
December 17, 18, and 28, 2015 and April 10, 2016	DEQ received supplemental information from the applicant.
January 5, 2016	DEQ determined that the application was complete.
March 14, 2016	DEQ made available the draft permit and statement of basis for peer and regional office review.
Marche 15, 2016	DEQ made available the draft permit and statement of basis for applicant review.
March 16, 2016	DEQ received the PTC processing fee.
April 26 – May 26, 2016	DEQ provided a public comment period on the proposed action.
June 3, 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	Emission Point ID No. Refer to Modeling Memo for Stack Parameters
BARLEY UNLOADING, BARLEY AND MALT HANDLING AND LOADOUT			
BH1	Truck Barley Unload – Stack Barley Headhouse Transfers – 80% to BH1 Feed Barley Transfer to Bins Pellet Mill Transfers Pellet Mill Cleaning Malt Transfers – 20 % to BH1	Baghouse 1 (BH1) Manufacturer: Carter-Day Model: 232RF10 Pressure Drop: 2.5 inch of water Air/Cloth Ration: 10.1	Stack BH1
BH2	Barely Headhouse Transfers – 20% to BH2 Barley Transfers Before Cleaning Barley Cleaning Barley Transfers After Cleaning Malt Cleaning – 67% to BH2	Baghouse 2 (BH2) Manufacturer: Carter-Day Model: 376RF10 Pressure Drop: 2.5 inch of water Air/Cloth Ratio: 9.4	Stack BH2
BH3	Feed Barley Loading for Shipment – Stack (95% captured in stack) Malt Transfers – 80% to BH3 Malt Clearing – 33% to BH3	Baghouse 3 (BH3) Manufacturer: Carter-Day Model: 376RF10 Pressure Drop: 2.5 inch of water Air/Cloth Ratio: 9.4	Stack BH3
PELLET MILL OPERATIONS			
CS	Pellet Mill Cooler Manufacture/Model: Unknown Installed: 1987	Cyclone Dust Separator	Pellet Mill Cooler Cyclone Stack (Stack CS)
BS2	Pellet Mill Boiler Manufacturer: Cleaver-Brooks Model: CB 200-700 Installed: 1987 Rated Heater Capacity: 2.51 MMBtu/hr Burner Type: horizontally fired Fuel: natural gas	None	Boiler Stack No.2 (Stack BS2)
MALT HOUSE BOILERS			
BS1	Malt House Boiler 1 Manufacturer: Cleaver-Brooks Model: CB 200-700 Installed: 1980 Rated Heat Capacity: 25.1 MMBtu/hr Burner Type: horizontally fired Max. Hourly Combustion Rate: 0.025 MMsct/hr Normal Annual Combustion Rate: 21.036 MMscf/yr Fuels: natural gas Permit Limit: 0.00625 MMscf/hr, and only one malt house boiler shall operate at a time	None	Stack BS1 (one common stack)
	Malt House Boiler 2 Manufacturer: Cleaver-Brooks Model: CB 200-700 Installed: 1980 Rated Heat Capacity: 25.1 MMBtu/hr Burner Type: horizontally fired Max. Hourly Combustion Rate: 0.025 MMscf/hr Normal Annual Combustion Rate: 21.036 MMscf/yr Fuel: natural gas Permit limit: 0.00625 MMscf/hr, and only one malt house boiler shall operate at a time	None	

Source ID No.	Sources	Control Equipment	Emission Point ID No. Refer to Modeling Memo for Stack Parameters
MALT DRYING KILN			
GBE1-6	Germination Beds - 6 beds Manufacturer: Saladin Malting Equipment Model: custom Maximum Capacity: 130,000 MT/yr Date of Construction: 1980 Operation: 24 hr/day, 8760 hr/yr	None	Germination Bed Exhaust w/ Three Exhaust Points (GBE 1&4, GBE 2&5, GBE 3&6)
KSE01 – KSE05	Malthouse A (Kiln 1) Manufacturer: Saladin Malting Equipment Model: custom Maximum Capacity: 130,000 MT/yr Date of Construction: 1980 Operation: 16.74 MT/hr daily rolling average, 130,000 MT/yr	None	KSE01 KSE02 KSE03 KSE04 KSE05
MALT EXPANSION PROJECT			
KS1 - KS5	10 Air-To-Air Heaters (one burner per heater, replacing air heaters in existing Malthouse A, low NOx burners, K1-10) Manufacturer: Maxon Burners (Air Froehlich Air Heaters) Model: KINEDIZER LE- 6" Maximum Capacity: 7.9 MMBtu/hr heat input each Fuel Type: natural gas Date of Construction: 2017, modification to existing sources Operation: 24 hr/day, 8760 hr/yr 290 MMscf natural gas/yr total for all 10 burners to limit PTE	None	Stack KS1 for K1 Stack KS2 for K2-5 Stack KS3 for K6 Stack KS4 for K7-K9 Stack KS5 for K10
STC1F	Steep Tanks Conveyor 1 (fill, STC1) Manufacturer: CUSTOM Model: N/A Maximum Capacity: 160 MT/hr Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	Steep Tank Conveyor 1 Filter (STC1F) Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV1 PM/PM_{10} Control Efficiency: 99.5%	STC1F (S1)
STC2F	Steep Tanks Conveyor 2 (fill, STC2) Manufacturer: CUSTOM Model: N/A Maximum Capacity: 160 MT/hr Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	Steep Tank Conveyor 1 Filter (STC2F) Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV1 PM/PM_{10} Control Efficiency: 99.5%	STC2F (S2)
STA1- STA8	Steep Tanks- 8 Tanks- Upper Level (STA1- STA8) Manufacturer: CUSTOM Model: N/A Maximum Capacity: 50 MT, each Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	None	STA1- STA8 (S3-S10)
STB1- STB8	Steep Tanks- 8 Tanks- Lower Level (STB1- STB8) Manufacturer: CUSTOM Model: N/A Maximum Capacity: 50 MT, each Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	None	STB1- STB8 (S11-S18)
GV1- GV4	Germination Vessels- 4 Vessels (GV1- GV4) Manufacturer: CUSTOM Model: N/A Maximum Capacity: 400 MT, each Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	None	GV1- GV4 (S19 & 20 for GV1 S21 & 22 for GV2 S23 & 24 for GV3 S25 & S26 for GV4)

Source ID No.	Sources	Control Equipment	Emission Point ID No. Refer to Modeling Memo for Stack Parameters
KB1- KB4	Four Kiln Burners for Malthouse B (Kiln 2) (one burner per air-to-air heater, KB1- KB4, low NOx burner) Manufacturer: Maxon Burners (Air Froehlich Air Heaters) Model: Kinedizer LE- 10" Maximum Capacity: 18.15 MMBtu/hr heat input, each Fuel Type: natural gas Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr 420 MMscf natural gas /yr total for all 4 burners to limit PTE	None	KB1- KB4 (S27, S28, S29, S30)
K2	Malthouse B (Kiln 2) Manufacturer: CUSTOM Model: N/A Maximum Capacity: 400 MT Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr 21.1 MT/hr daily rolling average; 162,000 MT/yr	None	K2 (S31)
NMLF	New Malt Leg Conveyor Manufacturer: CUSTOM Model: N/A Maximum Capacity: 219 MT Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	New Malt Leg Filter Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV3 PM/PM_{10} Control Efficiency: 99.5 or PM_{10} Emissions Concentration: 0.002 gr/dscf	NMLF (S32)
BA1F	Analysis Bin 1 Fill (BA1) Manufacturer: CUSTOM Model: N/A Maximum Capacity: 375 MT (??) Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	Analysis Bin 1 Filter (BA1F) Date of Installation: 2016 Manufacturer: Donaldson Torit Model number: CPV1 PM/PM_{10} control efficiency: 99.5% or PM_{10} Emissions Concentration: 0.002 gr/dscf	BA1F (S33)
BA2F	Analysis Bin 2 Fill Manufacturer: CUSTOM Model: N/A Maximum Capacity: 375 MT Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	Analysis Bin 2 Filter Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV1 PM/PM_{10} Control Efficiency: 99.5% or PM_{10} Emissions Concentration: 0.002 gr/dscf	BA2F (S34)
KBPCF	Kiln Byproduct Cyclone Manufacturer: Donaldson Cyclone Model: HV-14 Maximum Capacity: 5 MT/hr Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	Kiln By-Product Cyclone Filter Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV1 PM/PM_{10} Control Efficiency: 99.5% or PM_{10} Emissions Concentration: 0.002 gr/dscf	KBPCF (S35)
NMC3F	New Malt Conveyor 2 Manufacturer: CUSTOM Model: N/A Maximum Capacity: 160 MT Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	New Malt Conveyor 2 Filter Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV1 PM/PM_{10} Control Efficiency: 99.5% or PM_{10} Emissions Concentration: 0.002 gr/dscf	NMC2F (S36)

Source ID No.	Sources	Control Equipment	Emission Point ID No. Refer to Modeling Memo for Stack Parameters
MBCF	Micro Bins 1-4 Fill Conveyor Manufacturer: CUSTOM Model: N/A Maximum Capacity: 46 MT, each bin Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	Micro Bins Conveyor Filter Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV1 PM/PM_{10} Control Efficiency: 99.5% or PM_{10} Emissions Concentration: 0.002 gr/dscf	MBCF (S37)
NMSBC1F	New Malt Storage Bins 1-5 Fill Conveyor 1 Manufacturer: CUSTOM Model: N/A Maximum Capacity: 750 MT, each bin Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	New Malt Storage Bin Conveyor 1 Filter Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV1 PM/PM_{10} Control Efficiency: 99.5% or PM_{10} Emissions Concentration: 0.002 gr/dscf	NMSBC1F (S46)
NMSBC2F	New Malt Storage Bins 6-10 Fill Conveyor 2 Manufacturer: CUSTOM Model: N/A Maximum Capacity: 750 MT, each bin Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	New Malt Storage Bin Conveyor 2 Filter Date of Installation: 2016 Manufacturer: Donaldson Torit Model Number: CPV1 PM/PM_{10} Control Efficiency: 99.5% or PM_{10} Emissions Concentration: 0.002 gr/dscf	NMSBC2F (S47)
GVB1, GVB2, GVB3	Germination Vessel Boilers 1, 2 and 3 The following applies to each boiler: Manufacturer: Cleaver Brooks Model: CFW-700-2000-125HW Maximum Capacity: 2.0 MMBtu/hr heat input Fuel Type: natural gas Date of Construction: 2016 Full Load Consumption Rate: 1950 cf/hr Operation: 24 hr/day, 8760 hr/yr Germination Vessel Boilers 1, 2 and 3 serve two germination vessels (GV1 & GV2), but only two boilers will operate at a time with one boiler as backup.	None	GVB1, GVB2, GVB3 (S38, S39,S40)
GVB4, GVB5, GVB6	Germination Vessel Boilers 4, 5 and 6 The following applies to each boiler: Manufacturer: Cleaver Brooks Model: CFW-700-2000-125HW Maximum Capacity: 2.0 MMBtu/hr heat input Fuel Type: natural gas Date of Construction: 2016 Full Load Consumption Rate: 1950 cf/hr Operation: 24 hr/day, 8760 hr/yr Germination Vessel Boilers 4, 5 and 6 serve two germination vessels (GV4 & GV5), but only two boilers will operate at a time with one boiler as backup.	None	GVB4, GVB5, GVB6 (S41, S42, S43)
MAU1 MAU2	Steep Building Make-Up Air Units 1 and 2 Manufacturer: REZNOR Model: PCDH-175 Maximum Capacity: 2.1888 MMBtu/hr heat input each Fuel Type: natural gas Date of Construction: 2016 Operation: 24 hr/day, 8760 hr/yr	None	MAU1, MAU2 (S44, S45)

Source ID No.	Sources	Control Equipment	Emission Point ID No. Refer to Modeling Memo for Stack Parameters
BH2, BH3	Malt Cleaning- Drum Scalper & Two Aspirators (MC) Manufacturer: CIMBRIA drum scalper and KICE aspirator Model: N/A Maximum Capacity: 150 MT/hr Date of Construction: 2016, modification to an existing source Operation: 24 hr/day, 8760 hr/yr	Baghouse 2 (BH2) & Baghouse 3 (BH3) Date of Installation: 1980 Manufacturer: Carter-Day Model: 376RF10 Pressure Drop: 2.5 inch of water Air/Cloth Ratio: 9.4	BH2, BH3
EG1	Emergency Generator (EG1) Manufacturer: Kohler Model: 45ROZ71 Maximum Rated Horsepower: 60 bhp/45 kW Fuel Type: distillate fuel oil with max. sulfur content of 15 ppm (0.0015% by weight) Model Year: 1980 Date of Construction: 1980 IC Engine Cylinder Displacement: 56 liters per cylinder Operating schedule: 1 hr/day, 100 hr/yr	None	EG

Emissions Inventories (EI)

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 by the applicant and reviewed by DEQ staff. Refer to Appendix A for detailed calculations and assumptions.

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.

According to the information in the statement of basis (SOB) for PTC No. P-060312 issued on 10/4/20006, the facility classification is SM for NOx, CO, PM/PM_{10}. This permit modification does not change the facility's classification based on the post project PTE submitted by the applicant and reviewed by DEQ staff. However, for CO, it will be SM80 as its post project PTE is greater than 80 T/yr.

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 this project.

The following table presents the pre-project potential to emit for all criteria from all emissions units at the facility. It is taken from the SOB for PTC No. P-060312 issued on 10/4/20006. Refer to that SOB for more details.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS [b]

Source	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC	CO_2e
	T/yr[a]	T/yr[a]	T/yr[a]	T/yr[a]	T/yr[a]	T/yr[a]	T/yr[a]
Pre-Project Totals	5.6 (8.5) [b]	5.6 (5.2)	21.5 (20.53)	18.3 (14.55)	15.6 (17.33)	10.4 (9.40)	ND (31,320)

a) Controlled average emission rate in tons per year is an annual average, based on the permitted annual operating schedule and annual limits.
b) The values in the parentheses are taken from the application for this project.

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 reviewed by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC	CO_2e
	T/yr[a]	T/yr[a]	T/yr[a]	T/yr[a]	T/yr[a]	T/yr[a]	T/yr[a]
Post-Project Totals	17.98	12.35	20.68	18.34	86.96	23.25	77,700

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

These emissions are based on the following throughput rates and operation restrictions:

- Grain throughput: 324,000 MT/year
- Green malt (original grain) dried: 292,000 MT/year
- Pellet production: 5 MT/hr (daily average); 27,000 MT/year
- Sulfur burned in the Malthouse A (Kiln 1): 10 lb S/hr (daily average); 13.7 tons S/yr
- Sulfur burned in the new Kiln, Malthouse B (K2): none
- Natural gas usage in Malthouse boilers: 0.00625 MMcf/hr; 21.04 MMcf/year
- Natural gas usage in Malthouse A (Kiln 1) heat exchangers: 0.0775 MM cf/hr; 290 MMcf/year
- Natural gas usage in Malthouse B (new Malthouse Kiln 2) heat exchangers: 0.071 MM cf/hr; 420 MMcf/year
- Natural gas usage in new germination boilers: 0.008 MM cf/hr; 70.1 MMcf/year
- GWM will restrict the hourly and annual natural gas usage in the existing Malthouse boilers (BS1) and restrict the annual natural gas usage in the existing Malthouse kiln new heaters (KS1-KS5) and new kiln heaters (KB1-KB4).
- GWM will restrict emergency generator maintenance activates to no more than one hour per day and 100 hours per year.

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 4 CHANGES IN 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	T/yr
Pre-Project Totals	8.5	5.2	20.53	14.55	17.33	9.40	31,320
Post-Project Totals	17.98	12.35	20.68	18.34	86.96	23.25	77,700
Changes in Potential to Emit	**9.48**	**7.15**	**0.15**	**3.79**	**69.63**	**13.85**	**46,380**

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. Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the table.

Table 5 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 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	0.00033	0.00046	0.00013	0.017	No
Ethyl Benzene	0.00115	0.00161	0.00046	29	No
Hexane	0.00077	0.00107	0.0003	12	No
Naphthalene	0.00004	0.00005	0.00001	3.33	No
Toluene	0.00445	0.0062	0.00175	25	No
Xylenes	0.0033	0.00461	0.00131	29	No
Chlorine	1.075	1.6125	0.538	0.2	Yes

Chlorine increment exceeds the 24-hour average non-carcinogenic screening level (EL) identified in IDAPA 58.01.01.585 as a result of this project. Therefore, modeling is required for chlorine emissions.

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 6 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Acetaldehyde	1.71E-04	4.23E-04	2.52E-04	3.00E-03	No
Benzene	3.16E-04	7.87E-04	4.71E-04	8.00E-04	No
Formaldehyde	6.72E-04	1.67E-03	1.00E-03	5.10E-04	Yes
PAH's (including naphthalene)	1.58E-05	3.93E-05	2.35E-05	9.10E-05	No

Formaldehyde increment exceeds the annual average non-carcinogenic screening level (EL) identified in IDAPA 58.01.01.586 as a result of this project. Therefore, modeling is required for formaldehyde emissions.

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 7 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (T/yr)
Acetaldehyde	0.00185
Acrolein	0.00116
Benzene	0.00345
Ethyl Benzene	0.00409
Formaldehyde	0.00732
Hexane	0.00271
Naphthalene	0.00013
PAH's (including naphthalene)	0.00017
Toluene	0.01576
Xylenes	0.01171
Chlorine	2.63279 (7.11 T/yr [a])
Totals	**2.68**

[a] when operating 365 days/yr at the proposed daily rate.

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 TAP.

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 Bannock 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 $\leq$ 8 T/yr of a single HAP or $\leq$ 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 8 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE[1] (T/yr)	Permitted PTE[2] (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	>100	<80	**100**	SM
$PM_{10}/PM_{2.5}$	>100	<80	**100**	SM
SO_2	<100	<80	**100**	B
NO_X	>100	<80	**100**	SM
CO	>100	>80	**100**	SM80
VOC	<100	<80	**100**	B
HAP (single)	<10	<10	**10**	B
HAP (Total)	<25	<20	**25**	B

[1] Information taken from the classification form in the SOB for PTC No. P-060312 issued on October 4, 2006.
[2] Refer to Table 3 and Table 7 for exact values.

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 plant expansion project. 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 emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 2.5, 2.6, 2.10, 2.11, 2.18, 2.20, 3.3 and 3.10.

Standards for New Sources (IDAPA 58.01.01.676)

IDAPA 58.01.01.676 ..... Standards for New Sources

The fuel burning equipment located at this facility is subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured by Permit Condition 2.6.

Particulate Matter – New Equipment Process Weight Limitations (IDAPA 58.01.01.701)

IDAPA 58.01.01.701 ..... Particulate Matter – New Equipment Process Weight Limitations

IDAPA 58.01.01.700 through 703 set PM emission limits for process equipment based on when the piece of equipment commenced operation and the piece of equipment's process weight (PW) in pounds per hour (lb/hr). IDAPA 58.01.01.701 and IDAPA 58.01.01.702 establish PM emission limits for equipment that commenced operation on or after October 1, 1979 and for equipment operating prior to October 1, 1979, respectively.

For equipment that commenced operation on or after October 1, 1979, the PM allowable emission rate (E) is based on one of the following equations:

IDAPA 58.01.01.701.01.a: If PW is $< 9{,}250$ lb/hr; $E = 0.045\ (PW)^{0.60}$

IDAPA 58.01.01.701.01.b: If PW is $\geq 9{,}250$ lb/hr; $E = 1.10\ (PW)^{0.25}$

For equipment that commenced prior to October 1, 1979, the PM allowable emission rate is based on one of the following equations:

IDAPA 58.01.01.702.01.a: If PW is $< 17{,}000$ lb/hr; $E = 0.045\ (PW)^{0.60}$

IDAPA 58.01.01.702.01.b: If PW is $\geq 17{,}000$ lb/hr; $E = 1.12\ (PW)^{0.27}$

As presented in the EI in Appendix A, emissions rates of all emissions units are below their respective process weight rate limitations. Therefore, compliance with this requirement has been demonstrated.

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 any criteria pollutants or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006, 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/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)

Non-applicability

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

The facility is not subject to 40 CFR Part 60 Subpart Dc as explained in the following:

The six germination boilers (GVB1-GVB6), each has maximum heat input of 2 MMBtu/hr, do not meet the 10 MMBtu/hr applicability threshold.

The two makeup air heaters (MAU1-MAU2), each has maximum heat input of 2.19 MMBtu/hr, do not meet the 10 MMBtu/hr applicability threshold. Also, they do not meet the definition as steam generating units according to 40 CFR 60.41c.

The ten burners in the ten new kiln air-to-air heat exchangers (KS1-KS5), each has a maximum heat input of 7.9 MMBtu/hr, do not meet the 10 MMBtu/hr applicability threshold. Also, the heat exchangers do not meet the definition as steam generating units according to 40 CFR 60.41c.

The four kiln burners in the four air-to-air heat exchangers (KB1-KB4), each has a maximum heat input of 18.15 MMBtu/hr, exceed the 10 MMBtu/hr applicability threshold but are not steam generating units. See the steam generating unit definition in 40 CFR 60.41c.

There are no other combustion units included in the project that would be considered affected facilities under this regulation. NSPS Subpart Dc does not apply.

NSPS Part 60 Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The diesel-fired emergency generator has not being modified or reconstructed since it was installed in 1980 and will not be modified or reconstructed as part of the expansion project; the effective date for engines to subject to this subpart is 7/11/2005; therefore, this NSPS does not apply.

NSPS Part 60 Subpart DD—Standards of Performance for Grain Elevators

The facility is not subject to this subpart. The following is taken from the SOB for PTC No. P-060312 issued October 4, 2006.

> **The EPA delegated implementation and enforcement authority for Subpart DD to DEQ on May 22, 2006. In previous NSPS applicability determinations[4,5] for similar barley malting facilities, EPA determined that Subpart DD applies to parts of the operation handling unmalted barley, but does not apply to the malting process. In addition, these determinations clarified that barley that has undergone the chemical transformation to produce barley malt is no longer barley. Barley malt, therefore, does not meet the definition of a "grain," as regulated by this Subpart.**
>
> **Unlike the malting process, steam conditioning of the material collected from grain cleaning enhances the process of starch gelatinization, which improves digestibility of the barley feed pellets, but does not fundamentally change the material so that the feed pellets would no longer be considered a grain.**

[4] U.S. EPA Region X, Letter, Jeff KenKnight; Federal and Delegated Air Programs Unit; Office of Air, Waste, and Toxics; to Luis Miguel Alvarez, Grupo Modelo, S.A. de C'.V. (Gmodelo Agriculture, Inc.), Idaho Falls, Idaho; August 18, 2005.
[5] U.S. EPA Region V, Letter George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, to Kirby J. Kraft, Busch Agricultural Resources, Inc., St. Louis, Missouri, February 15, 1996.

For facilities that commenced construction, modification, or reconstruction after August 3, 1978, the provisions of Subpart DD apply to each affected facility at any grain terminal elevator, which is defined in 40 CFR 60.301(c) as "any grain elevator which has a permanent storage capacity of more than 88,100 m^3 (ca. 2.5 million U.S. bushels)." The Great Western Malting facility was constructed in 1980. Subpart DD applicability was evaluated based on two sources of information:

- **Information provided in the December 5, 2005 application (Section 7: Solid Material Transport, Handling, and Storage forms) describes the storage capacity of the 15 barley silos as 2 million bushels, or about 70,480 m^3. Silo storage capacity for barley transfers before and after cleaning is given as 42,743 cubic feet, or about 1,210 m^3, and storage silo capacity for barley pellets is given as 6,826 bushels, or about 241 m^3. Based on this information, the total permanent barley storage capacity would be about 71,930 m^3.**
- **Information received by DEQ on January 20, 2000 to address incomplete items on a December 9, 1999 application, states that "the overall storage capacity of the facility is approximately 1.7 million bushels, however only 50 percent (850,000 bushels) is dedicated to barley (grain) storage and this in a separate physical wing of the facility. The remaining capacity is for malt storage only in the other separate physical wing of the facility. The nature of the malting process and the contractual arrangements that GWM has with barley suppliers and malt customers require that the storage capacity be split in this manner. In fact, any change in current capacity would result in less barley storage and increased malt storage. Any future increase in storage capacity would maintain or decrease the ratio of barley to malt storage."**

Although the descriptions of the storage capacities are inconsistent, in neither case is the total permanent grain elevator storage capacity greater than the 88,100 m^3 (ca. 2.5 million bushels) NSPS threshold. The barley handling operations at this facility are therefore not subject to the provisions of Subpart DD.

The regulation analysis for this subpart in the application also indicates that the facility is not subject to this subpart.

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 emergency generator engine is subject to this subpart. Detailed regulatory analysis can be found in Appendix E. EPA has delegated this subpart to DEQ.

Non-applicability

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

The Great Western Malting plant is an area source of HAP. The facility has two existing natural gas-fired hot water boilers and is adding six new natural gas-fired hot water boilers. They are not subject to this subpart and to any requirements in this subpart because they are gas-fired boiler as defined in this subpart in accordance with 40 CFR 63.11195.

Permit Conditions Review

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

PERMIT SCOPE

Permit Condition 1.1

Permit Condition 1.1 states the purpose of this permitting action.

Permit Condition 1.2

Permit Condition 1.2 states that those permit conditions that have been modified or revised by this permitting action are identified by the permit issue date citation located directly under the permit condition and on the right-hand margin.

Permit Condition 1.3

Permit Condition 1.3 states that this PTC replaces Permit to Construct No. P-060312, issued on October 4, 2006.

Table 1.1 is revised to add new equipment and to add new information to the modified existing equipment.

MALT AND PELLET PRODUCTION

Permit Conditions 2.1 and 2.2

Permit Condition 2.1 and Permit Condition 2.2 briefly describe the process and emissions control. Detailed process description and emissions control can be found under Description section of this statement of basis.

Permit Condition 2.3

Permit Condition 2.3 is a grain loading standard that applies to natural gas-fired fuel burning equipment using indirect heat transfer at the facility.

Permit Condition 2.4

Permit Condition 2.4 includes the emissions limits that have total ambient impacts at or above 90% of their respective NAAQS (i.e., 92% of 24-hr PM_{10} NAAQS, 97% of 24-hr $PM_{2.5}$ NAAQS, 90% of annual $PM_{2.5}$ NAAQS, and 91% of 1-hr NOx NAAQS.) The emissions rates as emissions limits are taken from the revised Section 5 of the application submitted on 12/28/2015.

Permit Condition 2.4 also includes the daily chlorine emissions limit as the chlorine ambient impact could exceed its acceptable ambient concentration (AAC) if the permit does not impose the emissions limit. With the limit, the impact is 77% of the AAC for chlorine. The daily emission limit is calculated as 0.269 lb/hr per stack (modeled rate) x 2 stacks/vessel x 24 hr/day = 12.9 lb/day. The permit only allows cleaning one germination vessel a day. In addition, because chlorine is a HAP, an annual facility-wide emission limit of less than 10 T/yr is imposed in the permit to keep the facility below the major source threshold for a single HAP.

Permit Condition 2.5

Permit Condition 2.5 is the 20% opacity limit applying to any stack, vent, or functionally equivalent opening associated with the processes.

Permit Condition 2.6

Permit Condition 2.6 specifies that all combustion sources listed under Permit Condition 2.3 will burn natural gas exclusively.

Permit Condition 2.7

Permit Condition 2.7 establishes the throughput limits that were used in the emissions calculation; the calculated emissions rates were used in the dispersion model to demonstrate compliance with the NAAQS. PC 2.7 is a revised permit condition of old PC 2.5. It reflects the throughput increase as a result of this plant expansion project.

The throughput of feed barley (the "thin" barley) is not limited as it is somewhat inherently limited by the barley throughputs.

The throughputs of steep tanks fill conveyors 1 and 2 are not limited as the emissions calculations are based on 160 MT/hr each or 320 MT/hr total that is great than 300 MT/hr total of barley throughput limit.

The throughputs of Malthouse B (kiln 2) new malt leg conveyor, malt analysis bins fill or reclaim, kiln byproduct cyclone, new malt conveyor 2, malt storage bins 1-5 fill conveyor 1, and malt storage bins 6-10 fill conveyor 2 are not limited as they are inherently limited by the throughput limits of the green malt (original grain) dried in the kilns. In addition, the emissions from these sources are controlled by the dust filters and are relatively low.

Permit Condition 2.8

Permit Condition 2.8 establishes the operation requirement for cleaning the new germination vessels.

Permit Condition 2.9

Permit Condition 2.9 establishes combustion sources fuel usage limits and operating requirements that were used in the emissions calculations and consequently, the calculated emissions were used in the dispersion model to demonstrate compliance with the NAAQS.

Short-term emissions limit and the short-term fuel usage limit for the malt house boilers are proposed and imposed in the permit becasue the short-term ambient impacts are close to NAAQS for NOx and $PM_{2.5}$.

The applicant requested the annual natural gas usage limits for the 10 burners of Malthouse A (Kiln 1) and the four burners of Malthouse B (Kiln 2). The limits keep CO PTE less than major source threshold of 100 T/yr.

Operating requirements of Germination Vessel Boilers 1, 2, and 3 and Germination Vessel Boilers 4, 5, and 6 are included in the permit because they are used in the emissions estimation. However, no fuel usage limits are imposed for Germination Vessel Boilers 1 – 6 as the calculated and modeled emissions were based on the boilers' design capacities and annual operating hours of 8,760 hr/yr.

Permit Condition 2.10

Permit Condition 2.10 specifies the control and control levels for the processes listed in PC 2.10. The control and control levels were used in the EI calculations.

Permit Condition 2.11

Permit Condition 2.11 is the modified old PC 2.10.

Permit Condition 2.11.1 uses standard language taken from DEQ internal guidance (2008AAF202.) It applies to the existing baghouses and the new dust filters. The weekly see-no-see frequency is recommended in the guidance. The daily pressure drop monitoring requirements for the existing baghouses in old PC 2.9.1 is removed by following the internal guidance.

Permit Condition 2.11.2 is taken from old PC 2.10.2 and old PC 2.9.2. Permit Condition 2.11.3 is taken from old PC 2.10.3. Permit Condition 2.11.4 is taken from old PC 2.10.4 that also applies to the new Malthouse B (Kiln 2).

Permit Condition 2.12

Permit Condition 2.12 is the old PC 2.11.

Permit Condition 2.13

Permit condition 2.13 is the modified old PC 2.12. It is the throughput monitoring requirements to demonstrate compliance with the throughput limits in PC 2.7. Permit Condition 2.13.5 is added to monitor the new Malthouse Kiln 2 (Malthouse B) throughput.

Old PC 2.12.6 is removed as baghouse pressure drop monitoring is not required according to DEQ's internal guidance (2008AAF202.) Since old PC 2.12.7 is now included in PC 2.11.1, it is removed from this permit condition.

New permit condition 2.13.7 specifies how to demonstrate compliance with the PM_{10} and $PM_{2.5}$ emissions limits for Malthouse Kilns in Appendix A when the emissions factors from DEQ-approved source test required in PC 2.21 are available.

Permit Condition 2.14

Permit Condition 2.14 specifies the monitoring requirements to demonstrate compliance with the chlorine emissions limits in Permit Condition 2.4 or Appendix A of the permit.

Permit Condition 2.15

Permit Condition 2.15 specifies the monitoring requirements to demonstrate compliance with the operating requirements and fuel usage limits in Permit Condition 2.9.

Permit Condition 2.16

Permit Condition 2.16 specifies the record keeping requirements for the baghouses and dust filters to demonstrate compliance with the control efficiency requirements in Permit Condition 2.10.

Permit Condition 2.17

Permit Condition 2.17 requires the permittee to keep the records to show that the NOx emissions from Malthouse kiln burners are 30 ppm or less @ 3% O_2 and that the NOx emissions from germination vessel boilers are 20 ppm or less @ 3% O_2 to demonstrate compliance with the NOx emissions limits in Appendix A of the permit.

Permit Condition 2.18

Permit Condition 2.18 is the revised old PC 2.13. "Except for the weekly monitoring frequency specified in Permit Condition 2.11.1 for dust filters/baghouse system" is added to the revised permit condition.

Permit Conditions 2.19 and 2.20

Permit Conditions 2.19 and 2.20 are old Permit Conditions 2.14 and 2.15 without changes.

Permit Condition 2.21

In the application, the $PM_{10}/PM_{2.5}$ emissions were calculated using the emissions factors developed based on a 2005, non-DEQ approved, filterable PM source test and the PM/PM_{10} and $PM/PM_{2.5}$ ratios taken from AP-42 Table 9.9.1–2. The adjusted $PM_{2.5}$ EF of 0.0490 lb/ton and PM_{10} EF of 0.0775 lb/ton used in the applicant appear low comparing to 0.075 + 0.075 = 0.15 lb/ton from AP-42.

In addition, DEQ modeler has performed a sensitivity assessment for modeled impacts of $PM_{2.5}$ with the GWM modeling files, and it looks like the maximum $PM_{2.5}$ impacts are from a combination of sources and not just one source group. However, the largest (or one of the largest) contributions are the KSE (Malthouse A, K1) sources, which contribute about 1/3 of the highest impacts, or about 7 $\mu g/m^3$ of the maximum of 22 $\mu g/m^3$. Malthouse B (Kiln 2) has a maximum impact of about 3 $\mu g/m^3$.

Because the facility's $PM_{2.5}$ ambient impact is 97.4% of the 24-hr $PM_{2.5}$ NAAQS, source testing of Malthouse B (Kiln 2) is required to verify the emissions factors used in the emissions calculations and consequently to assure the compliance with the $PM_{10}/PM_{2.5}$ NAAQS. Permit Condition 2.21 is developed using the DEQ's internal guidance for source test permit conditions (2008AAF202).

Permit Condition 2.22

Permit condition 2.22 is a source testing reporting requirement.

EMERGENCY GENERATOR

Permit Condition 3.1

Permit Condition 3.1 refers Table 1.1 for the information on the emergency generator, its control, and its emissions point.

Permit Condition 3.2

Permit Condition 3.2 states that emissions from the emergency generator are uncontrolled.

Permit Condition 3.3

This is a standard opacity limit.

Permit Condition 3.4

To demonstrate compliance with 24-hr NAAQS for $PM_{2.5}$ and 1-hr NAAQS for NOx, the applicant has proposed an operating limit that the operation of the emergency generator for maintenance activities will not exceed one hour per day. This is specified in PC 3.4.

The emergency generator engine is subject to 40 CFR 63, Subpart ZZZZ, it is limited to 100 hr/yr for non-emergency operation. The applicant has used this limit, 100 hr/yr, in the annual emissions calculation and consequently, models the calculated emissions rate to demonstrate compliance with the NAAQS. The operating, monitoring, and record keeping requirements are covered under 40 CFR 63, Subpart ZZZZ.

Permit Condition 3.5

Permit Condition 3.5 specifies monitoring and record keeping requirements for demonstrating compliance with the one hour per day operating limit for the emergency generator.

Permit Condition 3.6

Permit Condition 3.6 states should there be a discrepancy between permit conditions and the federal regulations, the federal regulations govern.

Permit Conditions 3.7 to 3.14

Permit Conditions 3.7 to 3.14 includes requirements taken from 40 CFR 63 Subpart ZZZZ that apply to the emergency generator. Detailed analysis can be found in Appendix E of the SOB.

GENERAL PROVIISONS

This section includes the general provisions taken from the current PTC template.

APPENDIX A

Appendix A includes the emissions limits.

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. During this time, there was a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

Public Comment Period

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

APPENDIX A – EMISSIONS INVENTORIES

5.0 Emissions (Revised 12/28/2015)

5.1 Potential to Emit

Emission estimates were made for:

- New source review (NSR) pollutants including PM10, PM2.5, SO2, CO, NOx, VOC, and CO2e,
- Federal HAPs [listed in CAA Section 112(b)], and
- State TAPs [listed in IDAPA 58.01.01.585 & -.586].

Post Project potential emissions were calculated for all of the new equipment plus the existing equipment at the facility operating at the maximum production rates expected for the facility after the expansion. Pre-Project potential emissions were calculated for the existing equipment operating at the maximum production levels allowed in the current air permit.

5.1.1 Post Project Emissions

The estimated PTE emissions of NSR pollutants from the Pocatello plant after the project is completed (post project) are presented in Table 5-1. These emissions are based on the following throughput rates:

- Grain throughput: 324,000 MT/year
- Malt produced: 292,000 MT/year
- Pellet production: 5 MT/hr (daily average): 27,000 MT/year
- Sulfur burned in the Malthouse Kiln 1: 10 lb S/hr (daily average); 27,380 lb S/yr
- Sulfur burned in the new Kiln (K2): none
- Natural gas usage in Malthouse Kiln 1 heat exchangers: 0.0775 MM cf/hr; 290 MM cf/year
- Natural gas usage in Malthouse boilers: 0.00625 MM cf/hr; 21.04 MM cf/year
- Natural gas usage in new Kiln 2 heat exchangers: 0.071 MM cf/hr; 420 MM cf/year
- Natural gas usage in new germination boilers: 0.008 MM cf/hr; 70.1 MM cf/year
- Sodium hypochlorite (solid) usage in germination beds: 50 lb/cleaning, 1000 lb/yr
- Sodium hypochlorite (liquid) usage in germination beds: 250 lb/cleaning; 240,240 lb/yr
- Sodium hypochlorite (solid) usage in germination vessels: 25 lb/cleaning; 1500 lb/yr
- Sodium hypochlorite (liquid) usage in germination beds: 125 lb/cleaning; 300,400 lb/yr

GWM will restrict the hourly and annual natural gas usage in the existing Malthouse boilers (BS1) and restrict the annual natural gas usage in the existing Malthouse kiln new heaters (KS1-KS5) and new kiln heaters (KB1-KB4).

The detailed tables showing how the post project emissions were calculated are provided in Section 5.2 and electronically on the enclosed CD.

Table 5-1: Post Project Facility-Wide PTE for Regulated Air Pollutants

Source	Emission Point	PM10 T/yr	PM2.5 T/yr	SO2 T/yr	NOx T/yr	CO T/yr	VOC T/yr	CO2e T/yr
Truck Barley Unload - Uncaptured[1]	TB	0.0515	0.0087	0	0	0	0	0
Truck Barley Unload - Stack	BH1	0.0049	0.0008	0	0	0	0	0
Rail Barley Unload -Uncaptured	RB	0.0384	0.0064	0	0	0	0	0
Rail Barley Unload - Stack	BH1	0.0036	0.0006	0	0	0	0	0
Barley Headhouse Transfers	BH1 & BH2	0.0606	0.0103	0	0	0	0	0
Barley Transfers Before Cleaning	BH2	0.0303	0.0052	0	0	0	0	0
Barley Transfers After Cleaning	BH2	0.0303	0.0052	0	0	0	0	0
Steep Tanks Fill Conveyor 1 (STC1)	S1	0.0168	0.0029	0	0	0	0	0
Steep Tanks Fill Conveyor 2 (STC2)	S2	0.0168	0.0029	0	0	0	0	0
Feed Barley Transfer to Bins	BH1	0.0011	0.0002	0	0	0	0	0
Feed Barley Loading for Shipment - Uncaptured[6]	TB	0.0096	0.0016	0	0	0	0	0
Feed Barley Loading for Shipment - Stack	BH3	0.0009	0.0002	0	0	0	0	0
Pellet Mill Transfers	BH1	0.0025	0.0004	0	0	0	0	0
Truck Pellet Loading for Shipment[3]	TB	0.0088	0.0062	0	0	0	0	0
Rail Pellet Loading for Shipment	RB	0.0088	0.0062	0	0	0	0	0
Malt Transfers	BH1 & BH3	0.0273	0.0047	0	0	0	0	0
Kiln 2 New Malt Leg Conveyor (NML)	S32	0.0151	0.0026	0	0	0	0	0
Malt Analysis Bins 1-2-fill (BA1)	S33	0.0076	0.0013	0	0	0	0	0
Malt Analysis Bins 1-2-reclaim (BA2)	S34	0.0076	0.0013	0	0	0	0	0
Byproduct Cyclone (KBPC)	S35	0.0100	0.0100	0	0	0	0	0
Kiln 2 New Malt Conveyor (NMC3)	S36	0.0151	0.0026	0	0	0	0	0
Micro Bins 1-4- fill conveyor (MBC)	S37	0.0014	0.0002	0	0	0	0	0
Malt Storage Bins 1-5- fill conveyor 1 (NMSBC1)	S46	0.0137	0.0023	0	0	0	0	0
Malt Storage Bins 6-10- fill conveyor 2 (NMSBC2)	S47	0.0137	0.0023	0	0	0	0	0
Rail Malt Loading for Shipment[4]	RB	0.3194	0.0537	0	0	0	0	0
Truck Malt Loading for Shipment	TB	0.4466	0.0755	0	0	0	0	0
Malt House Kilning- Kiln 1	KSE	5.5404	3.5045	0	0	0	9.2950	0
Malt House Kilning Sulfur Combustion	KSE	0	0	20.4255	0	0	0	0
Barley Cleaning	BH2	0.0564	0.0009	0	0	0	0	0
Malt Cleaning (replacing some equipment)	BH2 & BH3	0.0509	0.0008	0	0	0	0	0
Pellet Mill Cleaning	BH1	0.0047	0.0001	0	0	0	0	0
Pellet Mill Cooler	CS	0.9801	0.9801	0	0	0	0	0
Germination Bed Sanitizing, Solid NaOCl	GBE 1-6	0	0	0	0	0	0	0
Germination Bed Sanitizing, Liquid NaOCl	GBE 1-6	0	0	0	0	0	0	0
Germination vessels (GV1-GV4), Solid NaOCl	S19-S26	0	0	0	0	0	0	0
Germination vessels (GV1-GV4), Liquid NaOCl	S19-S26	0	0	0	0	0	0	0
Kiln 2 (K2)	S31	6.9042	4.3672	0	0	0	11.5830	0
Kiln 2 (K2)- sulfur combustion	S31	0	0	0	0	0	0	0
Process CO2	Kilns, steeps & germination	0	0	0	0	0	0	26,000

Table 5-1: Post Project Facility-Wide PTE for Regulated Air Pollutants

Source	Emission Point	PM10 T/yr	PM2.5 T/yr	SO2 T/yr	NOx T/yr	CO T/yr	VOC T/yr	CO2e T/yr
Kiln 1 Burner K1	KS1	0.110	0.110	0.0087	0.5365	3.2915	0.0798	1740.51
Kiln 1 Burners K2 -K5	KS2	0.441	0.441	0.0348	2.1460	13.1660	0.3190	6962.03
Kiln 1 Burner K6	KS3	0.110	0.110	0.0087	0.5365	3.2915	0.0798	1740.51
Kiln 1 Burners K7 - K9	KS4	0.331	0.331	0.0261	1.6095	9.8745	0.2393	5221.52
Kiln 1 Burner K10	KS5	0.110	0.110	0.0087	0.5365	3.2915	0.0798	1740.51
Malt House Boilers 1&2[2]	BS1	0.0799	0.0799	0.0063	1.0518	0.8835	0.0578	1262.53
Pellet Mill Boiler	BS2	0.0832	0.0832	0.0066	1.0950	0.9198	0.0602	1314.38
GV boiler 1 (GVB1)	S38	0.0666	0.0666	0.0053	0.2628	0.7358	0.0482	1051.51
GV boiler 2 (GVB2)	S39	0.0666	0.0666	0.0053	0.2628	0.7358	0.0482	1051.51
GV boiler 3 (GVB3)- backup	S40	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GV boiler 4 (GVB4)	S41	0.0666	0.0666	0.0053	0.2628	0.7358	0.0482	1051.51
GV boiler 5 (GVB5)	S42	0.0666	0.0666	0.0053	0.2628	0.7358	0.0482	1051.51
GV boiler 6 (GVB6)- backup	S43	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kiln 2 Burner 1 (KB1)	S27	0.3990	0.3990	0.0315	1.9425	11.9175	0.2888	6301.84
Kiln 2 Burner 2 (KB2)	S28	0.3990	0.3990	0.0315	1.9425	11.9175	0.2888	6301.84
Kiln 2 Burner 3 (KB3)	S29	0.3990	0.3990	0.0315	1.9425	11.9175	0.2888	6301.84
Kiln 2 Burner 4 (KB4)	S30	0.3990	0.3990	0.0315	1.9425	11.9175	0.2888	6301.84
Steep Blg. Makeup Air Unit 1 (MAU1)	S44	0.0728	0.0728	0.0058	0.9583	0.8050	0.0527	1150.35
Steep Blg. Makeup Air Unit 2 (MAU2)	S45	0.0728	0.0728	0.0058	0.9583	0.8050	0.0527	1150.35
Emergency gnerator (EG1)	EG	0.0066	0.0066	0.0006	0.0930	0.0200	0.0074	3.45
Post Project Totals		**17.98**	**12.35**	**20.68**	**18.34**	**86.96**	**23.25**	**77,700**

5.1.2 Pre-Project Emissions

The estimated PTE emissions of NSR pollutants from the Pocatello plant after the project is completed (pre-project) are presented in Table 5-2. These emissions are based on the maximum throughput limits and emission limits listed in the existing permit including:

- Grain throughput: 155,500 MT/year
- Malt produced: 118,200 MT/year
- Pellet production: 4.6 MT/hr (daily average); 11,300 MT/year
- Sulfur burned in the Malthouse Kiln: 10 lb S/hr (daily average); 27,380 lb S/yr
- Natural gas usage in Malthouse Kiln burners: 0.069 MM cf/hr; 310 MM cf/year
- Natural gas usage in Malthouse boilers: 0.05 MM cf/hr; 21.04 MM cf/year
- Sodium hypochlorite (solid) usage in germination beds: 50 lb/cleaning, 1000 lb/yr
- Sodium hypochlorite (liquid) usage in germination beds: 250 lb/cleaning, 240,240 lb/yr

The detailed tables showing how the pre-project emissions were calculated are provided in Section 5.2 and electronically on the enclosed drive.

A comparison of the facility total emissions before and after the project is presented in Table 5-3. Annual and hourly emissions of SO2 do not increase very much because the increase is only due to an increase in natural gas combustion. The changes in SO2 hourly and annual emissions are less than the Modeling Level I thresholds, so dispersion modeling for SO2 impacts is not required.

Table 5-2: Pre-Project Facility-Wide PTE for Regulated Air Pollutants

Source	Emission Point	PM10 T/yr	PM2.5 T/yr	SO2 T/yr	NOx T/yr	CO T/yr	VOC T/yr	CO2e T/yr
Truck Barley Unload - Uncaptured	TB	0.0388	0.0065	0	0	0	0	0
Truck Barley Unload - Stack	BH1	0.0037	0.0006	0	0	0	0	0
Rail Barley Unload - Uncaptured	RB	0.0099	0.0017	0	0	0	0	0
Rail Barley Unload - Stack	BH1	0.0009	0.0002	0	0	0	0	0
Barley Headhouse Transfers	BH1 & BH2	0.0309	0.0053	0	0	0	0	0
Barley Transfers Before Cleaning	BH2	0.0165	0.0028	0	0	0	0	0
Barley Transfers After Cleaning	BH2	0.0165	0.0028	0	0	0	0	0
Feed Barley Transfer to Bins	BH1	0.0009	0.0001	0	0	0	0	0
Feed Barley Loading for Shipment - Uncaptured	TB	0.0075	0.0013	0	0	0	0	0
Feed Barley Loading for Shipment - Stack	BH3	0.0007	0.0001	0	0	0	0	0
Pellet Mill Transfers	BH1	0.0011	0.0002	0	0	0	0	0
Truck Pellet Loading for Shipment	TB	0.0015	0.0010	0	0	0	0	0
Rail Pellet Loading for Shipment	RB	0.0035	0.0024	0	0	0	0	0
Malt Transfers	BH1 & BH3	0.0111	0.0019	0	0	0	0	0
Rail Malt Loading for Shipment	RB	0.0286	0.0048	0	0	0	0	0
Truck Malt Loading for Shipment	TB	1.5080	0.2548	0	0	0	0	0
Malt House Kilning- Kiln 1	KSE	5.0367	3.1842	0	0	0	8.45	0
Malt House Kilning Sulfur Combustion	KSE	0	0	20.4255	0	0	0	0
Barley Cleaning	BH2	0.0308	0.0005	0	0	0	0	0
Malt Cleaning	BH2 & BH3	0.0206	0.0003	0	0	0	0	0
Pellet Mill Cleaning	BH1	0.0020	0.0000	0	0	0	0	0
Pellet Mill Cooler	CS	0.4092	0.4092	0	0	0	0	0
Germination Bed Sanitizing, Solid NaOCl	GBE 1-6	0	0	0	0	0	0	0
Germination Bed Sanitizing, Liquid NaOCl	GBE 1-6	0	0	0	0	0	0	0
Process CO2	Kilns, steeps & germination	0	0	0	0	0	0	10,523
Kiln Burner #1	KS1	0.1179	0.1179	0.00931	1.30294	1.55112	0.08531	1,862
Kiln Burners #2 -#5	KS2	0.4715	0.4715	0.03723	5.21176	6.20448	0.34125	7,448
Kiln Burner #6	KS3	0.1179	0.1179	0.00931	1.30294	1.55112	0.08531	1,862
Kiln Burners #7 - #9	KS4	0.3537	0.3537	0.02792	3.90882	4.65336	0.25593	5,586
Kiln Burner #10	KS5	0.1179	0.1179	0.00931	1.30294	1.55112	0.08531	1,862
Malt House Boilers 1&2[2]	BS1	0.0799	0.0799	0.00631	0.88351	1.05180	0.05785	1,263
Pellet Mill Boiler	BS2	0.0580	0.0580	0.00458	0.64109	0.76320	0.04198	916
Project Totals		**8.50**	**5.20**	**20.53**	**14.55**	**17.33**	**9.40**	**31,320.35**

Table 5-3: Changes in PTE for Regulated Air Pollutants

Annual	PM10	PM2.5	SO2	NOx	CO	VOC	CO2e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Pre-Project PTE minus fugitive emissions	8.50	5.20	20.53	14.55	17.33	9.40	31,320
Post Project PTE minus fugitive emissions	17.98	12.35	20.68	18.34	86.96	23.25	77,700
Changes in Potential to Emit	9.48	7.15	0.15	3.79	69.63	13.85	46,380

Hourly	PM10	PM2.5	SO2	NOx	CO	VOC
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Pre-Project PTE minus fugitive emissions	4.90	2.52	14.99	12.15	10.21	3.06
Post Project PTE minus fugitive emissions	7.50	4.24	15.03	8.90	35.83	6.48
Changes in Potential to Emit	2.60	1.72	0.04	-3.25	25.62	3.42

5.1.3 Post Project HAP and TAP Emissions

The estimated PTE emissions of HAP and TAP pollutants from the Pocatello plant after the project is completed (post project) are presented in Tables 5-4 through 5-6. The Post Project controlled PTE emissions are based on the throughput rates listed for Post Project operations in Section 5.1.1.

The project's potential HAP emissions are compared to major source thresholds in Table 5-4. The facility will remain as a minor source of HAPs. Non-carcinogenic and Carcinogenic TAP emissions for Pre-project and Post Project are presented in Tables 5-5 and 5-6, respectively.

Emissions of chlorine and formaldehyde exceed the modeling screening emission levels (EL) and require further analysis. Model results for these TAPs are presented in Section 7 of this application.

Table 5-4: HAP Uncontrolled PTE and PTE Compared to the Major Source Thresholds

HAP Pollutant	Uncontrolled PTE	PTE	Major Source Threshold	Uncontrolled PTE Exceeds Major Source Threshold and PTE Exceeds Major Source Threshold
	T/yr	T/yr	T/yr	Y/N
Acetaldehyde	0.00401	0.00185	10	No
Acrolein	0.00252	0.00116	10	No
Benzene	0.00747	0.00345	10	No
Ethyl Benzene	0.00887	0.00409	10	No
Formaldehyde	0.01587	0.00732	10	No
Hexane	0.00588	0.00271	10	No
Naphthalene	0.00028	0.00013	10	No
PAH's (including naphthalene)	0.00037	0.00017	10	No
Toluene	0.03417	0.01576	10	No
Xylenes	0.02539	0.01171	10	No
Chlorine	2.63279	2.63279	10	No
Site Total	**2.73762**	**2.68116**	**25**	**No**

Table 5-5: Pre- and Post Project PTE for Non-Carcinogenic TAP

Non-Carcinogenic TAP	Pre-Project 24-hour Average Emission Rates	Post Project 24-hour Average Emission Rates	Change in 24-hour Average Emission Rates	Non-Carcinogenic Screening Level (EL)	Exceeds Screening Level?
	lb/hr	lb/hr	lb/hr	lb/hr	Y/N
Acrolein	0.00033	0.00046	0.00013	0.017	No
Ethyl Benzene	0.00115	0.00161	0.00046	29	No
Hexane	0.00077	0.00107	0.00030	12	No
Naphthalene	0.00004	0.00005	0.00001	3.33	No
Toluene	0.00445	0.00620	0.00175	25	No
Xylenes	0.00330	0.00461	0.00131	29	No
Chlorine*	**1.075**	**1.6125**	**0.538**	**0.2**	**Yes**

* Dispersion modeling was performed for chlorine emissions to show compliance with the AAC

Table 5-6: Pre- and Post Project PTE for Carcinogenic TAP

Carcinogenic TAP	Pre-Project Annual Average Emission Rates	Post Project Annual Average Emission Rates	Change in Annual Average Emission Rates	Carcinogenic Screening Level (EL)	Exceeds Screening Level?
	lb/hr	lb/hr	lb/hr	lb/hr	Y/N
Acetaldehyde	1.71E-04	4.23E-04	2.52E-04	3.0E-03	No
Benzene	3.16E-04	7.87E-04	4.71E-04	8.0E-04	No
Formaldehyde*	**6.72E-04**	**1.67E-03**	**1.00E-03**	**5.1E-04**	**Yes**
PAH's (including naphthalene)	1.58E-05	3.93E-05	2.35E-05	9.1E-05	No

* Dispersion modeling was performed for formaldehyde emissions to show compliance with the AACC

5.2 Emission Estimates

5.2.1 Emission Factors

This section describes the emission factors used in the emission estimates. The emissions from the facility were calculated using the maximum production throughput rates multiplied by emission factors applicable to the process. The emission factors were obtained from source tests on similar equipment, from published sources like EPA and California air pollution control districts, or were calculated using safety data sheets or process information.

Supporting information on the emission factors used in this analysis is presented in Appendix E.

PM10 and PM2.5 Emission Factor

PM10 and PM2.5 are emitted from material handling, grain and malt cleaning, the pellet mill system, the kilns and combustion sources. USEPA particulate emission factors were used to develop PM10 and PM2.5 emission estimates for the existing material handling operations (Ref. AP-42, Section 9.9.1). The removal efficiency of 99.5% for the baghouses was obtained from USEPA Air Pollution Control Technology Fact Sheet for Fabric Filters (EPA-452/F-03-024). A copy of AP-42 Section 9.9.1 is provided in Appendix E-1, for reference.

For consistency, the PM10 and PM2.5 emission estimates for the new material handling operations were based on the same emission factors as used for the existing material handling operations. Donaldson Torit dust filters will be used to control dust from the new material handling operations. Donaldson Torit issued an emission guarantee that Total Particulate emissions will not exceed 0.002 gr/dscf from each new filter. A copy of the guarantee is provided in Appendix E-2.

Emission rates from the new material handling operations using the Donaldson Torit guarantee were compared to the emission rates estimated using the USEPA emission factor, as shown in Table 5-7. In every case but one, the USEPA factors produced a PM10 emission rate that is greater than the vendor-based Total PM emission rate indicating that using the USEPA factors for permitting is a conservative estimate of PM10 emissions. Because the emissions from the kiln by-products cyclone filter (KBPCF) are significantly higher than the USEPA based emissions estimate, the vendor's 0.002 gr/dscf factor was used to calculate PM emissions for this source only.

Table 5-7: Comparison of New Filter Emissions Using Vendor and USEPA Factors

New Material Handling Source	Exhaust Air Flow Rate	Based on Vendor Factor of 0.002 gr/dscf	Based on USEPA Emission Factor
		Total PM	PM10
	ACFM	lb/hr	lb/hr
STC1F	285	0.0049	0.030
STC2F	285	0.0049	0.030
NMLF	1500	0.0257	0.041
BA1F	390	0.0067	0.041
BA2F	390	0.0067	0.041
KBPCF	390	0.0067	0.001
NMC3F	285	0.0049	0.030

New Material Handling	Exhaust Air Flow Rate	Based on Vendor Factor of 0.002 gr/dscf	Based on USEPA Emission Factor
MBCF	97.5	0.0017	0.008
NMSBC1F	285	0.0049	0.030
NMSBC2F	285	0.0049	0.030

PM10 and PM2.5 emissions for malt cleaning processes were based on the USEPA AP-42 Section 9.9.1 emission factors with adjustments for differing control methods.

Emissions from the Pellet Mill were based on a source test. Source testing was conducted on the Pellet Mill Cooler cyclone exhaust on April 27, 2000. The source testing revealed and emission rate of 0.066 lb PM10 / ton throughput. For these calculations it is assumed that PM2.5 is 100% of PM10. These emission factors include the presence of the cyclone and no further removal efficiency is provided in the calculation. A copy of the source test is provided in Appendix E-3

PM emission factors for the kilns were developed using the October 14, 2005 source test at GWM Pocatello plant which indicated a filterable PM emission of 0.95 lb/hr equating to a filterable PM emission rate of 0.057 lb/T. (Appendix E-4) In AP-42, Section 9.9.1, Table 9.9.1-2, Gas Fired Malt Kiln, the filterable PM is 68.3% of the total PM emission factor (0.19/(0.19+0.088)=0.683). Assuming the Pocatello kiln had the same ratio of filterable to total PM emission as in AP42, the resulting total (filterable + condensable) kiln Total PM emission factor is the filterable test result divided by 68.3% (0.057/0.683) or 0.0835 lb/T. A PM10 fraction of 92.8% and a PM2.5 fraction of 58.7% were developed from emission information presented in AP-42, Section 9.9.1, Table 9.9.1-2, Gas Fired Malt Kiln (Appendix E-1).

The kiln burners, boilers and make-up air heaters are all fired with natural gas. The USEPA AP-42 Section 1.4 PM emission factor of 7.6 lb/MM cf for natural gas combustion was used in the PM emission calculations for these sources. (Appendix E-5). For the diesel-fired emergency generator, USEPA AP-42 Section 3.3 emission factors were used (Appendix E-6).

SO2 Emission Factors

SO2 emissions are generated from sulfur burning in the existing malthouse kiln and from combustion sources. Sulfur will not be burned in the new kiln (K2).

SO2 emission factors for malthouse kilning sulfur combustion were developed from a source test conducted at GWM's Los Angeles, California facility. Source test data are provided in Appendix E-7. The data indicate a maximum SO2 emission rate of 1.492 lbs SO2 / lb sulfur burned or 2984 lbs SO2 /ton of sulfur burned. A portion of the SO2 is retained in the malt and not emitted.

The kiln burners, boilers and make-up air heaters are all fired with natural gas. The USEPA AP-42 Section 1.4 SO2 emission factor of 0.6 lb/MM cf for natural gas combustion was used in the SO2 emission calculations for these sources. (Appendix E-5). For the diesel-fired emergency generator, USEPA AP-42 Section 3.3 emission factors were used (Appendix E-6).

CO Emission Factors

CO is emitted from the natural gas combustion sources at the plant. These sources include the new kiln heaters, existing kiln burners, existing and new boilers, makeup air heaters and the emergency generator.

Maxon is the manufacturer for the new natural gas-fired burners in the four air heaters for the new kiln (KB1-KB4) and in the ten new air heaters for the existing kiln (KS1-KS5). Maxon has certified that the CO emissions from each burner will not be greater than 0.221 lb/MM Btu. A copy of the Maxon certification is provided in Appendix E-8.

The existing and new boilers and new make-up air heaters are all fired with natural gas. The USEPA AP-42 Section 1.4 CO emission factor of 84 lb/MM cf for natural gas combustion was used in the CO emission calculations for these sources. (Appendix E-5). For the diesel-fired emergency generator, USEPA AP-42 Section 3.3 emission factors were used (Appendix E-6).

NOx Emissions Factors

NOx is emitted from the natural gas combustion sources at the plant. These sources include the new kiln heaters, existing kiln burners, existing and new boilers, makeup air heaters and the emergency generator.

Maxon is the manufacturer for the new natural gas-fired low NOx burners in the four air heaters for the new kiln (KB1-KB4) and in the ten new air heaters for the existing kiln (KS1-KS5). Maxon has certified that the NOx emissions from each burner will not be greater than 0.036 lb/MM Btu. A copy of the Maxon certification is provided in Appendix E-8.

The six new germination boilers (GVB1-GVB6) all will have low NOx burners. Vendor literature on the boilers indicates that the boiler burners are tested and certified to meet SCAQMD NOx limits that will not exceed 20 ppm at 3% O2. The vendor emission rate equates to a 30 lb/MM cf emission factor for NOx emissions from these boilers (Appendix E-9).

The existing boilers and new make-up air heaters are all fired with natural gas. The USEPA AP-42 Section 1.4 NOx emission factor of 100 lb/MM cf for natural gas combustion was used as the basis for the NOx emission calculations for these sources. (Appendix E-5).

For the diesel-fired emergency generator, USEPA AP-42 Section 3.3 emission factors were used (Appendix E-6).

VOC Emission Factors

VOC is emitted from the two kilns and combustion sources at the plant.

The kilning emission factor for VOCs was developed from kiln source tests conducted at GWM's Vancouver, Washington facility on August 25, 1994. Source test data is provided in Appendix E-7. Information from the source test indicates that during the 16-hour test

period, 357,000 pounds of green malt were processed and the VOC emissions were 23.5 pounds. The resulting emission factor is calculated as follows:

Kilning VOC Emission Factor = (23.5 lb VOC / 357,000 lb malt) * (2000 lb/ton) = 0.13 lb VOC / ton Malt

The existing and new kiln burners, existing and new boilers and new make-up air heaters are all fired with natural gas. The USEPA AP-42 Section 1.4 VOC emission factor of 5.5 lb/MM cf for natural gas combustion was used in the VOC emission calculations for these sources. (Appendix E-5). For the diesel-fired emergency generator. USEPA AP-42 Section 3.3 emission factors were used (Appendix E-6).

CO2e Emission Factors

Malting processes and combustion sources produce greenhouse gas emissions, expressed as CO2 equivalents (CO2e).

CO2 is generated during the malting processes, mainly during steeping. In the GWM process there is about a 5% loss of dry matter per MT of malt produced or 50 kg/MT malt. Dry matter is essentially glucose (MW 180). Each molecule of glucose produces 6 molecules of CO2 or 1.47 kg of CO2 per kg of dry matter lost. 50 kg dry matter loss/MT malt X 1.47 kg CO2/kg dry matter loss = 73.5 kg CO2 generated/MT malt. Converting to pounds yields this emission factor: (73.5 kg/MT malt) X (1000 g/kg)/(454 g/lb) = 161.89 lb CO2/MT malt.

Fossil fuel combustion produces emissions of CO2e. The existing and new kiln burners, existing and new boilers and new make-up air heaters are all fired with natural gas. The USEPA AP-42 Section 1.4 emission factor of 120,035 lb/MM cf for natural gas combustion was used in the CO2e emission calculations for these sources. (Appendix E-5). For the diesel-fired emergency generator, USEPA AP-42 Section 3.3 emission factors were used (Appendix E-6).

HAP and TAP Emission Factors

Natural gas combustion generates emissions of HAPs and TAPs. The emission factors used for all of the natural gas-fired equipment were taken from "Natural Gas Fired External Combustion Equipment", VCAPCD, AB2588 Combustion Emission Factors and the SJVAPCD Toxic Emission Factors at the website address of www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm. The resulting emission factors are shown in Appendix E-11.

The germination beds and germination vessels are cleaned periodically using solid and liquid sodium hypochlorite solution. There is a potential for chlorine (Cl2) gas vapors, a HAP and a TAP, to be emitted during the cleaning activities. Emission factors were developed for both solid and liquid products based on a material balance calculation.

The emission factor for solid Sodium Hypochlorite was calculated conservatively by assuming 100% volatilization of chlorine contained in the product:

Solid Sodium Hypochlorite emission factor = (35.45 lb Cl^- /lb-mol)/(74.45 lb NaOCl/lb-mol) (2000 lb/T) = 960 lb Cl^- / T NaOCl

Similarly, the emission factor assumed 100% volatilization of chlorine contained in the 1.5 % solution of liquid Sodium Hypochlorite:

Liquid Sodium Hypochlorite emission factor = 0.015 * (35.45 lb Cl/lb-mol)/ (74.45 lb NaOCl/lb-mol) (2000 lb/T) = 14.4 lb Cl^- / T NaOCl

5.2.2 Project Emission Estimates

Post Project emissions calculations are presented in these tables:

Table	Title
5-8	Estimated Emissions from Material Handling Operations
5-9	Estimated Emissions from Process Operations
5-10	Estimated Emissions from Fuel Burning Equipment
5-11	HAP and TAP Emissions from Natural Gas Combustion in Malthouse Boilers
5-12	HAP and TAP Emissions from Natural Gas Combustion in Pellet Mill Boiler
5-13	HAP and TAP Emissions from Natural Gas Combustion in Malthouse Kiln Burners
5-14	HAP and TAP Emissions from Natural Gas Combustion in Six New Germination Boilers
5-15	HAP and TAP Emissions from Natural Gas Combustion in New Kiln Burners
5-16	HAP and TAP Emissions from Natural Gas Combustion in Steep Makeup Air Heaters

Pre-Project emissions calculations are presented in these tables:

Table	Title
5-17	Pre-Project Emissions from Material Handling Operations
5-18	Pre-Project Emissions from Process Operations
5-19	Pre-Project Emissions from Fuel Burning Equipment
5-20	Pre-Project HAP and TAP Emissions from Natural Gas Combustion in Malthouse Boilers
5-21	Pre-Project HAP and TAP Emissions from Natural Gas Combustion in Pellet Mill Boiler
5-22	Pre-Project HAP and TAP Emissions from Natural Gas Combustion in Malthouse Kiln Burners

Table 5-8
Estimated Emissions from Material Handling Operations

Process Step	Emission Point[2]	Max. Hrly. Transfer Rate (MT/hr.)	Normal Hrly. Transfer Rate (MT/hr.)	Normal Annual Transfer Rate (MT/yr.)	Control Efficiency (%)[7]	Uncontrolled PM10 Emission Factor (lb/ton)	Uncontrolled PM2.5 Emission Factor (lb/ton)	Emission Factor Reference	Max. Hrly. PM10 Emissions (lb/hr)	Max. Hrly. PM2.5 Emissions (lb/hr)	Normal Annual PM10 Emissions (lb/yr)	Normal Annual PM2.5 Emissions (lb/yr)
Truck Barley Unload - Uncaptured[1]	TB	150	120	145000	0%	0.00065	0.00011	AP-42 Table 9.9.1-1 (3/03)	0.11	0.02	103.0	17.3
Truck Barley Unload - Stack	BH1	150	120	145000	99.50%	0.012	0.0021	AP-42 Table 9.9.1-1 (3/03)	0.01	0.00	9.8	1.6
Rail Barley Unload -Uncaptured	RB	150	120	179000	0%	0.00039	0.000065	AP-42 Table 9.9.1-1 (3/03)	0.06	0.01	76.8	12.8
Rail Barley Unload - Stack	BH1	150	120	179000	99.50%	0.0074	0.0012	AP-42 Table 9.9.1-1 (3/03)	0.01	0.00	7.3	1.2
Barley Headhouse Transfers	BH1 & BH2	150	150	648000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	121.2	20.7
Barley Transfers Before Cleaning	BH2	150	150	324000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	60.6	10.3
Barley Transfers After Cleaning	BH2	150	150	324000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	60.6	10.3
Steep Tanks Fill Conveyor 1 (STC1)	S1	160	160	180000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.01	33.7	5.7
Steep Tanks Fill Conveyor 2 (STC2)	S2	160	160	180000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.01	33.7	5.7
Feed Barley Transfer to Bins	BH1	150	150	12000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	2.2	0.4
Feed Barley Loading for Shipment - Uncaptured[6]	TB	400	400	12000	0%	0.0015	0.00025	AP-42 Table 9.9.1-1 (3/03)	0.64	0.11	19.1	3.2
Feed Barley Loading for Shipment - Stack	BH3	400	400	12000	99.50%	0.028	0.00466	AP-42 Table 9.9.1-1 (3/03)	0.06	0.01	1.8	0.3
Pellet Mill Transfers	BH1	5	5	27000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.0009	0.0002	5.0	0.9
Truck Pellet Loading for Shipment[3]	TB	6	6	20000	0%	0.0008	0.00056	AP-42 Table 9.9.1-2 (3/03)	0.01	0.004	17.6	12.3
Rail Pellet Loading for Shipment	RB	6	6	20000	0%	0.0008	0.00056	AP-42 Table 9.9.1-2 (3/03)	0.01	0.004	17.6	12.3
Malt Transfers	BH1 & BH3	150	75	292000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.005	54.6	9.3
Kiln 2 New Malt Leg Conveyor (NML)	S32	219	219	162000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.041	0.007	30.3	5.2
Malt Analysis Bins 1-2-fill (BA1)	S33	219	219	81000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.041	0.007	15.1	2.6
Malt Analysis Bins 1-2-reclaim (BA2)	S34	219	219	81000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.041	0.007	15.1	2.6
Kiln Byproduct Cyclone (KBPC)[8]	S35	5	5	15000	99.50%	0.001	0.001	Vendor guarantee total PM 0.002 gr/dscf	0.007	0.007	20.1	20.1
New Malt Conveyor 3 (NMC3)	S36	160	160	162000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.030	0.005	30.3	5.2
Micro Bins 1-4- fill conveyor (MBC))	S37	44	44	15000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.008	0.001	2.8	0.5
Malt Storage Bins 1-5- fill conveyor 1 (NMSBC1)	S46	160	160	146000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.030	0.005	27.3	4.7
Malt Storage BIns 6-10- fill conveyor 2 (NMSBC2)	S47	160	160	146000	99.50%	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.030	0.005	27.3	4.7
Rail Malt Loading for Shipment[4]	RB	180	180	264000	0%	0.0022	0.00037	AP-42 Table 9.9.1-1 (3/03)	0.44	0.07	638.9	107.4
Truck Malt Loading for Shipment	TB	20	20	28000	0%	0.029	0.0049	AP-42 Table 9.9.1-1 (3/03)	0.64	0.11	893.2	150.9
								Total	**2.4**	**0.42**	**2325**	**428**

Table 5-8
Estimated Emissions from Material Handling Operations

Emission Point Summary for Material Handling Processes[5]

Emission Point	Max. Hrly. PM10 Emissions (lb/hr)	Max. Hrly. PM2.5 Emissions (lb/hr)	Normal Annual PM10 Emissions (lb/yr)	Normal Annual PM2.5 Emissions (lb/yr)
TB	1.39	0.24	1033.0	183.8
RB	0.51	0.09	733.3	132.6
BH1	0.073	0.012	132.2	22.5
BH2	0.062	0.011	145.4	24.8
BH3	0.083	0.014	45.5	7.8
S1	0.03	0.01	33.66	5.74
S2	0.03	0.01	33.66	5.74
S32	0.04	0.01	30.29	5.17
S33	0.04	0.01	15.15	2.58
S34	0.04	0.01	15.15	2.58
S35	0.01	0.01	20.06	20.06
S36	0.03	0.01	30.29	5.17
S37	0.01	0.00	2.81	0.48
S46	0.03	0.01	27.30	4.66
S47	0.03	0.01	27.30	4.66
Totals	**2.4**	**0.4**	**2,325.1**	**428.3**

Footnotes for Table 5-8 - Estimated Emissions From Material Handling Operations

[1]The emission factors for truck unloading assumes 90% hopper trucks and 10% straight trucks and is weighted per EPA AP-42 guidance. In addition, because the truck unloading pit is vented to BH1 it is assumed that 5% of the generated emission become airborne as fugitive emissions. For example the PM emission factor is calculated as follows:

Truck Unloading Emission Factor = [(0.90)(0.035 lb/ton) + (0.10)(0.18 lb/ton)]0.05 = 0.0025 lb/ton

The railbay unloading operation is also vented to BH1. A 95% capture efficiency is also applied to the AP-42 emission factors.

[2]TB = Truck Bay; RB = Rail Bay; BH1 = Baghouse #1; BH2 = Baghouse #2; BH3 = Baghouse #3

[3]The PM2.5 emission factor for truck & rail pellet loading for shipment assumes the PM2.5 fraction is 17% of PM.

[4] It is assumed that malt loadout occurs 90% by rail and 10% by truck.

[5] Headhouse transfer and malt transfer operations are served by multiple baghouses. Emission estimates assume 80% of barley headhouse transfer emissions are vented to BH1 and 20% are vented to BH2. 80% of malt transfer emissions are vented to BH3 and 20% to BH1.

[6]Feed barley loadout operations are equipped with a cyclone side draw vacuum system which vents to BH3. A 95% capture efficiency is applied to the AP-42 emission factors with the remaining 5% assumed to be available to become airborne fugitive emissions.

[7]Control efficiency estimated from USEPA Air Pollution Control Technology Fact Sheet for Fabric Filters (EPA-452/F-03-024). This document indicates operating efficiencies of 95-99.9%. Use 99.5% for existing baghouses and 99.5% for new dust collectors.

[8] Donaldson Torit filter performance certified to be 0.002 gr/dscf for total particulate emissions. Filter (KBPCF) on kiln by-products cyclone is sized at 390 acfm.

Table 5-9
Estimated Emissions from Process Operations

Process Step	Emission Point[1]	Max/Normal Hrly. Transfer Rate (MT/hr.)	Normal Annual Transfer Rate (MT/yr.)	Control Efficiency (%)		PM10 Emission Factor (lb/ton)	PM2.5 Emission Factor (lb/ton)	SO2 Emission Factor (lb/T S)	VOC Emission Factor (lb/ton)	Cl2 Emission Factor (lb/T hypochlorite)	CO2 Emission Factor (lb/ton malt)	Emission Factor Reference	Max/Normal Hrly. PM10 Emissions (lb/hr)	Max/Normal Hrly. PM2.5 Emissions (lb/hr)	Normal Annual PM10 Emissions (lb/yr)	Normal Annual PM2.5 Emissions (lb/yr)	Max Hrly. SO2 Emissions (lb/hr)	Normal Annual SO2 Emissions (lb/yr)	Max Hrly. VOC Emissions (lb/hr)	Normal Annual VOC Emissions (lb/yr)	Max Hrly. Cl2 Emissions (lb/hr)	Normal Annual Cl2 Emissions (lb/yr)	Normal Annual CO2 Emissions (lb/yr)
Malt House Kilning- Kiln 1	KSE	16.74	130000	0%		0.0775	0.0490	0.0	0.13	0.0		Source Test[2]	1.43	0.90	11080.8	7009.1	0.0	0.0	2.39	18590.0	0.0	0.0	0
Malt House Kilning Sulfur Combustion	KSE	0.0045	12.45	0%		0	0	2984	0	0		Source Test[2]	0.00	0.00	0.0	0.0	14.9	40851.0	0.00	0.0	0.0	0.0	0
Barley Cleaning	BH2	150	324000	99.50%		0.063	0.00096	0	0	0		AP-42 Table 9.9.1-1 (3/03)[3]	0.05	0.00	112.9	1.7	0.0	0.0	0.00	0.0	0.0	0.0	0
Malt Cleaning (replacing some equipment)	BH2 & BH3	150	292,000	99.50%		0.063	0.00096	0	0	0		AP-42 Table 9.9.1-1 (3/03)[3]	0.05	0.00	101.7	1.5	0.0	0.0	0.00	0.0	0.0	0.0	0
Pellet Mill Cleaning	BH1	5	27000	99.50%		0.063	0.00096	0	0	0		AP-42 Table 9.9.1-1 (3/03)[3]	0.00	0.00	9.4	0.1	0.0	0.0	0.00	0.0	0.0	0.0	0
Pellet Mill Cooler	CS	5	27000	0%		0.066	0.066	0	0	0		Source Test[4]	0.36	0.36	1960.2	1960.2	0.0	0.0	0.00	0.0	0.0	0.0	0
Germination Bed Sanitizing, Solid NaOCl	GBE 1-6	0.023	0.45	0%		0	0	0	0	960		Mass Balance[5]	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	12.00	480.0	0
Germination Bed Sanitizing, Liquid NaOCl	GBE 1-6	0.114	120.12	0%		0	0	0	0	14.4		Mass Balance[5]	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.90	1902.7	0
Germination vessels (GV1-GV4), Solid NaOCl	S19-S26	0.011	0.68	0%		0	0	0	0	960		Mass Balance[5]	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	6.00	720.0	0
Germination vessels (GV1-GV4), Liquid NaOCl	S19-S26	0.057	136.55	0%		0	0	0	0	14.4		Mass Balance[5]	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.45	2162.9	0
Kiln 2 (K2)	S31	21	162000	0%		0.0775	0.0490	0.0	0.13	0.0		Source Test[2]	1.79	1.13	13808.4	8734.4	0.0	0.0	3.00	23166.0	0.0	0.0	0
Kiln 2 (K2)- sulfur combustion	S31	0.0000	0.00	0%		0	0	2984	0	0		Source Test[2]	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0
Process CO2[6]	Kilns, steeps & germination		292,000	0%		0	0	0	0	0	161.89	Calculation of glucose loss from steeping & respiration	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	52,000,441
												Totals	3.69	2.40	27,073.32	17,707.05	14.92	40,850.96	5.40	41,756.00	19.35	5,265.58	52,000,441

Emission Point Summary for Process Operations[4]

Emission Point	Max/Normal Hrly. PM10 Emissions (lb/hr)	Max/Normal Hrly. PM2.5 Emissions (lb/hr)	Normal Annual PM10 Emissions (lb/yr)	Normal Annual PM2.5 Emissions (lb/yr)	Max Hrly. SO2 Emissions (lb/hr)	Normal Annual SO2 Emissions (lb/yr)	Max Hrly. VOC Emissions (lb/hr)	Normal Annual VOC Emissions (lb/yr)	Max Hrly. Cl2 Emissions (lb/hr)	Normal Annual Cl2 Emissions (lb/yr)	Normal Annual CO2 Emissions (lb/yr)			
KSE	1.43	0.90	11080.78	7009.07	14.92	40850.96	2.39	18590.00	0.00	0.00				
BH1	0.0017	0.0000	9.4050	0.1426										
BH2	0.0873	0.0013	181.0079	2.7437	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				
BH3	0.0172	0.0003	33.5654	0.5088	0.0	0.0	0.0	0.0	0.0	0.0				
CS	0.36	0.36	1960.20	1960.20	0.00	0.00	0.0	0.0	0.0	0.0				
GBE 1-6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.90	2382.7				
S19-S26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.45	2882.9				
S31	1.8	1.1	13808.4	8734.4	0.0	0.0	3.0	23166.0	0.0	0.0				
Process CO2	-	-	-	-	-	-	-	-	-	-	52,000,441			
Totals	3.7	2.4	27,073.3	17,707.1	14.9	40,851.0	5.4	41,756.0	19.4	5265.6	52,000,441			

Footnotes for Table 5-9 - Estimated Emissions From Process Operations

[1]KSE = Kiln Stack Exhaust; BH1 = Baghouse #1; BH2 = Baghouse #2; BH3 = Baghouse #3; CS = Cyclone Stack; GBE = Germination Bed Exhaust w/ three exhaust points (GBE 1&4, GBE 2&5, GBE 3&6). Emissions calculated are total for all exhaust points.

[2]The Malt House Kilning emission factor for VOCs was developed from kiln source tests conducted at GWM's Vancouver, Washington facility on August 25, 1994. Source test data is provided in the appendices. Information from the source test indicates that during the 16 hour test period, 357,000 pounds of green malt were processed and the VOC emissions were 23.5 pounds. The resulting emission factor is calculated as follows:

Kilning VOC Emission Factor = (23.5 lb VOC / 357,000 lb malt) * (2000 lb/ton) = 0.13 lb VOC / ton Malt

PM emissions were developed using the October 14, 2005 source test at GWM Pocatello plant which indicates a filterable PM emission of 0.95 lb/hr equating to a filterable PM emission rate of 0.057 lb/T. In AP-42, Section 9.9, Table 9.9.1-2, Gas Fired Malt Kiln, the filterable PM is 68.3% of the total PM emission factor (0.19/(0.19+0.088)=0.683). Assuming the Pocatello kiln had the same ratio of filterable to total PM emission as in AP42, the resulting total (filterable + condensable) kiln PM emission factor is the filterable test result divided by 68.3% (0.057/0.683) or 0.0835 lb/T. A PM10 fraction of 92.8% and a PM2.5 fraction of 58.7% were developed from emission information presented in AP-42, Section 9.9, Table 9.9.1-2, Gas Fired Malt Kiln.

SO2 emission factors for malt house kilning sulfur combustion were developed from a source test conducted at GWM's Los Angeles, California facility. Source test data are provided in the appendices. The data indicate a maximum SO2 emission rate of 1.492 lbs SO2 / lb S or 2984 lbs SO2 / T S.

[3]The cleaning emission factors were taken from AP-42 Section 9.9.1. The section identifies a PM, PM10 and PM2.5 emission factors (lb/ton) as 0.075, 0.019, and 0.0032 respectively. The emission factors include the use of a cyclone and because cyclones are not used on these processes at GWM the emission factors were adjusted by assuming the cyclone had a control efficiency of 70%.

[4]Source testing was conducted on the Pellet Mill Cooler cyclone exhaust on April 27, 2000. The source testing revealed and emission rate of 0.066 lb PM10 / ton throughput. For these calculations it is assumed that PM2.5 is 100% of PM10. These emission factors include the presence of the cyclone and no further removal efficiency is provided in the calculation.

[5]The calculation conservatively assumes 100% volatilization of chlorine contained in the solid Sodium Hypochlorite:

Solid Sodium Hypochlorite emission factor = (35.45 lbCl/lb-mol)/(74.45lbNaOCl/lb-mol)(2000lb/T) = 960 lb Cl- / T solid NaOCl. Cleaning emissions occur over a 2-hr period per cleaning event.

[6]The calculation conservatively assumes 100% volatilization of chlorine contained in the 1.5 % solution of liquid Sodium Hypochlorite:

Liquid Sodium Hypochlorite emission factor = 0.015 * (35.45 lbCl/lb-mol)/(74.45lbNaOCl/lb-mol)(2000lb/T) = 14.4 lb Cl- / T liquid NaOCl. Cleaning emissions occur over a 2-hr period per cleaning event.

[7]Initial malt cleaning occurs before storage with emissions controlled by BH2. Malt is cleaned again prior to shipment with emission controlled by BH3. Emission estimates assume 67% of malt cleaning emissions are vented to BH2 and 33% are vented to BH3

[8] CO2 is generated during the malting processes, mainly steeping. In the GWM process there is about a 5% loss of dry matter per MT of malt produced. Dry matter is essentially glucose (MW 180). Each molecule of glucose produces 6 molecules of CO2 or 1.47 kg of CO2 per kg of dry matter lost. 50 kg loss/MT malt X 1.47 kg CO2/kg loss = 73.5 kg CO2 produced/MT malt. converting to pounds yields: (73.5 kg/MT malt) X (1000 g/kg)/(454 g/lb) = 161.89 lb CO2/MT malt.

Table 5-10
Estimated Emissions from Fuel Burning Equipment

Emission Factors

Source	Stack ID	Emission Factor									
		Emission Factor Reference	Units		PM10	PM2.5	SO2	CO	NOx	VOC	CO2e
Malt House Boilers 1&2	BS1	AP-42 Section 1.4 (7/98), Uncontrolled small boilers,	lb/MMCF		7.6	7.6	0.6	84	100	5.5	120,035
Pellet Mill Boiler	BS2										
Germination Vessel boilers-6	S38-S43	AP-42 Section 1.4 (7/98) and manufacturer information	lb/MMCF		7.6	7.6	0.6	84	30	5.5	120,035
Kiln1 burners (K1-K10)	KS1-KS5	AP-42 Section 1.4 (7/98) and manufacturer information	lb/MMCF		7.6	7.6	0.6	227	37	5.5	120,035
Kiln2 burners (KB1-KB4)	S27-S30	AP-42 Section 1.4 (7/98) and manufacturer information	lb/MMCF		7.6	7.6	0.6	227	37	5.5	120,035
Makeup Air Units	S44-S45	AP-42 Section 1.4 (7/98), Uncontrolled small boilers	lb/MMCF		7.6	7.6	0.6	84	100	5.5	120,035
Emergency Generator (60 hp)	EG	AP-42 Section 3.3 (10/96) Diesel Industrial Engines	lb/hp-hr		0.0022	0.0022	0.000205	0.00668	0.031	0.00247	1.15

Vendor certifies NOx at <20 ppm

Vendor certifies NOx at <0.036 lb/MM Btu and CO at <0.221 lb/MM Btu

Vendor certifies NOx at <0.036 lb/MM Btu and CO at <0.221 lb/MM Btu

Estimated Maximum Hourly Emissions

Source	Stack ID	Maximum Hourly Usage (Natural Gas MMCF) (Diesel hours)	Estimated Max Hourly Emissions (lb/hr)							
			PM10	PM2.5	SO2	CO	NOx	VOC		CO2e
Kiln 1 Burner K1	KS1	0.00775	0.0589	0.0589	0.005	1.758	0.29	0.043		929.7
Kiln 1 Burners K2 -K5	KS2	0.03098	0.2355	0.2355	0.019	7.033	1.15	0.170		3,718.7
Kiln 1 Burner K6	KS3	0.00775	0.0589	0.0589	0.005	1.758	0.29	0.043		929.7
Kiln 1 Burners K7 - K9	KS4	0.02324	0.1766	0.1766	0.014	5.274	0.86	0.128		2,789.0
Kiln 1 Burner K10	KS5	0.00775	0.0589	0.0589	0.005	1.758	0.29	0.043		929.7
Malt House Boilers 1&2[1]	BS1	0.00625	0.0475	0.0475	0.00375	0.525	0.625	0.034		750.2
Pellet Mill Boiler	BS2	0.0025	0.019	0.019	0.0015	0.21	0.25	0.014		300.1
GV boiler 1 (GVB1)[2]	S38	0.002	0.0152	0.0152	0.0012	0.168	0.06	0.011		240.1
GV boiler 2 (GVB2)	S39	0.002	0.0152	0.0152	0.0012	0.168	0.06	0.011		240.1
GV boiler 3 (GVB3)	S40	backup								
GV boiler 4 (GVB4)	S41	0.002	0.0152	0.0152	0.0012	0.168	0.06	0.011		240.1
GV boiler 5 (GVB5)	S42	0.002	0.0152	0.0152	0.0012	0.168	0.06	0.011		240.1
GV boiler 6 (GVB6)	S43	backup								
Kiln 2 Burner 1 (KB1)	S27	0.0177	0.13452	0.13452	0.01062	4.0179	0.6549	0.09735		2,124.6
Kiln 2 Burner 2 (KB2)	S28	0.0177	0.13452	0.13452	0.01062	4.0179	0.6549	0.09735		2,124.6
Kiln 2 Burner 3 (KB3)	S29	0.0177	0.13452	0.13452	0.01062	4.0179	0.6549	0.09735		2,124.6
Kiln 2 Burner 4 (KB4)	S30	0.0177	0.13452	0.13452	0.01062	4.0179	0.6549	0.09735		2,124.6
Steep Blg. Makeup Air Unit 1 (MAU1)	S44	0.002188	0.0166288	0.01663	0.0013128	0.183792	0.2188	0.012034		262.6
Steep Blg. Makeup Air Unit 2 (MAU2)	S45	0.002188	0.0166288	0.01663	0.0013128	0.183792	0.2188	0.012034		262.6
Emergency Generator (EG1)-diesel	EG	1	0.132	0.132	0.0123	0.4008	1.86	0.1482		69.0
		Totals	**1.42**	**1.42**	**0.11**	**35.83**	**8.90**	**1.08**		**20,400.2**

Only one boiler at time at 25% of capacity.

Table 5-10
Estimated Emissions from Fuel Burning Equipment

Estimated Normal Annual Emissions

Source	Stack ID	Maximum Annual Usage (Natural Gas MMCF) (Diesel hours)	Estimated Normal Annual Emissions (lb/yr)							
			PM10	PM2.5	SO2	CO	NOx	VOC		CO2e
Kiln 1 Burner K1	KS1	29.0	220.40	220.40	17.4	6583.0	1073.0	159.5		3,481,015
Kiln 1 Burners K2 -K5	KS2	116.0	881.60	881.60	69.6	26332.0	4292.0	638.0		13,924,060
Kiln 1 Burner K6	KS3	29.0	220.40	220.40	17.4	6583.0	1073.0	159.5		3,481,015
Kiln 1 Burners K7 - K9	KS4	87.0	661.20	661.20	52.2	19749.0	3219.0	478.5		10,443,045
Kiln 1 Burner K10	KS5	29.0	220.40	220.40	17.4	6583.0	1073.0	159.5		3,481,015
Malt House Boilers 1&2[1]	BS1	21.036	159.9	159.9	12.6	1767.0	2103.6	115.7		2,525,056
Pellet Mill Boiler	BS2	21.9	166.4	166.4	13.1	1839.6	2190.0	120.5		2,628,767
GV boiler 1 (GVB1)[2]	S38	17.52	133.2	133.2	10.5	1471.7	525.6	96.4		2,103,013
GV boiler 2 (GVB2)	S39	17.52	133.2	133.2	10.5	1471.7	525.6	96.4		2,103,013
GV boiler 3 (GVB3)	S40	backup								
GV boiler 4 (GVB4)	S41	17.52	133.2	133.2	10.5	1471.7	525.6	96.4		2,103,013
GV boiler 5 (GVB5)	S42	17.52	133.2	133.2	10.5	1471.7	525.6	96.4		2,103,013
GV boiler 6 (GVB6)	S43	backup								
Kiln 2 Burner 1 (KB1)	S27	105.00	798.0	798.0	63.0	23835.0	3885.0	577.5		12,603,675
Kiln 2 Burner 2 (KB2)	S28	105.00	798.0	798.0	63.0	23835.0	3885.0	577.5		12,603,675
Kiln 2 Burner 3 (KB3)	S29	105.00	798.0	798.0	63.0	23835.0	3885.0	577.5		12,603,675
Kiln 2 Burner 4 (KB4)	S30	105.00	798.0	798.0	63.0	23835.0	3885.0	577.5		12,603,675
Steep Blg. Makeup Air Unit 1 (MAU1)	S44	19.17	145.7	145.7	11.5	1610.0	1916.7	105.4		2,300,696
Steep Blg. Makeup Air Unit 2 (MAU2)	S45	19.17	145.7	145.7	11.5	1610.0	1916.7	105.4		2,300,696
Emergency Generator (EG1)-diesel	EG	100	13.2	13.2	1.2	40.1	186.0	14.8		6,900
		Totals (lb/yr)	**6,559.5**	**6,559.5**	**518.0**	**173,923.5**	**36,685.4**	**4,752.2**		**103,399,018**
		Totals (tons/yr)	**3.28**	**3.28**	**0.26**	**86.96**	**18.34**	**2.38**		**51,700**

Footnotes:

[1] The malt house boilers are vented to a common stack. Only one boiler operates at a time. Hourly fuel use assumes 25% of one boiler capacity.

[2] GVB1-GVB3 serve GV1 and GV2. GVB4-GVB6 serve GV3 and GV4. Only 4 boilers will run at a time with the remaining 2 boilers as backup.

Table 5-11
HAP and TAP Emissions from Natural Gas Combustion in Malthouse Boilers

Component	Rate		CAS	Substance	Emission Factor	Emissions		
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr	lb/hr annual
MALT HOUSE BOILERS 1 & 2	0.00625	21.036	75070	Acetaldehyde	4.30E-03	2.69E-05	4.52E-05	1.03E-05
			107028	Acrolein	2.70E-03	1.69E-05	2.84E-05	6.48E-06
			71432	Benzene	8.00E-03	5.00E-05	8.41E-05	1.92E-05
			100414	Ethyl Benzene	9.50E-03	5.94E-05	9.99E-05	2.28E-05
			50000	Formaldehyde	1.70E-02	1.06E-04	1.79E-04	4.08E-05
			110543	Hexane	6.30E-03	3.94E-05	6.63E-05	1.51E-05
			91203	Naphthalene	3.00E-04	1.88E-06	3.16E-06	7.20E-07
			1151	PAH's (including naphthalene)	4.00E-04	2.50E-06	4.21E-06	9.61E-07
			108883	Toluene	3.66E-02	2.29E-04	3.85E-04	8.79E-05
			1330207	Xylenes	2.72E-02	1.70E-04	2.86E-04	6.53E-05
					Total	7.02E-04	1.18E-03	2.70E-04

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

Table 5-12
HAP and TAP Emissions
from Natural Gas Combustion Pellet Mill Boiler

Component	Rate		CAS	Substance	Emission Factor	Emissions		
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr	Annual lb/hr
PELLET MILL BOILER	0.0025	21.9	75070	Acetaldehyde	4.30E-03	1.08E-05	4.71E-05	1.08E-05
			107028	Acrolein	2.70E-03	6.75E-06	2.96E-05	6.75E-06
			71432	Benzene	8.00E-03	2.00E-05	8.76E-05	2.00E-05
			100414	Ethyl Benzene	9.50E-03	2.38E-05	1.04E-04	2.38E-05
			50000	Formaldehyde	1.70E-02	4.25E-05	1.86E-04	4.25E-05
			110543	Hexane	6.30E-03	1.58E-05	6.90E-05	1.58E-05
			91203	Naphthalene	3.00E-04	7.50E-07	3.29E-06	7.50E-07
			1151	PAH's (including naphthalene)	4.00E-04	1.00E-06	4.38E-06	1.00E-06
			108883	Toluene	3.66E-02	9.15E-05	4.01E-04	9.15E-05
			1330207	Xylenes	2.72E-02	6.80E-05	2.98E-04	6.80E-05
					Total	2.81E-04	1.23E-03	2.81E-04

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

Table 5-13
HAP and TAP Emissions
from Natural Gas Combustion in the Malthouse Kiln New Heaters

Component	Rate		CAS	Substance	Emission Factor	Emissions		
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr	Annual lb/hr
KILN 1 NEW HEATERS	0.0775	290	75070	Acetaldehyde	4.30E-03	3.33E-04	6.24E-04	1.42E-04
			107028	Acrolein	2.70E-03	2.09E-04	3.92E-04	8.94E-05
			71432	Benzene	8.00E-03	6.20E-04	1.16E-03	2.65E-04
			100414	Ethyl Benzene	9.50E-03	7.36E-04	1.38E-03	3.14E-04
			50000	Formaldehyde	1.70E-02	1.32E-03	2.47E-03	5.63E-04
			110543	Hexane	6.30E-03	4.88E-04	9.14E-04	2.09E-04
			91203	Naphthalene	3.00E-04	2.32E-05	4.35E-05	9.93E-06
			1151	PAH's (including naphthalene)	4.00E-04	3.10E-05	5.80E-05	1.32E-05
			108883	Toluene	3.66E-02	2.83E-03	5.31E-03	1.21E-03
			1330207	Xylenes	2.72E-02	2.11E-03	3.94E-03	9.00E-04
					Total	8.70E-03	1.63E-02	3.72E-03

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

Table 5-14
HAP and TAP Emissions from Natural Gas Combustion in Six New Germination Boilers

Component	Rate		CAS	Substance	Emission Factor	Emissions		
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr	Annual lb/hr
6 new boilers	0.0080	70.08	75070	Acetaldehyde	4.30E-03	3.44E-05	1.51E-04	3.44E-05
			107028	Acrolein	2.70E-03	2.16E-05	9.46E-05	2.16E-05
			71432	Benzene	8.00E-03	6.40E-05	2.80E-04	6.40E-05
			100414	Ethyl Benzene	9.50E-03	7.60E-05	3.33E-04	7.60E-05
			50000	Formaldehyde	1.70E-02	1.36E-04	5.96E-04	1.36E-04
			110543	Hexane	6.30E-03	5.04E-05	2.21E-04	5.04E-05
			91203	Naphthalene	3.00E-04	2.40E-06	1.05E-05	2.40E-06
			1151	PAH's (including naphthalene)	4.00E-04	3.20E-06	1.40E-05	3.20E-06
			108883	Toluene	3.66E-02	2.93E-04	1.28E-03	2.93E-04
			1330207	Xylenes	2.72E-02	2.18E-04	9.53E-04	2.18E-04
					Total	8.98E-04	3.93E-03	8.98E-04

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

Table 5-15
HAP and TAP Emissions from Natural Gas Combustion in New Kiln Burners

Component	Rate		CAS	Substance	Emission Factor	Emissions		
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr	Annual lb/hr
New KILN 2 BURNERS	0.0708	420	75070	Acetaldehyde	4.30E-03	3.04E-04	9.03E-04	2.06E-04
			107028	Acrolein	2.70E-03	1.91E-04	5.67E-04	1.29E-04
			71432	Benzene	8.00E-03	5.66E-04	1.68E-03	3.84E-04
			100414	Ethyl Benzene	9.50E-03	6.73E-04	2.00E-03	4.55E-04
			50000	Formaldehyde	1.70E-02	1.20E-03	3.57E-03	8.15E-04
			110543	Hexane	6.30E-03	4.46E-04	1.32E-03	3.02E-04
			91203	Naphthalene	3.00E-04	2.12E-05	6.30E-05	1.44E-05
			1151	PAH's (including naphthalene)	4.00E-04	2.83E-05	8.40E-05	1.92E-05
			108883	Toluene	3.66E-02	2.59E-03	7.69E-03	1.75E-03
			1330207	Xylenes	2.72E-02	1.93E-03	5.71E-03	1.30E-03
				Total	7.95E-03	2.36E-02	5.38E-03	

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

Table 5-16
HAP and TAP Emissions from Natural Gas Combustion in Steep Makeup Air Heaters

Component	Rate		CAS	Substance	Emission Factor	Emissions		
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr	Annual lb/hr
Makeup Air Units MAU1 & MAU2	0.0044	38.3338	75070	Acetaldehyde	4.30E-03	1.88E-05	8.24E-05	1.88E-05
			107028	Acrolein	2.70E-03	1.18E-05	5.18E-05	1.18E-05
			71432	Benzene	8.00E-03	3.50E-05	1.53E-04	3.50E-05
			100414	Ethyl Benzene	9.50E-03	4.16E-05	1.82E-04	4.16E-05
			50000	Formaldehyde	1.70E-02	7.44E-05	3.26E-04	7.44E-05
			110543	Hexane	6.30E-03	2.76E-05	1.21E-04	2.76E-05
			91203	Naphthalene	3.00E-04	1.31E-06	5.75E-06	1.31E-06
			1151	PAH's (including naphthalene)	4.00E-04	1.75E-06	7.67E-06	1.75E-06
			108883	Toluene	3.66E-02	1.60E-04	7.02E-04	1.60E-04
			1330207	Xylenes	2.72E-02	1.19E-04	5.21E-04	1.19E-04
					Total	4.91E-04	2.15E-03	4.91E-04

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

Table 5-17
Pre-Project Emissions from Material Handling Operations

Process Step	Emission Point[2]	Max. Hrly. Transfer Rate (MT/hr.)	Normal Hrly. Transfer Rate (MT/hr.)	Normal Annual Transfer Rate (MT/yr.)	Control Efficiency (%)[7]	Uncontrolled PM Emission Factor (lb/ton)	Uncontrolled PM10 Emission Factor (lb/ton)	Uncontrolled PM2.5 Emission Factor (lb/ton)	Emission Factor Reference	Max. Hrly. PM10 Emissions (lb/hr)	Max. Hrly. PM2.5 Emissions (lb/hr)	Normal Annual PM10 Emissions (lb/yr)	Normal Annual PM2.5 Emissions (lb/yr)
Truck Barley Unload - Uncaptured[1]	TB	150	25.64	109,091	0%	0.0025	0.00065	0.00011	AP-42 Table 9.9.1-1 (3/03)	0.11	0.02	77.5	13.0
Truck Barley Unload - Stack	BH1	150	25.64	109,091	99.50%	0.047	0.012	0.0021	AP-42 Table 9.9.1-1 (3/03)	0.01	0.002	7.4	1.2
Rail Barley Unload - Uncaptured	RB	150	25.64	46,364	0%	0.0016	0.00039	0.000065	AP-42 Table 9.9.1-1 (3/03)	0.06	0.01	19.9	3.3
Rail Barley Unload - Stack	BH1	150	25.64	46,364	99.50%	0.030	0.0074	0.0012	AP-42 Table 9.9.1-1 (3/03)	0.01	0.001	1.9	0.3
Barley Headhouse Transfers	BH1 & BH2	150	150	331,000	99.50%	0.061	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	61.9	10.6
Barley Transfers Before Cleaning	BH2	150	150	177,000	99.50%	0.061	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	33.1	5.6
Barley Transfers After Cleaning	BH2	150	150	177,000	99.50%	0.061	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	33.1	5.6
Feed Barley Transfer to Bins	BH1	150	150	9400	99.50%	0.061	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	1.8	0.3
Feed Barley Loading for Shipment - Uncaptured[8]	TB	400	400	9,400	0%	0.0043	0.0015	0.00025	AP-42 Table 9.9.1-1 (3/03)	0.64	0.11	15.0	2.5
Feed Barley Loading for Shipment - Stack	BH3	400	400	9,400	99.50%	0.082	0.028	0.00466	AP-42 Table 9.9.1-1 (3/03)	0.06	0.01	1.4	0.2
Pellet Mill Transfers	BH1	5	5	11,273	99.50%	0.061	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.00	0.00	2.1	0.4
Truck Pellet Loading for Shipment[3]	TB	6	6	3382	0%	0.0033	0.0008	0.00056	AP-42 Table 9.9.1-2 (3/03)	0.01	0.00	3.0	2.1
Rail Pellet Loading for Shipment	RB	6	6	7,891	0%	0.0033	0.0008	0.00056	AP-42 Table 9.9.1-2 (3/03)	0.01	0.00	6.9	4.9
Malt Transfers	BH1 & BH3	150	75	118,182	99.50%	0.061	0.034	0.0058	AP-42 Table 9.9.1-1 (3/03)	0.03	0.00	22.1	3.8
Rail Malt Loading for Shipment[4]	RB	180	180	23,636	0%	0.027	0.0022	0.00037	AP-42 Table 9.9.1-1 (3/03)	0.44	0.07	57.2	9.6
Truck Malt Loading for Shipment	TB	20	20	94,546	0%	0.086	0.029	0.0049	AP-42 Table 9.9.1-1 (3/03)	0.64	0.11	3016.0	509.6
									Total	**2.1**	**0.36**	**3360**	**573**

Emission Point Summary for Material Handling Processes[5]

Emission Point	Max. Hrly. PM Emissions (lb/hr)	Normal Hrly. PM Emissions (lb/hr)	Normal Annual PM Emissions (lb/yr)	Max. Hrly. PM10 Emissions (lb/hr)	Max. Hrly. PM2.5 Emissions (lb/hr)	Normal Annual PM10 Emissions (lb/yr)	Normal Annual PM2.5 Emissions (lb/yr)
TB	4.21	3.88	9297.8	1.39	0.24	3111.5	527.2
RB	5.63	5.41	812.2	0.51	0.09	84.0	17.8
BH1	0.17	0.108	139.7	0.073	0.012	67.1	11.4
BH2	0.11	0.11	141.0	0.062	0.011	78.6	13.4
BH3	0.22	0.20	35.9	0.083	0.014	19.1	3.3
Totals	**10.3**	**9.7**	**10,426.6**	**2.1**	**0.4**	**3,360.3**	**573.1**

Footnotes for Table 5-17 - Pre-Project Emissions From Material Handling Operations

[1]The emission factors for truck unloading assumes 90% hopper trucks and 10% straight trucks and is weighted per EPA AP-42 guidance. In addition, because the truck unloading pit is vented to BH1 it is assumed that 5% of the generated emission become airborne as fugitive emissions. For example the PM emission factor is calculated as follows:

Truck Unloading Emission Factor = [(0.90)(0.035 lb/ton) + (0.10)(0.18 lb/ton)]0.05 = 0.0025 lb/ton

The railbay unloading operation is also vented to BH1. A 95% capture efficiency is also applied to the AP-42 emission factors.

[2]TB = Truck Bay; RB = Rail Bay; BH1 = Baghouse #1; BH2 = Baghouse #2; BH3 = Baghouse #3

[3]The PM2.5 emission factor for truck & rail pellet loading for shipment assumes the PM2.5 fraction is 17% of PM.

[4] It is assumed that malt loadout occurs 90% by rail and 10% by truck.

[5] Headhouse transfer and malt transfer operations are served by multiple baghouses. Emission estimates assume 80% of barley headhouse transfer emissions are vented to BH1 and 20% are vented to BH2. 80% of malt transfer emissions are vented to BH3 and 20% to BH1.

[6]Feed barley loadout operations are equipped with a cyclone side draw vacuum system which vents to BH3. A 95% capture efficiency is applied to the AP-42 emission factors with the remaining 5% assumed to be available to become airborne fugitive emissions.

[7]Control efficiency estimated from USEPA Air Pollution Control Technology Fact Sheet for Fabric Filters (EPA-452/F-03-024). This document indicates operating efficiencies of 95-99.9%. Us 99.5% for existing baghouses.

Table 5-18
Pre-Project Emissions from Process Operations

Process Step	Emission Point[1]	Max/Normal Hrly. Transfer Rate (MT/hr.)	Normal Annual Transfer Rate (MT/yr.)	Control Efficiency (%)	PM Emission Factor (lb/ton)	PM10 Emission Factor (lb/ton)	PM2.5 Emission Factor (lb/ton)	SO2 Emission Factor (lb/T S)	VOC Emission Factor (lb/ton)	Cl2 Emission Factor (lb/T hypochlorite)	CO2 Emission Factor (lb/ton malt)	Emission Factor Reference	Max/Normal Hrly. PM10 Emissions (lb/hr)	Max/Normal Hrly. PM2.5 Emissions (lb/hr)	Normal Annual PM10 Emissions (lb/yr)	Normal Annual PM2.5 Emissions (lb/yr)	Max Hrly. SO2 Emissions (lb/hr)	Normal Annual SO2 Emissions (lb/yr)	Max Hrly. VOC Emissions (lb/hr)	Normal Annual VOC Emissions (lb/yr)	Max Hrly. Cl2 Emissions (lb/hr)	Normal Annual Cl2 Emissions (lb/yr)	Normal Annual CO2 Emissions (lb/yr)
Malt House Kilning	KSE	16.73	118,182	0%	0.0835	0.0775	0.0490	0.0	0.13	0.0		Source Test[2]	1.43	0.90	10073.4	6368.5	0.0	0.0	2.39	16900.0	0.0	0.0	0
Malt House Kilning Sulfur Combustion	KSE	0.0045	12.45	0%	0	0	0	2984	0	0		Source Test[2]	0.00	0.00	0.0	0.0	14.9	40851.0	0.00	0.0	0.0	0.0	0
Barley Cleaning	BH2	150	177,000	99.50%	0.25	0.063	0.00096	0	0	0		AP-42 Table 9.9.1-1 (3/03)[3]	0.05	0.00	61.7	0.9	0.0	0.0	0.00	0.0	0.0	0.0	0
Malt Cleaning	BH2 & BH3	150	118,182	99.50%	0.25	0.063	0.00096	0	0	0		AP-42 Table 9.9.1-1 (3/03)[3]	0.05	0.00	41.2	0.6	0.0	0.0	0.00	0.0	0.0	0.0	0
Pellet Mill Cleaning	BH1	4.55	11,273	99.50%	0.25	0.063	0.00096	0	0	0		AP-42 Table 9.9.1-1 (3/03)[3]	0.00	0.00	3.9	0.1	0.0	0.0	0.00	0.0	0.0	0.0	0
Pellet Mill Cooler	CS	4.55	11,273	0%	0.132	0.066	0.066	0	0	0		Source Test[4]	0.33	0.33	818.4	818.4	0.0	0.0	0.00	0.0	0.0	0.0	0
Germination Bed Sanitizing, Solid NaOCl	GBE 1-6	0.023	0.45	0%	0	0	0	0	0	960		Mass Balance[5]	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	12.0	480.0	0
Germination Bed Sanitizing, Liquid NaOCl	GBE 1-6	0.114	120.12	0%	0	0	0	0	0	14.4		Mass Balance[5]	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.90	1902.7	0
Process CO2[6]	Kilns, steeps & germination		118,182	0%	0	0	0	0	0	0	161.89	Calculation of glucose loss from steeping & respiration	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	21,045,700
												Totals	1.86	1.23	10,998.59	7,188.50	14.92	40,850.96	2.39	16,900.00	12.90	2,382.70	21,045,700

Cl2 emissions occur 2 hours/event

Emission Point Summary for Process Operations[6]

Emission Point	Max/Normal Hrly. PM Emissions (lb/hr)	Normal Annual PM Emissions (lb/yr)	Max/Normal Hrly. PM10 Emissions (lb/hr)	Max/Normal Hrly. PM2.5 Emissions (lb/hr)	Normal Annual PM10 Emissions (lb/yr)	Normal Annual PM2.5 Emissions (lb/yr)	Max Hrly. SO2 Emissions (lb/hr)	Normal Annual SO2 Emissions (lb/yr)	Max Hrly. VOC Emissions (lb/hr)	Normal Annual VOC Emissions (lb/yr)	Max Hrly. Cl2 Emissions (lb/hr)	Normal Annual Cl2 Emissions (lb/yr)		
KSE	1.54	10849.2	1.43	0.90	10073.4	6368.5	14.9	40851.0	2.4	16900.0	0	0		
BH1	0.0063	15.5	0.0016	0.000024	3.9	0.1	0	0	0	0	0	0		
BH2	0.3444	352.3	0.0873	0.0013	89.2	1.4	0	0	0	0	0	0		
BH3	0.0681	53.6	0.0172	0.0003	13.6	0.2	0	0	0	0	0	0		
CS	0.66	1636.8	0.33	0.33	818.4	818.4	0	0	0	0	0	0		
GBE-1-6	0	0	0	0	0	0	0	0	0	0	12.9	2382.7		
Process CO2	-	-	-	-	-	-	-	-	-	-	-	-		
Totals	2.6	12,907.4	1.9	1.2	10,998.6	7,188.5	14.9	40,851.0	2.4	16,900.0	12.90	2382.7		

Footnotes for Table 5-18 - Estimated Emissions From Process Operations

[1]KSE = Kiln Stack Exhaust; BH1 = Baghouse #1; BH2 = Baghouse #2; BH3 = Baghouse #3; CS = Cyclone Stack; GBE = Germination Bed Exhaust w/ three exhaust points (GBE 1&4, GBE 2&5, GBE 3&6). Emissions calculated are total for all exhaust points.

[2]The Malt House Kilning emission factor for VOCs was developed from kiln source tests conducted at GWM's Vancouver, Washington facility on August 25, 1994. Source test data is provided in the appendices. Information from the source test indicates that during the 16 hour test period, 357,000 pounds of green malt were processed and the VOC emissions were 23.5 pounds. The resulting emission factor is calculated as follows:

Kilning VOC Emission Factor = (23.5 lb VOC / 357,000 lb malt) * (2000 lb/ton) = 0.13 lb VOC / ton Malt

PM emissions were developed using the October 14, 2005 source test at GWM Pocatello plant which indicates a filterable PM emission of 0.95 lb/hr equating to a filterable PM emission rate of 0.057 lb/T. In AP-42, Section 9.9, Table 9.9.1-2, Gas Fired Malt Kiln, the filterable PM is 68.3% of the total PM emission factor (0.19/ (0.19+0.088)=0.683). Assuming the Pocatello kiln had the same ratio of filterable to total PM emission as in AP42, the resulting total (filterable + condensible) kiln PM emission factor is the filterable test result divided by 68.3% (0.057/0.683) or 0.0835 lb/T. A PM10 fraction of 92.8% and a PM2.5 fraction of 58.7% were developed from emission information presented in AP-42, Section 9.9, Table 9.9.1-2, Gas Fired Malt Kiln.

SO2 emission factors for malt house kilning sulfur combustion were developed from a source test conducted at GWM's Los Angeles, California facility. Source test data is provided in the appendices. The data indicates a maximum SO2 emission rate of 1.492 lbs SO2 / lb S or 2984 lbs SO2 / T S.

[3]The cleaning emission factors were taken from AP-42 Section 9.9.1. The section identifies a PM, PM10 and PM2.5 emission factors (lb/ton) as 0.075, 0.019, and 0.0032 respectively. The emission factors include the use of a cyclone and because cyclones are not used on these processes at GWM the emission factors were adjusted by assuming the cyclone had a control efficiency of 70%.

[4]Source testing was conducted on the Pellet Mill Cooler cyclone exhaust on April 27, 2000. The source testing revealed and emission rate of 0.066 lb PM10 / ton throughput. AP-42 Table 9.1.1-2 for Animal Feed Mill Pelletizers indicates that the PM10 emission factor can be taken as 50% of PM. As such, the PM10 emission factor was doubled to calculate total PM. For these calculations it is further assumed that PM2.5 is 100% of PM10. These emission factors include the presence of the cyclone and no further removal efficiency is provided in the calculation.

[5]The calculation conservatively assumes 100% volatilization of chlorine contained in the solid Sodium Hypochlorite:

Solid Sodium Hypochlorite emission factor = (35.45 lbCl/lb-mol)/(74.45lbNaOCl/lb-mol)(2000lb/T) = 960 lb Cl / T $NaOCl_{(s)}$ Cleaning emissions occur over a 2 hour period per cleaning event.

[6]The calculation conservatively assumes 100% volatilization of chlorine contained in the 1.5 % solution of liquid Sodium Hypochlorite:

Liquid Sodium Hypochlorite emission factor = 0.015 * (35.45 lbCl/lb-mol)/(74.45lbNaOCl/lb-mol)(2000lb/T) = 14.4 lb Cl / T $NaOCl_{(l)}$ Cleaning emissions occur over a 2 hour period per cleaning event.

[7]Initial malt cleaning occurs before storage with emissions controlled by BH2. Malt is cleaned again prior to shipment with emission controlled by BH3. Emission estimates assume 67% of malt cleaning emissions are vented to BH2 and 33% are vented to BH3

[8] CO2 is generated during the malting processes, mainly steeping. In the GWM process there is about a 5% loss of dry matter per MT of malt produced. Dry matter is essentially glucose (MW 180). Each molecule of glucose produces 6 molecules of CO2 or 1.47 kg of CO2 per kg of dry matter lost. 50 kg loss/MT malt X 1.47 kg CO2/kg loss = 73.5 kg CO2 produced/MT malt. converting to pounds yields: (73.5 kg/MT malt) X (1000 g/kg)/(454 g/lb) = 161.89 lb CO2/MT malt.

Table 5-19
Pre-Project Emissions from Fuel Burning Equipment

Emission Factors

Source	Stack ID	Emission Factor (lb/MMCF)							
		Emission Factor Reference	PM10	PM2.5	SO2	CO	NOx	VOC	CO2e
Kiln Burners	KS1-KS5	AP-42 Section 1.4 (7/98), Uncontrolled small boilers	7.6	7.6	0.6	84	100	5.5	120,035
Malt House Boilers 1&2	BS1								
Pellet Mill Boiler	BS2								

Estimated Maximum Hourly Emissions

Source	Stack ID	Maximum Hourly Natural Gas Usage (MMCF/hr)	Estimated Max Hourly Emissions (lb/hr)						
			PM10	PM2.5	SO2	CO	NOx	VOC	CO2e
Kiln Burner #1	KS1	0.0069	0.05	0.05	0.004	0.58	0.69	0.04	828.24
Kiln Burner #2 -#5	KS2	0.0276	0.21	0.21	0.017	2.32	2.76	0.15	3312.97
Kiln Burner #6	KS3	0.0069	0.05	0.05	0.004	0.58	0.69	0.04	828.24
Kiln Burner #7 - #9	KS4	0.0207	0.16	0.16	0.012	1.74	2.07	0.11	2484.72
Kiln Burner #10	KS5	0.0069	0.05	0.05	0.004	0.58	0.69	0.04	828.24
Malt House Boilers 1&2[2]	BS1	0.05	0.38	0.38	0.03	4.2	5	0.28	6001.75
Pellet Mill Boiler	BS2	0.0025	0.019	0.019	0.0015	0.21	0.25	0.014	300.09
		Totals	**0.92**	**0.92**	**0.07**	**10.21**	**12.15**	**0.67**	**14,584**

Estimated Normal Annual Emissions

Source	Stack ID	Normal Annual Natural Gas Usage (MMCF/yr)	Estimated Normal Annual Emissions (lb/yr)						
			PM10	PM2.5	SO2	CO	NOx	VOC	CO2e
Kiln Burner #1	KS1	31.0	235.77	235.77	18.6	2605.9	3102.2	170.6	3,723,774
Kiln Burners #2 -#5	KS2	124.1	943.08	943.08	74.5	10423.5	12409.0	682.5	14,895,095
Kiln Burner #6	KS3	31.0	235.77	235.77	18.6	2605.9	3102.2	170.6	3,723,774
Kiln Burners #7 - #9	KS4	93.1	707.31	707.31	55.8	7817.6	9306.7	511.9	11,171,321
Kiln Burner #10	KS5	31.0	235.77	235.77	18.6	2605.9	3102.2	170.6	3,723,774
Malt House Boilers 1&2[1]	BS1	21.036	159.9	159.9	12.6	1767.0	2103.6	115.7	2,525,056
Pellet Mill Boiler	BS2	15.264	116.0	116.0	9.2	1282.2	1526.4	84.0	1,832,214
		Totals (lb/yr)	**2633.6**	**2633.6**	**207.9**	**29108.0**	**34652.4**	**1905.9**	**41,595,008**
		Totals (tons/yr)	**1.32**	**1.32**	**0.10**	**14.55**	**17.33**	**0.95**	**20,798**

Footnotes:

[1]The malt house boilers are vented to a common stack. Typically, only one boiler operates at a time. However, PTE hourly fuel use and emission rates are based on both boilers operating and normal annual emissions are based on the natural gas consummed by both boilers throughout the year.

Table 5-20
Pre-Project HAP and TAP Emissions
from Natural Gas Combustion in Malthouse Boilers

Component	Rate		CAS	Substance	Emission Factor	Emissions	
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr
MALT HOUSE BOILERS 1 & 2	0.050	21.036	75070	Acetaldehyde	4.30E-03	2.15E-04	4.52E-05
			107028	Acrolein	2.70E-03	1.35E-04	2.84E-05
			71432	Benzene	8.00E-03	4.00E-04	8.41E-05
			100414	Ethyl Benzene	9.50E-03	4.75E-04	9.99E-05
			50000	Formaldehyde	1.70E-02	8.50E-04	1.79E-04
			110543	Hexane	6.30E-03	3.15E-04	6.63E-05
			91203	Naphthalene	3.00E-04	1.50E-05	3.16E-06
			1151	PAH's (including naphthalene)	4.00E-04	2.00E-05	4.21E-06
			108883	Toluene	3.66E-02	1.83E-03	3.85E-04
			1330207	Xylenes	2.72E-02	1.36E-03	2.86E-04
					Total	5.62E-03	1.18E-03

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

Table 5-21
Pre-Project HAP and TAP Emissions
from Natural Gas Combustion in Pellet Mill Boiler

Component	Rate		CAS	Substance	Emission Factor	Emissions	
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr
PELLET MILL BOILER	0.0025	15.264	**75070**	Acetaldehyde	4.30E-03	1.08E-05	3.28E-05
			107028	Acrolein	2.70E-03	6.75E-06	2.06E-05
			71432	Benzene	8.00E-03	2.00E-05	6.11E-05
			100414	Ethyl Benzene	9.50E-03	2.38E-05	7.25E-05
			50000	Formaldehyde	1.70E-02	4.25E-05	1.30E-04
			110543	Hexane	6.30E-03	1.58E-05	4.81E-05
			91203	Naphthalene	3.00E-04	7.50E-07	2.29E-06
			1151	PAH's (including naphthalene)	4.00E-04	1.00E-06	3.05E-06
			108883	Toluene	3.66E-02	9.15E-05	2.79E-04
			1330207	Xylenes	2.72E-02	6.80E-05	2.08E-04
					Total	2.81E-04	8.57E-04

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

Table 5-22
Pre-Project HAP and TAP Emissions
from Natural Gas Combustion in the Malthouse Kiln Burners

Component	Rate		CAS	Substance	Emission Factor	Emissions	
	MMCF/hr	MMCF/yr			(lb/MMCF)[1]	lb/hr	ton/yr
MALT HOUSE KILN BURNERS	0.0690	310.224	75070	Acetaldehyde	4.30E-03	2.97E-04	6.67E-04
			107028	Acrolein	2.70E-03	1.86E-04	4.19E-04
			71432	Benzene	8.00E-03	5.52E-04	1.24E-03
			100414	Ethyl Benzene	9.50E-03	6.56E-04	1.47E-03
			50000	Formaldehyde	1.70E-02	1.17E-03	2.64E-03
			110543	Hexane	6.30E-03	4.35E-04	9.77E-04
			91203	Naphthalene	3.00E-04	2.07E-05	4.65E-05
			1151	PAH's (including naphthalene)	4.00E-04	2.76E-05	6.20E-05
			108883	Toluene	3.66E-02	2.53E-03	5.68E-03
			1330207	Xylenes	2.72E-02	1.88E-03	4.22E-03
					Total	7.75E-03	1.74E-02

[1]MMCF = Million Cubic Feet; Emission Factors from "Natural Gas Fired External Combustion Equipment", VCAPCD AB2588 Combustion Emission Factors and SJVAPCD Toxic Emission Factors (www.valley.org/busind/pto/emission_factors/emission_factors_idx.htm).

5.3 Limitations on Potential to Emit

Great Western Malting is required to propose limits on emissions and operations in order to remain a synthetic minor source and to show compliance with ambient air quality standards and TAP ambient acceptable concentrations. In addition, GWM must propose monitoring that will assure that the emissions and operations limits are being met. Following are the proposed limits and monitoring for the expansion project.

5.3.1 Emission Limits

Table 5-23: Proposed Limits on PM10 and PM2.5 Emissions

Stack Description	PM10		PM2.5	
	lb/hr*	Ton/yr**	lb/hr*	Ton/yr**
BH-1 Barley Headhouse	0.08	0.07	0.01	0.01
BH-2 Malt and Barley Cleaning	0.15	0.16	0.01	0.014
BH-3 Malt Cleaning, Loading & Transfer	0.10	0.04	0.014	0.004
KSE- Malthouse Kiln 1	1.43	5.54	0.90	3.51
KS1- Malthouse Kiln Burner 1	0.06	0.11	0.06	0.11
KS2- Malthouse Kiln Burners 2-5	0.24	0.44	0.24	0.44
KS3- Malthouse Kiln Burner 6	0.06	0.11	0.06	0.11
KS4- Malthouse Kiln Burners 7-9	0.18	0.33	0.18	0.33
KS5- Malthouse Kiln Burner 10	0.06	0.11	0.06	0.11
CS- Pellet Mill Cooler Cyclone	0.36	0.98	0.36	0.98
BS1- Malthouse Boilers 1&2	0.05	0.08	0.05	0.08
BS2- Pellet Mill Boiler	0.02	0.08	0.02	0.08
S1- Steep Tank Conveyor 1 Filter	0.03	0.017	0.005	0.003
S2- Steep Tank Conveyor 2 Filter	0.03	0.017	0.005	0.003
S27- Kiln 2 Burner 1	0.13	0.40	0.13	0.40
S28- Kiln 2 Burner 2	0.13	0.40	0.13	0.40
S29- Kiln 2 Burner 3	0.13	0.40	0.13	0.40
S30- Kiln 2 Burner 4	0.13	0.40	0.13	0.40
S31- Kiln 2	1.79	6.90	1.13	4.37
S32- New Malt Leg Conveyor Filter	0.04	0.015	0.007	0.003
S33- Analysis Bin 1 Filter	0.04	0.01	0.007	0.001
S34- Analysis Bin 2 Filter	0.04	0.01	0.007	0.001
S35- Kiln Byproduct Cyclone Filter	0.01	0.01	0.007	0.01
S36- New Malt Conveyor 3 Filter	0.03	0.02	0.005	0.003
S37- Micro Bins Conveyor Filter	0.01	0.001	0.001	0.0002
S38-S40- GV Boilers 1, 2 & 3	0.04	0.13	0.04	0.13
S41-S43- GV Boilers 4, 5 & 6	0.04	0.13	0.04	0.13
S44- Makeup Air Heater 1	0.02	0.07	0.02	0.07
S45- Makeup Air Heater 2	0.02	0.07	0.02	0.07
S46- Malt Storage Bins Conveyor 1 Filter	0.03	0.014	0.005	0.002
S47- Malt Storage Bins Conveyor 2 Filter	0.03	0.014	0.005	0.002

* Pounds per hour on a rolling daily average
** Tons per any consecutive 12-month period

Table 5-24: Proposed Limits on Short-term NOx Emissions on New Equipment

Stack Description	NOx*	NOx*
	ppm @ 3% O2	lb/hr
KS1- Kiln 1 Burner 1	30	
KS2- Kiln 1 Burners 2-5	30	
KS3- Kiln 1 Burner 6	30	
KS4- Kiln 1 Burners 7-9	30	
KS5- Kiln 1 Burner 10	30	
S27- Kiln 2 Burner 1	30	
S28- Kiln 2 Burner 2	30	
S29- Kiln 2 Burner 3	30	
S30- Kiln 2 Burner 4	30	
S38- GV Boiler 1	20	
S39- GV Boiler 2	20	
S40- GV Boiler 3	20	
S41- GV Boiler 4	20	
S42- GV Boiler 5	20	
S43- GV Boiler 6	20	
S44- Makeup Air Heater 1		0.22
S45- Makeup Air Heater 2		0.22

* As measured by EPA Method 7E

5.3.2 Operating Limits

Table 5-25: Proposed Grain and Malt Throughput Limits

Activity	Metric Tons/hr*	Metric Tons/yr**
Barley unloaded from trucks	150	145,000
Barley unloaded from railcars	150	179,000
Pellet production	5	27,000
Green malt dried in Kiln 1	17	130,000
Green malt dried in Kiln 2	21	162,000

* MT/hour on rolling daily average
** MT per any consecutive 12-month period

Sulfur will not be burned in Kiln 2. Sulfur burning in Malthouse Kiln 1 will remain unchanged from current permit limits.

Only natural gas fuel will be used in the malthouse boilers, the kiln 1 burners, the kiln 2 burners, germination vessel boilers and makeup air heaters.

Natural gas usage will be restricted in the following equipment:

- Malthouse Boilers 1 & 2 (BS1): 6.25 MM Btu/hr total hourly heat input and 21.1 MM cf/year natural gas usage
- Kiln 1 Heaters (KS1-KS5): 290 MM cf/year natural gas usage
- Kiln 2 Heaters (KB1-KB4): 420 MM cf/year natural gas usage

For Germination Vessel Boilers 1, 2 and 3, only two boilers will operate at a time.
For Germination Vessel Boilers 4, 5 and 6, only two boilers will operate at a time.

Cleaning with sodium hypochlorite in the new Germination Vessels (GV1-GV4) will be limited to a maximum of 1 cleaning event per day at usage rates that produce chlorine

emissions of 12.9 lb/day or less. Solid sodium hypochlorite emits Cl2 at 0.48 lb/lb solid (960 lb/ton) and liquid sodium hypochlorite emits Cl2 at 0.0072 lb/lb liquid (14.4 lb/ton). Examples of the usage rates that produce 12.9 lb/day Cl2 emissions are:

- 25 lb/cleaning event of solid sodium hypochlorite and 125 lb/cleaning event of liquid sodium hypochlorite.
- 10 lb/cleaning event of solid sodium hypochlorite and 1125 lb/cleaning event of liquid sodium hypochlorite.

The emergency generator (EG) will operate a maximum of 100 hours per calendar year in non-emergency service (maintenance and testing).

5.3.3 Monitoring and Recordkeeping

Great Western Malting proposes the following monitoring and recordkeeping that will be in addition to the monitoring required by the current Permit to Construct (Conditions 2.12, 2.13, 2.14 and 2.15).

1. Track the quantity of green malt processed in Kiln 2 in MT/hr daily rolling average and total MT produced in any consecutive 12-month period.
2. Perform monthly inspections of the new dust filters in accordance with manufacturer specifications. Record the differential pressure reading on each filter to assure proper operation. Inspection records will maintained at the plant.
3. Keep records of maintenance performed on the new dust filters.
4. Keep records of the hourly heat input into Malthouse Boilers 1&2 (BS1).
5. Keep records of the total quantity of natural gas burned in the Malthouse Boilers (BS1) on a 12-month rolling total.
6. Keep records of the total quantity of natural gas burned in each kiln (Kiln1 & Kiln 2) as 12-month rolling totals.
7. Perform a source test for NOx emissions on one of the ten new burners for Kiln 1 (KS1, KS3 or KS5) using EPA Method 7E.
8. Perform a source test for NOx emissions on one of the four new Kiln 2 burners (S27, S28, S29 or S30) using EPA Method 7E.
9. Perform a source test for NOx emissions on one of the new germination vessel boilers (GVB1-GVB6) using EPA Method 7E.
10. Keep records of the dates cleaning events are performed and the quantities of sodium hypochlorite used in the germination vessels (GV1-GV4).
11. Track the calendar year total hours of operation of the emergency generator.

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: **March 15**, 2016

TO: **Shawnee Chen**, Permit Writer, Air Program

FROM: Thomas Swain, Air Quality Modeler, Analyst 3, Air Program

PROJECT: Great Western Malting Facility (GWM) in Pocatello, Idaho, Application for a Permit to Construct (PTC), P-2015.0058 PROJ61634, Facility No. 0005-00035

SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs) as it relates to air quality impact analyses.

Contents

1.0 Summary

Great Western Malting Facility in Pocatello, Idaho (GWM) submitted a 15-day pre-construction Permit to Construct (PTC) application on December 2, 2015. The facility is located in an industrial area in the western section of Pocatello, Idaho. The facility produces malted barley that is a basic ingredient in beer. GWM desires to increase its capacity to produce malt. New equipment will be added to the facility, including new germination vessels, new steeps, and a new kiln. No changes were initially planned for the existing equipment; however, some changes to the existing equipment were incorporated into the final application, and are discussed within this document. The entire process is discussed in detail in the main body of the DEQ Statement of Basis supporting the issued PTC. This modeling review memorandum provides a summary and approval of the ambient air impact analyses submitted with the permit application. It also describes DEQ's review of those analyses, DEQ's verification analyses, additional clarifications, and conclusions.

Project-specific air quality impact analyses involving atmospheric dispersion modeling of estimated emissions associated with the proposed facility modification were submitted to DEQ to demonstrate that the modification would not cause or significantly contribute to a violation of any ambient air quality standard as required by IDAPA 58.01.01.203.02 and 203.03 (Idaho Air Rules Section 203.02 and 03).

Air Sciences (AS), on behalf of GWM, performed the ambient air impact analyses for this project, demonstrating compliance with applicable air quality standards. The DEQ review summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that the estimated emissions increases at the facility associated with the proposed project will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not evaluate compliance with other rules or analyses that do not pertain to the air impact analyses. Evaluation of emissions estimates was the responsibility of the permit writer and is addressed in the main body of the Statement of Basis. Emissions estimates were not reviewed as part of the modeling review described in this modeling review memorandum.

A modeling protocol was submitted to DEQ for this project on October 2, 2015. Included in this protocol was a request for additional modeling source emission data from the nearby Don Simplot facility so that co-contributing source assessment could be done. A Public Records Request (PRR) was submitted on October 16, 2015 for this information. This data was provided to AS shortly afterwards by DEQ.AS also requested a revision to their original submitted protocol to allow usage of hourly ozone data from Craters of the Moon National Monument (Craters) to more accurately account for the effect of ozone on chemistry of nitrogen dioxide (NO_2). DEQ accepted this request on November 6, 2015.

A 15-day pre-permit construction approval permit to construct (PTE) was submitted on November 12, 2015. Review of the submitted modeling files revealed an error in the input data that could result in modeled concentrations exceeding the NO_2 1-hour National Ambient Air Quality Standards (NAAQS). The units for the hourly background data for ozone were input incorrectly. The application was therefore denied on November 24, 2015.

A revised 15-day pre-permit construction approval PTC application was submitted on December 3, 2015, incorporating some changes to the source configurations. These changes included replacing the burners for the existing kiln with new air heat exchangers equipped with low NO_x burners. This 15-day pre-permit construction approval application was approved on December 21, 2016. After clarification on some issues between the GWM and the permit writer, the application was deemed complete on January 5, 2016.

During final review of the modeling analysis, DEQ determined that the receptor spacing around the locales of the maximum design impacts for $PM_{2.5}$ and NO_2 did not convincingly demonstrate compliance of the NAAQS. Locations of the design impacts from the submitted analyses were immediately adjacent to the sources and structures, and the design concentrations for both pollutants were in excess of 90% of the NAAQS. DEQ therefore performed confirmation modeling runs with a finer grid of 10-meter spacing, and results indicated possible NAAQS exceedances. AS, in response, performed refined analyses that demonstrated compliance with the $PM_{2.5}$ and NO_2 NAAQS using a 10-meter spaced grid. Revisions were made to the source inventory to enable compliance with NAAQS, including reducing daily hours of operation of the emergency generator to 1.0 hours. This analysis was received on February 23, 2016.

The final submitted air quality impact analyses: 1) utilized appropriate methods and models; 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 project as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from emissions associated with the project as modeled, when appropriately combined with co-contributing sources and background concentrations, were below applicable NAAQS at ambient air locations where and when the project has a significant impact; 5) showed that Toxic Air Pollutant (TAP) emissions increases associated with the project will not result in increased ambient air impacts exceeding allowable TAP increments.

Table 1 presents key assumptions and results to be considered in the development of the permit.

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 that operation of the proposed facility will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
General Emissions Rates. Emissions rates used in the modeling analyses, as listed in this memorandum, represent maximum potential emissions as given by design capacity or as limited by the issued permit for the specific pollutant and averaging period.	Compliance has not been demonstrated for emissions rates greater than those used in the modeling analyses.
Modeling of Criteria Pollutant Emissions. Maximum short term and long-term emissions, as specified in the application, for all criteria pollutants other than lead were assessed for compliance with NAAQS. Presumably, emissions of lead are negligible.	Project-specific air impact analyses demonstrating compliance with NAAQS were performed for PM_{10}, $PM_{2.5}$, NO_2, and CO. Project emissions increases of SO_2, as presented in the application, were below DEQ Level 1 modeling applicability thresholds.
Emergency Generator Emissions: Emergency generator emissions are limited to one hour a day for testing purposes.	Air impact analyses demonstrating compliance has not been shown for emissions from the emergency generator greater than one hour a day
TAPS Emissions: There are increases in emission rates for several TAPs that exceed specific Emissions Screening Level (EL) rates, thereby requiring project-specific modeling to demonstrate compliance with applicable TAP increment standards.	Compliance with preconstruction TAP requirements of Idaho Air Rules Section 210 was demonstrated using subsection 210.08 Controlled Ambient Concentration, requiring the permit to include an emissions limit for the TAP that is equal to or less than the rate used in the modeling

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	**Explanation/Consideration**
	analysis.

2.0 Background Information

This section provides background information applicable to the project and the site where the facility is located. It also provides a brief description of the applicable air impact analyses requirements for the project.

2.1 Project Description

The GWM facility is applying for a synthetic minor PTC to allow emissions increases associated with a proposed expansion of the existing facility. GWM plans to limit it's potential to emit (PTE) to less than "major facility" thresholds for criteria pollutants regulated under section 109 of the Clean Air Act (CAA) and hazardous air pollutants (HAP) regulated under Section 112 of the CAA. GWM processes grain, mostly barley, into malt, which is a major ingredient in the manufacturing of beer. The "expansion" project will add new malting equipment to the facility, increasing throughput to a total of 324,000 metric tons of grain per year. The new malting equipment will include 16 new steps, a new kiln, four germination vessels, new storage silos, new analysis and loadout bins, new conveyors, and a new cyclone. The burners in the existing kilns have been replaced with new heat exchangers equipped with low-NOx burners. The entire process is discussed in detail in the main body of the DEQ Statement of Basis supporting the issued PTC.

2.2 Proposed Location and Area Classification

The GWM facility is located in Pocatello, Idaho, in an industrial area west of Route 30. This area is designated as an attainment or unclassifiable area for sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), lead (Pb), ozone (O_3), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$).

2.3 Air Impact Analyses Required for All Permits to Construct

Criteria Pollutant and TAP Impact Analyses for a PTC are addressed in Idaho Air Rules Sections 203.02 and 203.03:

> *No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:*
>
> ***02. NAAQS.*** *The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*
>
> ***03. Toxic Air Pollutants.*** *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.

Atmospheric dispersion modeling, using computerized simulations, is used to demonstrate compliance with both NAAQS and TAPs. Idaho Air Rules Section 202.02 states:

> ***Estimates of Ambient Concentrations.*** *All estimates of ambient concentrations shall be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR 51 Appendix W (Guideline on Air Quality Models).*

2.4 Significant Impact Level and Cumulative NAAQS Impact Analyses

The Significant Impact Level (SIL) analysis for a new facility or proposed modification to a facility involves modeling estimated criteria air pollutant emissions from the facility or modification to determine the potential impacts to ambient air. 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.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in 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. Table 2 lists the applicable SILs.

If modeled maximum pollutant impacts to ambient air from the emissions sources associated with a new facility or modification exceed the SILs, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and Idaho Air Rules Section 203.02.

DEQ has developed modeling applicability thresholds that effectively assure that project-related emissions increases below stated values will result in ambient air impacts below the applicable SILs. The threshold levels and dispersion modeling analyses supporting those levels are presented in the *State of Idaho Guideline for Performing Air Quality Impact Analyses*[1] (*Idaho Air Modeling Guideline*). Use of a modeling threshold represents the use of conservative modeling, performed in support of the threshold, as a project SIL analysis. Project-specific modeling applicability for this project is addressed in Section 3.1.1 of this memorandum.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts (typically the design values consistent with the form of the standard) from facility-wide emissions, and emissions from any nearby co-contributing sources, and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period 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 2. Table 2 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 for the modeling domain. If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project has a significant contribution (exceeding the SIL) to the modeled violation. This evaluation is made specific to both time and space. As an example, consider a hypothetical case where the SIL analysis indicates the project (new source or modification) has impacts exceeding the SIL and the cumulative impact analysis indicates a violation of the NAAQS. If project-specific impacts are below the SIL at the specific receptors showing the violations during the time periods when modeled violations occurred, then the facility does not have a significant contribution to the specific violations.

Compliance with Idaho Air Rules Section 203.02 is generally 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 all 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.

Table 2. 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]
	24-hour	5	365[m]	Maximum 2nd highest[n]
	Annual	1.0	80[r]	Maximum 1st 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.

2.5 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 Idaho Air Rules 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.

3.0 Analytical Methods and Data

This section describes the methods and data used in analyses to demonstrate compliance with applicable air quality impact requirements.

3.1 Emission Source Data

Emissions rates of criteria pollutants for the proposed project at the facility were provided by AS. Review and approval of estimated emissions was the responsibility of the DEQ permit writer, and is not addressed in this modeling memorandum. DEQ modeling review included verification that the application's potential emissions rates were properly used in the model. The rates listed must represent the maximum allowable rate as averaged over the specified period.

Emissions rates used in the dispersion modeling analyses submitted by AS should be reviewed by the DEQ permit writer against those in the emissions inventory of the permit application. All modeled criteria air pollutant and TAP emissions rates should be equal to or greater than the facility's emissions calculated in other sections of the PTC application or requested permit allowable emission rates.

3.1.1 Criteria Pollutant Emissions Rates and Modeling Applicability

If project-related potential to emit (PTE) values would qualify for a below regulatory concern (BRC) permit exemption as per Idaho Air Rules Section 221 if it were not for some pollutants exceeding BRC thresholds, then an air impact analysis may not be required for those criteria pollutants with project emissions below BRC. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules (Policy on NAAQS Compliance Demonstration Requirements, DEQ policy memorandum, July 11, 2014) 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." The interpretation policy also states that the exemption criteria of uncontrolled PTE not to exceed 100 tons/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/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year.

Table 3 summarizes the criteria pollutant NAAQS compliance demonstration applicability assessment. Excluding pollutants from air impact analyses on the basis of the BRC interpretation was not evaluated for the GWM project. An impact analysis must be performed for pollutant increases that would not qualify for a BRC exclusion. Project-specific air impact analyses may not be necessary if emissions increases associated with the proposed project are below DEQ modeling applicability thresholds. Modeling applicability

thresholds are provided in the *Idaho Air Modeling Guideline* and were based on assuring an ambient impact of less than the established SIL for that specific pollutant and averaging period.

Table 3. MODELING APPLICABILITY ANALYSIS RESULTS						
Pollutant	**Averaging Period**	**Emissions**	**BRC Threshold (ton/year)**	**Level I Modeling Thresholds (lb/hour or ton/year)**	**Level II Modeling Thresholds (lb/hour or ton/year)**	**Modeling Required**
$PM_{2.5}$	24-hour	2.40 lb/hr	1	0.054	0.63	Yes
	Annual	7.5 ton/yr		0.35	4.1	Yes
PM_{10}	24-hour	3.3 lb/hr	1.5	0.22	2.6	Yes
NOx	1-hour	6.2 lb/hr	4	0.2	2.4	Yes
	Annual	16.1 ton/yr		1.2	14	Yes
SO_2	1-hour, 3-hour	0.1 lb/hr	4	0.21	2.5	No
	24-hour	0.1 lb/hr		0.21	2.5	No
	Annual	0.25 ton/yr		1.2	14	No
CO	1-hour, 8-hour	34.7 lb/hr	10	15	175	Yes
Pb	Monthly	NA		14		No

If project-specific total emissions rates are below Level I thresholds, project-specific air impact analyses are generally not necessary for permitting. Use of Level II Modeling Thresholds are conditional, requiring DEQ approval. The application did not propose the use of Level II thresholds. Site-specific modeling, based on emissions values exceeding Level I modeling applicability thresholds, was required for $PM_{2.5}$, PM_{10}, NOx, and CO.

Table 4 lists emissions rates for all sources used in the modeling analyses for specified averaging periods.

Table 4. MODELED EMISSION RATES FOR CRITERIA POLLUTANTS							
Source ID	**Source Description**	**NO_2 1-hour (lb/hr)**	**NO_2 annual (tons/yr)**	**$PM_{2.5}$ 24-hour (lb/hr)**	**$PM_{2.5}$ Annual (tons/yr)**	**PM_{10} 24-hour (lb/hr)**	**CO 1-hour, 8-hour (lb/hr)**
STC1F	Spot Filter - Barley to Steeps			0.0051	0.0029	0.0299	
STC2F	Spot Filter - Above Steeps			0.0051	0.0029	0.0299	
KB1	Kiln Air Heater Burner 1	0.6548	1.9433	0.1341	0.3998	0.1341	4.0175
KB2	Kiln Air Heater Burner 2	0.6548	1.9433	0.1341	0.3998	0.1341	4.0175
KB3	Kiln Air Heater Burner 3	0.6548	1.9433	0.1341	0.3998	0.1341	4.0175
KB4	Kiln Air Heater Burner 4	0.6548	1.9433	0.1341	0.3998	0.1341	4.0175
K2	Kiln 2			1.1325	4.3663	1.7897	
NMLF	Spot Filter Analyses Bins			0.0070	0.0026	0.0410	
BA1F	Spot Filter Bin W			0.0070	0.0013	0.0410	
BA2F	Spot Filter Bin E			0.0070	0.0013	0.0410	
KBPCF	Spot Filter - Cyclone			0.0067	0.0100	0.0067	
NMC3F	Spot Filter - Kiln Tunnel			0.0051	0.0026	0.0299	
MBCF	Spot Filter - Micro Bin			0.0014	0.0002	0.0082	
GVB1	Germ. Vessel Boiler 1	0.0600	0.2628	0.0152	0.0666	0.0152	0.1683
GVB2	Germ. Vessel Boiler 2	0.0600	0.2628	0.0152	0.0666	0.0152	0.1683
GVB4	Germ. Vessel Boiler 4	0.0600	0.2628	0.0152	0.0666	0.0152	0.1683
GVB5	Germ. Vessel Boiler 5	0.0600	0.2628	0.0152	0.0666	0.0152	0.1683
MAU1	Make Up Air Unit 1	0.2190	0.9595	0.0166	0.0728	0.0166	0.1841
MAU2	Make Up Air Unit 2	0.2190	0.9595	0.0166	0.0728	0.0166	0.1841
NMSBC1F	New Malt Bins 1-5 Conveyor			0.0051	0.0023	0.0299	
NMSBC2F	New Malt Bins 6-10 Conveyor			0.0051	0.0023	0.0299	
EG1	Emergency Generator		0.0930	0.055	0.0066	0.055	0.4008
BH1	Baghouse Barley			0.0125	0.0113	0.0750	
BH2	Baghouse - Malt/Barley			0.0118	0.0138	0.1492	
BH3	Baghouse –Malt			0.0143	0.0041	0.1000	
BS1	Boiler Malt House	0.6246	1.0533	0.0475	0.0800	0.0475	0.5246
BS2	Boiler Pellet Mill	0.2500	1.0950	0.0190	0.0832	0.0190	0.2103
CS	Cooler Stack Pellet Mill			0.3627	0.9803	0.3627	
KS1	Kiln 1	0.2865	0.5354	0.0589	0.1102	0.0589	1.7579
KS2	Kiln 2	1.1460	2.1449	0.2357	0.4415	0.2357	7.0325
KS3	Kiln 3	0.2865	0.5354	0.0589	0.1102	0.0589	1.7579
KS4	Kiln 4	0.8595	1.6095	0.1762	0.3306	0.1762	5.2746
KS5	Kiln 5	0.2865	0.5354	0.0589	0.1102	0.0589	1.7579
KSE01	Kiln 1			0.1802	0.7022	0.2857	
KSE02	Kiln 1			0.1802	0.7022	0.2857	
KSE03	Kiln 1			0.1802	0.7022	0.2857	
KSE04	Kiln 1			0.1802	0.7022	0.2857	
KSE05	Kiln 1			0.1802	0.7022	0.2857	
RB1	Rail Bay 1			0.044	0.033	0.252	
RB2	Rail Bay 2			0.044	0.033	0.252	
TB	Truck Bay			0.237	0.092	1.388	
Emissions from Co-Contributing Sources							
SIMP210	Granulator #1 reactor			0.7802	3.4171	0.7802	
SIMP220	Granulater #1 Dryer	1.3048	5.7149	3.8810	16.9986	3.8810	0.3262
SIMP215	Granulation #1 Baghouse			0.3603	1.5782	0.3603	
SIMP241	Granulation #2 Dryer	1.2000	5.2560	2.0722	9.0763	2.0722	0.3778
SIMP250	Granulation #2 Baghouse			0.8103	3.5492	0.8103	
SIMP205	Granulation #3	0.0519	0.2275	2.0381	8.9269	2.0381	1.8317

Table 4 - continued							
SIMP175	#400 Phosphoric Acid Plant			1.9698	8.6279	1.9698	
SIMP370	North Cooling Tower			1.6008	7.0115	1.6008	
SIMP372	East Cooling Tower			2.5325	11.0925	2.5325	
SIMP371	West Cooling Tower			2.3627	10.3486	2.3627	
SIMP291	#300 Sulfuric Acid Plant	3.5071	15.3613	6.9746	30.5488	6.9746	
SIMP295	#400 Sulfuric Acid Plant	8.3127	36.4096	4.0262	17.6347	4.0262	
SIMP195	Granulation #3 Limestone			0.1746	0.7648	0.1746	
SIMP300	Ammon. Sulfate Dryer	0.0662	0.2901	0.2500	1.0950	0.2500	0.0209
SIMP310	Ammon. Sulfate Cooler			0.1000	0.4380	0.1000	
SIMP040	HPB & W Boiler	2.4206	10.6024	0.4865	2.1309	0.4865	8.1738
SIMP020	Babcock Boiler	2.9484	12.9140	0.2238	0.9803	0.2238	2.4762
SIMP365	Super Phosphoric Acid	0.0519	0.2275				1.8317
SIMPFUG	Area fugitives			7.4526	32.6423	7.4526	

Ozone (O_3) differs from other criteria pollutants in that it is not typically emitted directly into the atmosphere. O_3 is formed in the atmosphere through reactions of VOCs, NOx, and sunlight. Atmospheric dispersion models used in stationary source air permitting analyses (see Section 3.3.3) cannot be used to estimate O_3 impacts resulting from VOC and NOx emissions from an industrial facility. O_3 concentrations resulting from area-wide emissions are predicted by using more complex airshed models such as the Community Multi-Scale Air Quality (CMAQ) modeling system. Use of the CMAQ model is very resource intensive and DEQ asserts that performing a CMAQ analysis for a particular permit application is not typically a reasonable or necessary requirement for air quality permitting.

Addressing secondary formation of O_3 has been somewhat addressed in EPA regulation and policy. As stated in a letter from Gina McCarthy of EPA to Robert Ukeiley, acting on behalf of the Sierra Club (letter from Gina McCarthy, Assistant Administrator, United States Environmental Protection Agency, to Robert Ukeiley, January 4, 2012):

> *. . . footnote 1 to sections 51.166(I)(5)(I) of the EPA's regulations says the following: "No de minimis air quality level is provided for ozone. However, any net emission increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data."*
>
> *The EPA believes it unlikely a source emitting below these levels would contribute to such a violation of the 8-hour ozone NAAQS, but consultation with an EPA Regional Office should still be conducted in accordance with section 5.2.1.c. of Appendix W when reviewing an application for sources with emissions of these ozone precursors below 100 TPY."*

Allowable emissions estimates of VOCs and NOx are below the 100 tons/year threshold, and DEQ determined it was not appropriate or necessary to require a quantitative source specific O_3 impact analysis.

Secondary Particulate Formation

The impact from secondary particulate formation resulting from emissions of NOx, SO_2, and/or VOCs was assumed by DEQ to be negligible on the basis of the magnitude of emissions and the short distance from emissions sources to modeled receptors where maximum PM_{10} and $PM_{2.5}$ impacts would be anticipated.

3.1.2 Toxic Air Pollutant Emissions Rates

TAP emissions regulations under Idaho Air Rules Section 220 are only applicable for new or modified sources constructed after July 1, 1995. Two TAPs, chlorine and formaldehyde, had emission increases that exceeded the screening emissions level (EL) of Idaho Air Rules Sections 585 (for chlorine) and 586 (for formaldehyde);therefore, site-specific modeling was required for these two TAPs. Table 5 provides a summary of the TAP modeling applicability assessment for those TAPS potentially emitted as a result of the proposed project. Table 6 describes the TAPS as modeled per source. Only two of the chlorine sources were assumed to be operating on a given day, and the daily maximum was set to 12.92 pound/day.

Table 5. TAPS EMISSIONS APPLICABILITY

TAP	Screening Level EL (lb/hr)	AAC (mg/m^3)	Emissions (lbs/hr)	Modeling Required
Section 585 non-carcinogen Emissions				
Acrolein	0.017	0.0125	1.30E-04	N
Ethyl Benzene	2.90E+01	21.75	4.60E-04	N
Hexane	12.0E+00	9.0	3.0E-04	N
Naphthalene	3.3E+00	2.5	1.0E-05	N
Toluene	2.50E+01	18.75	1.75E-03	N
Xylene	2.90E+01	21.75	1.31E-03	N
Chlorine	2.00E-01	0.15	5.38E-01	Y
Section 586 Carcinogen Emissions				
Acetaldehyde	3.03E-03	4.5E-01	2.52E-04	N
Benzene	8.0E-04	1.21E-01	4.71E-04	N
Formaldehyde	5.1E-04	7.7E-02	1.00E-03	Y
PAHs (including Naphthalene)	9.1E-05	1.4E-02	2.35E-05	N

Table 6. MODELED EMISSION RATES FOR TAPS

Source ID	Description	Formaldehyde (lbs/hr)
KB1	Kiln Air Heater Burner 1	3.01E-04
KB2	Kiln Air Heater Burner 2	3.01E-04
KB3	Kiln Air Heater Burner 3	3.01E-04
KB4	Kiln Air Heater Burner 4	3.01E-04
GVB1	Germ. Vessel Boiler 1	3.40E-05
GVB2	Germ. Vessel Boiler 2	3.40E-05
GVB4	Germ. Vessel Boiler 4	3.40E-05
GVB5	Germ. Vessel Boiler 5	3.40E-05
MAU1	Make Up Air Unit 1	3.72E-05
MAU2	Make Up Air Unit 2	3.72E-05
KS1	Kiln 1	1.32E-04
KS2	Kiln 2	5.27E-04
KS3	Kiln 3	1.32E-04
KS4	Kiln 4	3.95E-04
KS5	Kiln 5	1.32E-04

Source ID	Description	Chlorine (lbs/hr)
GV1A	Germination Vessel 1, A	0.269
GV1B	Germination Vessel 1, B	0.269
GV2A	Germination Vessel 2, A	0.269
GV2B	Germination Vessel 2 ,B	0.269
GV3A	Germination Vessel 3, A	0.269
GV3B	Germination Vessel 3,B	0.269
GV4A	Germination Vessel 4, A	0.269
GV4B	Germination Vessel 4, B	0.269

3.1.3 Emissions Release Parameters

Table 7 provides emissions release parameters for point sources at the GWM facility, including stack height, stack diameter, exhaust temperature, and exhaust velocity for point sources as used in the final modeling assessment. Table 8 provides release parameters for volume sources.

Table 9 provides emission release parameters for the co-contributing facility, the Simplot Don Plant. Parameters for the Simplot Don Plant were provided to AS by DEQ and were based on information obtained from Simplot for previous air impact analyses.

Stack parameters used in the modeling analyses for the GWM facility were generally based on well documented data, including source tests and engine certifications. Documents and references for some of these derivations are provided in the appendices to the report submitted with the application. DEQ determined that the documentation and justification of release parameters was adequate considering the sources that were modeled.

Table 7. POINT SOURCE RELEASE PARAMETERS

Source ID	Source Description	Easting X (m)	Northing Y (m)	Base Elevation (m)	Stack Ht (m)	Temp (K)	Exit Velocity (m/s)	Diameter (m)
STC1F	Spot Filter - Barley to Steeps	378450.3	4750026.8	1350.3	26.37	0.00	2.65	0.25
STC2F	Spot Filter - Above Steeps	378444.3	4750022.0	1350.3	28.19	0.00	2.65	0.25
KB1	Kiln Air Heater Burner 1	378381.3	4750105.4	1350.3	21.34	327.60	9.92	0.61
KB2	Kiln Air Heater Burner 2	378388.2	4750100.7	1350.3	21.34	327.60	9.92	0.61
KB3	Kiln Air Heater Burner 3	378398.0	4750094.1	1350.3	21.34	327.60	9.92	0.61
KB4	Kiln Air Heater Burner 4	378405.3	4750089.2	1350.3	21.34	327.60	9.92	0.61
K2	Kiln 2	378387.3	4750084.5	1350.3	20.42	310.90	3.33	13.92
NMLF	Spot Filter Analyses Bins	378399.6	4750054.4	1350.3	1.83	0.00	13.97	0.25
BA1F	Spot Filter Bin W	378408.4	4750055.5	1350.3	24.38	0.00	3.63	0.25
BA2F	Spot Filter Bin E	378415.8	4750050.4	1350.3	24.38	0.00	3.63	0.25
KBPCF	Spot Filter - Cyclone	378475.1	4750057.7	1350.3	27.43	0.00	3.63	0.25

Table 7 - continued								
NMC3F	Spot Filter - Kiln Tunnel	378458.0	4750022.0	1350.3	2.74	0.00	2.65	0.25
MBCF	Spot Filter - MicroBin	378464.7	4750084.2	1350.3	15.24	0.00	0.91	0.25
GVB1[a]	Germ. Vessel Boiler 1	378366.1	4750028.8	1350.3	6.10	366.50	19.44	0.15
GVB2[a]	Germ. Vessel Boiler 2	378370.2	4750026.0	1350.3	6.10	366.50	19.44	0.15
GVB4[a]	Germ. Vessel Boiler 4	378480.9	4749950.1	1350.3	6.10	366.50	19.44	0.15
GVB5[a]	Germ. Vessel Boiler 5	378484.7	4749947.4	1350.3	6.10	366.50	19.44	0.15
MAU1	Make Up Air Unit 1	378450.2	4750016.0	1350.3	1.83	366.50	10.31	0.2
MAU2	Make Up Air Unit 2	378405.5	4749978.0	1350.3	1.83	366.50	10.31	0.2
NMSBC1F	New Malt Bins 1-5 Conveyor	378453.7	4750117.7	1350.3	27.43	0.00	2.65	0.25
NMSBC2F	New Malt Bins 6-10 Conveyor	378447.5	4750108.6	1350.3	27.43	0.00	2.65	0.25
EG1	Emergency Generator	378458.5	4750042.0	1350.3	1.83	588.70	23.29	0.1
BH1	Baghouse Barley	378486.0	4750063.0	1350.3	7.92	0.00	0.00	0.98
BH2	Baghouse - Malt/Barley	378519.0	4750068.0	1350.3	41.15	0.00	0.00	0.98
BH3	Baghouse -Malt	378485.4	4750091.0	1350.3	41.15	0.00	0.00	0.98
BS1	Boiler Malt House	378536.2	4750015.0	1350.3	34.14	449.80	1.87	0.89
BS2	Boiler Pellet Mill	378477.6	4750069.0	1350.3	10.36	477.60	0.00	0.25
CS	Cooler Stack Pellet Mill	378481.3	4750066.0	1350.3	29.41	328.70	9.92	0.71
KS1	Kiln 1	378496.2	4750045.0	1350.3	35.97	327.60	18.48	0.27
KS2	Kiln 2	378506.6	4750039.0	1350.3	35.97	327.60	27.85	0.44
KS3	Kiln 3	378510.9	4750036.0	1350.3	35.97	327.60	18.48	0.27
KS4	Kiln 4	378514.0	4750034.0	1350.3	35.97	327.60	20.89	0.44
KS5	Kiln 5	378524.3	4750027.0	1350.3	35.97	327.60	18.48	0.27
KSE01	Kiln 1	378492.7	4750052.0	1350.3	31.70	299.30	1.59	6.33
KSE02	Kiln 1	378503.2	4750045.0	1350.3	31.70	299.30	1.59	6.33
KSE03	Kiln 1	378513.8	4750038.0	1350.3	31.70	299.30	1.59	6.33
KSE04	Kiln 1	378523.8	4750032.0	1350.3	31.70	299.30	1.59	6.33
KSE05	Kiln 1	378534.0	4750025.0	1350.3	31.70	299.30	1.59	6.33

[a] During the facility draft permit review phase, (after the final application and analyses was submitted), the applicant disclosed that the vendor for the new boilers (GVB1-GVB6) had been changed from Thermal Solutions to CleaverBrooks. DEQ reviewed the stack characteristics of the two boiler configurations, and found them to be basically identical. The stack heights as proposed also were not changed. The emissions as provided for the newly selected boilers were less than or equal to those as provided in the modeling files. Additionally, these sources by themselves produce very small impacts as currently modeled for the criteria pollutants. Therefore, the DEQ modeling staff feels confident that these changes will not have an adverse effect on those listed in the submitted application, and the NAAQS will not be exceeded.

Table 8 VOLUME SOURCE RELEASE PARAMETERS							
Source ID	**Source Description**	**Easting X (m)**	**Northing Y (m)**	**Base Elevation (m)**	**Release Height (m)**	**Initial Horizontal Dimension (m)**	**Initial Vertical Dimension (m)**
GV1A	Germination Vessel 1A	378404	4750047	1350	6.1	3.6	4.1
GV1B	Germination Vessel 1B	378396	4750034	1350	6.1	3.6	4.1
GV2A	Germination Vessel 2A	378386	4750018	1350	6.1	3.6	4.1
Table 8 Continued.							

GV2B	Germination Vessel 2B	378376	4750006	1350	6.1	3.6	4.1
GV3A	Germination Vessel 3A	378481	4749989	1350	6.1	3.6	4.1
GV3B	Germination Vessel 3B	378472	4749976	1350	6.1	3.6	4.1
GV4A	Germination Vessel 4A	378462	4749960	1350	6.1	3.6	4.1
GV4B	Germination Vessel 4B	378454	4749947	1350	6.1	3.6	4.1
RB1	Rail Bay 1	378491.7	4750107	1350.26	17.22	6.3	16.02
RB2	Rail Bay 2	378524.4	4750086	1350.26	17.22	6.3	16.02
TB	Truck Bay	378484	4750070	1350.26	17.22	11.79	16.02

Table 9. CO-CONTRIBUTING SOURCE RELEASE PARAMETERS

Source ID	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temp (K)	Exit Velocity (m/s)	Stack Diameter (m)
Point Sources								
SIMP210	Granulator #1 reactor	375349.8	4751840	1356	29.9	351	17.46	0.89
SIMP220	Granulator #1 Dryer	375349.8	4751846	1356	29.9	334	14.56	1.2
SIMP215	Granulation #1 Baghouse	375352.8	4751845	1356	29.9	327	13.04	0.76
SIMP241	Granulation #2 Dryer	375337.8	4751774	1356	45.7	333	12.35	1.83
SIMP250	Granulation #2 Baghouse	375332.8	4751810	1356	18.3	329	19.93	0.91
SIMP205	Granulation #3	375613.8	4751810	1356	53.3	322	11.33	1.83
SIMP175	#400 Phosphoric Acid Plant	375553.8	4751822	1356	54.6	310	15.27	1.83
SIMP370	North Cooling Tower	375715.8	4751737	1356	11.6	297	7.9	8.7
SIMP372	East Cooling Tower	375753.8	4751695	1356	10.7	297	7.9	10.7
SIMP371	West Cooling Tower	375717.8	4751704	1356	11.6	297	7.9	10.7
SIMP291	#300 Sulfuric Acid Plant	375221.8	4751947	1356	61.6	294.9	27.4	1.37
SIMP295	#400 Sulfuric Acid Plant	375208.7	4751746	1356	64	346.2	9.3	2.9
SIMP195	Granulation #3 Limestone	375613.8	4751827	1356	9.1	294	7.8	0.3
SIMP300	Ammon. Sulfate Dryer	375358.8	4751782	1356	23.2	308	15.1	0.5
SIMP310	Ammon. Sulfate Cooler	375353.8	4751784	1356	21.3	311	11.7	0.5
SIMP040	HPB & W Boiler	375482.8	4751850	1356	10.7	505	20.2	1.2
SIMP020	Babcock Boiler	375490.8	4751867	1356	13.7	505	15	1.2
SIMP365	Super Phosphoric Acid	375280.8	4751920	1356	14.4	296	0.003	0.45

Area Sources									
Source ID	**Source Description**	**Easting X (m)**	**Northing Y (m)**	**Base Elevation (m)**	**Release Height (m)**	**East. Length (m)**	**North. Length (m)**	**Angle from North**	**Initial Vert. Dim. (m)**
SIMPFUG	Simplot Fugitives	375090.4	4751546	1356	4.57	680	327	0	7.4

3.2 Background Concentrations

Background concentrations were originally provided by DEQ and obtained from the Northwest International Air Quality Environmental Science and Technology Consortium (NW AIRQUEST) *Lookup 2009-2011 Design Values of Criteria Pollutants*[3]. These design value air pollutant levels are based on regional scale air pollution modeling of Washington, Oregon, and Idaho, with values influenced by monitoring data as a function of distance from the monitor. DEQ has determined that the NW AIRQUEST background values are reasonably representative of the Pocatello, Idaho area. These background values have been added to maximum design concentrations to show compliance with the NAAQS.

AS requested a revision to their original submitted protocol to allow usage of hourly ozone data from Craters of the Moon National Monument (Craters) effect of ozone on chemistry of nitrogen dioxide (NO_2). DEQ accepted this request on November 6, 2015. DEQ acceptance was based on several significant items: 1) the ozone data from Craters was simultaneously monitored with the meteorological data used in the modeling analyses; 2) the data was deemed to be conservative in nature due its having no local scavenging and its elevation being 2000 feet higher than the GWM facility in Pocatello. A case study by DEQ[2] in 2012 compared the data from Craters to data collected at Paul and Idaho Falls and found the ozone levels at Craters to be typically slightly higher than levels at Paul and Idaho Falls.

3.3 Impact Modeling Methodology

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

3.3.1 General Overview of Analyses

AS performed project-specific air impact analyses that were determined by DEQ to be reasonably representative of the facility and proposed modification as described in the application. Results of the submitted analyses demonstrate 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 10 provides a brief description of parameters used in the modeling analyses.

Table 10. MODELING PARAMETERS

Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Southeast Idaho	The facility is located in an area that is attainment or unclassified for all criteria air pollutants
Model	AERMOD	AERMOD version 15181 with the PRIME downwash algorithm,.
Meteorological Data	Jerome, ID surface data and Boise upper air data	The meteorological model input files for this project were provided by and recommended as most representative for this project by IDEQ, as described in the IDEQ modeling protocol and verified by IDEQ's approval of that protocol.
Terrain	Considered	See section 3.3.5 below
Building Downwash	Considered	BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
Receptor Grid	Grid 1[a]	25-meter spacing along ambient boundary
	Grid 2	50-meter spacing out to 10,000 meters from facility in complex terrain
	Grid 3	100-meter spacing out to 10,000 meters from facility in flat terrain

	Grids3 and 4	500,1000-meter spacing beyond grids 2 and 3
[a] supplemented with a 10-meter spaced grid around maximum impacts adjacent to facility using refined analysis		

3.3.2 Modeling protocol and Methodology

A modeling protocol was submitted to DEQ for this project on October 2, 2015. On October 28, 2015 AS submitted a revised protocol that incorporated discussions on several issues AS and DEQ had been resolving. Included in these items were addition of source information from the nearby Simplot Don Plant and usage of hourly ozone data from Craters of the Moon National Monument. DEQ issued a conditional approval of the protocol on November 5, 2015. On November 12, 2015, GWM submitted an application for a 15-day pre-permit construction approval PTC. This application was denied due to errors in the submitted modeling files, as discussed in Section 1 of this memorandum. A revised application was submitted on December 3, 2015, incorporating some changes to the source configurations. These changes included replacing the burners for the existing kiln with new air heat exchangers equipped with low-NO_x burners. A summary of the emission changes resulting from these changes are listed in Table 11. Requested pre-permit construction approval was granted by DEQ on December 21, 2016. The application was deemed complete on January 5, 2016.

Table 11: CHANGES IN EMISSIONS (lbs./hr) SUBMITTED 11/9/2015 AND 12/3/2015[a]

Source	PM_{10}	$PM_{2.5}$	SO_2	CO	NO_x
New Burners	0.59	0.59	0.05	17.58	2.87
Existing Burners	0.52	0.52	0.04	5.80	8.42
Change in Emissions	0.07	0.07	0.01	11.78	-5.55

[a] all emission emitted from stacks KS1-KS5

Final review by DEQ of the modeling files submitted by AS led to uncertainty about the compliance demonstration due to the receptor spacing in areas of maximum impacts adjacent to the facility. Therefore, a final revision to the modeling analyses was submitted on February 23, 2016. This modeling analysis included a refined denser grid utilizing 10-meter spacing around locations of maximum concentration. It also incorporated a restriction to emergency generator use to one hour per day. This revised analysis adequately demonstrated compliance with NAAQS for all modeled pollutants.

Project-specific modeling and other required impact analyses were generally conducted using data and methods proposed in the protocol, discussed in post-application correspondence and as specified in the *Idaho Air Quality Modeling Guideline*[1].

3.3.3 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 15181 was used by AS for the modeling analyses to evaluate impacts of the facility. This version was the current version at the time the application was received by DEQ.

3.3.4 Meteorological Data

DEQ provided five years of meteorological data for the period 2008-2012, incorporating upper air data from Boise, Idaho and NWS surface data from Jerome, Idaho. DEQ determined that these data are adequately representative of the meteorology in the Jerome, Idaho locale for minor source permitting.

3.3.5 Effects of Terrain on Modeled Impacts

Terrain data were extracted from United States Geological Survey (USGS) National Elevation Dataset (NED) files in the WGS84 datum (approximately equal to the NAD83 datum). The final receptor files derived elevations using 1 arc second data files (about 30-meter resolution), which is sufficient to adequately resolve terrain in the area for evaluating air pollution impacts resulting from emissions.

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.

DEQ reviewed the area surrounding the facility by using the web-based mapping program Google Earth, which uses the WGS84 datum. DEQ also overlaid modeling files with a digital photograph background images acquired from the 2013 ARCGIS NAIP (National Agriculture Imagery Program) data base. The immediate area is effectively flat with regard to dispersion modeling affects. Elevations in the modeling domain matched those indicated by the background images

3.3.6 Facility Layout

DEQ verified proper identification of buildings on the site by comparing a graphical representation of the modeling input file to aerial photographs on Google Earth. The modeled layout matched well with aerial photographs in Google Earth as well as from those in the ARCGIS 2013 NAIP database.

3.3.7 Effects of Building Downwash on Modeled Impacts

Potential downwash effects on emissions plumes were accounted for in the model by using building dimensions and locations (locations of building corners, base elevation, and building heights). Dimensions and orientation of proposed buildings were used as input to the Building Profile Input Program for the Plume Rise Model Enhancements downwash algorithm (BPIP-PRIME) to calculate direction-specific dimensions and Good Engineering Practice (GEP) stack height information for input to AERMOD.

3.3.8 Ambient Air Boundary

Ambient air is defined in Section 006 of the Idaho Air Rules as "that portion of the atmosphere, external to buildings, to which the general public has access. GWM has fence-lines, no-trespassing signs, and security guards; the existence of these features clearly precludes public access to the facility and defines the ambient boundary for the facility.

3.3.9 Receptor Network

Table 10 describes the receptor grid used in the submitted analyses. The final receptor grid met, as discussed in section 3.3.2, utilized a fine 10-meter spaced receptor grid around the maximum impact locations. This meets the minimum recommendations specified in the *Idaho Air Quality Modeling Guideline*[1]. DEQ determined this grid assured maximum impacts were reasonably resolved by the model considering: 1) types of sources modeled; 2) modeled impacts and the modeled concentration gradient; 3) conservatism of the methods and data used as inputs to the analyses; 4) potential for continual exposures or exposure to sensitive receptors.

3.3.10 Good Engineering Practice Stack Height

An allowable good engineering practice (GEP) stack height may be established using the following equation in accordance with Idaho Air Rules Section 512.03.b:

H = S + 1.5L, where:

H = good engineering practice stack height measured from the ground-level elevation at the base of the stack.
S = height of the nearby structure(s) measured from the ground-level elevation at the base of the stack.

L = lesser dimension, height or projected width, of the nearby structure.

All point sources were below GEP stack height. Therefore, consideration of downwash caused by nearby buildings was required.

4.0 Impact Modeling Results

4.1 Results for NAAQS Significant Impact Level Analyses

Project-specific air impact modeling was performed for criteria pollutants having emission increases, resulting from the proposed project, that are above the Level I Modeling Applicability Thresholds. These thresholds, based on modeling of a single emissions stack with specified release parameters, were established to assure that impacts of projects with emissions equal to or less than these levels will not cause impacts exceeding the SILs. Results of the SIL analyses are presented in Table 12. A cumulative NAAQS impact analysis was needed for those pollutants where the SIL was exceeded. The cumulative NAAQS impact analysis included facility-wide emissions, emissions from the co-contributing Simplot Don Plant, and background concentrations. Results of the NAAQS modeling analyses are listed in Table 13, and the analyses demonstrate compliance with the NAAQS for all the criteria pollutants.

Table 12. RESULTS FOR SIGNIFICANT IMPACT ANALYSES

Pollutant	AveragingPeriod	Maximum Modeled Concentration ($\mu g/m^3$)[a]	Significant Impact Level ($\mu g/m^3$)	Percentage of SIL	NAAQS ($\mu g/m^3$)
$PM_{2.5}$[b]	24-hour	8.0[f]	1.2	664	35
	Annual	2.0[g]	0.3	678	12
PM_{10}[c]	24-hour	11.9[f]	5	238	150

NO_2[d]	1-hour	122.8[h]	7.5	1638	188
	Annual	7.6[g]	1	755	100
CO[e]	1-hour	2179[f]	2000	109	40,000
	8-hour	460[f]	500	92	10,000

a. Micrograms per cubic meter
b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
d. Nitrogen dioxide.
e. Carbon monoxide.
f. Highest max any year.
g. Highest annual average any year.
h. Maximum 1-hour values averaged over five years; PVMRM Tier 3 used for modeling assessment.

Table 13. RESULTS FOR NAAQS ANALYSES

Pollutant	Averaging Period	Modeled Design Concentration ($\mu g/m^3$)[a]	Background Concentration ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
$PM_{2.5}$[b]	24-hour	22.1[f]	12.0	34.1	35
	Annual	6.5[g]	4.3	10.8	12
PM_{10}[c]	24-hour	66.0[h]	72.0	138.0	150
NO_2[d]	1-hour	110.3[i]	60.2	170.5	188
	Annual	8.9[j]	9.0	17.9	100
CO[e]	1-hour	1,965[k]	3,306.0	5,271	40,000
	8-hour	351.6[k]	1,118.0	1,469.6	10,000

a. Micrograms per cubic meter
b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
d. Nitrogen dioxide.
e. Carbon monoxide.
f. Maximum of the 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled.
g. Maximum of the 5-year mean of annual averages at the modeled receptor.
h. Maximum of 6th highest modeled value over 5 years of meteorological data.
i. Maximum of the 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled; PVMRM Tier 3 used for modeling assessment.
j. Maximum annual average from 5 years of meteorological data.
k. Maximum modeled value.

4.2 Results for TAPs Impact Analyses

Dispersion modeling is required to demonstrate compliance with TAP increments specified by Idaho Air Rules Section 585 and 586 for those TAPs with project-specific emission increases exceeding emissions screening levels (ELs). The application identified two TAPs that required air impact modeling analysis chlorine and formaldehyde. Therefore, a modeling assessment was done to demonstrate compliance with the AAC for chorine and the AACC for formaldehyde. These results as shown in the application are listed in

Table 14. DEQ performed sensitivity analyses, using a refined receptor grid similar to that used in the NAAQS modeling assessment, to confirm that compliance is demonstrated.

Table 14. TAP MODELING RESULTS					
Pollutant	**CAS No.**	**Average**	**Modeled Conc. ($\mu g/m^3$)**	**AAC/AAAC ($\mu g/m^3$)**	**Percentage of AAC/AAAC**
Chlorine	7782-50-5	24-hour	114.9	150	77%
Formaldehyde	50-00-0	Annual	6.1E-03	7.7E-02	7%

5.0 Conclusions

The ambient air impact analyses and other air quality analyses submitted with the GWM application demonstrated to DEQ's satisfaction that emissions from the proposed project will not cause or significantly contribute to a violation of any ambient air quality standard.

References:

1. *State of Idaho Guideline for Performing Air Quality Impact Analyses.* Idaho Department of Environmental Quality. September 2013. State of Idaho DEQ Air Doc. ID AQ-011. Available at http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf.
2. *Memorandum :* Comparison of Ozone levels at Craters of the Moon to the Temporal Portable Monitor Location, DEQ 2008
3. Air Quality Environmental Science and Technology Consortium (NW AIRQUEST) *Lookup 2009-2011 Design Values of Criteria Pollutants.* Available at: http://lar.wsu.edu/nw-airquest/lookup.html.

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on March 25, 2016:

Facility Comment: In developing the final design for the Pocatello plant, GWM has adopted a different naming convention for the malthouses. The existing malthouse kiln 1 will be called Malthouse A and the new malthouse kiln 2 will be called Malthouse B. We would like the air permit to reflect these names to make the permit consistent with the terminology that will be used at the plant.

DEQ Response: Changes are made in the permit and the statement of basis.

Facility Comment: The ANOX heaters that will be replacing the existing burners in Malthouse A (kiln 1) are defined in Section 2, Table 1.1 of the draft permit, however, the permit does not mention that the existing burners will continue to operate until the new heaters are installed. Should a statement about operation of the existing burners be added to the permit?.

DEQ Response: GWM was not able to demonstrate compliance with 1-hr NOx NAAQS if Malthouse B is operating and Malthouse A is operating using the old burners. To reflect what GWM has proposed (refer to Application Scope section in regard to two phases construction approach), Permit Condition 2.9.5 is add and read as follows:

"2.9.5 When Malthouse B begins production, the permittee shall use the new natural gas-fired low NOx burners for Malthouse A, shall not use the old ten natural gas-fired Kiln 1 burners for Malthouse A, and the old ten natural gas-fired Kiln 1 burners shall be inoperative."

Facility Comment: The regulatory ambient threshold for chlorine impacts is based on 24-hour exposure. The modeling in the application used the daily emissions from cleaning the germination vessels. The chlorine emissions used in the modeling totaled 12.9 lb/day. This emission rate showed compliance with the impact threshold.

GWM does not use just one or two products for cleaning. For example, they can use varying solutions of liquid sodium hypochlorite (1.5% to 12%), calcium hypochlorite or other products. As a result, the proposed limits on product usage in the draft permit (Condition 2.8) will not work for the plant. We suggest doing a chlorine emission calculation based on the actual products used as an alternative condition.

DEQ Response: changes have been made to Permit Conditions 2.8 and 2.14 and Appendix A of the permit. New discussions are added to Permit Condition Review section under Permit Condition 2.4 in the statement of basis.

Facility Comment: The application for the project described the malt cleaning equipment as a scalper and an aspirator. The emissions from the malt cleaning equipment are vented to two baghouses (BH2 and BH3). The emissions were calculated using the total throughput quantity of malt from both Malthouse A and Malthouse B. In the final design of the expansion it was decided that another aspirator will be added to the project with Malthouse A malt going through one aspirator and Malthouse B malt going through the second aspirator. Emissions from the aspirators still will go to BH 2 and BH3. There will be no emission change resulting from the use of two aspirators versus a single aspirator. The change from one to two aspirators should be reflected in the equipment descriptions in Section 2, Table 1.1 of the permit.

DEQ Response: The change has been made to Table 1.1 of the permit and to Table 1 of the SOB.

Facility Comment: Six boilers will be used to supply hot water to the four germination vessels. The application included information on boilers manufactured by Thermal Solutions. Using the latest information from the design, the germination vessel boilers will be manufactured by Cleaver Brooks instead. The Cleaver Brooks boilers will be the same size, use the same fuel and have the same emission characteristics as the Thermal Solutions boilers. The germination vessel boiler equipment information in Section 2, Table 1.1 of the permit has been modified to include the Cleaver Brooks boiler information.

DEQ Response: The changes have been made to Table 1.1 of the permit and to Table 1 of the SOB.

Facility Comment: Grain and other materials used in the plant are measured and records are kept in metric tons. Several of the permit conditions contain limits in units of metric tons and in short tons. It would be confusing to have the limits expressed in both units, so we request that the short ton limits be removed from Condition 2.7 and only the metric ton limits remain in the permit.

DEQ Response: The changes have be made to the permit.

Facility Comment: The proposed permit includes a limit on grain throughput in the malthouses. The term that best describes the quantity of grain that is fed into the malting process is 'original grain'. GWM proposes that the term 'green malt' be removed from the permit and replaced with 'original grain'. The plant keeps track of original grain quantities and will be able to show compliance with the production limits.

DEQ Response: The changes have be made to the permit.

APPENDIX D – PROCESSING FEE

Emissions Inventory	
Pollutant	Annual Emissions Change (T/yr)
NO_X	2.6
SO_2	0.0
CO	25.6
PM_{10}	2.6
VOC	3.4
TAPS/HAPS	2.7
Total:	**37.0**
Fee Due	**$ 5,000.00**

APPENDIX E – FEDERAL REGULATION ANALYSIS

40 CFR 63 Subpart ZZZZ from App.

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

WHAT THIS SUBPART COVERS

§63.6580 What is the purpose of subpart ZZZZ?

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

[73 FR 3603, Jan. 18, 2008]

§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.

Great Western Malting owns and operates a RICE emergency generator engine at the Pocatello plant, an area source of HAP (Table 5-4). The emergency generator is subject to the requirements in this rule.

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

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

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

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

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

(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).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

§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.

The RICE emergency generator at the plant was constructed in 1980 and meets the definition as an existing stationary RICE.

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

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

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

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

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

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

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

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

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is 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).

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

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

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

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

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

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is 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).

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

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

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

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

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

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

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

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

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

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

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

§63.6595 When do I have to comply with this subpart?

(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 compliance date for this rule for the existing diesel emergency generator was 5/13/2013.

(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.

The existing 60 HP emergency generator is not subject to notification requirements because it meets the exclusions in §63.6645.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

EMISSION AND OPERATING LIMITATIONS

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major 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, new, or reconstructed spark ignition 4SRB 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 emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed 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 emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary 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 emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major 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. If you own or operate a new or reconstructed 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 major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. 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.

[78 FR 6701, Jan. 30, 2013]

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary 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.

The requirements in Table 2d, Item 4 for existing emergency generators apply to the emergency generator at the Pocatello plant. Those requirements include:

- Change oil and filter every 500 hours of operation or annually, whichever comes first
- Inspect air cleaner every 1000 hours of operation or annually, whichever comes first
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

None of the operating limitations in Table 2b applies to the emergency generator.

(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.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

§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 diesel emergency generator is 60 HP and is not subject to this fuel requirement.

(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.

[78 FR 6702, Jan. 30, 2013]

General Compliance Requirements

§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.

This requirement applies to the emergency generator. The emergency generator is in compliance.

(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.

This requirement applies to the emergency generator. The emergency generator operates in compliance with Subpart ZZZZ requirements.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

Testing and Initial Compliance Requirements

§63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

These requirements do not apply to the 60 HP emergency generator at the area source of HAPs.

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 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).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) 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.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI 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?

If you own or operate a new or reconstructed 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 conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§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).

(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.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (Eq.\ 1)$$

Where:

C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

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

$$F_o = \frac{0.209\ F_d}{F_c} \quad (Eq.\ 2)$$

Where:

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

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

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

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

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

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq.\ 3)$$

Where:

X_{CO2} = CO_2 correction factor, percent.

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

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad \text{[Eq. 4]}$$

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O_2.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO2} = CO_2 correction factor, percent.

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

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) 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;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,*wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

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

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

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

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

The emergency generator meets this definition and must operate and maintain the engine according to a maintenance plan. The site performs maintenance on the emergency generator according to their maintenance system and meets these requirements.

(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 emergency generator at the plant has a non-resettable hour meter.

(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.

The plant operates the emergency generator in accordance with this requirement.

(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.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

There are no requirements in Table 5 that apply.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial 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 three test runs.

(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.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

CONTINUOUS COMPLIANCE REQUIREMENTS

§63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§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.

The facility operates in compliance with the operating limitations in Table 2d according to methods in Table 6, including:

- Operate and maintain the RICE according to the manufacturer's emission-related operation and maintenance instructions, or
- Develop and follow a site maintenance plan that provides for operation and maintenance of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(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 facility will report each instance in which it did not meet the operation limitations (work practice standards).

(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.

The requirements below in (f)(1), (f)(2), (f)(2)(i), and (f)(4) are applicable to the emergency generator at the Pocatello plant.

(f) 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.

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

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

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

The Pocatello plant operates the emergency generator for less than 1 hr per month for maintenance and testing purposes. This equates to less than 12 hours/year of operation, in compliance with the 100 hr/yr threshold.

(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.

Great Western Malting acknowledges this condition but typically only runs the emergency generator for maintenance and testing.

(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.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

NOTIFICATIONS, REPORTS, AND RECORDS

§63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) 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.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

The notification requirements in 63.6645 do not apply to the existing RICE emergency generator at the Pocatello plant.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) 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 on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

(i) 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 subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in §63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in §63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

§63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

There are no reporting requirements in Table 7 that apply to existing emergency generators at area sources.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

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

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as 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 submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that 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 submit an annual report according to the requirements in paragraphs (h)(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 §63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in §63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in §63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in §63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(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 §63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

§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.

Great Western Malting keeps maintenance records for the emergency generator.

(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.

Records on the hours of operation for the emergency generator are kept.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

§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).

Records on the emergency generator are kept at the facility.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

OTHER REQUIREMENTS AND INFORMATION

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 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 any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. 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 the General Provisions specified in Table 8 except for the initial notification requirements: A new 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 emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§63.6675 What definitions apply to this subpart?

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

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

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

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

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

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

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

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

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

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

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

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

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

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

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

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

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

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

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

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).

The emergency generator at the plant meets these definitions.

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

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

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

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_x (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

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

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

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

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

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

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

Subpart means 40 CFR part 63, subpart ZZZZ.

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

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

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe

	December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR;	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.[1]
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2 until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .

1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and
	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by	

	70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2.	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less	

	at 15 percent O_2.	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2.	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2.	

[1]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[2]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

	operation or annually, whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	Maintenance on the emergency generator meets these requirements.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	Maintenance on the emergency generator meets these requirements.
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Maintenance on the emergency generator meets these requirements.
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]; b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of	

	operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. Non-emergency, non-black start 4SRB	a. Change oil and filter	

stationary RICE ≤500 HP	every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For CO and O_2 measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure the O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(b) Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		iii. Measure the CO at the inlet and the outlet of the control device	(1) ASTM D6522-00 (Reapproved 2005)[abc] (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4	(c) The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For formaldehyde, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3

				traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Measure O_2at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(a) Measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde or THC concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03[a]	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formalde-hyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7	(a) THC concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. limit the concentration of formaldehyde or CO in the	i. Select the sampling port location and the number/location of traverse points at the		(a) For formaldehyde, CO, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single

	stationary RICE exhaust	exhaust of the stationary RICE; and		point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(a) Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03[a]	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005)[a], Method 320 of 40 CFR	(a) CO concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

			part 63, appendix A, or ASTM D6348-03[a]	

[a]You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b]You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[79 FR 11290, Feb. 27, 2014]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed	a. Reduce CO emissions and not using oxidation	i. The average reduction of emissions of CO determined from the initial performance test achieves the required

non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	catalyst	CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation.

		The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet

		temperature during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >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	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >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	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC

		is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[a]; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[a]; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating

		limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A 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.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[a]; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[a]; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide

emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE		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. **The emergency generator is maintained according to these requirements.**
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and

		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and

		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
14. Existing non-emergency 4SLB stationary RICE >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	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.
15. Existing non-emergency 4SRB stationary RICE >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	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in §63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	i. Semiannually according to the requirements in §63.6650(b).
		c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).	i. Semiannually according to the requirements in §63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
		b. The operating limits provided in your federally enforceable permit, and any deviations from	i. See item 2.a.i.

		these limits; and	
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in §63.6650(b)(1)-(5).
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in §63.6640(f)(4)(ii)	Report	a. The information in §63.6650(h)(1)	i. annually according to the requirements in §63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		

§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	

§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	No	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)-(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.

§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)-(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)-(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction	No.	

	reports		
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]