Statement of Basis

Permit to Construct No. P-2019.0026
Project ID 62245

St. Luke's Health Services
McCall, Idaho

Facility ID 085-00006

Final

August 20, 2019
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Permit Writer

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

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
Bhp	Break horsepower
Btu	British thermal units
CAM	Compliance Assurance Monitoring
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
GACT	Generally Available Control Technology
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
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
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
T/hr	tons per hour

T/yr	tons per consecutive 12 calendar month period
TAP	toxic air pollutants
ULSD	ultra-low sulfur diesel
VOC	volatile organic compounds

FACILITY INFORMATION

Description

St. Luke's McCall, LTD (SLMC) is proposing to renovate and expand the existing McCall hospital campus located at 1000 State Street in McCall, Idaho. SLMC is an existing small general medical hospital. The Idaho Department of Environmental Quality (IDEQ) found reference to a historic air quality Permit-to-Construct (PTC) No. P-950173 dating back to October 20, 1995 for two diesel-fired boilers and one diesel-fired emergency generator. SLMC will decommission and remove the existing equipment from service (i.e., 2 diesel-fired boilers and emergency generator) as part of the new hospital renovation. The SLMC renovation project will trigger the requirement to obtain an air quality PTC with the installation of the following stationary emission sources:

- Three Fulton 5.18 MMBtu/hr fuel-oil boilers
- One Caterpillar 1,474 Bhp emergency IC engine powering an electrical generator
- Two 20,000-gallon underground storage tanks

The boilers will be used to provide steam for space heating requirements and will be installed in the new northern expansion area. The new emergency generator will provide electrical power to the hospital during the event of a power interruption and will be installed in the same area as the original facility generator was located. Underground storage tanks (USTs) will be used to supply ultra-low sulfur diesel (ULSD) for the boiler and generator operations. Therefore, one tank will be used for boiler heating operations, while the other tank will partition 8,000 gallons to supply ULSD for generator operations and partition the remaining 12,000 gallons to be backup fuel reserves for boiler heating operations.

Permitting History

This is the initial PTC for a new facility thus there is no permitting history.

Application Scope

This permit is the initial PTC for this facility.

The applicant has proposed to install and operate three 130 horsepower fuel-oil boilers, one 1000 kW emergency generator, and two 20,000-gallon underground diesel storage tanks.

Application Chronology

June 5, 2019	DEQ received an application and an application fee.
June 13 – June 28, 2019	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
June 17, 2019	DEQ determined that the application was complete.
July 16, 2019	DEQ made available the draft permit and statement of basis for peer and regional office review.
July 24, 2019	DEQ made available the draft permit and statement of basis for applicant review.
July 31, 2019	DEQ received comments from the applicant on the draft permit and statement of basis
August 16, 2019	DEQ received the permit processing fee.
August 20, 2019	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.
1	Boiler 1: Manufacturer: Fulton Model: VMP-130 Heat input rating: 5.18 MMBtu/hr Max. production: 2.24 T/hr Fuel: Diesel Fuel Oil #2 (ULSC)	No control device	Exit height: 58 ft (17.7 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 1,749.7 acfm Exit temperature: 460 °F (238 °C)
2	Boiler 2: Manufacturer: Fulton Model: VMP-130 Heat input rating: 5.18 MMBtu/hr Max. production: 2.24 T/hr Fuel: Diesel Fuel Oil #2 (ULSC)	No control device	Exit height: 58 ft (17.7 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 1,749.7 acfm Exit temperature: 460 °F (238 °C)
3	Boiler 3: Manufacturer: Fulton Model: VMP-130 Heat input rating: 5.18 MMBtu/hr Max. production: 2.24 T/hr Fuel: Diesel Fuel Oil #2 (ULSC)	No control device	Exit height: 58 ft (17.7 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 1,749.7 acfm Exit temperature: 460 °F (238 °C)
4	Emergency IC Engine: Manufacturer: Caterpillar Model: C32 Manufacture Date: 2017 Maximum Rating: 1,474 bhp Fuel: Fuel Oil #2 (ULSC)	No control device	Exit height: 11.33 ft (17.7 m) Exit diameter: 7.56x3 ft (0.15 m) Exit flow rate: 6,813 acfm Exit temperature: 821 °F (438 °C)

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the three diesel-fueled boilers, one emergency generator, and two diesel storage tanks operations at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant and HAP PTE were based on emission factors from AP-42 and from manufacturer provided emissions data.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

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

The following table presents the uncontrolled Potential to Emit for regulated air pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For SLMC, the uncontrolled Potential to Emit is based upon a worst-case operation of 8760 hr/yr (24 hr/day x 365 day/yr) for the boilers and 100 hr/yr for the emergency generator.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$	SO_2	NO_X	CO	VOC
	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources					
Boiler 1	0.53	0.03	3.34	0.65	0.01
Boiler 2	0.53	0.03	3.34	0.65	0.01
Boiler 3	0.53	0.03	3.34	0.65	0.01
Emergency Generator	0.006	0.001	0.97	0.04	0.005
Diesel Storage Tanks, Total	0.00	0.00	0.00	0.00	0.0003
Total, Point Sources	**1.60**	**0.09**	**10.99**	**1.99**	**0.04**

The following table presents the uncontrolled Potential to Emit for HAP pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For SLMC uncontrolled Potential to Emit is based upon a worst-case for operation of the facility of 8760 hr/yr (24 hr/day x 365 day/yr). Then, the worst-case maximum HAP Potential to Emit was determined for SLMC.

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS

Hazardous Air Pollutants	PTE (T/yr)
Acetaldehyde	2.84E-06
Acrolein	8.87E-07
Benzene	1.11E-04
Ethylbenzene	6.97E-06
Formaldehyde	3.68E-03
Naphthalene	1.40E-04
Toluene	7.22E-04
Xylenes	3.39E-05
Total	**0.0047**

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. This is a new facility. Therefore, pre-project emissions are set to zero for all criteria pollutants.

Post Project Potential to Emit

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

The following table presents the post project Potential to Emit for criteria pollutants from all emissions units at the facility as determined by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 4 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]
Boiler 1	0.12	0.53	0.007	0.03	0.76	3.34	0.15	0.65	0.023	0.01
Boiler 2	0.12	0.53	0.007	0.03	0.76	3.34	0.15	0.65	0.023	0.01
Boiler 3	0.12	0.53	0.007	0.03	0.76	3.34	0.15	0.65	0.023	0.01
Emergency Generator	0.13	0.006	0.015	0.001	19.40	0.97	0.78	0.04	0.10	0.005
Diesel Storage Tanks, Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.0E-5	0.0003
Post Project Totals	**0.49**	**1.60**	**0.04**	**0.09**	**21.68**	**10.99**	**1.23**	**1.99**	**0.17**	**0.04**

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

Change in Potential to Emit

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

Table 5 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Potential to Emit	0.49	1.60	0.04	0.09	21.68	10.99	1.23	1.99	0.17	0.04
Changes in Potential to Emit	**0.49**	**1.60**	**0.04**	**0.09**	**21.68**	**10.99**	**1.23**	**1.99**	**0.17**	**0.04**

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 following table:

Table 6 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	0.00	8.87E-07	0.00000089	0.017	No
Chromium	0.00	4.66E-05	0.000047	0.033	No
Copper	0.00	9.33E-05	0.000093	0.0033	No
Ethylbenzene	0.00	6.97E-06	0.0000070	29	No
Manganese	0.00	9.33E-05	0.000093	0.067	No
Naphthalene	0.00	1.04E-04	0.00010	3.33	No
Selenium	0.00	2.33E-04	0.00023	0.013	No
Toluene	0.00	7.22E-04	0.00072	25	No
Xylene	0.00	3.39E-05	0.000034	29	No

All changes in emissions rates for non-carcinogenic TAP were below EL (screening emissions level) as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average non-carcinogenic screening ELs identified in IDAPA 58.01.01.585 were exceeded.

Carcinogenic TAP Emissions

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

Table 7 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	0.00	2.84E-06	0.0000	3.0E-03	No
Arsenic	**0.00**	**6.22E-05**	**0.0001**	**1.5E-06**	**Yes**
Benzene	0.00	1.11E-04	0.0001	8.0E-04	No
Beryllium	**0.00**	**4.66E-05**	**0.0000**	**2.8E-05**	**Yes**
Cadmium	**0.00**	**4.66E-05**	**0.0000**	**3.7E-06**	**Yes**
Formaldehyde	**0.00**	**3.68E-03**	**0.0037**	**5.1E-04**	**Yes**
Nickel	**0.00**	**4.66E-05**	**0.0000**	**2.7E-05**	**Yes**
POM[a]	0.00	1.81E-06	0.0000	2.0E-06	No

a) Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

The ELs (screening emission levels) for the carcinogenic TAPs Arsenic, Beryllium, Cadmium, Formaldehyde, and Nickel were exceeded as a result of this project. Modelling is required for TAP in exceedance of their ELs except for those TAP that are addressed by a NESHAP in accordance with IDAPA 58.01.01.210. Since all carcinogenic TAP in exceedance of their ELs are addressed by a NESHAP no additional modelling is required.

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 8 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (lb/hr)	PTE (T/yr)
Acetaldehyde	2.84E-06	0.00
Acrolein	8.87E-07	0.00
Arsenic	6.22E-05	0.00
Benzene	1.11E-04	0.00
Beryllium	4.66E-05	0.00
Cadmium	4.66E-05	0.00
Ethylbenzene	6.97E-06	0.00
Formaldehyde	3.68E-03	0.016
Naphthalene	1.40E-04	0.00
Nickel	1.66E-05	0.00
Toluene	7.22E-04	0.00
Xylenes	3.39E-05	0.00
Totals	**0.0049**	**0.016**

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of PM_{10}, $PM_{2.5}$, and NO_X from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline[1]. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

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

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

[1] Criteria pollutant thresholds in Table 2, State of Idaho Guideline for Performing Air Quality Impact Analyses, Doc ID AQ-011, September 2013.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Valley 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 HAPs (Hazardous Air Pollutants) Only:

A = Use when any one HAP has permitted emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has permitted emissions > 25 T/yr.

SM80 = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits > 8 T/yr of a single HAP or ≥ 20 T/yr of Total HAPs.

SM = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits < 8 T/yr of a single HAP and/or < 20 T/yr of Total HAPs.

B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 10 and 25 T/yr HAP major source thresholds.

UNK = Class is unknown.

For All Other Pollutants:

A = Use when permitted emissions of a pollutant are > 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are ≥ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are < 80 T/yr.

B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 100 T/yr major source threshold.

UNK = Class is unknown.

Table 9 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	1.59E00	1.59E00	**100**	B
SO_2	1.05E-01	1.05E-01	**100**	B
NO_X	1.08E01	1.08E01	**100**	B
CO	2.00E00	2.00E00	**100**	B
VOC	2.90E-02	2.90E-02	**100**	B
HAP (single)	1.60E-02	1.60E-02	**10**	B
Total HAPs	2.00E-02	2.00E-02	**25**	B

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201..... Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed new emissions source. 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 58.01.01.624..... 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 2.3 and 3.4.

Fuel Burning Equipment – Particulate Matter (IDAPA 58.01.01.675)

IDAPA 58.01.01.677..... Standards for Minor and Existing Sources

A person shall not discharge into the atmosphere from any fuel burning equipment with a maximum rated input of ten (10) million BTU's per hour or more, and commencing operation on or after October 1, 1979, particulate matter in excess of the concentrations shown in the following table:

Table 10

FUEL TYPE	ALLOWABLE PARTICULATE gr/dscf	EMISSIONS Oxygen
Liquid	0.050	3%

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 PM_{10}, SO_2, NO_X, CO, VOC or 10 tons per year for any single 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 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)

The facility has proposed to operate as a new stationary source and could be subject to 40 CFR 60, Subparts DC: Standards of performance for Small Industrial-Commercial-Institutional Steam Generating Units, Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984, and IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. DEQ is delegated these subparts. The following is a breakdown of these subparts as applicable to the facility. Applicable paragraphs have been highlighted and clarifying comments have been inserted in italic font where appropriate.

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

§60.40c: Applicability and designation of affected facility

Paragraph (a) states that "the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr."

Three boilers are proposed at the facility, each with a maximum design heat input capacity of 5.18 MMBtu/hr. Because the maximum design heat input capacity for each boiler is less than 10 MMBtu/hr the facility is ***not affected*** *by the requirements of Subpart Dc.*

40 CFR 60, Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984

§60.110: Applicability and designation of affected facility.

Paragraph (b) states that "the requirements of this subpart do not apply to storage vessels with a capacity greater than or equal to 75 m^3 (19,813 gallons) but less than 151 m^3 (39,890 gallons) storing a liquid with a maximum true vapor pressure less than 15.0 kPa."

There are two storage vessels proposed for this facility which have capacities of 20,000 gallons and which store #2 fuel oil. However, because the true vapor pressure of #2 fuel oil is less than 15.0 kPa the requirements of Subpart Kb are ***not applicable*** *to the facility.*

40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

§60.4200 Am I subject to this subpart?

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

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

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

The facility proposes to install a later than 2007 model year stationary CI ICE with a displacement of 2.67 liters per cylinder; therefore the facility is subject to this subpart.

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

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

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

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

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

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

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

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

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

The facility has not proposed to install any non-emergency engines; therefore this section is not applicable.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in §60.4212.
(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.
(f) Owners and operators of stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with AECDs as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new non-road CI engines in 40 CFR 89.112 while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

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

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

Since the proposed engine is a later than 2007 model paragraph (a) is not applicable.

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

The facility proposes to install one later than 2007 model year stationary CI ICE with a displacement of 2.67 L/cylinder therefore paragraph (b) is applicable.

Note that §60.4202(a)(2) directs to the emission standards listed in 40 CFR 89 – Control of Emissions from New and In-Use Non-Road Compression-Ignition Engines, sections §89.112 and §89.113. In accordance with these sections, NMHC+NO_X emission is limited to 6.4 g/kW-hr, CO emission is limited to 3.5 g/kW-hr, and PM emission is limited to 0.20 g/kW-hr. Furthermore, exhaust opacity must not exceed 20% during acceleration mode, 15% during lugging mode, and 50% during peaks in either the acceleration or lugging modes. This requirement has been ensured by permit condition 3.3.

Paragraphs (c) – (f) apply only to fire pump engines, engines with a displacement of greater than or equal to 30 liters per cylinder, engines subject to performance tests, and modified or reconstructed engines. Since the facility has not proposed to install any such engine, these paragraphs are not applicable.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.
(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.
  (1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:
    (i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;
    (ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and
    (iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:
   (i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;
   (ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and
   (iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

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

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

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

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

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

This requirement is ensured by permit condition 3.6.

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

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

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

Paragraph (b) supersedes paragraph (a) because it is more recent. Note that §80.510(b) specifies a maximum sulfur content of 15 ppm for non-road diesel fuel. This requirement is ensured by permit condition 3.9.

Paragraphs (d) and (e) do not apply because the facility has not proposed to install any engine with a displacement greater than or equal to 30 liters per cylinder and because no proposed engine qualifies for a national security exemption.

(c) [Reserved]

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

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

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

The facility has proposed to install a newly manufactured CI ICE; therefore the deadlines specified in this section are not applicable.

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.
(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.
(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.
(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.
(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.
(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.
(h) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.
(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

§60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.
(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

The facility will install a non-resettable hour meter in accordance with paragraph (a) and if appropriate, will monitor the diesel particulate filter backpressure in accordance with paragraph (b). These requirements are ensured by permit condition 3.11 and 3.12.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

If the proposed CI ICE is equipped with a diesel particulate filter, the facility will monitor backpressure as specified in paragraph (b). This requirement is ensured by permit condition 3.12.

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

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

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
(2) Change only those emission-related settings that are permitted by the manufacturer; and
(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

The facility is subject to emission standards specified in Table 1, therefore this section is applicable. The requirements of this section are ensured by permit condition 3.10.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.
(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
(3) Keeping records of engine manufacturer data indicating compliance with the standards.
(4) Keeping records of control device vendor data indicating compliance with the standards.
(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

The facility has not proposed to install a pre-2007 model year stationary CI internal combustion engine nor a fire pump engine; therefore paragraph (b) is not applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

Because the facility proposes to install a later than 2007 model year stationary CI ICE that is affected by the emission standards specified in §60.4205(b), this paragraph is applicable. These requirements are ensured by permit condition 3.7.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.
(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.
(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.
(i) Identification of the specific parameters you propose to monitor continuously;
(ii) A discussion of the relationship between these parameters and NO_X and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_X and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

Because the facility has not proposed to install a non-emergency CI ICE or a CI ICE with a displacement greater than or equal to 30 liters per cylinder, the emission standards specified in §60.4204(c) or §60.4205(d) do not apply and no demonstration of compliance specified in paragraph (d) is required.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

The facility has not proposed to install a modified or reconstructed stationary CI ICE; therefore the requirements of paragraph (e) do not apply.

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

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

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

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

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

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

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

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

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

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

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

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

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

(ii) [Reserved]

The facility will comply with this section, the requirements of which are ensured by permit condition 3.8.

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

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

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

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

performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

The facility will install, configure, operate, and maintain the proposed engine according to the manufacturers emission-related written instructions and will change emission related settings only in ways allowed by the manufacturer as required in §60.4211; therefore paragraph (g) does not apply.+

(h) The requirements for operators and prohibited acts specified in 40 CFR 1039.665 apply to owners or operators of stationary CI ICE equipped with AECDs for qualified emergency situations as allowed by 40 CFR 1039.665.

The facility has not proposed to install an AECD (Auxiliary Emission Control Device); therefore paragraph (h) does not apply.

§60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

This section specifies source testing methodology for owners of operators of CI ICE for which performance testing is required pursuant to this subpart. However, because owners and operators of emergency CI ICE are not required to perform source testing, this section does not apply.

§60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

The facility has not proposed to install a stationary CI ICE with a displacement greater than or equal to 30 liters per cylinder; therefore the this section is not applicable.

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

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.
  (1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.
    (i) Name and address of the owner or operator;
    (ii) The address of the affected source;
    (iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
    (iv) Emission control equipment; and
    (v) Fuel used.
  (2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.
    (i) All notifications submitted to comply with this subpart and all documentation supporting any notification.
    (ii) Maintenance conducted on the engine.
    (iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.
    (iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency

and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

The requirements of this paragraph are ensured by permit condition 3.11.

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

If the proposed CI ICE is equipped with a diesel particulate filter, the facility will comply with paragraph (c), as ensured by permit condition 3.12.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in §60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.
   (1) The report must contain the following information:
      (i) Company name and address where the engine is located.
      (ii) Date of the report and beginning and ending dates of the reporting period.
      (iii) Engine site rating and model year.
      (iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
      (v) Hours operated for the purposes specified in §60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(2)(ii) and (iii).
      (vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4211(f)(2)(ii) and (iii).
      (vii) Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.
   (2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.
   (3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4.
(e) Owners or operators of stationary CI ICE equipped with AECDs pursuant to the requirements of 40 CFR 1039.665 must report the use of AECDs as required by 40 CFR 1039.665(e).

§60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

The facility will operate the proposed engine using diesel fuel; therefore this section is not applicable.

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4204 or §60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

NESHAP Applicability (40 CFR 61)

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

MACT/GACT Applicability (40 CFR 63)

The facility has proposed to operate as a minor source of hazardous air pollutants and could be subject to 40 CFR 63, Subparts WW – National Emission Standards for Storage Vessels (Tanks) – Control Level 2, ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, and JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. DEQ is delegated these subparts. The following is a breakdown of these subparts as they apply to the facility, until such time a signed EPA exemption letter is filed for the facility. Applicable paragraphs have been highlighted and clarifying comments have been added in italic font where appropriate.

40 CFR 63, Subpart WW: National Emission Standards for Storage Vessels (Tanks)-Control Level 2

§63.6590: Applicability

This section states that the subpart WW applies only to the control of air emissions from storage vessels for which another subpart references the use of this subpart for such air emission control. Since no other relevant subpart references this subpart, it does ***not apply*** *to the proposed diesel storage tanks.*

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

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

Paragraph (c) specifies that an affected source must meet the requirements of this part by meeting the requirements of 40 CFR 60 subpart IIII and that no further requirements exist for such engines under this part. Therefore, this subpart does ***not apply*** *to the proposed IC engine because its regulation is already addressed under NSPS.*

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

§63.11193 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195.

The facility has proposed to operate an institutional boiler located at an area source of HAP; therefore it is subject to this subpart.

§63.11194 What is the affected source of this subpart?

(a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.
  (1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in §63.11200 and defined in §63.11237, located at an area source.
  (2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in §63.11200 and as defined in §63.11237, located at an area source.

(b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.

(c) An affected source is a new source if you commenced construction of the affected source after June 4, 2010, and the boiler meets the applicability criteria at the time you commence construction.

The affected boilers are new sources.

(d) An affected source is a reconstructed source if the boiler meets the reconstruction criteria as defined in §63.2, you commenced reconstruction after June 4, 2010, and the boiler meets the applicability criteria at the time you commence reconstruction.
(e) An existing dual-fuel fired boiler meeting the definition of gas-fired boiler, as defined in §63.11237, that meets the applicability requirements of this subpart after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel.
(f) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. *See* 40 CFR 70.3(a) and (b) or 71.3(a) and (b). Notwithstanding the exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart.

§63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart.
(a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part.
(b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.
(c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (*e.g.,* hazardous waste boilers).
(d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply.
(e) A gas-fired boiler as defined in this subpart.
(f) A hot water heater as defined in this subpart.
(g) Any boiler that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler is provided by regulated gas streams that are subject to another standard.
(h) Temporary boilers as defined in this subpart.
(i) Residential boilers as defined in this subpart.
(j) Electric boilers as defined in this subpart.
(k) An electric utility steam generating unit (EGU) as defined in this subpart.

§63.11196 What are my compliance dates?

(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.
  (1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.
  (2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.
  (3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.
(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

This paragraph applies and its requirements are ensured by permit conditions 2.3 and 2.4.

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in §63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD.

§63.11200 What are the subcategories of boilers?

The subcategories of boilers, as defined in §63.11237 are:
(a) Coal.
(b) Biomass.
(c) Oil.
(d) Seasonal boilers.
(e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour.
(f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.
(g) Limited-use boilers.

§63.11201 What standards must I meet?

(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.

No emission limit specified in Table 1 to this subpart applies.

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.

Row 2 of Table 2 to this subpart specifies that owners and operators of new oil-fired boilers with a heat input capacity greater than 5 MMBtu/hr conduct biennial tune-ups. The facility has proposed to install three (3) boilers with a heat input capacity of 5.181 MMBtu/hr; therefore paragraph (b) applies. The requirements of paragraph (b) are ensured by permit condition 2.6.

(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.

Table 3 specifies operating limits to be met during startup and shutdown to maintain compliance with applicable emission limits. Because no emission limits (from Table 1) apply to the proposed boilers, no conditions in Table 3 are applicable.

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time you must comply only with Table 2 to this subpart.

§63.11205 What are my general requirements for complying with this subpart?

(a) 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 that 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.

The conditions of paragraph (a) are ensured by permit condition 2.7.

Because no emission limits apply to the affected boilers, the requirements of paragraphs (b) and (c) are not applicable.

(b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to §63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of §63.11224.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

§63.11210 What are my initial compliance requirements and by what date must I conduct them?

Because the proposed boilers are new sources to be located at an area source of HAPS and that are not subject to any emission limit specified in Table 1, only paragraph (g) is applicable.

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to §63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to §63.11213 and Table 5 to this subpart.

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (k) of this section.

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section.

(d) For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(e) For new or reconstructed oil-fired boilers that commenced construction or reconstruction on or before September 14, 2016, that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a particulate matter (PM) emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce PM or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart until September 14, 2019, providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel. On and after September 14, 2019, you are subject to the PM emission limit in Table 1 of this subpart and you must demonstrate compliance with the PM emission limit in Table 1 no later than March 12, 2020.

(f) For new or reconstructed boilers that combust only ultra-low-sulfur liquid fuel as defined in §63.11237, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a fuel other than ultra-low-sulfur liquid fuel or gaseous fuels as defined in §63.11237, you must conduct a performance test within 60 days of burning the new fuel.

(g) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in §63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

The requirements of paragraph (g) are ensured by permit condition 2.6.

(h) For affected boilers that ceased burning solid waste consistent with §63.11196(d) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.

(i) For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJJ or the boiler becoming subject to subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to §63.11225(g).

(j) For boilers located at existing major sources of HAP that limit their potential to emit (*e.g.,* make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in paragraphs (j)(1) through (3) of this section.

(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source.

(2) Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2011 or startup.
(3) Notification of such changes must be submitted according to §63.11225(g).

(k) For existing affected boilers that have not operated on solid fossil fuel, biomass, or liquid fuel between the effective date of the rule and the compliance date that is specified for your source in §63.11196, you must comply with the applicable provisions as specified in paragraphs (k)(1) through (3) of this section.
(1) You must complete the initial compliance demonstration, if subject to the emission limits in Table 1 to this subpart, as specified in paragraphs (a) and (b) of this section, no later than 180 days after the re-start of the affected boiler on solid fossil fuel, biomass, or liquid fuel and according to the applicable provisions in §63.7(a)(2).
(2) You must complete the initial performance tune-up, if subject to the tune-up requirements in §63.11223, by following the procedures described in §63.11223(b) no later than 30 days after the re-start of the affected boiler on solid fossil fuel, biomass, or liquid fuel.
(3) You must complete the one-time energy assessment, if subject to the energy assessment requirements specified in Table 2 to this subpart, no later than the compliance date specified in §63.11196.

§63.11211 How do I demonstrate initial compliance with the emission limits?

No emission limits are applicable; therefore this section does not apply to the affected boilers.

§63.11212 What stack tests and procedures must I use for the performance tests?

No performance tests are required for the affected boilers; therefore this section does not apply.

§63.11213 What fuel analyses and procedures must I use for the performance tests?

No performance tests are required for the affected sources; therefore this section does not apply.

§63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

Because the facility does not propose to install an existing or reconstructed boiler, a coal-fired boiler, or a boiler affected by the emission limits specified in Table 1, only paragraph (b) is applicable.

(a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to §63.11210(c) or (g), as applicable, and §63.11223(b). If you own or operate an existing coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted an initial tune-up of the boiler.

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to §63.11210(c) or (g), as applicable, and §63.11223(b). If you own or operate an existing biomass-fired boiler or existing oil-fired boiler, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted an initial tune-up of the boiler.

The facility proposes to install three (3) new oil-fired boilers. §63.11210(g) specifies that no initial tune-up of the boilers is required; however biennial tune-ups are required, beginning not more than 25 months after initial startup. This requirement is ensured by permit condition 2.6.

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and that the assessment is an accurate depiction of your facility at the time of the assessment or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

§63.11220 When must I conduct subsequent performance tests or fuel analyses?

No performance tests of fuel analyses are required; therefore this section is not applicable.

§63.11221 Is there a minimum amount of monitoring data I must obtain?

Since no emission limits apply to the affected boilers, this section related to emissions monitoring is not applicable.

§63.11222 How do I demonstrate continuous compliance with the emission limits?

No emission limits apply to the affected sources; therefore this section does not apply.

§63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.
(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

The facility is subject to the work practice standard of a tune-up and will comply with this section by following the above procedure. These requirements are ensured by permit condition 2.6.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.

(d) Seasonal boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart.

(e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(f) Limited-use boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed limited-use boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Limited-use boilers are not subject to the emission limits in Table 1 to this subpart, the energy assessment requirements in Table 2 to this subpart, or the operating limits in Table 3 to this subpart.

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups

and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

§63.11224 What are my monitoring, installation, operation, and maintenance requirements?

The facility is not subject to a CO emission limit, is not using a control device to comply with any emission limit listed in Table 1, is not required to demonstrate compliance to any emission limit through stack testing, is not required to use a CMS, does not have an applicable opacity operating limit under this rule, and is not required to operate a baghouse. Therefore, this section is not applicable.

§63.11225 What are my notification, reporting, and recordkeeping requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.
  (1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.
  (2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.
  (3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.
  (4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you own or operate a new boiler subject only to a requirement to conduct a biennial or 5-year tune-up or you must conduct a performance stack test. If you own or operate a new boiler subject to a requirement to conduct a tune-up, you are not required to prepare and submit a Notification of Compliance Status for the tune-up. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.
    (i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13.
    (ii) "This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler."
    (iii) "This facility has had an energy assessment performed according to §63.11214(c)."
    (iv) For units that install bag leak detection systems: "This facility complies with the requirements in §63.11224(f)."
    (v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."
    (vi) The notification must be submitted electronically using 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 Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13.
  (5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to the energy assessment requirement and/or a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(iii) "This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

Because the affected boilers are subject only to the requirement to conduct a biennial tune-up and are not subject to emission limits or operating limits, a biennial compliance report, prepared by March 1 and addressing only the information specified in paragraphs (b)(1) and (2) is required. This requirement is ensured by permit condition 2.10.

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2 and each of the legitimacy criteria in §241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary

materials as fuel per §241.4, you must keep records documenting that the material is a listed non-waste under §241.4(a).

(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used. For each new oil-fired boiler that meets the requirements of §63.11210(e) or (f), you must keep records, on a monthly basis, of the type of fuel combusted.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(e) (1) Within 60 days after the date of completing each performance test (as defined in §63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (e)(1)(i) or (ii) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*https://www3.epa.gov/ttn/chief/ert/ert_info.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*).) Performance test data must be submitted in a file

format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in §63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation (as defined in §63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (e)(2)(i) or (ii) of this section.

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If you claim that some of the performance evaluation information being submitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in §63.13.

(f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of gas-fired boiler, as defined in §63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.

(2) The date upon which the fuel switch, physical change, or permit limit occurred.

The recordkeeping requirements in paragraphs (c) and (d) are ensured by permit condition 2.8 and 2.9.

Permit Conditions Review

Boilers

Initial Permit Condition 2.3

The opacity limit permit condition requires that the opacity of boiler emissions complies with IDAPA 58.01.01.625.

Initial Permit Condition 2.4

The particulate matter permit condition requires that the particulate matter content of boiler emissions complies with IDAPA 58.01.01.677.

Initial Permit Condition 2.5

The fuel oil sulfur content limit condition precludes the burning of fuel oil containing greater than 0.0015% sulfur.

Initial Permit Condition 2.6

The boiler tune-up requirement condition requires that boiler tune-ups occur with a frequency and by the procedures provided in §63.11201, §63.11210, §63.11214, and §63.11223.

Initial Permit Condition 2.7

The good air pollution control practices condition requires that the permittee operate any affected source in a manner with good air pollution control practices as specified in §63.11205.

Initial Permit Condition 2.8

The recordkeeping condition requires that the content of facility records should comply with §63.11225.

Initial Permit Condition 2.9

The records retention condition requires that records be kept for a length of time and with an accessibility in accordance with §63.11225.

Initial Permit Condition 2.10

The reporting requirement condition requires that the permittee submit compliance reports in accordance with §63.11225.

Emergency Internal Combustion Engine Powering an Electric Generator

Initial Permit Condition 3.3

The emission limit permit condition requires that the emission of NMHC+NO_X and PM comply with §60.4205.

Initial Permit Condition 3.4

The opacity limit permit condition requires that the opacity of emissions from the IC engine comply with IDAPA.58.01.01.625.

Initial Permit Condition 3.5

The particulate matter permit condition requires that emission from the IC engine comply with IDAPA.58.01.01.677.

Initial Permit Condition 3.6

Permit condition 3.6 requires that all applicable emission limits must be met throughout the operational lifetime of the IC engine in accordance with §60.4206.

Initial Permit Condition 3.7

The engine certification permit condition requires that the permittee purchases an engine that is certified to the emission limits specified in §60.4205.

Initial Permit Condition 3.8

Permit condition 3.8 lists the conditions upon which the emergency IC engine may be operated under emergency and non-emergency service as specified in §60.4211.

Initial Permit Condition 3.9

In accordance with §60.4207, the fuel requirement permit condition requires that only fuel containing 0.0015% sulfur content or less may be combusted.

Initial Permit Condition 3.10

In accordance with §60.4211, permit condition 3.10 requires that the permittee operate the IC engine according to the manufacturer's written emission related instructions.

Initial Permit Condition 3.11

In accordance with §60.4209, permit condition 3.11 requires that the permittee install a non-resettable hour meter and record the time and reason for all engine usage.

General Provisions

Initial Permit Condition 4.1

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

Initial Permit Condition 4.2

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

Initial Permit Condition 4.3

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

Initial Permit Condition 4.4

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

Initial Permit Condition 4.5

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

Initial Permit Condition 4.6

The notification of construction and operation provision requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.01 and 211.03.

Initial Permit Condition 4.7

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

Initial Permit Condition 4.8

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

Initial Permit Condition 4.9

The performance test report provision requires that the permittee report any performance test results to DEQ within 60 days of completion, in accordance with IDAPA 58.01.01.157.04-05.

Initial Permit Condition 4.10

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

Initial Permit Condition 4.11

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

Initial Permit Condition 4.12

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

Initial Permit Condition 4.13

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

Initial Permit Condition 4.14

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

Initial Permit Condition 4.15

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

Initial Permit Condition 4.16

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

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there was not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

Table A1 : Emission Factors for Regulated Pollutants

Pollutant	Emission Factor	
	Boilers[b]	Emergency Generator[c]
Criteria Pollutants (lb./10^3 gal)		
PM	[a]	[a]
SO_2	2.13E-01	1.52E-03
NO_2	[a]	[a]
CO	[a]	[a]
Lead	see trace elements	see trace elements
VOC	[a]	[a]
Air Toxics (lb./10^3 gal)		
1,1,1-trichloroethane	2.36E-04	NA
Acenaphthene	2.11E-05	4.68E-06
Acenaphthylene	2.53E-07	9.23E-06
Acetaldehyde	NA	2.52E-05
Acrolein	NA	7.88E-06
Anthracene	1.22E-06	1.23E-06
Benz(a)anthracene	4.01E-06	6.22E-07
Benzene	2.14E-04	7.76E-04
Benzo(a)pyrene	NA	2.57E-07
Benzo(b)fluoranthene	1.48E-06	1.11E-06
Benzo(g,h,l)perylene	2.26E-06	5.56E-07
Benzo(k)fluoranthene	[a]	2.18E-07
Chrysene	2.38E-06	1.53E-06
Dibenz(a,h)anthracene	1.67E-06	3.46E-07
Ethylbenzene	6.26E-05	NA
Flourene	4.47E-06	1.28E-05
Fluoranthene	4.84E-06	4.03E-06
Formaldehyde	3.30E-02	7.89E-05
Indeno(1,2,3-cd)pyrene	2.14E-06	4.14E-07
Naphthalene	1.13E-03	1.30E-04
Phenanthrene	1.05E-05	4.08E-05
Propylene	NA	2.79E-03
Pyrene	4.25E-06	3.71E-06
Toluene	6.20E-03	2.81E-04
Xylenes	1.09E-04	1.93E-04
Trace Elements (lb./10^{12} Btu)		
Arsenic	2.07E-05	NA
Beryllium	1.55E-05	NA
Cadmium	1.55E-05	NA
Chromium	1.55E-05	NA
Copper	3.11E-05	NA
Lead	4.66E-05	NA
Mercury	1.55E-05	NA
Manganese	3.11E-05	NA
Nickel	1.55E-05	NA
Selenium	7.77E-05	NA
Zinc	2.07E-05	NA
Greenhouse Gasses (kg/MMBtu)		
CO_2	7.40E+01	7.40E+01
CH_4	3.00E-03	3.00E-03
N_2O	6.00E-04	6.00E-04

[a] emission rate directly provided by manufacturer – see Table A2
[b] taken from EPA AP-42 Chapter 1.3
[c] taken from EPA AP-42 Chapter 3.4
NA not available

Table A2: Manufacturer Provided Emission Rates (lb/hr) for Criteria Pollutants at Maximum Operating Rate

	Boiler	Emergency Generator
PM	1.21E-01	1.14E-01
NO2	7.90E-03	1.49E-02
CO	7.51E-01	1.92E+01
VOC	1.90E-03	8.16E-02

Table A3: Equipment Information

	Boilers	Emergency Generator
Sulfur Content of Fuel	0.0015%	0.0015%
High Heating Value of Fuel (MMBtu/gal)	0.138	0.138
Maximum Fuel Consumption (gal/hr)	37.1	71.9
Max. Heat Input (MMBtu/hr)	5.181	9.86
Max. Horsepower Rating (hp.)	130	1474
Annual Operating Hours (hr)	8760	100

Table A4 : Global Warming Potentials

CO_2	1
CH_4	25
N_2O	298

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: June 27, 2019

TO: Chris Duerschner, Permit Writer, Air Program

FROM: Pao Baylon, Modeling Review Analyst, Air Program

PROJECT: P-2019.0026 PROJ 62245, Permit to Renovate and Expand St. Luke's Existing Hospital Campus located in McCall, Idaho.

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

Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration of a non-carcinogenic TAP
AACC	Acceptable Ambient Concentration of a Carcinogenic TAP
acfm	Actual cubic feet per minute
AERMAP	The terrain data preprocessor for AERMOD
AERMET	The meteorological data preprocessor for AERMOD
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
Appendix W	40 CFR 51, Appendix W – Guideline on Air Quality Models
ASOS	Automated Surface Observing System
BPIP	Building Profile Input Program
BRC	Below Regulatory Concern
CFR	Code of Federal Regulations
CMAQ	Community Multi-Scale Air Quality Modeling System
CO	Carbon monoxide
DEM	Digital Elevation Map
DEQ	Idaho Department of Environmental Quality
DV	Design Values
EL	Emissions Screening Level of a TAP
EPA	United States Environmental Protection Agency
ft	Feet
fps	Feet per second
GEP	Good Engineering Practice
HAP	Hazardous Air Pollutant
hr	Hours
Idaho Air Rules	Rules for the Control of Air Pollution in Idaho, located in the Idaho Administrative Procedures Act 58.01.01
ISCST3	Industrial Source Complex Short Term 3 dispersion model
Jacobs	Jacobs (permittee's permitting and modeling consultant)
K	Kelvin
lb/hr	Pounds per hour
m	Meters
m/sec	Meters per second
MMBtu	Million British Thermal Units
NAAQS	National Ambient Air Quality Standards
NAD83	North American Datum of 1983
NED	National Elevation Dataset
NO	Nitrogen oxide
NO_2	Nitrogen dioxide
NOx	Oxides of Nitrogen
NW AIRQUEST	Northwest International Air Quality Environmental Science and Technology Consortium
NWS	National Weather Service
O_3	Ozone
OLM	Ozone Limiting Method

Pb	Lead
PM_{10}	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 10 micrometers
$PM_{2.5}$	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 2.5 micrometers
ppb	Parts per billion
PRIME	Plume Rise Model Enhancement
PSD	Prevention of Significant Deterioration
PTC	Permit to Construct
PTE	Potential to Emit
PVMRM	Plume Volume Molar Ratio Method
SIL	Significant Impact Level
SLMC	St. Luke's McCall, LTD (permittee)
SO_2	Sulfur dioxide
TAP	Toxic Air Pollutant
tpy	Tons per year
ULSD	Ultra-Low Sulfur Diesel
USGS	United States Geological Survey
UST	Underground Storage Tank
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compounds
°C	Degrees Celsius
°F	Degrees Fahrenheit
$\mu g/m^3$	Micrograms per cubic meter of air

1.0 Summary

St. Luke's McCall, LTD (SLMC) submitted a Permit to Construct (PTC) application to renovate and expand the existing McCall hospital campus located at 1000 State Street in McCall, Idaho. The proposed project will decommission and remove existing equipment from service (two diesel-fired boilers and one diesel-fired emergency generator) as part of the new hospital renovation, and will install three diesel-fired boilers, one diesel-fired emergency generator, and two underground storage tanks. Project-specific air quality analyses involving atmospheric dispersion modeling of estimated emissions associated with the proposed modification were submitted to DEQ to demonstrate that applicable emissions do not result in violation of a National Ambient Air Quality Standard (NAAQS) or Toxic Air Pollutant (TAP) increment as required by the Idaho Administrative Procedures Act 58.01.01.203.02 and 203.03 (Idaho Air Rules Section 203.02 and 203.03). This memorandum provides a summary of the applicability assessment for analyses and air impact analyses used to demonstrate compliance with applicable NAAQS and TAP increments, as required by Idaho Air Rules Section 203.02 and 203.03.

The facility currently operates under PTC No. P-950173, issued on October 20, 1995. This PTC application treated the proposed project as a new facility instead of a modification. Permitting the entire SLMC as a new facility was easier because the existing PTC is in an old format, there is insufficient documentation, and there is no existing emission inventory. SLMC proposes to terminate PTC No. P-950173 and replace it once a new PTC is issued by DEQ.

Jacobs, on behalf of SLMC, prepared the PTC application and performed ambient air impact analyses for this project. DEQ review of submitted data and DEQ analyses summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that estimated emissions associated with operation of the facility will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not address/evaluate compliance with other rules or analyses not pertaining to the air impact analyses. Evaluation of emission estimates was the responsibility of the DEQ permit writer and is addressed in the main body of the DEQ Statement of Basis, and emission calculation methods were not evaluated in this modeling review memorandum.

Table 1 presents key assumptions and results to be considered in the development of the permit. Idaho Air Rules require air impact analyses be conducted in accordance with methods outlined in 40 CFR 51, Appendix W *Guideline on Air Quality Models* (Appendix W). Appendix W requires that air quality impacts be assessed using atmospheric dispersion models with emissions and operations representative of design capacity or as limited by a federally enforceable permit condition.

The submitted information and analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data (review of emission 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 estimated potential/allowable emissions are at a level defined as below regulatory concern (BRC) and do not require a NAAQS compliance demonstration; b) that predicted pollutant concentrations from emissions associated with the project as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or c) that predicted pollutant concentrations from emissions associated with the project, 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 TAP emission increases associated with the project will not result in increased ambient air impacts exceeding allowable TAP increments. This conclusion assumes that conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition. The DEQ permit writer

should use Table 1 and other information presented in this memorandum to generate appropriate permit provisions/restrictions to assure emissions do not exceed applicable regulatory thresholds requiring further analyses and to assure the requirements of Appendix W are met regarding emissions representative of design capacity or permit allowable rates.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
General Emission Rates. Emission rates used in the air impact analyses, as listed in Table 4 of this memorandum, must represent maximum potential emissions as given by design capacity, inherently limited by the nature of the process or configuration of the facility, or as limited by the issued permit for the specific pollutant and averaging period.	Compliance has not been demonstrated for emission rates greater than those used in the air impact analyses.
Air Impact Analyses for Criteria Pollutant Emissions. Facility-wide emissions of $PM_{2.5}$[a], PM_{10}[b], and NO_2 do not qualify for a below regulatory concern (BRC) exemption. Also, short-term and long-term emissions of these pollutants exceed DEQ Level I modeling thresholds. Therefore, these pollutants and all averaging times are subject to NAAQS Compliance Demonstration requirements.	Project-specific air impact analyses demonstrating compliance with NAAQS, as required by Idaho Air Rules Section 203.02, are required for pollutant increases above BRC thresholds, or for pollutants having an emission increase that is greater than Level I modeling applicability thresholds (where the BRC exclusion cannot be used).
Air Impact Analyses for Toxic Air Pollutant Emissions. Allowable emissions of all TAPs are below screening emission levels. Therefore, no TAPs were modeled in the application.	A TAP increment compliance demonstration would be required for any TAPs with emissions above screening emission levels.
Fuel Type for Boilers (BLR1-BLR3) and Emergency Generator (GEN1). The three boilers and the emergency generator will combust ultra-low sulfur diesel (ULSD) exclusively. ULSD fuel containing no more than 15 parts per million of sulfur by weight will be used.	Emission rates and ambient impacts are tied to fuel type.
Concurrent Operation of Boilers (BLR1-BLR3). Only two of the three boilers will be operating concurrently. The third boiler will be a backup boiler. However, for conservatism, modeling was performed with all three boilers operating concurrently. 75% load was used for stack parameters and 100% load was used for emission calculations.	All three boilers were assumed to operate 8,760 hours per year on ULSD. Modeling stack parameters at 75% load provide conservative results.
Testing and Maintenance of Emergency Generator (GEN1). The emergency generator will be installed at the same location of the original emergency generator. The original emergency generator will be removed; thus, at no time will both generators be operational concurrently. GEN1 will be routinely tested to ensure proper operation. For testing and maintenance purposes, the emergency generator will be limited to 100 hours per year and may operate up to five hours per day. Testing and maintenance operation of the emergency generator is subject to modeling requirements except for 1-hour NO_2 SIL and NAAQS. True operation of the emergency generator, during an actual emergency, is not subject to modeling requirements. Stack parameters of GEN1 were modeled at 75% firing rate. Emission rates were calculated at 100% load.	Limited daily and annual operation assumptions for GEN1 were applied to the SIL and NAAQS analyses. Contributions to the daily and annual ambient impacts were reduced compared to unrestricted operations. The annual limit of 100 hours per year for GEN1 is appropriate given that the 1-hour NO_2 modeling exemption requires this operating limit. Modeling stack parameters at 75% load provide conservative results.
Stack Terminations for Boilers (BLR1-BLR3) and Emergency Generator (GEN1). All proposed boilers were modeled with a raincap, and the proposed emergency generator was modeled with uninterrupted vertical release. The modeled stack release heights should be regarded as the minimum height of the constructed stacks, and the modeled stack diameters should be regarded as the maximum diameters of the constructed stacks (Tables 5-6 of this modeling memorandum).	A stack equipped with a raincap or horizontal orientation will likely cause higher ambient impacts than a stack with an uninterrupted vertical release. The three new boilers were modeled at a release height of 17.68 m (58.0 ft) with raincap. Each boiler's stack diameter should not exceed 0.356 m (1.167 ft). The emergency generator was modeled with a stack release height of 12.90 m (42.3 ft) from ground level with uninterrupted vertical release. Stack diameter should not

	exceed 1.640 m (5.381 ft).
Differences Between Structures and Sources in the PTC Application and the As-Built Plans. The project was approved based on the information contained in the Project 62245 PTC application materials. If there are significant variations between the modeled specifications and the future as-built specifications, then SLMC may need to evaluate whether the NAAQS analyses performed in this application are still valid and whether revisions to the NAAQS analyses reflecting the as-built specifications are appropriate.	Permit applications and modeling demonstrations are intended to be based on the best information at the time the application is submitted. Changes to the building or emission unit design that increase emission rates or adversely affect dispersion characteristics for the exhaust plumes should be identified and evaluated for potential increases in ambient impacts by SLMC. New sources constructed post-issuance of this PTC application that were not included in this permitting action that qualify as a modeling-exempt source are not a part of this evaluation. Each future modification is a stand-alone project and is evaluated accordingly.

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

Summary of Submittals and Actions

March 8, 2019	Pre-application meeting held at DEQ State Office.
April 8, 2019	Jacobs submitted a modeling protocol to DEQ via e-mail.
May 2, 2019	DEQ provided a modeling protocol approval to Jacobs via e-mail.
June 5, 2019	PTC application received by DEQ.
June 17, 2019	PTC application determined complete by DEQ.

2.0 Background Information

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

2.1 Project Description

St. Luke's McCall, LTD (SLMC) is proposing to renovate and expand the existing McCall hospital campus. SLMC will decommission and remove the existing equipment from service (two diesel-fired boilers and one diesel-fired emergency generator) as part of the new hospital renovation, and install three diesel-fired boilers, one diesel-fired emergency generator, and two underground storage tanks (UST).

The three diesel-fired boilers will be installed in the new northern building. The primary purpose of the three boilers will be to generate steam for space heating at the facility. The fuel source will be ultra-low sulfur diesel (ULSD) exclusively.

A new emergency generator will be installed at the same location of the original emergency generator. The original generator will be removed; thus, at no time will both generators be operational concurrently. The emergency generator will provide electrical power to SLMC in the event of a power interruption. The emergency generator will combust ULSD and will be routinely tested to ensure proper operation. For testing and maintenance purposes, the emergency generator will be limited to 100 hours per year and may operate up to five hours per day.

The two 20,000-gallon USTs will be used to supply ULSD for the boiler and emergency generator operations. One tank will be used for boiler heating operations, while the other tank will partition 8,000 gallons to supply ULSD for emergency generator operations, and partition the remaining 12,000 gallons to be backup fuel reserves for boiler heating operations. Jacobs calculated negligible emissions for the two USTs using the EPA Tanks program.

The construction schedule consists of four phases. Phase 1 will include road improvements and expansion to the existing hospital campus. Phase 2 will include construction of the northern building. Phase 3 will include existing building renovations and existing building demolitions. Phase 4 will include final existing building renovations and south wing additions. For air permitting purposes, SLMC proposed to combine all phases into one new air quality PTC application.

2.2 Project Location and Area Classification

The facility is located in McCall, within Valley County (Northing: 4,973,285 m; Easting: 570,201 m; UTM Zone 11). 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 ($PM_{2.5}$). The area is not classified as non-attainment for any criteria pollutants.

2.3 Air Impact Analyses Required for All Permits to Construct

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:

> ***02. 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

If specific criteria pollutant emission increases associated with the proposed permitting project cannot qualify for a BRC exemption as per Idaho Air Rules Section 221, then the permit cannot be issued unless the application demonstrates that applicable emission increases will not cause or significantly contribute

to a violation of NAAQS, as required by Idaho Air Rules Section 203.02.

The first phase of a NAAQS compliance demonstration is to evaluate whether the proposed facility/project could have a significant impact to ambient air. Section 3.1.1 of this memorandum describes the applicability evaluation of Idaho Air Rules Section 203.02. 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 in accordance with methods outlined in Appendix W. 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.

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	0.2	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]	70 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.

If modeled maximum pollutant impacts to ambient air from the emission 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.

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 potential/allowable emissions resulting from the project and emissions from any nearby co-contributing sources (including existing emissions from the facility that are unrelated to the project), 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. If project-specific impacts are below the SIL, then the project does not have a significant contribution to the specific violations.

Compliance with Idaho Air Rules Section 203.02 is generally demonstrated if: a) applicable specific criteria pollutant emission increases are at a level defined as BRC, using the criteria established by DEQ regulatory interpretation[1]; or b) all modeled impacts of the SIL analysis are below the applicable SIL or other level determined to be inconsequential to NAAQS compliance; or c) 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 d) if the cumulative NAAQS analysis showed NAAQS violations, the impact of proposed facility/modification to any modeled violation was inconsequential (typically assumed to be less than the established SIL) for that specific receptor and for the specific modeled time when the violation occurred.

2.5 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 Section 210, if the total project-wide emission 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 emission 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. The DEQ permit writer evaluates the applicability of specific TAPs to the Section 210.20 exclusion.

3.0 Analytical Methods and Data

This section describes the methods and data used in the analyses to demonstrate compliance with applicable air quality impact requirements. The DEQ Statement of Basis provides a discussion of the methods and data used to estimate criteria and TAP emission rates.

3.1 Emission Source Data

Emissions of criteria pollutants and TAPs resulting from operation of the SLMC facility were estimated by Jacobs for various applicable averaging periods. The calculation of potential emissions is the responsibility of the DEQ permit writer, and the representativeness and accuracy of emission estimates is

not addressed in this modeling memorandum. DEQ air impact analysts are responsible for assuring that potential emission rates provided in the emission inventory are properly used in the model. The rates listed must represent the maximum allowable rate as averaged over the specified period.

Emission rates used in the impact modeling applicability analyses and any modeling analyses, as listed in this memorandum, should be reviewed by the DEQ permit writer and compared with those in the final emission inventory. All modeled criteria air pollutant and TAP emission rates must be equal to or greater than the facility's potential emissions calculated in the PTC emission inventory or proposed permit allowable emission rates.

3.1.1 Modeling Applicability and Modeled Criteria Pollutant Emission Rates

If project-specific emission increases for criteria pollutants would qualify for a BRC permit exemption as per Idaho Air Rules Section 221 if it were not for potential emissions of one or more pollutants exceeding the BRC threshold of 10 percent of emissions defined by Idaho Air Rules as significant, then a NAAQS compliance demonstration may not be required for those pollutants with emissions below BRC levels. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules is that: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant.[1]" The interpretation policy also states that the exemption criteria of uncontrolled potential to emit (PTE) not to exceed 100 ton/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 ton/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year. The BRC exemption cannot be used to exempt a project from a pollutant-specific NAAQS compliance demonstration in most cases where a PTC is required for the action regardless of emission quantities, such as the modification of an existing emission or throughput limit.

A NAAQS compliance demonstration must be performed for pollutant increases that would not qualify for the BRC exemption from the requirement to demonstrate compliance with NAAQS. In this project, applicable facility-wide emissions of PM_{10}, $PM_{2.5}$, and NOx exceed BRC thresholds. Therefore, a NAAQS compliance demonstration is required for these criteria pollutants for permit issuance.

Site-specific air impact modeling analyses may not be necessary for some pollutants, even where such emissions do not qualify for the BRC exemption. DEQ has developed modeling applicability thresholds, below which a site-specific modeling analysis is not required. DEQ generic air impact modeling analyses that were used to develop the modeling thresholds provide a conservative SIL analysis for projects with emissions below identified threshold levels. Project-specific modeling applicability thresholds are provided in the *Idaho Air Modeling Guideline*[2]. These thresholds were based on assuring an ambient impact of less than the established SIL for specific pollutants and averaging periods.

If total project-specific emission rate increases of a pollutant are below Level I Modeling Applicability Thresholds, then project-specific air impact analyses are not necessary for permitting. Use of Level II Modeling Applicability Thresholds are conditional, requiring DEQ approval. DEQ approval is based on dispersion-affecting characteristics of the emission sources such as stack height, stack gas exit velocity, stack gas temperature, distance from sources to ambient air, presence of elevated terrain, and potential exposure to sensitive public receptors. In this project, short-term and long-term emissions of PM_{10}, $PM_{2.5}$, and NOx exceed Level I modeling thresholds. Therefore, site-specific modeling is required for these criteria pollutants.

Table 3 provides a comparison between facility-wide PTE emissions and BRC levels.

Table 3. CRITERIA POLLUTANT NAAQS COMPLIANCE DEMONSTRATION APPLICABILITY

Criteria Pollutant	BRC Level (ton/year)	Applicable Facility-Wide PTE Emissions (ton/year)	Air Impact Analyses Required?
PM_{10}[a]	1.5	1.59	Yes
$PM_{2.5}$[b]	1.0	1.59	Yes
Carbon Monoxide (CO)	10.0	2.00	No
Sulfur Dioxide (SO_2)	4.0	0.10	No
Nitrogen Oxides (NOx)	4.0	11.00	Yes
Lead (Pb)	0.06	6.13E-04	No
Volatile Organic Compounds (VOCs)	4.0	0.03	No

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

As shown in Table 3, a NAAQS compliance demonstration is required for PM_{10}, $PM_{2.5}$, and NOx because the facility-wide emission rates are larger than 10% of the significant emission rates. Facility-wide emissions of other criteria pollutants are less than 10% of the significant emission rates and therefore qualify for a BRC exemption.

Table 4 lists criteria pollutant emission rates used in the SIL and Cumulative NAAQS Impact Analyses. Two of the three boilers will operate concurrently while the third boiler will be on standby. However, for conservatism, the three boilers were modeled to operate concurrently.

Table 4. MODELED EMISSION RATES FOR SIL AND CUMULATIVE NAAQS IMPACT ANALYSES

Source ID	Source Description	Pollutant	Averaging Period	Emissions (lb/hr)[a,b]
GEN1	Diesel-fired Emergency Generator	$PM_{2.5}$	24-hour	0.03[c]
			Annual	0.00137
		PM_{10}	24-hour	0.03[c]
		NOx	1-hour	Not modeled[d]
			Annual	0.223
BLR1, BLR2, and BLR3	Diesel-fired Boilers	$PM_{2.5}$	24-hour	0.12
			Annual	0.12
		PM_{10}	24-hour	0.12
		NOx	1-hour	0.76
			Annual	0.76

a. Modeled emission rate is the project-specific or facility-wide potential/allowable emission rate for the averaging period specified for the pollutant.
b. Pounds per hour.
c. The emergency generator may operate up to five hours per day for testing and maintenance. Therefore, the 24-hr emission rates for $PM_{2.5}$ and PM_{10} are modeled as the calculated emission rate for five hours of operation per day divided by 24 hours.
d. Modeling for 1-hr NO_2 is not required for emergency engine generators that run intermittently.

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 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 within the context of permitting a new stationary source 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."*

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

3.1.2 TAPs Modeling Applicability

TAP emission regulations under Idaho Air Rules Section 210 are only applicable for new or modified sources constructed after July 1, 1995.

No further review is required for TAPs that are federal Hazardous Air Pollutants (HAPs) and are regulated by 40 CFR 63, as per Idaho Air Rules Section 210.20. Therefore, TAPs that are federal HAPs may be excluded from the modeling analysis for the emergency generator and the diesel-fired boilers.

For this project, none of the TAPs exceed screening emission levels. Therefore, TAPs modeling was not performed for the project.

3.1.3 Emission Release Parameters

Tables 5 and 6 list emission release parameters, including stack height, exhaust temperature, exhaust velocity, and stack diameter for emission sources modeled in the air impact analyses, in metric and English units, respectively. Emission point release parameters were based on information provided in the application. Justification for emission release parameters is summarized in the next section.

Table 5. POINT SOURCE EMISSION RELEASE PARAMETERS IN METRIC UNITS

Release Point	Description	UTM[a] Coordinates		Stack Height (m)	Stack Gas Flow Temp. (K)[c]	Stack Gas Flow Velocity (m/sec)[d]	Modeled Stack Diameter (m)	Orient. Of Release
		Easting-X (m)[b]	Northing-Y (m)					
GEN1	Generator	570,211.13	4,973,279.84	12.90	711.5	1.522	1.640	V[e]
BLR1	Boiler	570,200.78	4,973,285.17	17.68	510.9	8.314	0.356	R[f]
BLR2	Boiler	570,203.46	4,973,285.17	17.68	510.9	8.314	0.356	R
BLR3	Boiler	570,206.51	4,973,285.18	17.68	510.9	8.314	0.356	R

a. Universal Transverse Mercator.
b. Meters.
c. Kelvin.
d. Meters per second.

e. Vertical uninterrupted release.
f. Raincap.

Table 6. POINT SOURCE EMISSION RELEASE PARAMETERS IN ENGLISH UNITS								
Release Point	Description	UTM[a] Coordinates		Stack Height (ft)[c]	Stack Gas Flow Temp. (°F)[d]	Stack Gas Flow Velocity (ft/sec)[e]	Modeled Stack Diameter (ft)	Orient. Of Release
		Easting-X (m)[b]	Northing-Y (m)					
GEN1	Generator	570,211.13	4,973,279.84	42.3	821.0	4.993	5.381	V[f]
BLR1	Boiler	570,200.78	4,973,285.17	58.0	460.0	27.277	1.167	R[g]
BLR2	Boiler	570,203.46	4,973,285.17	58.0	460.0	27.277	1.167	R
BLR3	Boiler	570,206.51	4,973,285.18	58.0	460.0	27.277	1.167	R

a. Universal Transverse Mercator.
b. Meters.
c. Feet.
d. Degrees Fahrenheit.
e. Feet per second.
f. Vertical uninterrupted release.
g. Raincap.

3.1.4 Emission Release Parameter Justification

Emergency Generator

Model IDs: GEN1

The listed manufacturer for the emergency generator is Caterpillar (Model C32 ATAAC). Stack parameters were derived at 75% firing rate for conservatism. The flow rate at 75% load is 6,813.1 actual cubic feet per minute (acfm). Stack exit diameter was modeled at 1.64 m (5.38 ft), which is typical for emergency generators. The corresponding modeled exit velocity is 1.52 m/sec (5.0 feet per second; fps).

$$GEN1\ exit\ velocity = 6{,}813.1\frac{ft^3}{min} \times \frac{4}{\pi(5.38\ ft)^2} \times \frac{1\ min}{60\ sec} \times \frac{1\ m}{3.28\ ft} = 1.52\frac{m}{sec}$$

DEQ concurs that the modeled exit velocity for GEN1 is reasonably conservative.

According to the submitted modeling report, the emergency generator will be located on the roof of the second level (9.75 m or 32 ft) with a height of enclosure of 3.45 m (11.33 ft). Therefore, the stack height is 13.20 m (43.33 ft). However, the modeled stack height was 12.90 m (42.3 ft), which is lower and more conservative than the planned stack height. DEQ determined that the modeled stack height for GEN1 is acceptable.

A stack temperature of 711.5 K (821 °F, 438 °C) was used in the modeling analysis. This value was based on the manufacturer's data sheet at 75% firing rate.

Emergency generator release parameters were appropriately documented and justified.

Boilers

Model IDs: BLR1, BLR2, and BLR3

The listed manufacturer for the three boilers is Fulton (Model VMP-130). For conservatism, stack parameters were derived at 75% firing rate. Based on the manufacturer's data sheet, the flow rate at 75% load is 1,749.7 acfm. Boilers were modeled with an exit diameter of 0.36 m (1.17 ft). Therefore, the corresponding modeled exit velocity is 8.31 m/sec (27.3 fps):

$$BLR1, BLR2, \& BLR3\ exit\ velocity = 1{,}749.7\frac{ft^3}{min} \times \frac{4}{\pi(1.17\ ft)^2} \times \frac{1\ min}{60\ sec} \times \frac{1\ m}{3.28\ ft} = 8.31\frac{m}{sec}$$

Modeled exit velocity for the boilers is reasonably conservative.

The boiler stacks will elevate at 3.05 m (10 ft) over the roof of the third level (14.63 m or 48 ft) for a total stack height of 17.68 m (58 ft). All three boilers were modeled at this stack height.

A stack temperature of 510.9 K (460 °F, 238 °C) was used in the modeling analysis. This value was based on the manufacturer's data sheet at 75% firing rate.

Boiler release parameters were appropriately documented and justified.

3.2 Background Concentrations

Background concentrations are used if a cumulative NAAQS impact analysis is needed to demonstrate compliance with applicable NAAQS. Background design values (DV) for 24-hour and annual $PM_{2.5}$, 24-hour PM_{10}, and 1-hour and annual NO_2 were obtained from the Northwest International Air Quality Environmental Science and Technology Consortium (NW AIRQUEST; https://arcg.is/1jXmHH) using the project site coordinates. These background air pollutant levels are based on regional scale air pollution modeling of pollutants in Washington, Oregon, and Idaho, with modeling results adjusted according to available monitoring data. The values from NW AIRQUEST are listed in Table 7.

Table 7. DEQ-RECOMMENDED AMBIENT BACKGROUND CONCENTRATIONS

Pollutant	Averaging Period	Background Concentration ($\mu g/m^3$)[a,b]
$PM_{2.5}$[c]	24-hr	17.5
	Annual	5.1
PM_{10}[d]	24-hr	60.1
NO_2[e]	1-hr	14.3
	Annual	2.6

a. Micrograms per cubic meter, except where noted otherwise.
b. NW AIRQUEST ambient background lookup tool, mid 2014–mid 2017.
c. Particulate matter with an aerodynamic diameter of 2.5 microns or less.
d. Particulate matter with an aerodynamic diameter of 10 microns or less.
e. Nitrogen dioxide.

3.3 Impact Modeling Methodology

This section describes the modeling methods used by Jacobs on behalf of SLMC to demonstrate preconstruction compliance with applicable air quality standards.

3.3.1 General Overview of Impact Analyses

Jacobs performed the project-specific air pollutant emission inventory and air impact analyses that were submitted with the application. The submitted information/analyses, in combination with results from

DEQ's air impact 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 8 provides a brief description of parameters used in the modeling analyses.

Table 8. MODELING PARAMETERS

Parameter	Description/Values	Documentation/Addition Description
General Facility Location	McCall, Idaho	McCall is located in Valley County, which is an attainment or unclassified area for all criteria pollutants.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 18081.
Meteorological Data	McCall surface data; Boise upper air data	See Section 3.3.4 of this memorandum for additional details on the meteorological data.
Terrain	Considered	National Elevation Dataset (NED) was acquired from the USGS for the surrounding area. AERMAP version 11103 was used to process terrain elevation data for all buildings and receptors. See Section 3.3.5 for more details.
Building Downwash	Considered	See Section 3.3.6 for details.
NOx Chemistry	Tier 2	Tier 2 Ambient Ratio Method (ARM2) assumes default minimum (0.5) and maximum (0.9) ambient ratios of NO_2/NOx. See Section 3.3.7.
Receptor Grid	**SIL Analysis** The selection of receptors for use in the SIL Analyses is as follows (see Section 3.3.9):	
	Grid 1	A 10-meter spacing around the ambient air boundary and extending approximately 100 meters from the building perimeter.
	Grid 2	A 100-meter grid extending approximately 1 kilometer from the ambient air boundary.
	Grid 3	A 500-meter grid extending approximately 5 kilometers from the ambient air boundary.
	Cumulative NAAQS Impact Analysis The same receptor grid was used for the Cumulative NAAQS Impact Analysis as for the SIL Analysis.	
	TAPs Analysis No TAPs were modeled.	

3.3.2 Modeling Methodology

Project-specific modeling and other required impact analyses were generally conducted using data and methods described in the *Idaho Air Quality Modeling Guideline*[2].

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 Appendix W. 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 it includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD version 18081 was used by Jacobs 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.

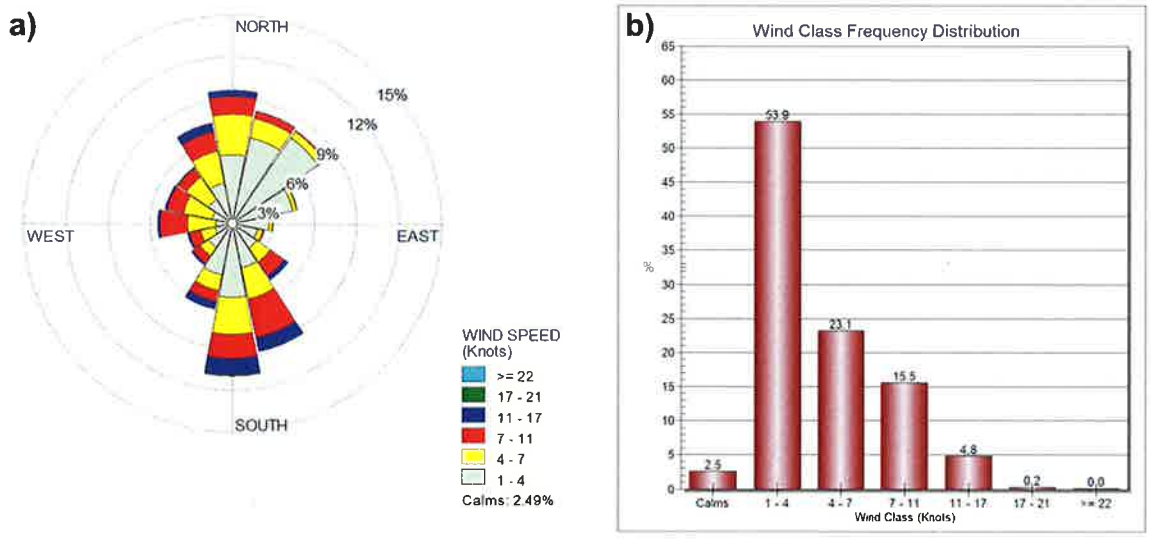
3.3.4 Meteorological Data

DEQ processed a meteorological dataset from McCall, Idaho (KMYL; station ID 725788-94182) covering the years 2011-2016. The year 2013 was not utilized due to significant missing Automated

Surface Observing Systems (ASOS) wind data in that time period. The upper air soundings required by AERMET were obtained from the Boise airport station (site ID 24131). Surface characteristics were determined by DEQ staff using AERSURFACE version 13016. DEQ modeling staff evaluated annual moisture conditions for the AERSURFACE runs based on thirty years of McCall airport precipitation data. Conditions were determined to be "average" for 2014, 2015, and 2016; "dry" for 2011; and "wet" for 2012. Average moisture content was defined as within a 30 percentile of the 30-year mean of 24.03 inches. The average wind speed of the data for the five-year period is 4.6 knots per hour, and the percent calm distribution is 2.49%. Calms were relatively low, and less than 1 percent of the data were missing from the 5-year record.

Figure 1 shows a wind rose and wind speed histogram at McCall Airport. AERMINUTE version 15272 was used to process ASOS wind data for use in AERMET. AERMET version 18081 was used to process surface and upper air data and to generate a model-ready meteorological data input file. The "adjust u star" (ADJ_U*) option was applied in AERMET to enhance model performance during low wind speeds under stable conditions. DEQ provided meteorological data to Jacobs, with and without the ADJ_U* option enabled. In the submitted modeling files, Jacobs used the meteorological data with the ADJ_U* option enabled. DEQ determined that these data are adequately representative of the meteorology at the St. Luke's McCall site for minor source permitting.

Figure 1. (a) WIND ROSE AND (b) WIND SPEED HISTOGRAM AT MCCALL AIRPORT IN IDAHO.



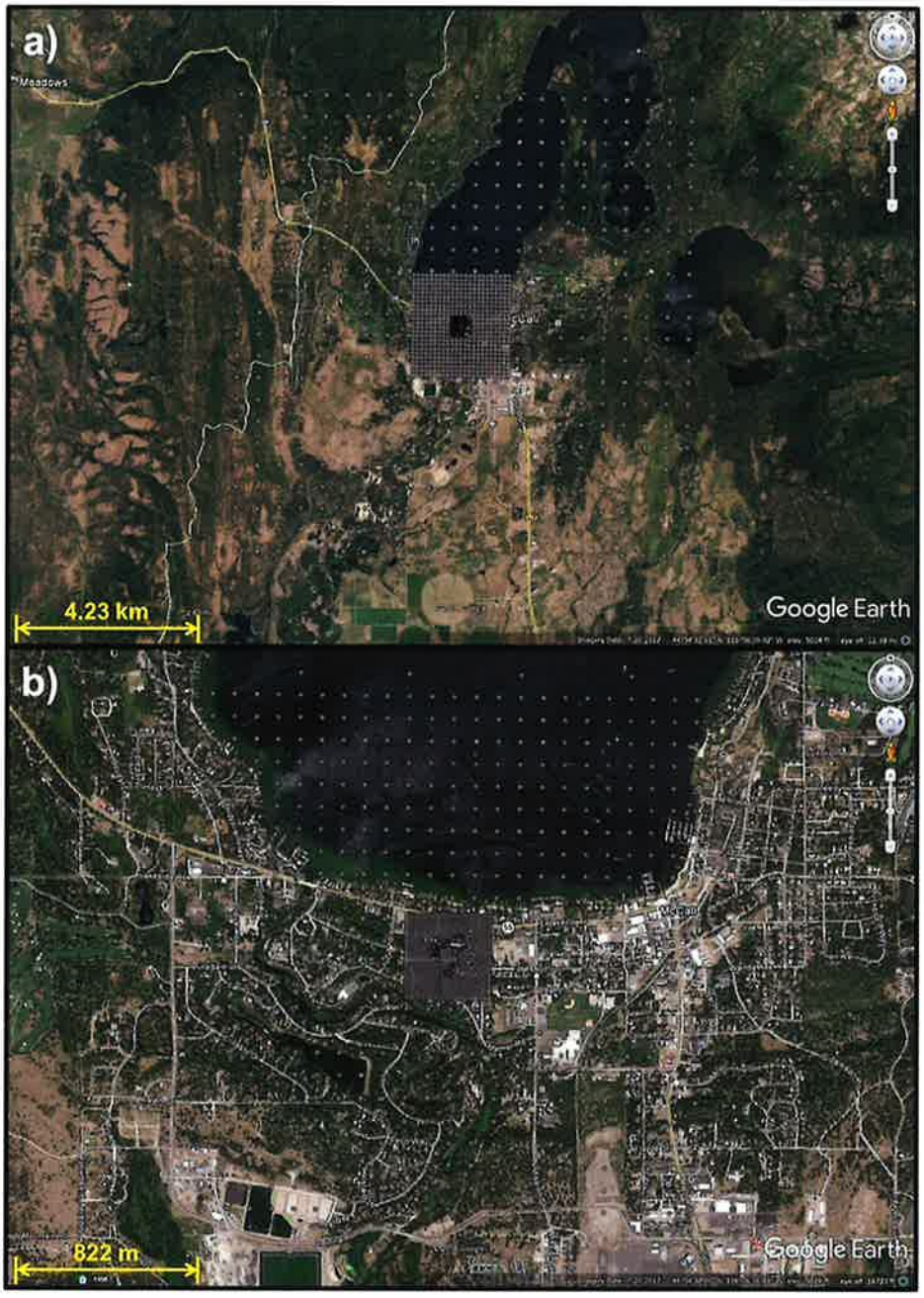
3.3.5 Effects of Terrain on Modeled Impacts

Submitted ambient air impact analyses used terrain data extracted from United States Geological Survey (USGS) National Elevation Dataset (NED) files.

The terrain preprocessor AERMAP version 11103 was used by Jacobs 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. Figure 2 depicts the receptor grid used in the analyses, overlaid on a terrain image from Google Earth. Figure 2a shows the full receptor grid while Figure 2b shows the two inner receptor grids. DEQ notes that a body of water (Payette Lake) is located north of the facility. The applicant/consultant correctly identified this lake as part of ambient air because the general public has access to it.

Figure 2. (a) THE FULL AND (b) THE TWO INNER RECEPTOR GRIDS CENTERED AT THE ST. LUKE'S HOSPITAL FACILITY IN MCCALL, IDAHO.



3.3.6 Facility Layout and Downwash

Figure 3 shows the facility's structures and emission sources in the modeling analyses. Red dots in Figure 3a represent point sources. Figure 3b depicts a three-dimensional view of the modeled buildings and point sources, as viewed from the southwest.

Figure 3. ST. LUKE'S MCCALL MODEL SETUP WITH BUILDING STRUCTURES AND POINT SOURCES LABELED.

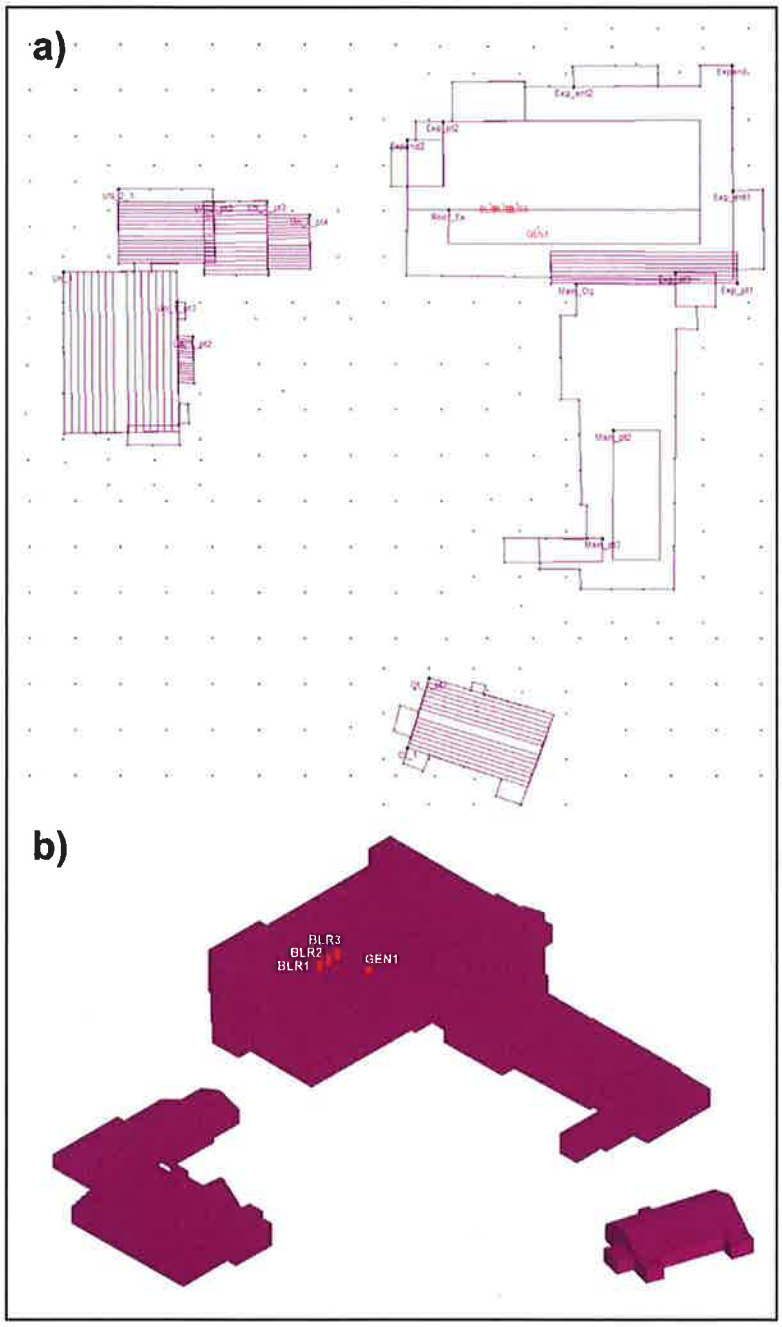
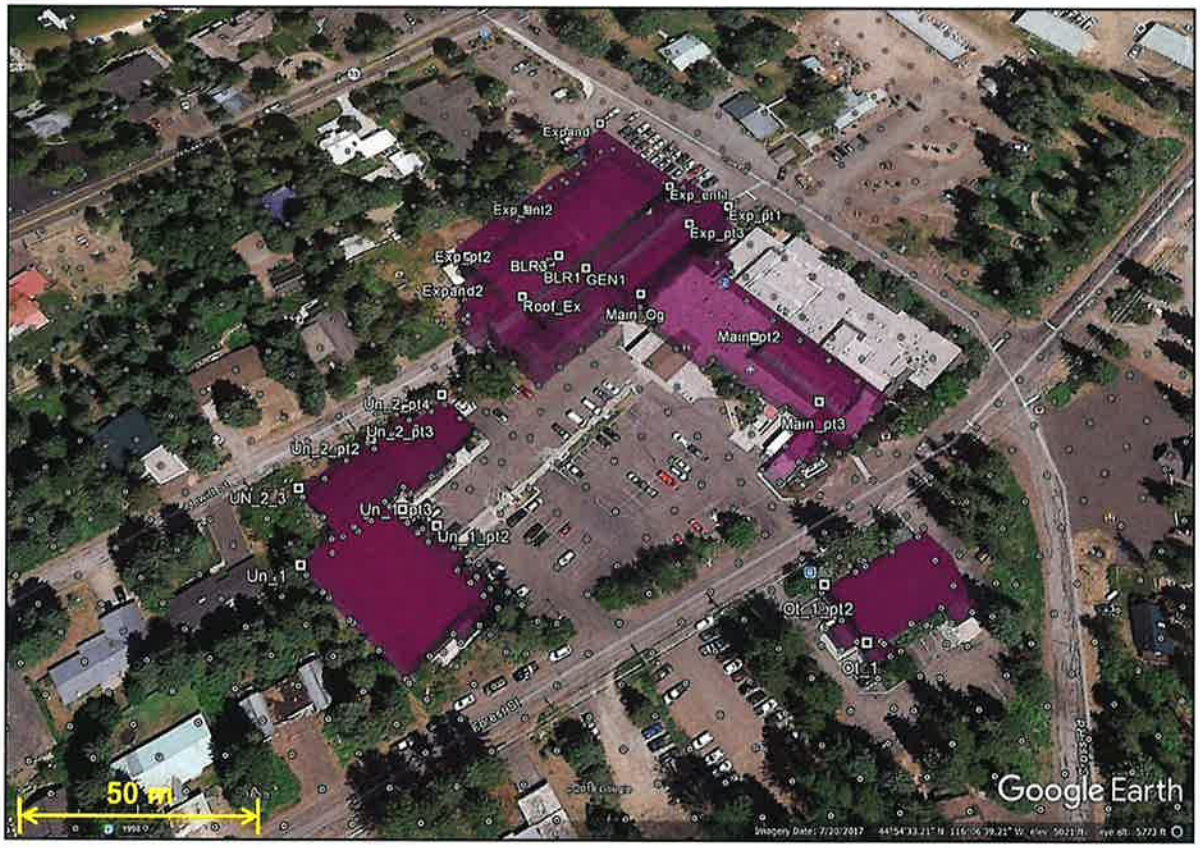


Figure 4 shows a three-dimensional view of the modeled facility, overlaid on a Google Earth terrain image. It shows the extent of renovation and expansion with respect to the current facility layout.

Figure 4. ST. LUKE'S MCCALL MODEL SETUP OVERLAID ON GOOGLE EARTH TERRAIN IMAGE.



Potential downwash effects on emission 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 version 04274) to calculate direction-specific dimensions and Good Engineering Practice (GEP) stack height information for input to AERMOD.

3.3.7 NOx Chemistry

The atmospheric chemistry of NO, NO_2, and O_3 complicates accurate prediction of NO_2 impacts resulting from NOx emissions. The conversion of NO to NO_2 can be conservatively addressed through the use of several methods as outlined in a *2014 EPA NO_2 Modeling Clarification Memorandum*.[3] The guidance outlines a three-tiered approach:

- Tier 1 – assume full conversion of NO to NO_2 where total NOx emissions are modeled and modeled impacts are assumed to be 100 percent NO_2.

- Tier 2 – use an ambient ratio to adjust impacts from the Tier 1 analysis.

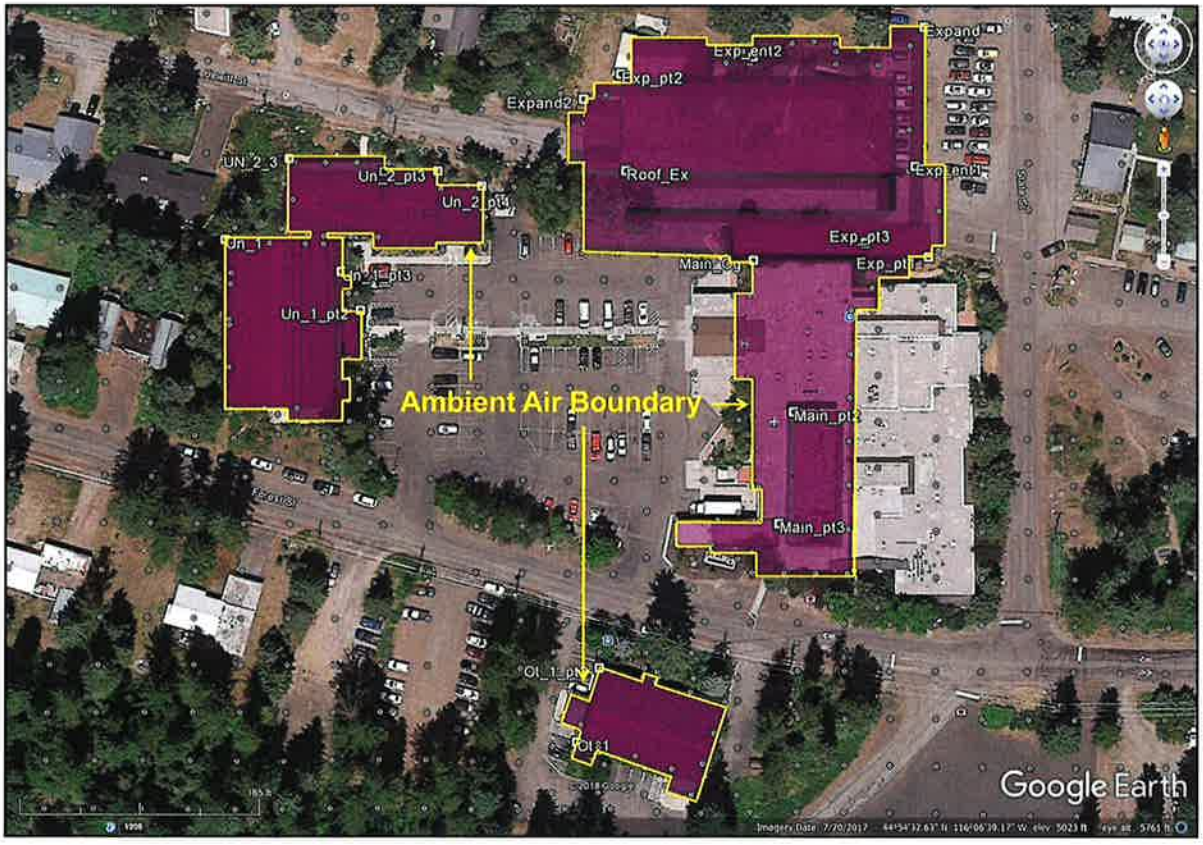
- Tier 3 – use a detailed screening method to account for $NO/NO_2/O_3$ chemistry such as the Ozone Limiting Method (OLM) or the Plume Volume Molar Ratio Method (PVMRM).

Jacobs used the ARM2 method, a Tier 2 analysis method which assumes an ambient equilibrium between NO and NO_2, in which the conversion of NO to NO_2 is predicted using hourly ambient NOx monitoring data. ARM2 has been adopted by the EPA as a default regulatory Tier 2 option. A minimum and maximum NO_2/NOx ratio of 0.5 and 0.9, respectively, were specified in the model.

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." The ambient air boundary for the SLMC facility begins at the perimeters of the hospital buildings because the public has direct access to the facility buildings. This is depicted in Figure 5.

Figure 5. ST. LUKE'S MCCALL AMBIENT AIR BOUNDARY.



3.3.9 Receptor Network

DEQ determined that the receptor grid used in the submitted modeling analyses was adequate to resolve

maximum modeled impacts.

Table 8 describes the receptor network used in the submitted modeling analyses. The full grid, along with the ambient air boundary receptors, includes a total of 2,547 receptors (Figure 2a). The receptor grids used in the model provided good resolution of the maximum design concentrations for the project and provided extensive coverage. The full receptor grid was used for the SIL and NAAQS ambient air impact analyses.

DEQ determined that the receptor network was effective in reasonably assuring compliance with applicable air quality standards at all ambient air locations.

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 source stack release heights at the SLMC facility are below GEP stack height. Therefore, consideration of downwash caused by nearby buildings was required.

4.0 NAAQS and TAPs Impact Modeling Results

This section describes the air impact modeling results for both NAAQS and TAPs analyses.

4.1 Results for NAAQS Analyses

4.1.1 Significant Impact Level Analyses

Table 9 provides results for the significant impact level (SIL) analysis. It shows that the maximum predicted impacts from the facility are above the SIL for 24-hour and annual $PM_{2.5}$, 24-hour PM_{10}, and 1-hour and annual NO_2. Therefore, cumulative NAAQS impact analyses were performed for these pollutants.

Table 9. RESULTS FOR SIGNIFICANT IMPACT LEVEL ANALYSES

Pollutant	Averaging Period	Maximum Modeled Concentration ($\mu g/m^3$)[a]	Significant Impact Level ($\mu g/m^3$)	Impact Percentage of Significant Impact Level	Cumulative NAAQS Analysis Required?
$PM_{2.5}$[b]	24-hour	14.7	1.2	1,225%	Yes
	Annual	3.0	0.2	1,500%	Yes
PM_{10}[c]	24-hour	18.8	5.0	376%	Yes

NO_2[d]	1-hour	206.7	7.5	2,756%	Yes
	Annual	21.2	1.0	2,120%	Yes

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.

4.1.2 Cumulative NAAQS Impact Analyses

Table 10 provides results for the Cumulative NAAQS Impact Analysis. For each modeled pollutant, the total impact was calculated by adding the design value (DV) of the impact to the ambient background value. The sum was then compared to the NAAQS. Ambient impacts for the facility, when combined with approved ambient backgrounds, were below the NAAQS at all receptors.

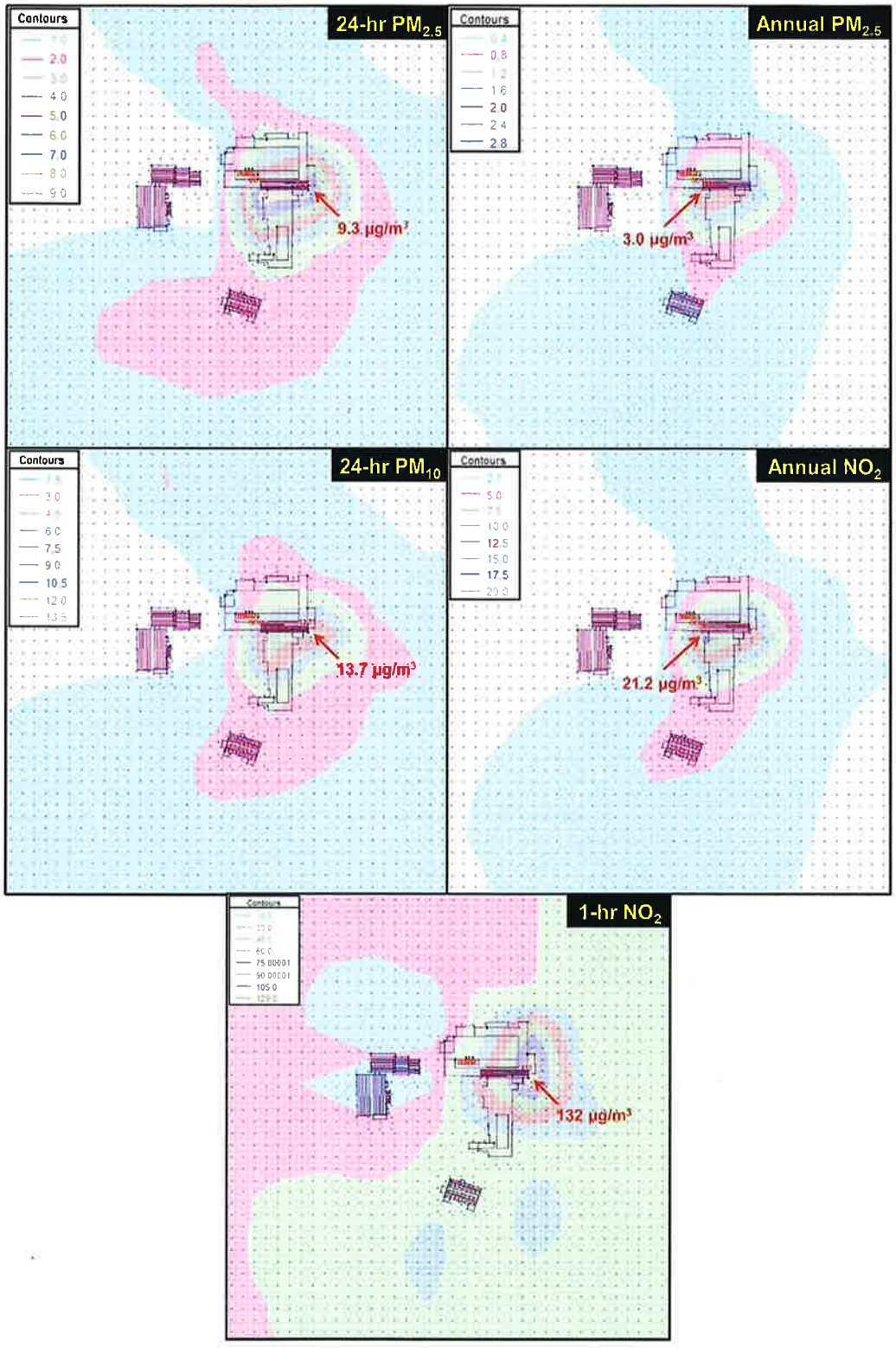
Table 10. RESULTS FOR CUMULATIVE NAAQS IMPACT ANALYSES

Pollutant	Averaging Period	Modeled Design Value Concentration ($\mu g/m^3$)[a]	Background Concentration ($\mu g/m^3$)	Total Ambient Impact ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS
$PM_{2.5}$[b]	24-hour	9.3	17.5	26.8	35	76.6%
	Annual	3.0	5.1	8.1	12	67.5%
PM_{10}[c]	24-hour	13.7	60.1	73.8	150	49.2%
NO_2[d]	1-hour	131.5	14.3	145.8	188	77.6%
	Annual	21.2	2.6	23.8	100	23.8%

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.

Figure 6 illustrates plots of modeled design value concentrations for the Cumulative NAAQS Impact Analysis. Only the innermost receptors (Grid 1 in Table 8 of this modeling memo) are shown. Figure 6 demonstrates that modeled design values are located along the perimeter of the new hospital building. It also shows that high design value concentrations are limited to a relatively small area close to the facility.

Figure 6. MODELED DESIGN VALUES FOR CUMULATIVE NAAQS IMPACT ANALYSES.



4.2 Results for TAPs Impact Analyses

No TAPs were modeled in this project because all emissions were below applicable screening emission levels.

4.3 DEQ Sensitivity Analyses

Sensitivity analyses are performed to evaluate how sensitive model results are to changes in the input parameters, such as source exhaust flow rates, exhaust temperatures, etc. In an e-mail dated June 11, 2019, Jacobs clarified that the new building will have a parapet that goes from the roof of the second floor to the roof of the third floor. The point of exhaust from the emergency generator (GEN1) will be inside the parapet. Figure 7a shows this building configuration. Note that the point of exhaust from GEN1 is lower than the height of the parapet.

To investigate how the parapet structure affects downwash and consequently modeled design values, DEQ performed sensitivity analyses for two types of building configuration: Scenario 2 where the parapet is replaced by a solid structure but GEN1 stack height is kept constant; and Scenario 3 where the parapet is modeled as a solid structure but GEN1 stack height is the same as the parapet height. These two modeling scenarios are depicted in Figures 7b and 7c, respectively. Note that the stack height of GEN1 was increased by 1 centimeter in Figure 7c for illustration purposes.

Results for the sensitivity analysis for 24-hr $PM_{2.5}$ are summarized in Table 11. It shows that modeled design values for 24-hr $PM_{2.5}$ are the same for all three configurations. This result suggests that building downwash is modeled similarly in all three configurations.

Figure 7. (a) NEW NORTHERN BUILDING AS MODELED BY JACOBS AND (b-c) MODELED PARAPETS REPLACED BY A SOLID STRUCTURE IN DEQ SENSITIVITY ANALYSES.

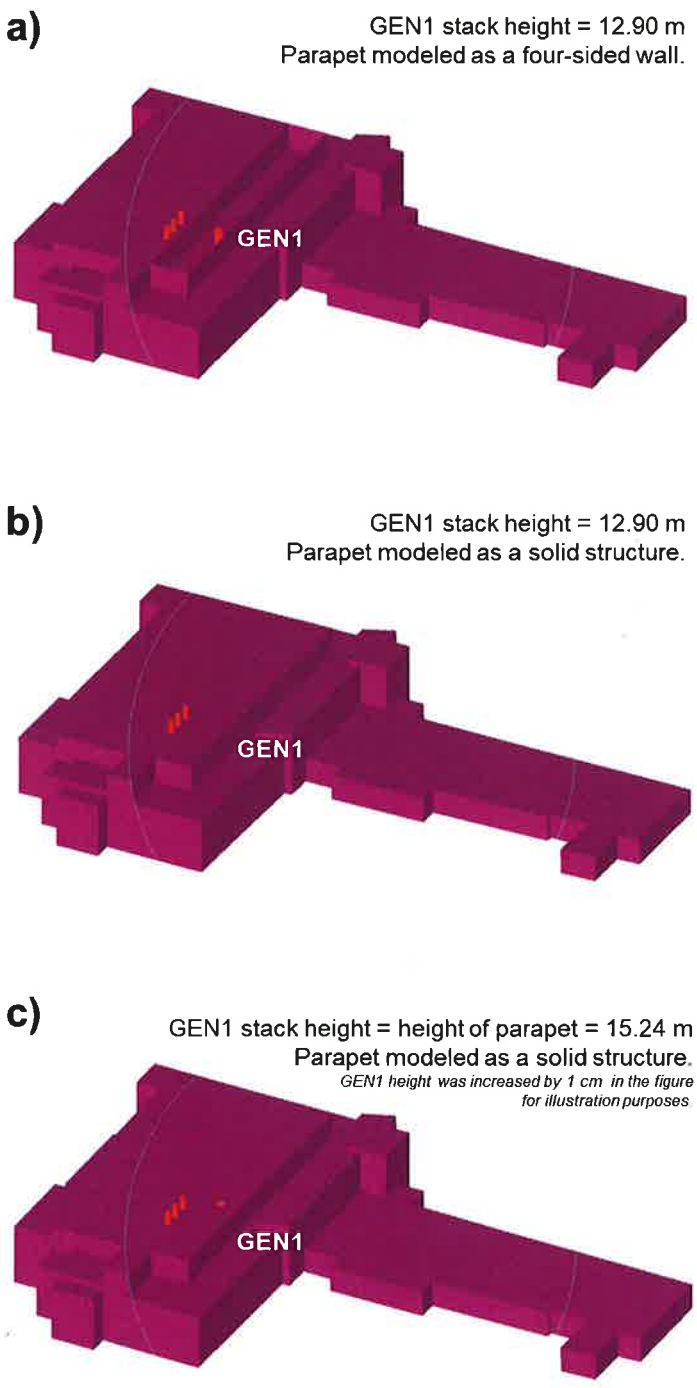


Table 11. RESULTS FOR DEQ SENSITIVITY TEST FOR 24-HR $PM_{2.5}$ CUMULATIVE NAAQS IMPACT ANALYSES FOR DIFFERENT NORTHERN BUILDING PARAPET CONFIGURATIONS.					
Scenario	**Modeled Design Value Concentration ($\mu g/m^3$)[a]**	**Background Concentration ($\mu g/m^3$)**	**Total Ambient Impact ($\mu g/m^3$)**	**NAAQS ($\mu g/m^3$)**	**Percent of NAAQS**
Scn1[a]	9.3	17.5	26.8	35	76.6%
Scn2[b]	9.3		26.8		76.6%
Scn3[c]	9.3		26.8		76.6%

[a] Scenario 1: GEN1 stack height = 12.90 m; parapet modeled as a four-walled structure.
[b] Scenario 2: GEN1 stack height = 12.90 m; parapet modeled as a solid structure.
[c] Scenario 3: GEN1 stack height = 15.24 m; parapet modeled as a solid structure.

5.0 Conclusions

The information submitted with the PTC application, combined with DEQ air impact analyses, demonstrated to DEQ's satisfaction that emissions from the SLMC hospital facility will not cause or significantly contribute to a violation of any applicable ambient air quality standard or TAP increment.

References

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

2. *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.

3. *Clarification on the Use of AERMOD Dispersion Modeling for Demonstrating Compliance with the NO_2 National Ambient Air Quality Standard.* Office of Air Quality Planning and Standards. Air Quality Modeling Group. Research Triangle Park, NC. Guidance memorandum from R. Chris Owen and Roger Brode to Regional Dispersion Modeling Contacts. September 30, 2014.

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on July 31, 2019:

Facility Comment:

PTC Permit Condition 3.3: There appears to be a typo and missing the word "not" after…emergency IC engine stack shall **not** contain….

DEQ Response: The word "not" was added in the specified location.

Facility Comment:

PTC Permit Condition 3.12: There are no plans to equip the emergency engine with a diesel particulate filter backpressure device…can we remove this permit condition from the PTC.

DEQ Response: Permit condition 3.12 was removed.

Facility Comment:

SOB, Table 7: The NOx post project T/yr emission rate is identified as 20.99 when it should be 10.99 (as seen in Table 6). Please correct this typo.

DEQ Response: The post project NOx T/yr emission rate in Table 7 was changed to 10.99.

APPENDIX D – PROCESSING FEE

Payment Receipt

Idaho Department of Environmental Quality
State Fiscal Office
1410 North Hilton
Boise ID 83706

Received From:
St. Luke's McCall
St. Luke's McCall
1000 State Street
McCall, ID 83638

Date Received	08/16/2019	**Payment Amount**	$5,000.00
Payment Method	Check		
Check/Ref. No.	6010387222		

Invoices Paid

Date	Number	Amount Applied
07/29/2019	14014	-$5,000.00