Statement of Basis

Permit to Construct No. P-2009.0002
Project ID 61712

Sorrento Lactalis Inc - Swiss Village Plant
Nampa, Idaho

Facility ID 027-00071

Proposed for Public Comment

DRAFT XX, 2016
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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
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards

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

FACILITY INFORMATION

Description

Sorrento Lactalis' (Sorrento) Nampa facility produces natural cheese, dry whey products, and cultured cream cheese. Sorrento is located outside Nampa in southwest Idaho in a moderately populated area near Boise, Idaho. The facility currently employs about 704 people. The Sorrento Lactalis facility consists of the following plants: Cheese Plant, Whey Plant, Wastewater Treatment Plant, and a Fresh Mozzarella Plant. The facility also includes auxiliary buildings such as the fire pump house used to pressurize and provide water to the fire sprinkler systems in each of the plants.

In the cheese plant pasteurized milk is fermented to form curd and whey. The product mixture of whey and curd is transported via pipeline and separated. The curd is piped to cookers and molds. The curds or cheese is then released from the molds into a brine flume. The brine cools the cheese and the salt adds flavor and stops the fermentation process, preserving the cheese. After brining, the cheese product is packaged, boxed, and stored in a refrigerated warehouse until it is shipped. The facility produces mozzarella cheese, a variety of string cheese and mascarpone. In addition, Sorrento receives other types of cheeses from other manufacturers and slices or shreds them, mixing them with Sorrento Lactalis cheese in some cases. Shredded and sliced cheese are packaged, boxed, and stored in a refrigerated warehouse until it is shipped.

Whey is received form the cheese plant with a solids content of about 62 percent. This is filtered and the sugar (or lactose) and protein solids are separated from the remaining liquid. The solids are then dried in either of two whey driers, bagged, stacked, transported to an off-site warehouse and stored until shipped to customers or one of the other Lactalis facilities.

Non-hazardous process wastewater flows from each production facility to the wastewater treatment plant via gravity sewers to a lift station. During normal operation conditions, process water is pumped from the lift station to the equalization tank. All of the wastewater treatment plant tanks are open-topped and do not contain hazardous materials. A secondary 215,000 gallon diversion tank is used to store high strength wastewater which can then be blended with other influent wastewater prior to discharging to downstream treatment units. Process wastewater can also be transferred from the lift station directly to one of two sequencing batch reactors units, to truck load out, or to be land applied.

Permitting History

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

May 1, 2015	P-2009.0023, typographical error correction of the Hurst Boiler heat input rating, Permit status (A, but will become S upon issuance of this permit)
March 13, 2014	P-2009.0023, Incorporation of a new limit for the Meyer-Sterner whey dryer, Permit status (S)
August 28, 2009	P-2009.0023, PTC modification to include existing boilers and permit an additional boiler and whey dryer operation, Permit status (S)
July 20, 2001	027-00071, Initial permitting action for a whey dryer, Permit status (S)

Application Scope

This PTC is a revision of an existing PTC per the November 19, 2015 consent order for enforcement cases E-2014.0007 and E-2015.0003.

The applicant has proposed to:

- Demonstrate compliance with national air quality standards, namely the 1-hour NO_2 standard, for all natural gas combusting heaters and process air handling units as required by the consent order.
- As required by the consent order, revise the heat input capacity of the Superior Boiler from 31.5 MMBtu/hr to 24.8 MMBtu/hr and the Cleaver Brooks boiler from .20.1 MMBtu/hr to 24.49 MMBtu/hr. The Cleaver Brooks Boiler was incorrect in the previous permit and the Superior Boiler has been de-rated. The de-rating explanation is shown below.
- As required by the consent order, incorporate permit conditions requiring a minimum pressure drop and flow rate through the venturi scrubber. Periodic monitoring of these parameters will also be incorporated per applicant request.
- As required by the consent order, require a performance test of the venturi scrubber at the proposed minimum flow rate and pressure drop to assure compliance with PM_{10} permit limits.

The justification for de-rating of the Superior boiler using EPA's 4-factor test as supplied by the applicant is as follows *(the italicized text is the response provided by the applicant)*:

1.) The modification is a permanent physical change which prevents the boiler from operating at a capacity greater than the de-rated value.

   a. *The 800 HP burner was de-rated by the manufacturer to fit the 30 foot 3" gas line provided. This line would have to be replaced with 4" gas line (including valving) to allow it to operate at its full rating. The manufacturer supplied gas train (4") would have to be purchased and installed.*

   b. *A smaller "Spud" was installed inside the burner and would have to be replaced with a larger one (the spud regulates the exhaust or output capacity and increasing input capacity cannot be done without increasing output capacity), and*

   c. *The inlet connection and opening on the burner would have to be increased.*

2.) The physical change cannot be easily undone.

   a. *Reversing the modification would entail shutdown of the boiler, and therefore the entire plant, in order to remove the parts listed above, purchase and replace them with appropriately sized parts. The only other way to increase input capacity is to increase gas pressure; however the boiler will not operate at a higher pressure because of the high gas pressure switch. It will fault and not power up. Therefore, the integrated pressure regulator would have to be replaced to allow it to operate at the higher pressure.*

3.) A system shutdown was required to make this change and would be required to reverse it.

   a. On the day the burner was installed, production was down and the boiler was shutdown, locked and tagged out prior to commencing the work on the modification. As stated in #2, reversing this modification would entail a shutdown of the boiler and plant.

4.) The modification is not a change only to the fuel feed systems.

a. *The physical modification to the boiler was certified by the boiler manufacturer who de-rated the boiler. This certification is attached with the U05 for the Superior Boiler (Appendix 6 of the application). In order to increase the input of the new burner, the following would have to be done:*

i. *Approximately 30 feet of 3" piping would have to be resized and replaced*

ii. *The manufacturer gas train would have to be resized and replaced.*

iii. *The "Spud" inside the burner would have to be replaced with a larger one*

iv. *The inlet connection and opening on the burner would have to be increased, OR*

v. *If increased pressure was used to accomplish this, the integrated pressure regulator would have to be replaced to operate the burner at a higher pressure.*

Application Chronology

November 19, 2015	DEQ and Sorrento Lactalis signed a consent order that required revisions to the permit to construct resolve enforcement cases no. E-2014.0007 and E-2015.0003.
April 26, 2016	DEQ received an application and an application fee.
May 2 – May 17, 2016	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
May 20, 2016	DEQ determined that the application was incomplete.
June 23, 2016	DEQ received supplemental information from the applicant.
August 2, 2016	DEQ determined that the application was complete.
September 22, 2016	DEQ made available the draft permit and statement of basis for peer and regional office review.
September 30, 2016	DEQ made available the draft permit and statement of basis for applicant review.
Month Day – Month Day, Year	DEQ provided a public comment period on the proposed action.
Month Day, Year	DEQ received the permit processing fee.
Month Day, Year	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.
P1	Meyers-Sterner Whey Dryer: Manufacturer: Meyers-Sterner Model: N/A Construction Date: 2001 Heat Input Rating: 6.0 MMBtu/hr Production Limit: 1,496 lbs/hr Fuel: Natural Gas	Whey Dreyer Baghouse: Manufacturer: Meyers-Sterner PM_{10} control efficiency: 98.0%	Exit height: 78 ft (23.8 m) Exit diameter: 3.17 ft (0.97 m) Exit flow rate: 18,000 cfm Exit temperature: 160 °F (71 ºC)
P2	TetraPak Whey Dryer Burner No. 1: Manufacturer: TetraPak Model: Eclipse Winnox 1000 Construction Date: April 1, 2009 Heat Input Rating: 12.5 MMBtu/hr Fuel: Natural Gas	None	Exit height: 136 ft (41.5 m) Exit diameter: 1.51 ft (0.46 m) Exit flow rate: 6,161 acfm Exit temperature: 241 °F (116 ºC)
P3	TetraPak Whey Dryer Burner No. 2: Manufacturer: TetraPak Burner Model:Eclipse Winnox 1000 Construction Date: April 1, 2009 Heat Input Rating: 12.5 MMBtu/hr Fuel: Natural Gas	None	Exit height: 136 ft (41.5 m) Exit diameter: 1.51 ft (0.46 m) Exit flow rate: 6,161 acfm Exit temperature: 241 °F (116 ºC)
P4	TetraPak Drying Chamber: Manufacturer: TetraPak Construction Date: April 1, 2009 Max. Production: 16,667 lb/hr	Whey Dryer Scrubber: Manufacturer:Fister Klosterman Inc Model: MS-1200 Scrubber SS316 Flow Rate: 599 gpm Pressure Drop: 5.25 in. w.g. PM/PM_{10} Efficiency: 99%	Exit height: 136 ft (41.5 m) Exit diameter: 5.18 ft (1.58 m) Exit flow rate: 73,358 acfm Exit temperature: 104 °F (40 ºC)
P5	TetraPak Shaking Bed: Manufacturer: TetraPak	Shaking Bed Baghouse: Manufacturer: TetraPak CPS Model: 13-243-14 Type: Reverse Air Jet Number of bags: 243 Air to Cloth ratio: 7.48 to 1 PM_{10} control efficiency: 99.9%	Exit height: 136 ft (41.5 m) Exit diameter: 3.67 ft (1.12 m) Exit flow rate: 38,171 acfm Exit temperature: 126 °F (52 ºC)
P6	Cleaver-Brooks Boiler: Manufacturer: Cleaver-Brooks Model: CBL-700-1200-150 Install Date: 2009 Heat Input Rating: 48.99 MMBtu/hr Fuel: Natural Gas	None	Exit height: 48 ft (14.6 m) Exit diameter: 2.99 ft (0.91 m) Exit flow rate: 14,062 acfm Exit temperature: 325 °F (163 ºC)
P7	Superior Boiler: Manufacturer: Superior Model: 4-5-3004 Install Date: 2001 Boiler Heat Input Rating: 31.5 MMBtu/hr the boiler was de-rated to 24.8 MMBtu/hr De-rating Date: 2014 Fuel: Natural Gas	None	Exit height: 48 ft (14.6 m) Exit diameter: 2.17 ft (0.66 m) Exit temperature: 275 °F (135 ºC)
P8	Cleaver Brooks Boiler: Manufacturer: Cleaver-Brooks Model: CBLE 700-600 Install Date: 2001 Heat Input Rating: 24.5 MMBtu/hr Fuel: Natural Gas	None	Exit height: 48 ft (14.6 m) Exit diameter: 2.00 ft (0.61 m) Exit temperature: 275 °F (135 ºC)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
P9	Hurst Boiler: Manufacturer: Hurst Model: 54000-150-26 Install Date: 2007 Heat Input Rating: 33.6 MMBtu/hr Fuel: Natural Gas	None	Exit height: 48 ft (14.6 m) Exit diameter: 2.49 ft (0.76 m) Exit temperature: 275 °F (135 ºC)
P10	Cheese Plant AC 02: Manufacturer: Carrier Model: 48TME004-A-501 Manufacture Date: 2007 Heat Input Rating: 0.074 MMBtu/hr Fuel: Natural Gas	None	Exit height: 25.5 ft (7.77 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 18.4 acfm Exit temperature: 185 °F (85 ºC)
P11	Cheese Plant AC 03: Manufacturer: Carrier Model: 48TNE008-A-501 Manufacture Date: 2004 Heat Input Rating: 0.180 MMBtu/hr Fuel: Natural Gas	None	Exit height: 25.5 ft (7.77 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 44.6 acfm Exit temperature: 185 °F (85 ºC)
P12	Cheese Plant AC 04: Manufacturer: Carrier Model: 48TFE007----521 Manufacture Date: 2004 Heat Input Rating: 0.115 MMBtu/hr Fuel: Natural Gas	None	Exit height: 25.5 ft (7.77 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 28.5 acfm Exit temperature: 185 °F (85 ºC)
P13	Cheese Plant AC 05: Manufacturer: Carrier Model: 48TJE007---521 Manufacture Date: 2004 Heat Input Rating: 0.115 MMBtu/hr Fuel: Natural Gas	None	Exit height: 25.5 ft (7.77 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 28.5 acfm Exit temperature: 185 °F (85 ºC)
P14	Cheese Plant AC 15: Manufacturer: Carrier Model: 48HJE006---351 Manufacture Date: 2004 Heat Input Rating: 0.115 MMBtu/hr Fuel: Natural Gas	None	Exit height: 36.5 ft (11.12 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 28.5 acfm Exit temperature: 185 °F (85 ºC)
P15	Cheese Plant AC 16: Manufacturer: Carrier Model: 48TJE005---611GA Manufacture Date: 2000 Heat Input Rating: 0.115 MMBtu/hr Fuel: Natural Gas	None	Exit height: 36.5 ft (11.12 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 28.5 acfm Exit temperature: 185 °F (85 ºC)
P16	Cheese Plant AC 17: Manufacturer: Carrier Model: 48TFD009---611 Manufacture Date: 2008 Heat Input Rating: 0.125 MMBtu/hr Fuel: Natural Gas	None	Exit height: 36.5 ft (11.12 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 31.0 acfm Exit temperature: 185 °F (85 ºC)
P17	Cheese Plant AC 24: Manufacturer: Carrier Model: 48TCEA04A2A5A0A0A0 Manufacture Date: 2008 Heat Input Rating: 0.115 MMBtu/hr Fuel: Natural Gas	None	Exit height: 32.5 ft (9.91 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 28.5 acfm Exit temperature: 185 °F (85 ºC)
P18	Whey Plant MA 1: Manufacturer: York/Johnson Controls Model: DF-200GMFH-LH-B200R10LGGAA Manufacture Date: 2010 Heat Input Rating: 2.5 MMBtu/hr Fuel: Natural Gas	None	Exit height: 49.75 ft (15.16 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 620 acfm Exit temperature: 185 °F (85 ºC)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
P19	Whey Plant MA 2: Manufacturer: York/Johnson Controls Model: DF-175-GMFH-LH-B175R10LGGAA Manufacture Date: 2010 Heat Input Rating: 2.187 MMBtu/hr Fuel: Natural Gas	None	Exit height: 46.75 ft (14.25 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 542 acfm Exit temperature: 185 °F (85 ºC)
P20	Whey Plant MA 3: Manufacturer: York/Johnson Controls Model: DF-175-GMFH-LH-175R10LGGAA Manufacture Date: 2010 Heat Input Rating: 2.187 MMBtu/hr Fuel: Natural Gas	None	Exit height: 139.75 ft (42.59 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 542 acfm Exit temperature: 185 °F (85 ºC)
P21	Whey Plant MA 6: Manufacturer: York/Johnson Controls Model: DF-200-GMFH-LH-B200R10LGGAA Manufacture Date: 2010 Heat Input Rating: 2.5 MMBtu/hr Fuel: Natural Gas	None	Exit height: 47.42 ft (14.54 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 620 acfm Exit temperature: 185 °F (85 ºC)
P22	Whey Plant MA 7: Manufacturer: York/Johnson Controls Model: DF-150-GMFH-LH-B150R10LGGAA Manufacture Date: 2010 Heat Input Rating: 1.875 MMBtu/hr Fuel: Natural Gas	None	Exit height: 128.75 ft (39.24 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 465 acfm Exit temperature: 185 °F (85 ºC)
P23	Whey Plant AC-1: Manufacturer: York/Johnson Controls Model: OEA700030101 Manufacture Date: 2010 Heat Input Rating: 0.375 MMBtu/hr Fuel: Natural Gas	None	Exit height: 42 ft (12.80 m) Exit diameter: 4.67 ft (1.42m) Exit flow rate: 93 acfm Exit temperature: 185 °F (85 ºC)
P24	Whey Plant AC-2: Manufacturer: York/Johnson Controls Model: DF-40-GMFH-RH-B040R10RGGAA Manufacture Date: 2010 Heat Input Rating: 0.500 MMBtu/hr Fuel: Natural Gas	None	Exit height: 109 ft (33.22 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 124 acfm Exit temperature: 185 °F (85 ºC)
P25	Whey Plant AC-3: Manufacturer: York/Johnson Controls Model: DF-75-GMFH-RH-B075R10RGGAA Manufacture Date: 2010 Heat Input Rating: 0.937 MMBtu/hr Fuel: Natural Gas	None	Exit height: 71 ft (21.64 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 232 acfm Exit temperature: 185 °F (85 ºC)
P26	Whey Plant AC-4: Manufacturer: York/Johnson Controls Model: DF-100-GMFH-LH-G100R10LGAA Manufacture Date: 2010 Heat Input Rating: 1.25 MMBtu/hr Fuel: Natural Gas	None	Exit height: 47.42 ft (14.54 m) Exit diameter: 0.5 ft (0.15 m) Exit flow rate: 310 acfm Exit temperature: 185 °F (85 ºC)
P27	Whey Plant AC-9: Manufacturer: Carrier Model: D1NA048N09025C Manufacture Date: Unknown Heat Input Rating: 0.108 MMBtu/hr Fuel: Natural Gas	None	Exit height: 22 ft (6.71 m) Exit diameter: 0.22 ft (0.07 m) Exit flow rate: 26.8 acfm Exit temperature: 185 °F (85 ºC)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
P28	Whey Plant AC-11: Manufacturer: Carrier Model: J06ZHN10P4AZZ50005A Manufacture Date: 2010 Heat Input Rating: 0.120 MMBtu/hr Fuel: Natural Gas	None	Exit height: 20.58 ft (6.27 m) Exit diameter: 1.0 ft (0.30 m) Exit flow rate: 29.8 acfm Exit temperature: 185 °F (85 ºC)
P29	Whey Plant AC-12: Manufacturer: Carrier Model: 48TFD009---611 Manufacture Date: 2000 Heat Input Rating: 0.125 MMBtu/hr Fuel: Natural Gas	None	Exit height: 22 ft (6.71 m) Exit diameter: 0.38 ft (0.12 m) Exit flow rate: 31.0 acfm Exit temperature: 185 °F (85 ºC)
P30	Whey Plant MA 4: Manufacturer: Greenheck Model: PVF350H Manufacture Date: 2010 Heat Input Rating: 0.70 MMBtu/hr Fuel: Natural Gas	None	Exit height: 40 ft (12.19 m) Exit diameter: 0.46 ft (0.14 m) Exit flow rate: 173.6 acfm Exit temperature: 185 °F (85 ºC)
P31	Fresh Mozz AC 01: Manufacturer: Carrier Model: 48TCEA07A2A6A0A0A0 Manufacture Date: 2013 Heat Input Rating: 0.115 MMBtu/hr Fuel: Natural Gas	None	Exit height: 38.5 ft (11.73 m) Exit diameter: 0.22 ft (0.07 m) Exit flow rate: 28.5 acfm Exit temperature: 185 °F (85 ºC)
P32	Fresh Mozz AC 02: Manufacturer: Carrier Model: 48TCEA07A2A6A0A0A0 Manufacture Date: 2013 Heat Input Rating: 0.115 MMBtu/hr Fuel: Natural Gas	None	Exit height: 38.5 ft (11.73 m) Exit diameter: 0.22 ft (0.07 m) Exit flow rate: 28.5 acfm Exit temperature: 185 °F (85 ºC)
P34	Fire Pump: Manufacturer: Peerless Model: JD/RG6081H133189 Install Date: 2001 Max Horsepower: 235.9 hp/rpm Max. rpm: 2100 rpm Fuel: Distillate Fuel Oil	None	Exit height: 8.33 ft (2.54 m) Exit diameter: 0.33 ft (0.10 m) Exit temperature: 850 °F (454 ºC)
P35	Cheese Plant AC 01: Manufacturer: Carrier Model: 48SS-03006031AA Manufacture Date: 2000 Heat Input Rating: 0.0568 MMBtu/hr Fuel: Natural Gas	None	Exit height: 25.5 ft (7.77 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 12.5 acfm Exit temperature: 185 °F (85ºC)
P37	Cheese Plant AC 14: Manufacturer: BDP Model: 580DJV060115AAAA Manufacture Date: 2000 Heat Input Rating: 0.115 MMBtu/hr Fuel: Natural Gas	None	Exit height: 40 ft (12.19 m) Exit diameter: 0.23 ft (0.07 m) Exit flow rate: 28.5 acfm Exit temperature: 185 °F (85 ºC)
P40	Cheese Plant Donaldson Dust Collection Unit:	Donaldson Baghouse: Manufacturer: Donaldson Model: Torit Dalmatic DLMC PM Control Efficiency: 99.97%	Exit height: 46 ft (14.02 m) Exit diameter: 1.42 ft (0.43 m) Exit flow rate: 8000 cfm Exit temperature: 70 °F (21 ºC)

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 cheese and whey production operations at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant, GHG, HAP PTE were based on emission factors from AP-42, operation of 8,760 hours per year, and process information specific to the facility for this proposed project.

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 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 this cheese and whey production operation uncontrolled Potential to Emit is based upon a worst-case for operation of the facility of 8,760 hr/yr (24 hr/day x 365 day/yr). Then, the worst-case maximum HAP Potential to Emit was determined for the increase in the Cleaver Brooks and Superior boiler heat input ratings and natural gas-fired heaters.

Table 2 **UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS**

Hazardous Air Pollutants	PTE (T/yr)
2-Methylnaphthalene	0.000004
3-Methylchloranthrene	0.0000003
Acenaphthene	0.0000003
Acenaphthylene	0.0000003
Anthracene	0.0000004
Benzo(a)anthracene	0.0000003
Benzo(a)pyrene	0.0000003
Benzo(b)fluoranthene	0.0000003
Benzo(g,h,i)perylene	0.0000002
Benzo(k)fluoranthene	0.0000003
Chrysene	0.0000003
Dibenzo(a,h)anthracene	0.0000002
Dichlorobenzene	0.00019
Fluoranthene	0.0000005
Fluorene	0.0000004
Indeno(1,2,3-cd)pyrene	0.0000003
Naphthalene	0.000095
Phenanathrene	0.0000027
Pyrene	0.0000008
Polycyclic Organic Matter	0.0000018
Benzene	0.00033
Formaldehyde	0.012
Hexane	0.28
Toluene	0.00053
Arsenic	0.000031
Barium	0.00069
Beryllium	0.0000019
Cadmium	0.00017
Chromium	0.00022
Cobalt	0.000013
Copper	0.00013
Manganese	0.000060
Mercury	0.000041
Molybdenum	0.00017
Nickel	0.00033
Selenium	0.0000038
Vanadium	0.00036
Zinc	0.0046
Total	**0.30**

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

The following table presents the pre-project potential to emit for all criteria 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 3 PRE-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)]
Meyers-Sterner Whey Dryer	1.60	7.00	0.00	0.02	0.27	1.20	2.24	9.80	0.03	0.14
Superior Boiler (P-7)	0.19	0.84	0.02	0.07	2.50	11.00	2.11	9.20	0.14	0.60
Cleaver Brooks Boiler (P-8)	0.19	0.82	0.02	0.06	2.40	10.70	2.10	9.00	0.13	0.59
Cleaver Brooks Boiler (P-6)	0.37	1.60	0.03	0.13	4.90	21.50	4.12	18.00	0.27	1.20
Hurst Boiler (P-9)	0.26	1.10	0.02	0.09	3.40	14.70	2.80	12.40	0.18	0.81
TetraPak Whey Dryer Burner #1	0.10	0.42	0.01	0.03	0.50	2.20	3.89	17.05	0.07	0.30
TetraPak Whey Dryer Burner #2	0.10	0.42	0.01	0.03	0.50	2.20	3.89	17.05	0.07	0.30
TetraPak Whey Dryer Scrubber	5.66	24.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TetraPak Shaking Bed Baghouse	3.32	14.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Project Totals	**11.79**	**51.60**	**0.11**	**0.43**	**14.47**	**63.50**	**21.15**	**92.50**	**0.89**	**3.94**

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.

Post Project Potential to Emit

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

The following table presents the post project Potential to Emit for criteria and GHG pollutants from all emissions units at the facility as 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	CO_2e
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	T/yr[(b)]	T/yr[(b)]
Meyers-Sterner Whey Dryer	1.66	7.30	0.0035	0.02	0.27	1.20	2.24	9.81	0.14	3115
Superior Boiler (P-7)	0.19	0.81	0.015	0.06	2.44	10.67	2.05	8.96	0.59	12876
Cleaver Brooks 600 HP Boiler	0.18	0.80	0.014	0.06	1.20	5.27	2.02	8.85	0.58	12715
Hurst Boiler (P-9)	0.25	1.10	0.020	0.09	3.30	14.46	2.77	12.15	0.80	17444
Cleaver Brooks 1200 HP Boiler	0.37	1.60	0.029	0.13	2.41	10.54	4.04	17.71	1.16	25440
TetraPak Whey Dryer Burner 1	0.093	0.41	0.007	0.03	0.499	2.19	3.89	17.05	0.30	6467
TetraPak Whey Dryer Burner 2	0.093	0.41	0.007	0.03	0.499	2.19	3.89	17.05	0.30	6467
Natural Gas-Fired Heaters	0.20	0.29	0.016	0.02	2.68	3.87	2.26	3.25	0.21	14187
IC Engine	0.51	0.13	0.0856	0.02	7.28	1.82	1.57	0.39	0.15	67.70
TetraPak Wet Scrubber	5.66	24.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TetraPak Baghouse	3.32	14.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Donaldson Dust Baghouse	0.0000382	0.335	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Totals	**12.53**	**52.52**	**0.20**	**0.46**	**20.58**	**52.21**	**24.73**	**95.22**	**4.23**	**98778.70**

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

Change in Potential to Emit

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

Table 5 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC		CO_2e
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	T/yr
Pre-Project Potential to Emit	11.79	51.60	0.11	0.43	14.47	63.50	21.15	92.50	0.89	3.94	ND
Post Project Potential to Emit	12.53	52.52	0.20	0.46	20.58	52.21	24.73	95.22	0.97	4.23	98778.7
Changes in Potential to Emit	**0.74**	**0.92**	**0.09**	**0.03**	**6.11**	**-11.29**	**3.58**	**2.72**	**0.08**	**0.29**	**98778.70**

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-project emissions are set to zero because the only units that are addressed in this analysis are natural gas heaters and the heat input increase associated with the Superior and Cleaver Brooks Boilers.

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)
Hexane	0.00E-03	6.44E-02	0.0001	12	No
Toluene	0.00E-03	1.22E-04	0.0930	25	No
Pentane	0.00E-03	9.30E-02	0.0002	118	No
Barium	0.00E-03	1.57E-04	0.0001	0.033	No
Chromium	0.00E-03	5.01E-05	0.0000	0.033	No
Cobalt	0.00E-03	3.01E-06	0.0000	0.0033	No
Copper	0.00E-03	3.04E-05	0.0000	0.013	No
Manganese	0.00E-03	1.36E-05	0.0000	0.067	No
Molybdenum	0.00E-03	3.94E-05	0.0000	0.333	No
Naphthalene	0.00E-03	2.18E-05	0.0000	3.33	No
Selenium	0.00E-03	8.59E-07	0.0000	0.013	No
Vanadium	0.00E-03	8.23E-05	0.0001	0.003	No
Zinc	0.00E-03	1.04E-03	0.0010	0.667	No

None of the PTEs for non-carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average carcinogenic screening ELs identified in IDAPA 58.01.01.586 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. Pre-project emissions are set to zero because the only units that are addressed in this analysis are natural gas heaters and the heat input increase associated with the Superior and Cleaver Brooks Boilers.

Pre- and post-project, as well as the change in, carcinogenic TAP emissions are presented 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)
2-Methylnaphthalene	0.00E-03	8.59E-07	0.0000	9.10E-05	No
3-Methylchloranthrene	0.00E-03	6.44E-08	0.0000	2.50E-06	No
Acenaphthene	0.00E-03	6.44E-08	0.0000	9.10E-05	No
Acenaphthylene	0.00E-03	6.44E-08	0.0000	9.10E-05	No
Anthracene	0.00E-03	8.59E-08	0.0000	9.10E-05	No
Benzo(a)anthracene	0.00E-03	6.44E-08	0.0000	9.10E-05	No
Benzo(a)pyrene	0.00E-03	4.29E-08	0.0000	2.00E-06	No
Benzo(g,h,i)perylene	0.00E-03	4.29E-08	0.0000	9.10E-05	No
Dichlorobenzene	0.00E-03	4.29E-08	0.0000	9.10E-05	No
Fluoranthene	0.00E-03	1.07E-07	0.0000	9.10E-05	No
Fluorene	0.00E-03	1.00E-07	0.0000	9.10E-05	No
Naphthalene	0.00E-03	2.18E-05	0.0000	9.10E-05	No
Phenanathrene	0.00E-03	6.08E-07	0.0000	9.10E-05	No
Pyrene	0.00E-03	1.79E-07	0.0000	9.10E-05	No
POM	0.00E-03	4.08E-07	0.0000	2.00E-06	No
Benzene	0.00E-03	7.52E-05	0.0001	8.00E-04	No
Formaldehyde	**0.00E-03**	**2.68E-03**	**0.0027**	**5.10E-04**	**Yes**
Arsenic	**0.00E-03**	**7.16E-06**	**0.0000**	**1.50E-06**	**Yes**
Beryllium	0.00E-03	4.29E-07	0.0000	2.80E-05	No
Cadmium	**0.00E-03**	**3.94E-05**	**0.0000**	**3.70E-06**	**Yes**
Nickel	**0.00E-03**	**7.52E-05**	**0.0001**	**2.70E-05**	**Yes**

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.

Some of the PTEs for carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is required for formaldehyde, arsenic, cadmium, and nickel because the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from the natural gas heaters, Superior Boiler heat input increase, and Cleaver Brooks Heat input increase 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)
2-Methylnaphthalene	8.59E-07	0.000004
3-Methylchloranthrene	6.44E-08	0.0000003
Acenaphthene	6.44E-08	0.0000003
Acenaphthylene	6.44E-08	0.0000003
Anthracene	8.59E-08	0.0000004
Benzo(a)anthracene	6.44E-08	0.0000003
Benzo(a)pyrene	4.29E-08	0.0000003
Benzo(b)fluoranthene	6.44E-08	0.0000003
Benzo(g,h,i)perylene	4.29E-08	0.0000002
Benzo(k)fluoranthene	6.44E-08	0.0000003
Chrysene	6.44E-08	0.0000003
Dibenzo(a,h)anthracene	4.29E-08	0.0000002
Dichlorobenzene	4.29E-05	0.00019
Fluoranthene	1.07E-07	0.0000005
Fluorene	1.00E-07	0.0000004
Indeno(1,2,3-cd)pyrene	6.44E-08	0.0000003
Naphthalene	2.18E-05	0.000095
Phenanathrene	6.08E-07	0.0000027
Pyrene	1.79E-07	0.0000008
Polycyclic Organic Matter	4.08E-07	0.0000018
Benzene	7.52E-05	0.00033
Formaldehyde	2.68E-03	0.012
Hexane	6.44E-02	0.28
Toluene	1.22E-04	0.00053
Arsenic	7.16E-06	0.000031
Barium	1.57E-04	0.00069
Beryllium	4.29E-07	0.0000019
Cadmium	3.94E-05	0.00017
Chromium	5.01E-05	0.00022
Cobalt	3.01E-06	0.000013
Copper	3.04E-05	0.00013
Manganese	1.36E-05	0.000060
Mercury	9.30E-06	0.000041
Molybdenum	3.94E-05	0.00017
Nickel	7.52E-05	0.00033
Selenium	8.59E-07	0.0000038
Vanadium	8.23E-05	0.00036
Zinc	1.04E-03	0.0046
Totals	**0.07**	**0.30**

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of PM_{10}, $PM_{2.5}$, NO_X, CO, and TAP from this project were exceeded 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).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

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

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For THAPs (Total Hazardous Air Pollutants) Only:

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

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

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

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

UNK = Class is unknown

For All Other Pollutants:

A = Actual or potential emissions of a pollutant are $\geq$ 100 T/yr.

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

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

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

pollutant are < 80 T/yr.

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

UNK = Class is unknown.

Uncontrolled potential to emit for criteria pollutants was not provided with the application since this is an existing source. There are no changes in Facility Classification from the previous permitting action.

Table 9 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	52.52	**100**	B
$PM_{10}/PM_{2.5}$	52.52	**100**	B
SO_2	0.46	**100**	B
NO_X	52.21	**100**	B
CO	95.22	**100**	B
VOC	4.23	**100**	B
HAP (single)	0.28	**10**	B
HAP (Total)	0.30	**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 modified emissions sources including natural gas heaters and heat input increases associated with the Cleaver Brooks and Superior Boilers. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401..... Tier II Operating Permit

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

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625..... Visible Emissions

The sources of PM_{10} emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 2.4, 3.4, and 4.3.

Standards for New Sources (IDAPA 58.01.01.676)

IDAPA 58.01.01.676..... Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured by Permit Conditions 3.5 and 4.4.

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, and VOC or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

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

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

NSPS Applicability (40 CFR 60)

Because the facility has natural gas-fired boilers the following NSPS requirements may apply to this facility:

- 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. DEQ is delegated to this Subpart.

Applicable parts are highlighted in yellow.

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

§ 60.40c ..... Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, 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 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO2) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

Sorrento Lactalis operates 4 steam generating boilers with a maximum heat capacity of less than 100 MMBtu/hr and greater than 10 MMBtu/hr, therefore this subpart is applicable to the Hurst, Superior and two Cleaver Brooks Boilers.

§ 60.41c ..... Definitions.

The definitions of this subpart apply and no further discussion is necessary.

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO2 emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

Compliance with this section has already been demonstrated. Therefore, this section has been removed from the permit.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO2 standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO2 standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

Permit Condition 4.6 includes the requirements of this section.

NESHAP Applicability (40 CFR 61)

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

MACT Applicability (40 CFR 63)

The facility has proposed to operate a diesel fired compression ignition emergency RICE, and is subject to the requirements of 40 CFR 63, Subpart ZZZZ–National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocation Internal Combustion Engines. DEQ is delegated to this Subpart.

The applicable parts are highlighted in yellow.

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

§ 63.6580 ..... What is the purpose of subpart ZZZZ?

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

§ 63.6585 ..... Am I subject to this subpart?

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

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

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

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

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

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

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

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

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

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

Sorrento Lactalis operates a CI stationary RICE at an area source of HAP emissions. Therefore this subpart applies.

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

This subpart applies to each affected source.

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

(1) Existing stationary RICE.

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

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

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

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

(2) New stationary RICE.

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

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

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

(3) Reconstructed stationary RICE.

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

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

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

Sorrento Lactalis operates a stationary CI RICE located at an area source of HAP emissions. This Subpart is applicable.

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

(a) Affected sources.

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

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

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

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

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

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

Sorrento Lactalis must comply with this subpart on and after May 3, 2013. This is assured by permit condition 5.1.

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

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

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

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

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

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

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

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

For each ...	You must meet the following requirement, except during periods of startup…
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

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

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

Sorrento Lactalis owns an existing stationary RICE located at an area source of HAP emissions and must comply with the requirements of Table 2d and 2b. Table 2b does not have any requirements for existing engines with a rating of less than 500 horsepower. Permit condition 5.2 includes these requirements.

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

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

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

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

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

Sorrento Lactalis is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and does not operate for the purpose specified in §63.6640(f)(4)(ii). This section does not apply.

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

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

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

Sorrento Lactalis is subject to this Subpart and the general requirements are applicable. Permit Condition 5.3 includes these requirements.

§ 63.6612 ..... By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

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

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

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

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

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

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

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

Sorrento Lactalis is subject to this section; however there are no requirements for existing emergency stationary RICE with a site rating of less than 500 horsepower in Tables 4 and 5. Therefore this section is not applicable.

§ 63.6615 ..... When must I conduct subsequent performance tests?

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

Sorrento Lactalis is subject to operating requirements in Table 2d. Table 3 does not have any requirements for existing emergency RICE. Therefore this section does not apply.

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

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O2 or CO2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

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

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

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

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO2 concentration.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Permit Condition 5.4 includes the requirements of this section.

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

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

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

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

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

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

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

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

Permit Condition 5.4 includes the requirements of this section.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

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

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

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

Permit Condition 5.4 includes the requirements of this section.

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

Permit Condition 5.4 includes the requirements of this section.

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

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

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

Table 5 does not include any requirements for existing emergency stationary RICE with a site rating of less than 500 horsepower. This section does not apply.

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

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

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

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

(1) The compliance demonstration must consist of at least three test runs.

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

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

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

(5) You must measure O2 using one of the O2 measurement methods specified in Table 4 of this subpart. Measurements to determine O2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O2 emissions simultaneously at the inlet and outlet of the control device.

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

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

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

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

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

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

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

For each ...	Complying with the requirement to ...	You must demonstrate continuous compliance by ...
9. Existing emergency and black start stationary RICE located at an area source of HAP	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

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

Permit Condition 5.6 includes the requirements of this section.

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

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

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

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

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

(5) You must measure O2 using one of the O2 measurement methods specified in Table 4 of this subpart. Measurements to determine O2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O2 emissions simultaneously at the inlet and outlet of the control device.

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

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

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

Permit Condition 5.6 includes the requirements of this section.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Permit Condition 5.5 includes the requirements of this section.

§ 63.6645..... What notifications must I submit and when?

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

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

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

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

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

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

Permit Condition 5.7 includes the requirements of this section.

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

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

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

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

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

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

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

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

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

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in §63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in §63.6603(d) and identifying the state or local regulation that the engine is subject to.

§ 63.6650 ..... What reports must I submit and when?

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

Sorrento Lactalis is subject to this section; however, Table 7 does not include any requirements for existing emergency RICE located at an area source of HAPs. This section is not applicable.

§ 63.6655 ..... What records must I keep?

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

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

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

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

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

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

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

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

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

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

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

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

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

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

(2) An existing stationary emergency RICE.

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

Permit Condition 5.8 includes the requirements of this section.

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

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

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

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

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

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

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

Permit Condition 5.9 includes the requirements of this section.

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

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

Permit Condition 5.10 includes the requirements of this section.

§ 63.6675..... What definitions apply to this subpart?

The definitions of this subpart apply and no further discussion is required.

Permit Conditions Review

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

Revised Permit Condition 1.3 has been changed to include Permit to Construct No. P-2009.0023, issued on May 1, 2015 to the list of permits that this permit shall supersede upon issuance.

Table 1.1 has been updated to reflect the change in the heat input rating of two of the boilers per Consent Order No. E-2014.0007 and E-2015.0003. In the permit issued May 1, 2015 the heat input for the 600 hp Cleaver Brooks Boiler was incorrect. The facility installed a new burner in the Superior boiler and used EPA's 4-factor test to de-rate the boiler (outlined in the application scope of the statement of basis). The Cleaver Brooks Boiler was not modified, however the wrong heat input was inputted into the permit issued May 1, 2015. Control equipment for the Meyer-Sterner Whey Dryer has been changed from Cyclone/baghouse to baghouse per the consent order. The cheese plant, fresh mozzarella plant and whey plant process equipment and HVAC systems have also been included in the table.

Revised Permit Condition 2.1 has been updated to remove the reference to the cyclone control equipment per the consent order, since there is only a baghouse control device.

Revised Permit Condition 2.2 has been updated to remove the cyclone from the description of control devices per the consent order, since there is only a baghouse control device.

Revised Permit Condition 2.3 has been changed to reflect the new emission limits for the natural gas-fired Meyer-Sterner Whey Dryer. The new limits are 1.66 lb-PM_{10}/hr and 7.3 T-PM_{10}/yr. The previous permit had the following limits 1.6 lb-PM_{10}/hr and 7.0 T-PM_{10}/yr. This was provided in the application and modeled there is no production increase associated with this emissions increase. The reference to the cyclone control device has also been removed per the consent order, since there is only a baghouse control device.

Table 3.2 has been revised to reflect the emission limits that were applied for in this permitting action.

Revised Permit Condition 3.5 has been updated to remove the TetraPak Whey Dryer Scrubber and TetraPak Shaking Bed Baghouse upon internal review because the grain loading limit does not apply to process equipment.

Initial Permit Condition 3.8 establishes Whey Dryer Scrubber operating parameters as required by Consent Order No. E-2014.0007 and E-2015.0003. The Operating requirements establish a minimum flow rate and minimum pressure drop for the scrubber that was derived during a source test that occurred on October 2, 2014, which was reviewed and approved in a letter by DEQ dated December 18, 2014.

Initial Permit Condition 3.11 establishes monitoring requirements for the whey dryer scrubber. Daily requirements were established to be protective of the $PM_{2.5}$ 24-hour NAAQS. Modeled results showed that for $PM_{2.5}$ 24-hour impacts, the facility was at 99.7% of the NAAQS (refer to the modeling memorandum for a detailed explanation). Daily monitoring requirements for the scrubber, which emits approximately 24.9% of the total $PM_{2.5}$ on a lb/hr basis, were implemented to ensure compliance with the NAAQS.

Revised Permit Condition 3.13 has been updated to remove the initial start-up performance test requirements for the TetraPak whey dryer scrubber and TetraPak whey dryer baghouse because compliance has already been shown for these initial performance tests. Performance test deadlines for the TetraPak whey dryer scrubber and whey dryer baghouse October 1, 2017 (per consent order enforcement cases E-2014.0007 and E-2015.0003) and May 24, 2021 respectively.

Permit Condition 4.6 was removed because compliance with the initial notification of construction and startup requirements of NSPS Subpar Dc has already been shown.

Initial Permit Condition 5.1 establishes compliance dates for the emergency engine in accordance with 40 CFR 63.6595.

Initial Permit Condition 5.2 establishes operating requirements for the emergency engine in accordance with 40 CFR 63.6603.

Initial Permit Condition 5.3 establishes general compliance requirements for the emergency engine in accordance with 40 CFR 63.6605.

Initial Permit Condition 5.4 establishes monitoring, installation, collection, operation, and maintenance requirements for the emergency engine in accordance with 40 CFR 63.25.

Initial Permit Condition 5.5 establishes continuous compliance requirements for the emergency engine in accordance with 40 CFR 63.6640.

Initial Permit Condition 5.6 establishes continuous compliance reporting requirements for the emergency engine in accordance with 40 CFR 63.6640.

Initial Permit Condition 5.7 establishes notification requirements for the emergency engine in accordance with 40 CFR 63.6645(a).

Initial Permit Condition 5.8 establishes what records shall be kept for the emergency engine in accordance with 40 CFR 63.6655.

Initial Permit Condition 5.9 establishes in what form and how long records must be kept for the emergency engine in accordance with 40 CFR 63.6660.

Initial Permit Condition 5.10 establishes what general provisions apply to the emergency engine in accordance with 40 CFR 63.6665.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there were comments on the application and there was a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

Public Comment Period

{public comment period offered, modify as applicable} A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.01.c. During this time, comments were/were not submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

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

APPENDIX A – EMISSIONS INVENTORIES

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

APPENDIX C – FACILITY DRAFT COMMENTS

No comments were received from the facility on the draft Permit Package.

APPENDIX D – PROCESSING FEE

0 M E M O R A N D U M /DRAFT

DATE: **September 2**, 2016

TO: **Craig Woodruff**, Permit Writer, Air Program

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

PROJECT: Sorrento Lactalis, Inc., Nampa, Idaho, Permit to Construct (PTC), P-2007.0023, Consent Orders E-2014.0007 and E-2015.0003, Facility ID No. 027-00071

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

Contents

1.0 Summary

Sorrento Lactalis, Inc (Sorrento), submitted an application for a Permit to Construct (PTC) on April 22, 2016, for proposed plant modifications and to resolve permit compliance issues at their existing facility located in Nampa, Idaho.

Sorrento produces natural cheese, dry whey, and cultured cream cheese products. Sorrento is located just outside of Nampa, Idaho. The main areas of the plant include the Cheese Plant, the Whey Plant, the Fresh Mozzarella Plant, and the Wastewater Treatment Plant. In 2009 a modeling analyses was done to show compliance at that time. The air impact analyses associated with this permit addresses facility-wide emissions, including natural gas-fired heaters and an emergency fire pump engine (which were omitted in the 2009 analyses), air handling units(AHU), two new NG fired AHU in the mozzarella plant, a replacement to the Superior boiler (changing from 600 to 800 HP), and a revised 600 HP Cleaver Brooks boiler.

The entire process is discussed in detail in the main body of the DEQ Statement of Basis supporting the issued proposed PTC. This modeling review memorandum provides a summary and approval of the ambient air impact analyses submitted with the permit application. It also describes DEQ's review of those analyses, DEQ's verification analyses, additional clarifications, and conclusions.

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

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

A modeling protocol was submitted for this project on January 26, 2016. This protocol was approved by DEQ with conditions on February 16, 2016. DEQ provided revised background concentration data for PM_{10} and $PM_{2.5}$ on February 27, 2016. An addendum to the protocol was submitted by REC on March 7, 2016. An initial application was submitted on April 26, 2016. DEQ responded with a letter of incompleteness on May 20, 2016. The incompleteness determination was largely due to inconsistencies in some modeled emission rates for NOx and CO. On June 16 DEQ approved usage of the non-default ARM2 methodology to show modeling compliance with the NO_2 NAAQS. DEQ provided REC with revised background NO_2 data to be used with this approach on June 21, 2016, and REC resubmitted the application with revised modeling analyses on June 23, 2016. The application was then deemed complete on August 2, 2016.

The final submitted air quality impact analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data (review of emissions estimates was addressed by the DEQ permit writer); 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the project as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from emissions associated with

the project as modeled, when appropriately combined with co-contributing sources and background concentrations, were below applicable National Ambient Air Quality Standards (NAAQS) at ambient air locations where and when the project has a significant impact; 5) showed that Toxic Air Pollutant (TAP) emissions increases associated with the project will not result in increased ambient air impacts exceeding allowable TAP increments.

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

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

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
General Emissions Rates. Emissions rates used in the modeling analyses, as listed in this memorandum, represent maximum potential emissions as given by design capacity or as limited by the issued permit for the specific pollutant and averaging period. Credit was not given for proposed dilution of emissions from the AHUs, as described in the application.	Compliance has not been demonstrated for emissions rates greater than those used in the modeling analyses.
Modeling Thresholds for Criteria Pollutant Emissions. Maximum short-term and long-term emissions of PM_{10}, $PM_{2.5}$, CO, and NOx associated with the proposed project are above Level 1 modeling thresholds as found in State of Idaho Modeling Guidelines. Therefore, a site-specific demonstration of compliance with NAAQS was performed.	Project-specific air impact analyses demonstrating compliance with NAAQS, as required by Idaho Air Rules Section 203.02, are required for pollutants having an emissions increase that is greater than Level I modeling applicability thresholds. These thresholds are set to assure that impacts are below significant impact levels (SILs).
NO to NO_2 Conversion. A Tier 2 methodology using ARM2 was used to assess chemical conversion of NO to NO_2.	DEQ determined ARM2 was appropriate for use at the Sorrento facility.
TAPS Modeling. Emission rates of TAPS per Idaho Air Rules Sections 585 and 586 for arsenic, cadmium, formaldehyde, and nickel exceeded Emissions Screening Level (EL) rates.	Air impact analyses demonstrating compliance with TAPS, as required by Idaho Air Rules Section 203.03, is required for pollutants having an emissions rate greater than ELs. Therefore, a demonstration of compliance with TAPs AAC and AACC was performed.

2.0 Background Information

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

2.1 Project Description

Sorrento's Nampa Cheese Plant is an existing facility that produces a variety of milk-based products such as cheese and whey. Sorrento is submitting this application to show that facility-wide emissions, which include the revised boilers, all the AHU units and heaters, and the emergency fire pump do not cause or contribute to an exceedance of any NAAQS. Also, Sorrento wishes to demonstrate that CO emissions are below 100 TPY. The facility is located on the outskirts of Nampa, Idaho. The main operations facilities include the Cheese Plant, the Whet Plant, the Mozzarella plat, and the Waste Water Treatment Plant.

2.2 Proposed Location and Area Classification

Sorrento is located just east of Nampa in Canyon County, Idaho. 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

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

> *No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:*
>
> ***02. NAAQS**. The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*
>
> ***03. Toxic Air Pollutants.** Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

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

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

2.4 Significant Impact Level and Cumulative NAAQS Impact Analyses

The Significant Impact Level (SIL) analysis for a new facility or proposed modification to a facility involves modeling estimated criteria air pollutant emissions from the facility or modification to determine the potential impacts to ambient air. Air impact analyses are required by Idaho Air Rules to be conducted according to methods outlined in 40 CFR 51, Appendix W (Guideline on Air Quality Models). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in Idaho Air Rules Section 006 (referred to as a significant contribution in Idaho Air Rules) or as incorporated by reference as per Idaho Air Rules Section 107.03.b. Table 2 lists the applicable SILs.

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

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

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts (typically the design values consistent with the form of the standard) from facility-wide emissions, and emissions from any nearby co-contributing sources, and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis for the modeling domain.

If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project has a significant contribution (exceeding the SIL) to the modeled violation. This evaluation is made specific to both time and space. If the SIL analysis indicates the facility/modification has an impact exceeding the SIL, the facility might not have a significant contribution to a violation if impacts are below the SIL at the specific receptor showing the violation during the time periods when a modeled violation occurred.

Table 2. APPLICABLE REGULATORY LIMITS

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

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
b. Micrograms per cubic meter.
c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
f. Not to be exceeded more than once per year on average over 3 years.
g. Concentration at any modeled receptor when using five years of meteorological data.
h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
k. 3-year mean of annual concentration.
l. 5-year mean of annual averages at the modeled receptor.
m. Not to be exceeded more than once per year.
n. Concentration at any modeled receptor.
o. Interim SIL established by EPA policy memorandum.
p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
r. Not to be exceeded in any calendar year.
s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
u. 3-month rolling average.
v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O_3.
w. Annual 4th highest daily maximum 8-hour concentration averaged over three years. The O_3 standard was revised (the notice was signed by the EPA Administrator on October 1, 2015) to 70 ppb. However, this standard will not be applicable for permitting purposes until it is incorporated by reference *sine die* into Idaho Air Rules.

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

2.5 Toxic Air Pollutant Analyses

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

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

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

DEQ the following:

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

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

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

3.0 Analytical Methods and Data

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

3.1 Emission Source Data

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

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

3.1.1 Criteria Pollutant Emissions Rates and Modeling Applicability

If facility-wide potential to emit (PTE) values for a specific criteria pollutants would qualify for a below regulatory concern (BRC) permit exemption as per Idaho Air Rules Section 221 if it were not for some pollutants exceeding BRC thresholds, then an air impact analysis for that pollutant may not be required for permit issuance. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules (Policy on NAAQS Compliance Demonstration Requirements, DEQ policy memorandum, July 11, 2014) is that: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant." The interpretation policy also states that the exemption criteria of uncontrolled PTE not

to exceed 100 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.

An impact analysis must be performed for pollutant increases that would not qualify for the BRC exemption from an impact analysis. REC did not compare project emissions with BRC exemption levels but rather compared emissions quantities to DEQ defined modeling applicability thresholds.

DEQ has generated non-site-specific project modeling thresholds for those projects that cannot use the BRC exemption from an impact analysis (if there are specific permitted emissions limits that require changing, etc.). Modeling applicability thresholds are provided in the *Idaho Air Modeling Guideline*. These thresholds were based on assuring an ambient impact of less than established SIL for that specific pollutant and averaging period.

If project-specific total emissions rates are below Level I Modeling Thresholds, project-specific air impact analyses are not necessary for permitting. Use of level II modeling thresholds are conditional, requiring DEQ approval. Table 3 provides the emissions-based modeling applicability summary. REC compared emission estimates with Level I modeling thresholds, and determined that modeling is necessary for $PM_{2.5}$ (24-hour and annual), PM_{10} (24-hour), CO (1-hour and 8-hour), and NO_2 (1-hour and annual). Emissions as modeled per source are listed in Table 4.

Table 3. MODELING APPLICABILITY ANALYSIS RESULTS

Pollutant	Averaging Period	Emissions	BRC Threshold (ton/year)	Level I Modeling Thresholds (lb/hour or ton/year)	Level II Modeling Thresholds (lb/hour or ton/year)	Modeling Required
$PM_{2.5}$	Annual	23.4 tpy	1	0.350	4.1	Yes
	24-hour	5.75 lb/hr		0.054	0.63	Yes
PM_{10}	24-hour	5.92 lb/hr	1.5	0.22	2.6	Yes
NOx	Annual	52.2 ton/yr	4	1.2	14	Yes
	1-hour	24.2 lb/hr		0.2	2.4	Yes
SO_2	Annual	0.51 ton/yr	4	1.2	14	No
	1-hour	0.2 lb/hr		0.21	2.5	No
CO	Short term	24.7 lb/hr	10	15	175	Yes

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

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

Ukeiley, January 4, 2012):

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

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

Table 4 CRITERIA EMISSIONS AS MODELED BY SOURCE

Source ID	Source Description	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	NO_2 1-hr (lb/hr)	NO_2 Ann (lb/hr)	CO (lb/hr)
P1	Meyers-Sterner Whey Dryer	1.66	0.6	0.27	0.27	2.24
P2	Whey Dryer - Stack 1	0.0933	0.0933	0.499	0.499	3.89
P3	Whey Dryer - Stack 2	0.0933	0.0933	0.499	0.499	3.89
P4	Whey Dryer - Scrubber	5.66	1.9	0.0	0.0	0.0
P5	Whey Dryer - Bed BH Exhaust	3.32	3.32	0.0	0.0	0.0
P6	1200 HP Boiler - Cleaver Brooks	0.366	0.366	2.41	2.41	4.04
P7	800 HP Boiler - Superior	0.185	0.185	2.44	2.44	2.05
P8	600 HP Boiler - Cleaver Brooks	0.183	0.183	1.2	1.2	2.02
P9	800 HP Boiler - Hurst	0.251	0.251	3.3	3.3	2.77
P35	CH-AC01, Engineering	3.76E-04	3.76E-04	0.00464	0.00464	0.00198
P10	CH-AC02, Main Conf. Rm	5.51E-04	5.51E-04	0.00682	0.00682	0.0029
P11	CH-AC03, Main Breakroom	0.00134	0.00134	0.0166	0.0166	0.00706
P12	CH-AC04, Office, East side	8.57E-04	8.57E-04	0.0106	0.0106	0.00451
P13	CH-AC05, Office, West side	8.57E-04	8.57E-04	0.0106	0.0106	0.00451
P37	CH-AC14, QA Offices	8.57E-04	8.57E-04	0.0106	0.0106	0.00451
P14	CH-AC15, Micro Lab	8.57E-04	8.57E-04	0.0106	0.0106	0.00451
P15	CH-AC16, Intake Breakroon	8.57E-04	8.57E-04	0.0106	0.0106	0.00451
P16	CH-AC17, Main Lab	9.31E-04	9.31E-04	0.0115	0.0115	0.0049
P17	CH-AC24, Warehouse	8.57E-04	8.57E-04	0.0106	0.0106	0.00451
P18	WH-MA01, Crystalizer Room	0.0186	0.0186	0.245	0.245	0.206
P19	WH-MA02, HTST Room	0.0163	0.0163	0.214	0.214	0.18
P20	WH-MA03, Permeate dryer burner rm	0.0163	0.0163	0.214	0.214	0.18
P21	WH-MA06, Permeate dryer cyclone rm	0.0186	0.0186	0.245	0.245	0.206
P22	WH-MA07, Dungeon Room	0.014	0.014	0.184	0.184	0.154
P23	WH-AC01, Packaging blower rm	0.00279	0.00279	0.0368	0.0368	0.0309
P24	WH-AC02, Powder silo room	0.00373	0.00373	0.049	0.049	0.0412

P25	WH-AC03, Packaging bag room	0.00698	0.00698	0.0919	0.0919	0.0772
P26	WH-AC-04, Packaging bulk room	0.00931	0.00931	0.123	0.123	0.103
P27	WH-AC09, Offices	8.05E-04	8.05E-04	0.00995	0.00995	0.00424
P28	WH-AC11 Lab	8.94E-04	8.94E-04	0.0111	0.0111	0.00471
P29	WH-AC12, Breakroom	9.31E-04	9.31E-04	0.0115	0.0115	0.0049
P30	WH-MA04, Greenheck	0.00522	0.00522	0.0686	0.0686	0.0576
P31	FM -AC01, First Floor	8.57E-04	8.57E-04	0.0106	0.0106	0.00451
P32	FM -AC02, Second Floor	8.57E-04	8.57E-04	0.0106	0.0106	0.00451
P34	Fire Pump Engine	0.512	0.512	NA	7.28	1.57
P40	Cheese Plant Donaldson Baghouse	3.82E-05	3.82E-05	0.0	0.0	0.0
AHU07_8	Cheese Plant AHU07 and 08 EXH	0.041	0.041	0.539[a]	0.539[a]	0.453
AHU09	Cheese Plant - Direct-fired AHU09 EXH	0.0224	0.0224	0.294[a]	0.294[a]	0.247
AHU10	Whey Plant Direct Fired AHU10 EXH	0.0157	0.0157	0.207[a]	0.207[a]	0.174

[a.] modeled without dilution reduction

Secondary Particulate Formation

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

3.1.2 Toxic Air Pollutant Emissions Rates

TAP emissions regulations under Idaho Air Rules Section 220 are only applicable for new or modified sources constructed after July 1, 1995. The submitted emissions inventory in the application identified four TAPs that potential increases of the Idaho Air Rules Section 586 could exceed screening emissions levels (ELs). Potential increases in emissions of other TAPs were all less than applicable ELs. Table 5 lists emission increases for these TAPs and compares them to the EL.

Table 5. MODELED TAP EMISSIONS RATES

Pollutant	CAS No.	Total Emissions Increase (lbs/hr)	EL (lbs/hr)
Arsenic	7440-38-2	7.16E-05	1.50E-06
Cadmium	7440-43-9	3.94E-05	3.70E-06
Formaldehyde	50-00-0	2.63E-03	5.10E-04
Nickel	7440-02-0	7.52E-05	2.70E-05

Table 6 provides source-specific TAP emission rates (factored by 1.0E6) used in the air impact analyses.

Table 6 TAPS EMISSIONS AS MODELED BY SOURCE (MULTIPLIED BY 1.0E06)					
Source ID	**Source Description**	**ARSENIC (lb/hr)[a]**	**CADMIUM (lb/hr)[a]**	**FORMAL-DEHYDE (lb/hr)[a]**	**NICKEL (lb/hr)[a]**
P1	Meyers-Sterner Whey Dryer	1.18	6.48	442	12.4
P2	Whey Dryer - Stack 1	2.46	13.5	921	25.8
P3	Whey Dryer - Stack 2	2.46	13.5	921	25.8
P4	Whey Dryer - Scrubber	0.0	0.0	0.0	0.0
P5	Whey Dryer - Bed BH Exhaust	0.0	0.0	0.0	0.0
P6	1200 HP Boiler - Cleaver Brooks	9.63	53	3610	101
P7	800 HP Boiler - Superior	4.87	26.8	1830	51.2
P8	600 HP Boiler - Cleaver Brooks	4.81	26.5	1800	50.5
P9	800 HP Boiler - Hurst	6.6	36.3	2480	69.3
P35	CH-AC01, Engineering	0.00988	0.0544	3.71	0.104
P10	CH-AC02, Main Conf. Rm	0.0145	0.0798	5.44	0.152
P11	CH-AC03, Main Breakroom	0.0353	0.194	13.2	0.371
P12	CH-AC04, Office, East side	0.0225	0.124	8.46	0.237
P13	CH-AC05, Office, West side	0.0225	0.124	8.46	0.237
P37	CH-AC14, QA Offices	2.25E-08	0.124	8.46	0.237
P14	CH-AC15, Micro Lab	2.25E-08	0.124	8.46	0.237
P15	CH-AC16, Intake Breakroon	2.25E-08	0.124	8.46	0.237
P16	CH-AC17, Main Lab	2.45E-08	0.135	9.19	0.257
P17	CH-AC24, Warehouse	2.25E-08	0.124	8.46	0.237
P18	WH-MA01, Crystalizer Room	0.49	2.7	184	5.15
P19	WH-MA02, HTST Room	0.429	2.36	161	4.5
P20	WH-MA03, Permeate dryer burner rm	0.429	2.36	161	4.5
P21	WH-MA06, Permeate dryer cyclone rm	0.49	2.7	184	5.15
P22	WH-MA07, Dungeon Room	0.368	2.02	138	3.86
P23	WH-AC01, Packaging blower rm	0.0735	0.404	27.6	0.772
P24	WH-AC02, Powder silo room	0.098	0.539	36.8	1.03
P25	WH-AC03, Packaging bag room	0.184	1.01	68.9	1.93
P26	WH-AC-04, Packaging bulk room	0.245	1.35	91.9	2.57
P27	WH-AC09, Offices	0.0212	0.116	7.94	0.222
P28	WH-AC11 Lab	0.0235	0.129	8.82	0.247
P29	WH-AC12, Breakroom	0.0245	0.135	9.19	0.257
P30	WH-MA04, Greenheck	0.137	0.755	51.5	1.44
P31	FM -AC01, First Floor	0.0225	0.124	8.46	0.237
P32	FM -AC02, Second Floor	0.0225	0.124	8.46	0.237
P34	Fire Pump Engine	0.0	0.0	0.0	0.0
P40	Cheese Plant Donaldson Baghouse	0.0	0.0	0.0	0.0
AHU07_8	Cheese Plant AHU07 and 08 EXH	1.08	5.93	404	11.3
AHU09	Cheese Plant - Direct-fired AHU09 EXH	0.588	3.24	221	6.18
AHU10	Whey Plant Direct Fired AHU10 EXH	0.414	2.28	155	4.35

[a.] Pound/hour emissions rate multiplied by 10^6

3.1.3 Emission Release Parameters

Table 7 provides emissions release parameters, including stack height, stack diameter, exhaust temperature, and exhaust velocity for all Sorrento facility sources as used in the final modeling assessment.

Stack parameters used in the modeling analyses were largely documented/justified adequately in the application. Many of the sources had characteristics taken from field tests, as well as design documents. Sources with capped or horizontal flows were assigned an exit velocity of 0.001 meters/second.

Table 7 MODELING PARAMETERS FOR SORRENTO							
Source ID	**Source Description**	**Easting[a] (X) (m)**	**Northing[b] (Y) (m)**	**Stack Height $(ft)_c$**	**Temp (°F)[d]**	**Exit Velocity (fps)[e]**	**Stack Diameter (ft)[c]**
P1	Meyers-Sterner Whey Dryer	541064.9	4828191.2	78.0	160	38.025	3.170
P2	Whey Dryer - Stack 1	541102.6	4828227.5	136.0	241	58.104	1.509
P3	Whey Dryer - Stack 2	541098.1	4828221.9	136.0	241	58.104	1.509
P4	Whey Dryer - Scrubber	541092.2	4828208.8	136.0	104	58.202	5.183
P5	Whey Dryer - Bed BH Exhaust	541100.7	4828210.6	136.0	126	60.105	3.674
P6	1200 HP Boiler - Cleaver Brooks	540992.1	4828199.1	48.0	325	33.136	2.986
P7	800 HP Boiler - Superior	541000.4	4828179.3	48.0	275	30.381	2.165
P8	600 HP Boiler - Cleaver Brooks	540989.7	4828193.0	48.0	275	34.908	2.002
P9	800 HP Boiler - Hurst	540991.9	4828190.8	48.0	275	30.643	2.493
P35	CH-AC01, Engineering	540978.0	4828186.5	25.5	185	0.003	0.230
P10	CH-AC02, Main Conf. Rm	540968.6	4828185.5	25.5	185	0.003	0.230
P11	CH-AC03, Main Breakroom	540956.6	4828188.6	25.5	185	0.003	0.230
P12	CH-AC04, Office, East side	540943.2	4828188.9	25.5	185	0.003	0.230
P13	CH-AC05, Office, West side	540933.4	4828189.3	25.5	185	0.003	0.230
P37	CH-AC14, QA Offices	540971.1	4828283.3	40.0	185	0.003	0.230
P14	CH-AC15, Micro Lab	540993.7	4828295.3	36.5	185	0.003	0.230
P15	CH-AC16, Intake Breakroon	540991.0	4828299.9	36.5	185	0.003	0.230
P16	CH-AC17, Main Lab	540988.6	4828282.9	36.5	185	0.003	0.230
P17	CH-AC24, Warehouse	540920.9	4828271.1	32.5	185	0.003	0.230
P18	WH-MA01, Crystalizer Room	541060.4	4828214.9	49.7	185	0.003	0.500
P19	WH-MA02, HTST Room	541037.0	4828210.4	46.7	185	0.003	0.500
P20	WH-MA03, Permeate dryer burner rm	541104.4	4828209.3	139.7	185	0.003	0.500
P21	WH-MA06, Permeate dryer cyclone rm	541099.1	4828202.5	47.4	185	0.003	0.500
P22	WH-MA07, Dungeon Room	541089.3	4828227.0	128.7	185	0.003	0.500
P23	WH-AC01, Packaging blower rm	541083.9	4828235.9	42.0	185	0.003	4.671
P24	WH-AC02, Powder silo room	541111.7	4828219.5	109.0	185	0.003	0.500
P25	WH-AC03, Packaging bag room	541112.0	4828212.4	71.0	185	0.003	0.500
P26	WH-AC-04, Packaging bulk room	541111.5	4828202.2	47.4	185	0.003	0.500
P27	WH-AC09, Offices	541045.0	4828175.0	22.0	185	0.003	0.216
P28	WH-AC11 Lab	541042.7	4828170.2	20.6	185	0.003	1.000
P29	WH-AC12, Breakroom	541054.5	4828173.7	22.0	185	0.003	0.376
P30	WH-MA04, Greenheck	541110.1	4828185.7	40.0	185	0.003	0.461
P31	FM -AC01, First Floor	541028.8	4828341.4	38.5	185	0.003	0.216
P32	FM -AC02, Second Floor	541034.1	4828341.4	38.5	185	0.003	0.216
P34	Fire Pump Engine	541080.6	4828351.1	8.3	850	0.003	0.333
P40	Cheese Plant Donaldson Baghouse	540967.0	4828289.6	46.0	70	52.493	1.417
AHU078	Cheese Plant AHU07 and 08 EXH	540967.7	4828265.1	41.0	70	49.213	3.000
AHU09	Cheese Plant - Direct-fired AHU09 EXH	540964.1	4828199.3	25.0	70	49.213	3.000
AHU10	Whey Plant Direct Fired AHU10 EXH	541046.2	4828191.5	29.0	70	49.213	3.000

a. Universal Transverse Mercator coordinates in the east/west direction.
b. Universal Transverse Mercator coordinates in the north/south direction.
c. Feet.
d. Degrees Fahrenheit.
e. Feet per second.

3.2 Background Concentrations

Background concentrations were obtained by REC from the Northwest International Air Quality Environmental Science and Technology Consortium (NW AIRQUEST) *Lookup 2009-2011 Design Values of Criteria Pollutants*[2]. These design value air pollutant levels are based on regional scale air pollution modeling of Washington, Oregon, and Idaho, with values influenced by monitoring data as a function of distance from the monitor. DEQ has determined that the NW AIRQUEST background values are reasonably representative of the facility locale. NW AIRQUEST background concentration values are listed in a column of Table 10 **Cumulative NAAQS Impact Analyses Results for Criteria Pollutants**. On June 16 DEQ approved usage of the non-default ARM2 methodology to show modeling compliance with NO_2 NAAQS. DEQ provided REC with revised background NO_2 data to be used with this approach on June 21, 2016. Sorrento resubmitted the application with revised modeling analyses on June 23, 2016. This data has previously been used and accepted in other applications[3], and are listed in Table 8 below. The background profile values were determined using the ambient 1-hour NO_2 data obtained from the EPA AQS data mart database (available on line at https://aqs.epa.gov/api). The most recent three years of 1-hour NO_2 data available (2012-2014) from the DEQ Meridian Near Road monitor (ID# 016001023, Parameter ID# 42602) were downloaded and evaluated. In general, the steps used to determine these seasonal hourly background values followed the EPA guidance. Data were organized by year, season and hour. The completeness of the data was determined and then the 98th percentile (or the third highest value for each season and hour for complete data) was determined for each season and hour.

Table 8. JUNE 2012-MAY 2015 AMBIENT 98TH PERCENTILE SEASON HOUR OF DAY NO_2 CONCENTRATIONS (PPB)

Hour of Day	Winter	Spring	Summer	Autumn
1	30.6	26.3	23.7	24.3
2	28.6	21.8	18.5	21.6
3	26.7	20.6	17.5	21.0
4	25.8	23.9	21.3	22.3
5	26.9	26.2	24.2	22.1
6	28.2	27.2	27.3	25.3
7	29.1	31.8	30.0	28.4
8	29.8	32.4	26.0	30.3
9	31.1	27.1	23.7	26.5
10	26.9	22.2	20.0	24.3
11	25.9	18.5	19.7	21.5
12	24.6	16.6	15.5	17.9
13	20.0	15.7	14.3	17.1
14	18.0	16.6	13.6	16.3
15	20.9	15.7	16.0	18.0
16	22.5	15.7	16.6	21.0
17	23.7	17.1	17.7	23.3
18	28.0	18.4	17.4	28.6
19	32.6	24.3	20.6	34.6
20	35.1	32.5	30.9	41.4
21	34.4	40.1	41.4	39.6

22	33.7	39.2	40.0	34.6
23	32.4	35.3	35.7	31.5
24	32.0	31.5	31.1	26.5

3.3 Impact Modeling Methodology

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

3.3.1 General Overview of Analyses

REC performed project-specific air impact analyses that were determined by DEQ to be reasonably representative of the proposed facility as described in the application. Results of the submitted analyses demonstrate compliance with applicable air quality standards to DEQ's satisfaction, provided the facility is operated as described in the submitted application and in this memorandum.

Table 9 provides a brief description of parameters used in the modeling analyses.

Table 9. MODELING PARAMETERS

Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Nampa, Idaho	The facility is located in an area that is attainment or unclassified for all criteria air pollutants
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 15181.
Meteorological Data	2012-2015 Boise Idaho NWS, and upper air data from Boise, ID	The meteorological model input files for this project were provided by and recommended as most representative for this project by DEQ, as described in the IDEQ modeling protocol and verified by DEQ's approval of that protocol.
Terrain	Considered	See section 5.3 below
Building Downwash	Considered	Because there are significant buildings in the vicinity of Sorrento, BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
Receptor Grid	Grid 1	25-meter spacing along the ambient air boundary and the county road southwest of the facility out to distance of 100 meters
	Grid 2	50-meter spacing from 100 to 300 m
	Grid 3	100-meter spacing for distances out to 500 meters from facility
	Grid 4	250-meter spacing for distances out to 1,000 meters from the facility
	Grid 5	500-meter spacing for distances out to 3,000 meters from the facility
	Grid 6	1000-meter spacing for distances out to 10,000 meters from the facility

3.3.2 Modeling protocol and Methodology

A modeling protocol was submitted for this project on January 26, 2016. This protocol was approved by DEQ with conditions on February 16, 2016. DEQ provided revised background concentration data for PM_{10} and $PM_{2.5}$ on February 27, 2016. An application was submitted by Sorrento on April 26, 2016. DEQ responded with a letter of incompleteness on May 20, 2016. This was largely due to inconsistencies in some modeled emission rates for NOx and CO. On June 16 DEQ approved usage of the non-default Tier2 ARM2 methodology for refined chemical transformation of NOx to NO_2. DEQ provided REC with refined

background NO_2 data to be used with this approach on June 21, 2016 (see Section 3.2). REC resubmitted the application with revised modeling analyses on June 23, 2016. After further discussions on some modeling issues, the application was deemed complete on August 2, 2016.

REC proposed several refined methodologies to utilize in their analyses. These included: 1) using monthly utilization factors for modeling heater operations (approved in the modeling protocol); 2) using the Tier 2 ARM2 methodology for treatment of transformation of NO_X to NO_2 modeled concentrations; 3) applying a daylight factor to emissions from the emergency fire pump emissions; 4) reducing emissions from the building ventilation sources AHU7, 8, 9, and 10 by accounting for dilution from increased air change rates in the food processing areas. Based upon discussions during the protocol stage and further discussions after application submittal, most of these methodologies were found acceptable by DEQ. The methodology utilizing a 90% dilution factor due to the extra air exchanges in the AHU units was not accepted by DEQ. Therefore, confirmation modeling runs not incorporating these reductions were done by both REC and DEQ to confirm that all standards were not exceeded.

REC followed the procedures outlined in the submitted modeling protocol. Project-specific modeling and other required impact analyses were generally conducted using data and methods discussed in pre-application correspondence and in the *Idaho Air Quality Modeling Guideline*[1].

3.3.3 Model Selection

Idaho Air Rules Section 202.02 requires that estimates of ambient concentrations be based on air quality models specified in 40 CFR 51, Appendix W (Guideline on Air Quality Models). The refined, steady state, multiple source Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. AERMOD retains the single straight line trajectory of ISCST3, but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

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

3.3.4 Meteorological Data

REC used meteorological data collected at the Boise airport for the period 2011-2015. Upper air data was also taken from the Boise, Idaho airport. This data was provided to REC by DEQ, and is deemed representative for modeling in the locale of Sorrento.

3.3.5 Effects of Terrain on Modeled Impacts

Terrain data were extracted from United States Geological Survey (USGS) National Elevation Dataset (NED) files in the WGS84 datum (approximately equal to the NAD83 datum). REC used 1 Second resolution data, which is adequate for this analysis.

The terrain preprocessor AERMAP Version 11103 was used to extract the elevations from the NED files and assign them to receptors in the modeling domain in a format usable by AERMOD. AERMAP also determined the hill-height scale for each receptor. The hill-height scale is an elevation value based on the surrounding terrain which has the greatest effect on that individual receptor. AERMOD uses those heights to evaluate whether the emissions plume has sufficient energy to travel up and over the terrain or if the plume

will travel around the terrain.

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

3.3.6 Facility Layout

DEQ compared site locations to those in aerial photographs on Google Earth. The modeled location matched well with aerial photographs in Google Earth as well as from those in the ARCGIS 2013 NAIP database.

3.3.7 Effects of Building Downwash on Modeled Impacts

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

3.3.8 Ambient Air Boundary

Ambient air is defined in Section 006 of the Idaho Air Rules as "that portion of the atmosphere, external to buildings, to which the general public has access." Public access to the Sorrento facility is precluded by a fence and signage on the perimeter of the site. Those parking areas that are publicly accessible were considered ambient air in the modeling analyses.

3.3.9 Receptor Network

Table 9 describes the receptor grid used in the submitted analyses. The receptor grid met the minimum recommendations specified in the *Idaho Air Quality Modeling Guideline*[1]. DEQ determined this grid assured maximum impacts were reasonably resolved by the model considering: 1) types of sources modeled; 2) modeled impacts and the modeled concentration gradient; 3) conservatism of the methods and data used as inputs to the analyses; 4) potential for continual exposures or exposure to sensitive receptors. Additionally, DEQ performed sensitivity analyses using a finer grid spaced receptor network to assure that maximum concentrations were below all applicable standards.

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.

Buildings exist in the vicinity for all point sources modeled. Therefore, consideration of downwash caused by nearby buildings was required.

4.0 Impact Modeling Results

4.1 Results for NAAQS Significant Impact Level Analyses

REC performed air quality modeling for those criteria pollutants having emissions exceeding Level I modeling thresholds (PM_{10}, $PM_{2.5}$, CO, and NO_2). The results from the cumulative modeling analyses with all sources for these pollutants are listed in Table 10 and show compliance with all NAAQS.

Table 10. CUMULATIVE NAAQS IMPACT ANALYSES RESULTS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Period	Maximum Modeled Concentration (ug/m^3)[a]	Background Concentration (ug/m^3)[a]	Total Impact (ug/m^3)[a]	NAAQS[b] (ug/m^3)[a]
PM_{10}	24-hour	24.9	70.2	95.1	150
$PM_{2.5}$	24-hour	11.8	23.1	34.9	35
	Annual	3.56	7.8	11.4	12.0
NO_2	1-hour	182.6[c]	Varies by season and hour	182.6	188
	Annual	61.7	10.9	72.6	100
CO	1-Hour	324	1657	1981	40,000
	8-hour	104	996	1100	10,000

a. Micrograms per cubic meter.
b. National Ambient Air Quality Standard.
c. Maximum concentrations modeled without dilution factors for AHU units.

4.2 Results for TAPs Impact Analyses

Dispersion modeling is required to demonstrate compliance with TAP increments specified by Idaho Air Rules Section 585 and 586 for those TAPs with project-specific emission increases exceeding emissions screening levels (ELs). Because there are four TAPs emissions that exceed the ELs, modeling analyses were needed to demonstrate compliance with all AAC and AAAC. Results are listed in Table 11 and show compliance with all AAC and AAAC.

Table 11. TAP MODELING RESULTS

Pollutant	CAS No.	Average	Modeled Conc. (µg/m^3)[a]	AAC/AAAC[b] (µg/m^3)	%AAC/AAAC
Arsenic	7440-38-2	Annual	3.08E-05	2.3E-04	13%
Cadmium	7440-43-9	Annual	1.72E-04	5.6E-04	31%
Formaldehyde	50-00-0	Annual	1.16E-02	7.7E-02	15%
Nickel	7440-02-0	Annual	3.25E-04	4.2E-03	8%

a. micrograms per cubic meter.
b. Acceptable Ambient Concentration or Acceptable Ambient Concentration of a Carcinogen.

5.0 Conclusions

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

References:

1. *State of Idaho Guideline for Performing Air Quality Impact Analyses.* Idaho Department of Environmental Quality. September 2013. State of Idaho DEQ Air Doc. ID AQ-011. Available at http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf.

2. Air Quality Environmental Science and Technology Consortium (NW AIRQUEST). *Lookup 2009-2011 Design Values of Criteria Pollutants*. Available at: http://lar.wsu.edu/nw-airquest/lookup.html.

3. Taken from Section 5.8.1 of the St. Luke's Medical Center Nampa PTC application's modeling report, received by DEQ on May 13, 2016. DEQ TRIM Document #2016AAG801.

PTC Prcessing Fee Calculation Worksheet

Instructions:
Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company:	**Sorrento Lactalis Inc. - Swiss Village**
Address:	**4912 East Franklin Road**
City:	**Nampa**
State:	**ID**
Zip Code:	**83687**
Facility Contact:	**Nicolas Depuydt**
Title:	**Nampa Site Director**
AIRS No.:	**027-00071**

N	Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N
Y	Did this permit require engineering analysis? Y/N
N	Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_X	0.0	11.29	-11.3
SO_2	0.0	0	0.0
CO	2.7	0	2.7
PM10	0.9	0	0.9
VOC	0.3	0	0.3
TAPS/HAPS	0.0	0	0.0
Total:	0.0	11.29	**-7.3**
Fee Due	**$ 1,000.00**		

Comments: