Statement of Basis

Permit to Construct No. P-2013.0063
Project ID 61992

Commercial Creamery Co - Jerome Plant
Jerome, Idaho

Facility ID 053-00031

Final

August 2, 2018
Dan Pitman, P.E.
Permit Writer

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

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
Btu	British thermal units
CAS No.	Chemical Abstracts Service registry number
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
m	meters
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
PAH	polyaromatic hydrocarbons
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
TAP	toxic air pollutants
VOC	volatile organic compounds
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

The facility operates several process production lines in parallel. Cheese powder is produced in two spray lines and a culture line that utilize gas-fired spray dryers (D1, D2, and D3). The spray lines are complemented with four blending lines that blend the cheese powder with additional flavoring ingredients, and a chunkette line that produces extruded product from the cheese powder. The baghouses that control product particulate emissions for the dryers (D1, D2, D3 and D4) are integral to the dryer structure, and are inherent process equipment used to recover product. Ingredient dust from placement of material in blenders is controlled by dedicated filter units (P1 and P2) that also serve pneumatic transfers at these locations.

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).

March 28, 2014	P-2013.0063, Proj. 61306 initial PTC for a cheese powder production facility (S)
April 4, 2014	P-2013.0063, Proj. 61342 revised PTC, DEQ-initiated permit reissuance to correct a typo (S)
September 22, 2016	P-2013.0063, Proj. 61595 revised permit to change dryer emission limits (A, but will be S upon issuance of this permit)

Application Scope

This PTC/T2 is for a modification at an existing minor facility.

The applicant has proposed to:

- Add a new boiler (B1) to the permit. Note that both the old boiler that is being removed and new boiler are designated as Boiler 1 (B1) by the applicant.
- Install and operate a new dryer
- Increase hours of operation and production rates of existing dryers and process equipment

Application Chronology

January 16, 2018	DEQ received an application.
January 17, 2018	DEQ received an application fee.
January 25 – February 9, 2018	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
February 12, 2018	DEQ determined that the application was incomplete.
March 2, 2018	DEQ received supplemental information from the applicant.
March 29, 2018	DEQ determined that the application was complete.
April 16, 2018	DEQ made available the draft permit and statement of basis for peer and regional office review.
May 21, 2018	DEQ made available the draft permit and statement of basis for applicant review.
June 20 – July 20, 2018	DEQ provided a public comment period on the proposed action.
July 31, 2018	DEQ received the permit processing fee.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source (ID No.)	Control Equipment
Boiler 1 (B1) Manufacturer: Superior Model: 4-5-1276-S150 Installed date: 2017 Maximum capacity: 10.5 MMBtu/hr and 10,294 scf/hr Fuel: natural gas	(None)
Boiler 2 (B2) Manufacturer: York Shipley Model: 560-SPHV-125-N2 (125 HP) Manufacture date: 1988 Maximum capacity: 6.1 MMBtu/hr and 5,905 scf/hr Fuel: natural gas	(None)
Rogers Product Dryer 1 with Integral Baghouse (D1) Manufacturer: Rogers Model: NP1-LE Maxon Burner Manufacture date: 2014 Maximum capacity: 12 MMBtu/hr Fuel: natural gas Maximum operation: 24 hr/day and 8,760 hr/yr Maximum production: 36 tons/day (dry product)	Integral Baghouse (D1) Model: Rogers
Rogers Product Dryer 2 with Integral Baghouse (D2) Manufacturer: Rogers Model: 3065 North American Burner Manufacture date: 1960 Maximum capacity: 12 MMBtu/hr Fuel: natural gas Maximum operation: 24 hr/day and 8,760 hr/yr Maximum production: 36 tons/day (dry product)	Integral Baghouse (D2) Model: Rogers
Blaw Knox Spray Product Dryer with Integral Baghouse (D3) Manufacturer: Blaw Knox Model: Maxon Line-O-Flame B Burner Manufacture date: ≤1958 Maximum capacity: 8 MMBtu/hr Fuel: natural gas Maximum operation: 24 hr/day and 8,760 hr/yr Maximum production: 36 tons/day (dry product)	Integral Baghouse (D3) Model: Hammerlund, pulse-type
Rogers Dryer with Baghouse (D4) Manufacturer: Rogers Model: NP1-LE-Maxon Burner Maximum capacity: 12 MMBtu/hr Fuel: Natural Gas Maximum operation: 24 hr/day and 8,760 hr/yr Maximum production: 36 tons/day (dry product)	Rogers Baghouse

Source	Control Equipment
Pneumatic Conveying, Loading, and Tote-Dumping Operations with Dedicated Dust Collectors and Baghouses (P1 and P2) Maximum operation: 24 hr/day and 8,760 hr/yr Maximum production: 48 tons/day (dry product)	(2) Dedicated Dust Collectors and Baghouses (P1 and P2) Model: Azo, pulse-type
(2) Clothes Dryers (NR3A & NR3B) Maximum capacity: 113,000 Btu/hr Manufacturer: Carrier	(None)
(2) HVAC Units (NR4A & NR4B) Maximum capacity: 275,000 Btu/hr Manufacturer: Carrier	(None)
HVAC Units (NR4C) Maximum capacity: 180,000 Btu/hr each Manufacturer: Carrier	(None)
HVAC Unit (NR4I) 200,000 Btu/hr Manufacturer Carrier	(None)
HVAC Unit (NR4J, NR4K) Maximum capacity: 230,000 Btu/hr Manufacturer Carrier	(None)
(2)HVAC Units (NR4L,NR4M) 345,000 Btu/hr Manufacturer Carrier	(None)
HVAC Unit (NR4D) Maximum capacity: 74,000 Btu/hr Manufacturer: Carrier	(None)
(3) HVAC Units (NR4E, NR4F, NR4G) Maximum capacity: 125,000 Btu/hr Manufacturer: Carrier	(None)
HVAC Unit (NR4H) Maximum capacity: 225,000 Btu/hr Manufacturer: Carrier	(None)
HVAC Unit (NR7A) Maximum capacity: 195,000 Btu/hr Manufacturer: Carrier	(None)
HVAC Unit (NR7B) Maximum capacity: 195,000 Btu/hr Manufacturer: Carrier	(None)
(2) HVAC Units (NR7C, NR7D) Maximum capacity: 390,000 Btu/hr Manufacturer: Carrier	(None)
HVAC Units (NR7E) Maximum capacity: 250,000 Btu/hr Manufacturer: Carrier	(None)
HVAC Units (NR7F) Maximum capacity: 180,000 Btu/hr Manufacturer: Carrier	(None)
(2) HVAC Units (NR7G, NR7H) Maximum capacity: 180,000 Btu/hr Manufacturer: Carrier	(None)
HVAC Units (NR7I) Maximum capacity: 180,000 Btu/hr Manufacturer: Carrier	(None)
HVAC Units (NR7J) Maximum capacity: 115,000 Btu/hr Manufacturer: Carrier	(None)

(2) HVAC Units (NR7K, NR7L) Maximum capacity: 100,000 Btu/hr Manufacturer: Modine	(None)
Water Heater (NR5A) Manufacturer: AO Smith (100 gal Cat 4) Maximum capacity: 75,000 Btu/hr	(None)
Water Heater (NR5B) Manufacturer: AO Smith (100 gal Cat 4) Maximum capacity: 199,000 Btu/hr	(None)

Emissions Inventories

Potential to Emit

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

Using this definition of Potential to Emit an emission inventory was developed for all emission units at the facility (see Appendix A). Emissions estimates of criteria pollutants and HAP PTE were based on 8,760 hours per year, and process information specific to the facility for this proposed project.

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 PM_{10}, $PM_{2.5}$, NO_x and CO from all emissions units at the facility. Sulfur dioxide and VOCs are emitted with facility-wide annual emission rates of 0.08 tons per year and 0.75 tons per year respectively; however, they are not included in the following table. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

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

Source	PM_{10}		$PM_{2.5}$		NO_X		CO	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Boiler 150 hp York Shipley	0.0449	0.1966	0.0449	0.1966	0.5905	2.5864	0.4960	2.1726
Boiler York Shipley (125 hp)	0.0449	0.1966	0.0449	0.1966	0.5905	2.5864	0.4960	2.1726
Rogers Dryer with Baghouse	0.1868	0.5453	0.1288	0.3761	0.7744	2.2614	0.6505	1.8996
Rogers Dryer with Baghouse	0.1868	0.5453	0.1288	0.3761	0.7744	2.2614	0.6505	1.8996
Blaw Knox Dryer with Baghouse	0.1868	0.5453	0.1288	0.3761	0.5163	1.5076	0.4337	1.2664
Clothes Dryer 1	0.0008	0.0036	0.0008	0.0036	0.0103	0.0450	0.0044	0.0192
Clothes Dryer 2	0.0008	0.0036	0.0008	0.0036	0.0103	0.0450	0.0044	0.0192
Water Heater 1	0.0006	0.0024	0.0006	0.0024	0.0068	0.0299	0.0029	0.0127
Water Heater 3	0.0015	0.0064	0.0015	0.0064	0.0181	0.0793	0.0077	0.0338
Tote-Dump Dust Collector 2	0.1436	0.4192	0.0324	0.0947				
Tote-Dump Dust Collector 1	0.1436	0.4192	0.0324	0.0947				
Break Room - Carrier HVAC	0.0017	0.0073	0.0017	0.0073	0.0205	0.0897	0.0087	0.0382
Blend Room - Carrier HVAC-1	0.0015	0.0064	0.0015	0.0064	0.0182	0.0797	0.0077	0.0339
Blend Room - Carrier HVAC-2	0.0017	0.0074	0.0017	0.0074	0.0209	0.0917	0.0089	0.0390
Blend Room - Carrier HVAC-3	0.0017	0.0074	0.0017	0.0074	0.0209	0.0917	0.0089	0.0390
Blend Room - Carrier HVAC-4	0.0025	0.0111	0.0025	0.0111	0.0314	0.1375	0.0134	0.0585
Shop - Carrier HVAC	0.0025	0.0111	0.0025	0.0111	0.0314	0.1375	0.0134	0.0585
Ph I ADP Unit Heater 1	0.0029	0.0126	0.0029	0.0126	0.0355	0.1554	0.0151	0.0661
Ph I ADP Unit Heater 2	0.0029	0.0126	0.0029	0.0126	0.0355	0.1554	0.0151	0.0661
E Shop- Modine Unit Heater 1	0.0007	0.0032	0.0007	0.0032	0.0091	0.0399	0.0039	0.0170

E Shop- Modine Unit Heater 2	0.0007	0.0032	0.0007	0.0032	0.0091	0.0399	0.0039	0.0170
E Side - Modine Unit Heater Down	0.0014	0.0063	0.0014	0.0063	0.0177	0.0777	0.0076	0.0331
E Side - Modine Unit Heater Up	0.0014	0.0063	0.0014	0.0063	0.0177	0.0777	0.0076	0.0331
Proc'B - Carrier HVAC	0.0020	0.0089	0.0020	0.0089	0.0250	0.1096	0.0106	0.0466
Blend'C - Carrier HVAC	0.0020	0.0089	0.0020	0.0089	0.0250	0.1096	0.0106	0.0466
QA - Carrier HVAC	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
QC - Carrier HVAC	0.0005	0.0024	0.0005	0.0024	0.0067	0.0295	0.0029	0.0126
E Side - Carrier HVAC Office	0.0009	0.0040	0.0009	0.0040	0.0114	0.0498	0.0048	0.0212
E Side - Carrier HVAC Bartelt	0.0009	0.0040	0.0009	0.0040	0.0114	0.0498	0.0048	0.0212
Littleford - Carrier HVAC-1	0.0009	0.0040	0.0009	0.0040	0.0114	0.0498	0.0048	0.0212
Ph II ADP Unit Heater 1	0.0018	0.0081	0.0018	0.0081	0.0227	0.0996	0.0097	0.0424
Ph II ADP Unit Heater 2	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
Ph III ADP Unit Heater N-1	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
Ph III ADP Unit Heater N-2	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
Ph III ADP Unit Heater S-1	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
Ph III ADP Unit Heater S-2	0.0008	0.0037	0.0008	0.0037	0.0105	0.0458	0.0045	0.0195
Pre-Project Totals	**0.98**	**3.05**	**0.58**	**1.89**	**3.77**	**13.48**	**2.95**	**10.38**

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 PM_{10}, $PM_{2.5}$, NO_x and CO from all emissions units at the facility. Sulfur dioxide and VOCs are emitted with facility-wide annual emission rates of 0.14 tons per year and 1.31 tons per year respectively; however, they are not included in the following table. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM_{10}		$PM_{2.5}$		NO_X		CO	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Replacement Superior Boiler (250 hp)	0.0798	0.3495	0.0798	0.3495	1.0196	4.4656	0.3885	1.7016
Boiler York Shipley (125 hp)	0.0449	0.1966	0.0449	0.1966	0.5905	2.5864	0.4960	2.1726
Rogers Dryer with Baghouse	0.3715	1.6271	0.2566	1.1239	1.1765	5.1529	0.9882	4.3285
Rogers Dryer with Baghouse	0.3715	1.6271	0.2566	1.1239	1.1765	5.1529	0.9882	4.3285
Blaw Knox Dryer with Baghouse	0.3715	1.6271	0.2566	1.1239	0.7843	3.4353	0.6588	2.8856
New Dryer	0.3715	1.6271	0.2566	1.1239	1.1765	5.1529	0.9882	4.3285
Clothes Dryer 1	0.0008	0.0036	0.0008	0.0036	0.0103	0.0450	0.0044	0.0192
Clothes Dryer 2	0.0008	0.0036	0.0008	0.0036	0.0103	0.0450	0.0044	0.0192
Water Heater 1	0.0006	0.0024	0.0006	0.0024	0.0068	0.0299	0.0029	0.0127
Water Heater 3	0.0015	0.0064	0.0015	0.0064	0.0181	0.0793	0.0077	0.0338
Tote-Dump Dust Collector 2	0.2153	0.9432	0.0487	0.2132				
Tote-Dump Dust Collector 1	0.2153	0.9432	0.0487	0.2132				
Break Room - Carrier HVAC	0.0017	0.0073	0.0017	0.0073	0.0205	0.0897	0.0087	0.0382
Blend Room - Carrier HVAC-1	0.0015	0.0064	0.0015	0.0064	0.0182	0.0797	0.0077	0.0339
Blend Room - Carrier HVAC-2	0.0017	0.0074	0.0017	0.0074	0.0209	0.0917	0.0089	0.0390
Blend Room - Carrier HVAC-3	0.0017	0.0074	0.0017	0.0074	0.0209	0.0917	0.0089	0.0390
Blend Room - Carrier HVAC-4	0.0025	0.0111	0.0025	0.0111	0.0314	0.1375	0.0134	0.0585
Shop - Carrier HVAC	0.0025	0.0111	0.0025	0.0111	0.0314	0.1375	0.0134	0.0585
Ph I ADP Unit Heater 1	0.0029	0.0126	0.0029	0.0126	0.0355	0.1554	0.0151	0.0661
Ph I ADP Unit Heater 2	0.0029	0.0126	0.0029	0.0126	0.0355	0.1554	0.0151	0.0661
E Shop- Modine Unit Heater 1	0.0007	0.0032	0.0007	0.0032	0.0091	0.0399	0.0039	0.0170
E Shop- Modine Unit Heater 2	0.0007	0.0032	0.0007	0.0032	0.0091	0.0399	0.0039	0.0170
E Side - Modine Unit Heater Down	0.0014	0.0063	0.0014	0.0063	0.0177	0.0777	0.0076	0.0331
E Side - Modine Unit Heater Up	0.0014	0.0063	0.0014	0.0063	0.0177	0.0777	0.0076	0.0331
Proc'B - Carrier HVAC	0.0020	0.0089	0.0020	0.0089	0.0250	0.1096	0.0106	0.0466

Blend'C - Carrier HVAC	0.0020	0.0089	0.0020	0.0089	0.0250	0.1096	0.0106	0.0466
QA - Carrier HVAC	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
QC - Carrier HVAC	0.0005	0.0024	0.0005	0.0024	0.0067	0.0295	0.0029	0.0126
E Side - Carrier HVAC Office	0.0009	0.0040	0.0009	0.0040	0.0114	0.0498	0.0048	0.0212
E Side - Carrier HVAC Bartelt	0.0009	0.0040	0.0009	0.0040	0.0114	0.0498	0.0048	0.0212
Littleford - Carrier HVAC-1	0.0009	0.0040	0.0009	0.0040	0.0114	0.0498	0.0048	0.0212
Ph II ADP Unit Heater 1	0.0018	0.0081	0.0018	0.0081	0.0227	0.0996	0.0097	0.0424
Ph II ADP Unit Heater 2	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
Ph III ADP Unit Heater N-1	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
Ph III ADP Unit Heater N-2	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
Ph III ADP Unit Heater S-1	0.0013	0.0058	0.0013	0.0058	0.0164	0.0717	0.0070	0.0305
Ph III ADP Unit Heater S-2	0.0008	0.0037	0.0008	0.0037	0.0105	0.0458	0.0045	0.0195
Post Project Totals	**2.08**	**9.12**	**1.29**	**5.65**	**6.44**	**28.22**	**4.73**	**20.71**

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 PM_{10}, $PM_{2.5}$, NO_x and CO from all emissions units at the facility. Even though they are not included in the following table, Sulfur dioxide and VOCs are emitted with facility-wide annual emission increases of 0.06 tons per year and 0.56 tons per year respectively.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM_{10}		$PM_{2.5}$		NO_X		CO	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Pre-Project Totals	**0.98**	**3.05**	**0.58**	**1.89**	**3.77**	**13.48**	**2.95**	**10.38**
Post Project Totals	**2.08**	**9.12**	**1.29**	**5.65**	**6.44**	**28.22**	**4.73**	**20.71**
Change in PTE	**1.10**	**6.07**	**0.71**	**3.76**	**2.67**	**14.74**	**1.78**	**10.33**

TAP Emissions

A conservative summary of the estimated PTE for emissions increase of toxic air pollutants (TAP) from natural gas combustion sources is provided in the following table. The calculations provided by the applicant are conservative because the total emissions of the existing dryers (D1, D2 and D3) were included in the analysis when only the increase of emissions needed to be included. Also, TAPs that are also HAPs that are emitted from the boiler are included in the assessment when they could have been excluded. This conservative methodology demonstrated compliance.

Table 5 TAP EMISSIONS

TAPs	Emission Sources					TAPs Total	Emission Screening Level (EL)	Below or Exceeds EL
	Boiler 1	Dryer 1	Dryer 2	Dryer 3	Dryer 4			
	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	
3-methylchloranthrene	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08	9.62E-08	2.500E-06	Below
Benzene	2.16E-05	2.47E-05	2.47E-05	1.65E-05	2.47E-05	9.06E-05	8.000E-04	Below
Dichlorobenzene	1.24E-05	1.41E-05	1.41E-05	9.41E-06	1.41E-05	5.18E-05	2.000E+01	Below
Formaldehyde	7.72E-04	8.82E-04	8.82E-04	5.88E-04	8.82E-04	**3.24E-03**	5.100E-04	**Exceeds**
Hexane	1.85E-02	2.12E-02	2.12E-02	1.41E-02	2.12E-02	7.76E-02	1.200E+01	Below
Naphthalene	6.28E-06	7.18E-06	7.18E-06	4.78E-06	7.18E-06	2.63E-05	9.100E-05	Below
Pentane	2.68E-02	3.06E-02	3.06E-02	2.04E-02	3.06E-02	1.39E-01	1.180E+02	Below
Toluene	3.50E-05	4.00E-05	4.00E-05	2.67E-05	4.00E-05	1.47E-04	2.500E+01	Below
Arsenic	2.06E-06	2.35E-06	2.35E-06	1.57E-06	2.35E-06	**8.63E-06**	1.500E-06	**Exceeds**
Barium	4.53E-05	5.18E-05	5.18E-05	3.45E-05	5.18E-05	2.35E-04	3.300E-02	Below
Beryllium	1.24E-07	1.41E-07	1.41E-07	9.41E-08	1.41E-07	5.18E-07	2.800E-05	Below
Cadmium	1.13E-05	1.29E-05	1.29E-05	8.63E-06	1.29E-05	**4.75E-05**	3.700E-06	**Exceeds**
Chromium	1.44E-05	1.65E-05	1.65E-05	1.10E-05	1.65E-05	6.04E-05	3.300E-02	Below
Cobalt	8.65E-07	9.88E-07	9.88E-07	6.59E-07	9.88E-07	3.62E-06	3.300E-03	Below
Copper	8.75E-06	1.00E-05	1.00E-05	6.67E-06	1.00E-05	4.54E-05	1.300E-02	Below
Manganese	3.91E-06	4.47E-06	4.47E-06	2.98E-06	4.47E-06	1.64E-05	6.700E-02	Below
Molybdenum	1.13E-05	1.29E-05	1.29E-05	8.63E-06	1.29E-05	5.88E-05	3.330E-01	Below
Nickel	2.16E-05	2.47E-05	2.47E-05	1.65E-05	2.47E-05	**9.06E-05**	2.700E-05	**Exceeds**
Selenium	2.47E-07	2.82E-07	2.82E-07	1.88E-07	2.82E-07	1.04E-06	1.300E-02	Below
Vanadium	2.37E-05	2.71E-05	2.71E-05	1.80E-05	2.71E-05	1.23E-04	3.000E-03	Below
Zinc	2.99E-04	3.41E-04	3.41E-04	2.27E-04	3.41E-04	1.55E-03	6.670E-01	Below
Benzo(a)pyrene*	1.24E-08	1.41E-08	1.41E-08	9.41E-09	1.41E-08	6.41E-08	2.000E-06	Below
Benzo(b)fluroanthene*	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08			
Benzo(k)fluroanthene*	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08			
Chrysene*	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08			
Dibenz(a,h)anthracene*	1.24E-08	1.41E-08	1.41E-08	3.55E-02	5.32E-02			
Indeno(1,2,3-cd)pyrene*	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08			
POM	1.17E-07	1.34E-07	1.34E-07	8.94E-08	1.34E-07	4.92E-07	2.00E-06	Below

Some of the screening emissions levels (EL) for carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is required for formaldehyde, arsenic, cadmium and nickel. The modeled emission rates and predicted ambient concentrations demonstrated preconstruction compliance with acceptable ambient concentration increments.

Post Project HAP Emissions

Facility-wide HAP emissions are 0.45 tons per year. Therefore, the facility is not a major source of HAP emissions because no individual HAP exceeds 10 tons per year and the aggregate emissions of HAPs do not exceed 25 tons per year.

Ambient Air Quality Impact Analyses

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

Attainment Designation (40 CFR 81.313)

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

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

A	=	Use when any one HAP has 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 pollutant are < 80 T/yr.
B	=	Actual and potential emissions are < 100 T/yr without permit restrictions.
UNK	=	Class is unknown.

Table 2 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	9.12	9.12	**100**	B
PM_{10}	9.12	9.12	**100**	B
$PM_{2.5}$	5.65	5.65	**100**	B
SO_2	0.14	0.14	**100**	B
NO_X	28.22	28.22	**100**	B
CO	20.71	20.71	**100**	B
VOC	1.31	1.31	**100**	B
HAP (single)	<0.45	<0.45	**10**	B
HAP (total)	0.45	0.45	**25**	B
Pb	0.00012	0.00012	**100**	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 addition of a new dryer (D4), new boiler and increase production of existing equipment. A production increase was also requested for existing Dryers D1, D2, and D3. 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 facility is not subject to IDAPA 58.01.01.300-399, and the applicant did not apply for a Tier II operating permit in accordance with IDAPA 58.01.01.401. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.400-410.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 .... Visible Emissions

The sources of PM emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity.

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.

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}, $PM_{2.5}$, CO, NOx, SO_2, VOC, lead 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 not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

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

DEQ is delegated this Subpart.

The new 10.5 MMBtu/hr B1 boiler at this facility combusts natural gas as fuel and is subject to this Subpart. However, the only requirements that apply are the following:

1) Notification requirements of 40 CFR 60.48c(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 SO_2 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.

2) Recordkeeping requirements of 40 CFR 60.48c(g):

> "(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."

A detailed breakdown of 40 CFR 60 Subpart Dc is provided in Appendix C.

The existing boiler (B2) at the facility is not subject to 40 CFR 60 Subpart Dc because it was installed before the June 9, 1989 applicability date.

NESHAP Applicability (40 CFR 61)

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

MACT/GACT Applicability (40 CFR 63)

The proposed source is not an affected source subject to NESHAP in 40 CFR Part 63, and this permitting action does not alter the applicability status of existing affected sources at the facility.

The only 40 CFR 63 Subpart that is potentially applicable is 40 CFR 63 Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. However, since the two boilers are natural gas fired boilers they are specifically exempt from this Subpart at 40 CFR 63.11195(e).

Permit Conditions Review

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

Table 1.1 Regulated Sources was updated to include the new Superior Boiler that replaced an Existing York Shipley Boiler. Note that both the old boiler and new boiler are designated as Boiler 1 (B1) by the applicant.

Table 1.1 - The maximum hours of operation and production rates of existing Dryers D1, D2 and D3 have been updated to 8,760 hours per year and a daily production of 36 tons per day.

Table 1.1 was updated to include the new Dryer 4 (D4).

Table 1.1 was updated to specify that the Pneumatic Conveying, Loading, and Tote-Dumping Operations with Dedicated Dust Collectors and Baghouses (P1 and P2) operate 8,760 hours per year and daily production is 48 tons per day per each system.

Table 3.1 Emission Limits – This table was updated to include higher PM_{10} and $PM_{2.5}$ emission rate limits for the D1, D2, and D3 dryers than was previously permitted. Emission rate limits are based on source test results at this same facility[1] along with a compliance buffer factor of 1.2 added. DEQ also added new Dryer 4 (D4) to the table with the same emission rate limit as the existing dryers. PM_{10} and $PM_{2.5}$ emission rate limits were also added for the two existing pneumatic conveying, loading, and tote-dumping operations with dedicated dust collectors and baghouses (P1 & P2). The emission estimates are based on the same emissions factor as the previous permit but the throughput has increased and the emission rate limit reflects this change.

Existing Permit Condition 3.4 was divided into two sections (3.4.1 & 3.42) because new throughput limits were added to the permit for the Tote Dump Dust Collectors.

1 Included in the application is DEQ's April 21, 2015 letter summarizing source test results on Dryers 1, 2 &3.

Permit Condition 3.4.1- the allowable daily production of the existing dryers was increased from 24 tons per day to 36 tons per day, and the new D4 Dryer was added with the same 36 to per day production rate limit.

Permit Condition 3.4.2 includes new throughput limits for the existing two individual pneumatic conveying, loading, and tote-dumping operations with dedicated dust collectors and baghouses. The 48 tons per day throughput limit applies to each system independently of each other.

Permit Condition 3.5 was updated to include the new Dryer 4 (D4), otherwise the permit condition remains the same.

Permit Condition 3.7 was updated to include, at Permit Condition 3.7.2, monitoring requirements for the throughput of the pneumatic conveying, loading, and tote-dumping operations with dedicated dust collectors and baghouses.

Permit Condition 3.8 was updated to include the new Dryer 4 (D4) along with the existing dryers. No other changes were made.

Permit Condition 3.9 was added to the permit to incorporate the reporting and recordkeeping requirements of 40 CFR 60.48c Subpart Dc requirements for the new boiler (B1). Should there be a conflict between the permit and the CFR, the CFR shall govern.

PUBLIC REVIEW

Public Comment Opportunity

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

Public Comment Period

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

APPENDIX A – EMISSIONS INVENTORIES

Commercial Creamery Company
Baseline PTE

Source ID	Source Description	PM10		PM2.5		NOX		CO		HAPs
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(ton/yr)
B1	Boiler 150 hp York Shipley	0.0449	0.1966	0.0449	0.1966	0.5905	2.5864	0.4960	2.1726	0.049
B2	Boiler York Shipley (125 hp)	4.49E-02	1.97E-01	4.49E-02	1.97E-01	0.5905	2.5864	0.4960	2.1726	4.90E-02
D1	Rogers Dryer with Baghouse	1.87E-01	5.45E-01	1.29E-01	3.76E-01	7.74E-01	2.2614	0.6505	1.8996	9.60E-02
D2	Rogers Dryer with Baghouse	1.87E-01	5.45E-01	1.29E-01	3.76E-01	7.74E-01	2.2614	0.6505	1.8996	9.73E-02
D3	Blaw Knox Dryer with Baghouse	1.87E-01	5.45E-01	1.29E-01	3.76E-01	5.16E-01	1.5076	0.4337	1.2664	6.40E-02
NR3a	Clothes Dryer 1	8.31E-04	3.64E-03	8.31E-04	3.64E-03	1.03E-02	0.0450	0.0044	0.0192	9.00E-04
NR3b	Clothes Dryer 2	8.31E-04	3.64E-03	8.31E-04	3.64E-03	1.03E-02	0.0450	0.0044	0.0192	9.00E-04
NR5a	Water Heater 1	5.52E-04	2.42E-03	5.52E-04	2.42E-03	6.82E-03	0.0299	0.0029	0.0127	6.00E-04
NR5b	Water Heater 3	1.46E-03	6.41E-03	1.46E-03	6.41E-03	1.81E-02	0.0793	0.0077	0.0338	1.60E-03
P1	Tote-Dump Dust Collector 2	1.44E-01	4.19E-01	3.24E-02	9.47E-02					
P2	Tote-Dump Dust Collector 1	1.44E-01	4.19E-01	3.24E-02	9.47E-02					
NR4H	Break Room - Carrier HVAC	1.66E-03	7.25E-03	1.66E-03	7.25E-03	2.05E-02	0.0897	0.0087	0.0382	1.80E-03
NR4I	Blend Room - Carrier HVAC-1	1.47E-03	6.44E-03	1.47E-03	6.44E-03	1.82E-02	0.0797	0.0077	0.0339	1.60E-03
NR4J	Blend Room - Carrier HVAC-2	1.69E-03	7.41E-03	1.69E-03	7.41E-03	2.09E-02	0.0917	0.0089	0.0390	1.80E-03
NR4K	Blend Room - Carrier HVAC-3	1.69E-03	7.41E-03	1.69E-03	7.41E-03	2.09E-02	0.0917	0.0089	0.0390	1.80E-03
NR4L	Blend Room - Carrier HVAC-4	2.54E-03	1.11E-02	2.54E-03	1.11E-02	3.14E-02	0.1375	0.0134	0.0585	2.80E-03
NR4M	Shop - Carrier HVAC	2.54E-03	1.11E-02	2.54E-03	1.11E-02	3.14E-02	0.1375	0.0134	0.0585	2.80E-03
NR7C	Ph I ADP Unit Heater 1	2.87E-03	1.26E-02	2.87E-03	1.26E-02	3.55E-02	0.1554	0.0151	0.0661	3.00E-03
NR7D	Ph I ADP Unit Heater 2	2.87E-03	1.26E-02	2.87E-03	1.26E-02	3.55E-02	0.1554	0.0151	0.0661	3.00E-03
NR7K	E Shop- Modine Unit Heater 1	7.36E-04	3.22E-03	7.36E-04	3.22E-03	9.10E-03	0.0399	0.0039	0.0170	8.00E-04
NR7L	E Shop- Modine Unit Heater 2	7.36E-04	3.22E-03	7.36E-04	3.22E-03	9.10E-03	0.0399	0.0039	0.0170	8.00E-04
NR7A	E Side - Modine Unit Heater Down	1.43E-03	6.28E-03	1.43E-03	6.28E-03	1.77E-02	0.0777	0.0076	0.0331	1.50E-03
NR7B	E Side - Modine Unit Heater Up	1.43E-03	6.28E-03	1.43E-03	6.28E-03	1.77E-02	0.0777	0.0076	0.0331	1.50E-03
NR4A	Proc'B - Carrier HVAC	2.02E-03	8.86E-03	2.02E-03	8.86E-03	2.50E-02	0.1096	0.0106	0.0466	2.20E-03
NR4B	Blend'C - Carrier HVAC	2.02E-03	8.86E-03	2.02E-03	8.86E-03	2.50E-02	0.1096	0.0106	0.0466	2.20E-03
NR4C	QA - Carrier HVAC	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02	0.0717	0.0070	0.0305	1.40E-03
NR4D	QC - Carrier HVAC	5.44E-04	2.38E-03	5.44E-04	2.38E-03	6.73E-03	0.0295	0.0029	0.0126	6.00E-04
NR4E	E Side - Carrier HVAC Office	9.20E-04	4.03E-03	9.20E-04	4.03E-03	1.14E-02	0.0498	0.0048	0.0212	1.00E-03
NR4F	E Side - Carrier HVAC Bartelt	9.20E-04	4.03E-03	9.20E-04	4.03E-03	1.14E-02	0.0498	0.0048	0.0212	1.00E-03
NR4G	Littleford - Carrier HVAC-1	9.20E-04	4.03E-03	9.20E-04	4.03E-03	1.14E-02	0.0498	0.0048	0.0212	1.00E-03
NR7E	Ph II ADP Unit Heater 1	1.84E-03	8.06E-03	1.84E-03	8.06E-03	2.27E-02	0.0996	0.0097	0.0424	2.00E-03
NR7F	Ph II ADP Unit Heater 2	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02	0.0717	0.0070	0.0305	1.40E-03
NR7G	Ph III ADP Unit Heater N-1	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02	0.0717	0.0070	0.0305	1.40E-03
NR7H	Ph III ADP Unit Heater N-2	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02	0.0717	0.0070	0.0305	1.40E-03
NR7I	Ph III ADP Unit Heater S-1	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02	0.0717	0.0070	0.0305	1.40E-03
NR7J	Ph III ADP Unit Heater S-2	8.46E-04	3.71E-03	8.46E-04	3.71E-03	1.05E-02	0.0458	0.0045	0.0195	9.00E-04
	Total		**3.05E+00**		**1.89E+00**	**3.77E+00**	**13.4786**	**2.9479**	**10.3790**	**4.00E-01**

Commercial Creamery Company
New Facility-Wide PTE

Source ID	Source Description	PM10		PM2.5		N
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)
B1	Replacement Superior Boiler (250 hp)	7.98E-02	3.50E-01	7.98E-02	3.50E-01	1.0196
B2	Boiler York Shipley (125 hp)	4.49E-02	1.97E-01	4.49E-02	1.97E-01	5.91E-01
D1	Rogers Dryer with Baghouse	3.71E-01	1.63E+00	2.57E-01	1.12E+00	1.18E+00
D2	Rogers Dryer with Baghouse	3.71E-01	1.63E+00	2.57E-01	1.12E+00	1.18E+00
D3	Blaw Knox Dryer with Baghouse	3.71E-01	1.63E+00	2.57E-01	1.12E+00	7.84E-01
D4	New Dryer	3.71E-01	1.63E+00	2.57E-01	1.12E+00	1.18E+00
NR3a	Clothes Dryer 1	8.31E-04	3.64E-03	8.31E-04	3.64E-03	1.03E-02
NR3b	Clothes Dryer 2	8.31E-04	3.64E-03	8.31E-04	3.64E-03	1.03E-02
NR5a	Water Heater 1	5.52E-04	2.42E-03	5.52E-04	2.42E-03	6.82E-03
NR5b	Water Heater 3	1.46E-03	6.41E-03	1.46E-03	6.41E-03	1.81E-02
P1	Tote-Dump Dust Collector 2	2.15E-01	9.43E-01	4.87E-02	2.13E-01	
P2	Tote-Dump Dust Collector 1	2.15E-01	9.43E-01	4.87E-02	2.13E-01	
NR4H	Break Room - Carrier HVAC	1.66E-03	7.25E-03	1.66E-03	7.25E-03	2.05E-02
NR4I	Blend Room - Carrier HVAC-1	1.47E-03	6.44E-03	1.47E-03	6.44E-03	1.82E-02
NR4J	Blend Room - Carrier HVAC-2	1.69E-03	7.41E-03	1.69E-03	7.41E-03	2.09E-02
NR4K	Blend Room - Carrier HVAC-3	1.69E-03	7.41E-03	1.69E-03	7.41E-03	2.09E-02
NR4L	Blend Room - Carrier HVAC-4	2.54E-03	1.11E-02	2.54E-03	1.11E-02	3.14E-02
NR4M	Shop - Carrier HVAC	2.54E-03	1.11E-02	2.54E-03	1.11E-02	3.14E-02
NR7C	Ph I ADP Unit Heater 1	2.87E-03	1.26E-02	2.87E-03	1.26E-02	3.55E-02
NR7D	Ph I ADP Unit Heater 2	2.87E-03	1.26E-02	2.87E-03	1.26E-02	3.55E-02
NR7K	E Shop- Modine Unit Heater 1	7.36E-04	3.22E-03	7.36E-04	3.22E-03	9.10E-03
NR7L	E Shop- Modine Unit Heater 2	7.36E-04	3.22E-03	7.36E-04	3.22E-03	9.10E-03
NR7A	E Side - Modine Unit Heater Down	1.43E-03	6.28E-03	1.43E-03	6.28E-03	1.77E-02
NR7B	E Side - Modine Unit Heater Up	1.43E-03	6.28E-03	1.43E-03	6.28E-03	1.77E-02
NR4A	Proc'B - Carrier HVAC	2.02E-03	8.86E-03	2.02E-03	8.86E-03	2.50E-02
NR4B	Blend'C - Carrier HVAC	2.02E-03	8.86E-03	2.02E-03	8.86E-03	2.50E-02
NR4C	QA - Carrier HVAC	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02
NR4D	QC - Carrier HVAC	5.44E-04	2.38E-03	5.44E-04	2.38E-03	6.73E-03
NR4E	E Side - Carrier HVAC Office	9.20E-04	4.03E-03	9.20E-04	4.03E-03	1.14E-02
NR4F	E Side - Carrier HVAC Bartelt	9.20E-04	4.03E-03	9.20E-04	4.03E-03	1.14E-02

NR4G	Littleford - Carrier HVAC-1	9.20E-04	4.03E-03	9.20E-04	4.03E-03	1.14E-02
NR7E	Ph II ADP Unit Heater 1	1.84E-03	8.06E-03	1.84E-03	8.06E-03	2.27E-02
NR7F	Ph II ADP Unit Heater 2	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02
NR7G	Ph III ADP Unit Heater N-1	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02
NR7H	Ph III ADP Unit Heater N-2	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02
NR7I	Ph III ADP Unit Heater S-1	1.32E-03	5.80E-03	1.32E-03	5.80E-03	1.64E-02
NR7J	Ph III ADP Unit Heater S-2	8.46E-04	3.71E-03	8.46E-04	3.71E-03	0.0105
	Total	1.32E-03	**9.12**	**1.29**	**5.65**	**6.44**

Commercial Creamery Company

New Facility-Wide PTE

Source ID	Source Description	DX	CO		HAPs
		(ton/yr)	(lb/hr)	(ton/yr)	(ton/yr)
B1	Replacement Superior Boiler (250 hp)	4.4656	0.3885	1.7016	8.51E-02
B2	Boiler York Shipley (125 hp)	2.5864	0.4960	2.1726	4.90E-02
D1	Rogers Dryer with Baghouse	5.1529	0.9882	4.3285	9.73E-02
D2	Rogers Dryer with Baghouse	5.1529	0.9882	4.3285	9.73E-02
D3	Blaw Knox Dryer with Baghouse	3.4353	0.6588	2.8856	6.49E-02
D4	New Dryer	5.1529	0.9882	4.3285	9.73E-02
NR3a	Clothes Dryer 1	0.0450	0.0044	0.0192	9.00E-04
NR3b	Clothes Dryer 2	0.0450	0.0044	0.0192	9.00E-04
NR5a	Water Heater 1	0.0299	0.0029	0.0127	6.00E-04
NR5b	Water Heater 3	0.0793	0.0077	0.0338	1.60E-03
P1	Tote-Dump Dust Collector 2				0.00E+00
P2	Tote-Dump Dust Collector 1				0.00E+00
NR4H	Break Room - Carrier HVAC	0.0897	0.0087	0.0382	1.80E-03
NR4I	Blend Room - Carrier HVAC-1	0.0797	0.0077	0.0339	1.60E-03
NR4J	Blend Room - Carrier HVAC-2	0.0917	0.0089	0.0390	1.80E-03
NR4K	Blend Room - Carrier HVAC-3	0.0917	0.0089	0.0390	1.80E-03
NR4L	Blend Room - Carrier HVAC-4	0.1375	0.0134	0.0585	2.80E-03
NR4M	Shop - Carrier HVAC	0.1375	0.0134	0.0585	2.80E-03
NR7C	Ph I ADP Unit Heater 1	0.1554	0.0151	0.0661	3.00E-03
NR7D	Ph I ADP Unit Heater 2	0.1554	0.0151	0.0661	3.00E-03
NR7K	E Shop- Modine Unit Heater 1	0.0399	0.0039	0.0170	8.00E-04
NR7L	E Shop- Modine Unit Heater 2	0.0399	0.0039	0.0170	8.00E-04
NR7A	E Side - Modine Unit Heater Down	0.0777	0.0076	0.0331	1.50E-03
NR7B	E Side - Modine Unit Heater Up	0.0777	0.0076	0.0331	1.50E-03
NR4A	Proc'B - Carrier HVAC	0.1096	0.0106	0.0466	2.20E-03
NR4B	Blend'C - Carrier HVAC	0.1096	0.0106	0.0466	2.20E-03
NR4C	QA - Carrier HVAC	0.0717	0.0070	0.0305	1.40E-03
NR4D	QC - Carrier HVAC	0.0295	0.0029	0.0126	6.00E-04
NR4E	E Side - Carrier HVAC Office	0.0498	0.0048	0.0212	1.00E-03
NR4F	E Side - Carrier HVAC Bartelt	0.0498	0.0048	0.0212	1.00E-03

NR4G	Littleford - Carrier HVAC-1	0.0498	0.0048	0.0212	1.00E-03
NR7E	Ph II ADP Unit Heater 1	0.0996	0.0097	0.0424	2.00E-03
NR7F	Ph II ADP Unit Heater 2	0.0717	0.0070	0.0305	1.40E-03
NR7G	Ph III ADP Unit Heater N-1	0.0717	0.0070	0.0305	1.40E-03
NR7H	Ph III ADP Unit Heater N-2	0.0717	0.0070	0.0305	1.40E-03
NR7I	Ph III ADP Unit Heater S-1	0.0717	0.0070	0.0305	1.40E-03
NR7J	Ph III ADP Unit Heater S-2	0.0458	0.0045	0.0195	9.00E-04
	Total	**28.22**	**4.73**	**20.71**	**0.45**

Commercial Creamery Company

Facility-Wide PTE Delta

Source ID	Source Description	PM10		PM2.5		SO2[1]	
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
B1	Replacement Superior Boiler (250 hp)	7.98E-02	3.50E-01	7.98E-02	3.50E-01	1.79E-02	7.82E-02
B2	Boiler York Shipley (125 hp)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D1	Rogers Dryer with Baghouse	1.85E-01	1.08E+00	1.28E-01	7.48E-01	2.46E-03	1.75E-02
D2	Rogers Dryer with Baghouse	1.85E-01	1.08E+00	1.28E-01	7.48E-01	0.00E+00	1.75E-02
D3	Blaw Knox Dryer with Baghouse	1.85E-01	1.08E+00	1.28E-01	7.48E-01	1.64E-03	1.17E-02
D4	New Dryer	3.71E-01	1.63E+00	2.57E-01	1.12E+00	7.06E-03	3.09E-02
NR3a	Clothes Dryer 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR3b	Clothes Dryer 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR5a	Water Heater 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR5b	Water Heater 3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
P1	Tote-Dump Dust Collector 2	7.18E-02	5.24E-01	1.62E-02	1.18E-01	0.00E+00	0.00E+00
P2	Tote-Dump Dust Collector 1	7.18E-02	5.24E-01	1.62E-02	1.18E-01	0.00E+00	0.00E+00
NR4H	Break Room - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4I	Blend Room - Carrier HVAC-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4J	Blend Room - Carrier HVAC-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4K	Blend Room - Carrier HVAC-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4L	Blend Room - Carrier HVAC-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4M	Shop - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7C	Ph I ADP Unit Heater 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7D	Ph I ADP Unit Heater 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7K	E Shop- Modine Unit Heater 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7L	E Shop- Modine Unit Heater 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7A	E Side - Modine Unit Heater Down	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7B	E Side - Modine Unit Heater Up	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4A	Proc'B - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4B	Blend'C - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4C	QA - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4D	QC - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4E	E Side - Carrier HVAC Office	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4F	E Side - Carrier HVAC Bartelt	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4G	Littleford - Carrier HVAC-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7E	Ph II ADP Unit Heater 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7F	Ph II ADP Unit Heater 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7G	Ph III ADP Unit Heater N-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

NR7H	Ph III ADP Unit Heater N-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7I	Ph III ADP Unit Heater S-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7J	Ph III ADP Unit Heater S-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Total	1.15	6.27E+00	7.52E-01	3.95E+00	2.90E-02	0.1557
	BRC		0.00E+00	1.42E+00	7.56	0.04	4.00
	Level I Threshold[3]	0.22		0.05	0.35	0.21	1.20
	Above or Below Level I Threshold	Exceeds		Exceeds	Exceeds	Below	Below

Notes:

[1]Facility emissions are BRC exempt

[2]Emissions for lead in lb/yr divided by 12 to obtain lb/month for comparison to the lead standard; i.e. 0.174 lb/yr/ 12 = 0.014 lb/mo

[3] Modeling Thresholds for Criteria Pollutants, Tqble 2, State of Idaho Guideline for Performing Air Quality Impact Analysis, Doc ID AQ-011 (September 2013)

Commercial Creamery Company

Facility-Wide PTE Delta

Source ID	Source Description	NOX		CO[1]		VOC[1]		
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)
B1	Replacement Superior Boiler (250 hp)	1.02E+00	4.47E+00	3.89E-01	1.70E+00	5.78E-02	2.53E-01	5.15E-06
B2	Boiler York Shipley (125 hp)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D1	Rogers Dryer with Baghouse	4.02E-01	2.89E+00	3.38E-01	2.43E+00	2.21E-02	1.59E-01	2.01E-06
D2	Rogers Dryer with Baghouse	4.02E-01	2.89E+00	3.38E-01	2.43E+00	2.21E-02	1.59E-01	2.01E-06
D3	Blaw Knox Dryer with Baghouse	2.68E-01	1.93E+00	2.25E-01	1.62E+00	1.47E-02	1.06E-01	1.34E-06
D4	New Dryer	1.18E+00	5.15E+00	9.88E-01	4.33E+00	6.47E-02	2.83E-01	5.88E-06
NR3a	Clothes Dryer 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR3b	Clothes Dryer 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR5a	Water Heater 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR5b	Water Heater 3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
P1	Tote-Dump Dust Collector 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
P2	Tote-Dump Dust Collector 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4H	Break Room - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4I	Blend Room - Carrier HVAC-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4J	Blend Room - Carrier HVAC-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4K	Blend Room - Carrier HVAC-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4L	Blend Room - Carrier HVAC-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4M	Shop - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7C	Ph I ADP Unit Heater 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7D	Ph I ADP Unit Heater 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7K	E Shop- Modine Unit Heater 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7L	E Shop- Modine Unit Heater 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7A	E Side - Modine Unit Heater Down	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7B	E Side - Modine Unit Heater Up	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4A	Proc'B - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4B	Blend'C - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4C	QA - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4D	QC - Carrier HVAC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4E	E Side - Carrier HVAC Office	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4F	E Side - Carrier HVAC Bartelt	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR4G	Littleford - Carrier HVAC-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7E	Ph II ADP Unit Heater 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7F	Ph II ADP Unit Heater 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7G	Ph III ADP Unit Heater N-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

NR7H	Ph III ADP Unit Heater N-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7I	Ph III ADP Unit Heater S-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NR7J	Ph III ADP Unit Heater S-2	0.00E+00	1.73E+01	0.00E+00	1.25E+01	0.00E+00	0.00E+00	0.00E+00
	Total	**3.2681**	**34.6589**	**2.2773**	**25.0144**	**0.1814**	**0.9605**	**0.0000**
	BRC		**64.85**	**4.17**	**48.33**	**0.31**	**4.00**	
	Level I Threshold[3]	**0.20**	**1.20**	**15.00**				
	Above or Below Level I Threshold	**Exceeds**	**Exceeds**	Below				

Notes:

[1]Facility emissions are BRC exempt

[2]Emissions for lead in lb/yr divided by 12 to obtain lb/month for comparison tc

[3] Modeling Thresholds for Criteria Pollutants, Tqble 2, State of Idaho Guldeline

Commercial Creamery Company

Facility-Wide PTE Delta

Source ID	Source Description	Lead[1] (lb/yr)[2]	Lead[1] (ton/yr)	
B1	Replacement Superior Boiler (250 hp)	2.25E-05	8.51E-02	
B2	Boiler York Shipley (125 hp)	0.00E+00	0.00E+00	
D1	Rogers Dryer with Baghouse	1.76E-02	1.45E-05	
D2	Rogers Dryer with Baghouse	1.76E-02	1.45E-05	9.73E-02
D3	Blaw Knox Dryer with Baghouse	1.17E-02	9.64E-06	
D4	New Dryer	5.15E-02	2.58E-05	
NR3a	Clothes Dryer 1	0.00E+00	0.00E+00	
NR3b	Clothes Dryer 2	0.00E+00	0.00E+00	
NR5a	Water Heater 1	0.00E+00	0.00E+00	
NR5b	Water Heater 3	0.00E+00	0.00E+00	
P1	Tote-Dump Dust Collector 2	0.00E+00	0.00E+00	
P2	Tote-Dump Dust Collector 1	0.00E+00	0.00E+00	
NR4H	Break Room - Carrier HVAC	0.00E+00	0.00E+00	
NR4I	Blend Room - Carrier HVAC-1	0.00E+00	0.00E+00	
NR4J	Blend Room - Carrier HVAC-2	0.00E+00	0.00E+00	
NR4K	Blend Room - Carrier HVAC-3	0.00E+00	0.00E+00	
NR4L	Blend Room - Carrier HVAC-4	0.00E+00	0.00E+00	
NR4M	Shop - Carrier HVAC	0.00E+00	0.00E+00	
NR7C	Ph I ADP Unit Heater 1	0.00E+00	0.00E+00	
NR7D	Ph I ADP Unit Heater 2	0.00E+00	0.00E+00	
NR7K	E Shop- Modine Unit Heater 1	0.00E+00	0.00E+00	
NR7L	E Shop- Modine Unit Heater 2	0.00E+00	0.00E+00	
NR7A	E Side - Modine Unit Heater Down	0.00E+00	0.00E+00	
NR7B	E Side - Modine Unit Heater Up	0.00E+00	0.00E+00	
NR4A	Proc'B - Carrier HVAC	0.00E+00	0.00E+00	
NR4B	Blend'C - Carrier HVAC	0.00E+00	0.00E+00	
NR4C	QA - Carrier HVAC	0.00E+00	0.00E+00	
NR4D	QC - Carrier HVAC	0.00E+00	0.00E+00	
NR4E	E Side - Carrier HVAC Office	0.00E+00	0.00E+00	
NR4F	E Side - Carrier HVAC Bartelt	0.00E+00	0.00E+00	
NR4G	Littleford - Carrier HVAC-1	0.00E+00	0.00E+00	
NR7E	Ph II ADP Unit Heater 1	0.00E+00	0.00E+00	
NR7F	Ph II ADP Unit Heater 2	0.00E+00	0.00E+00	
NR7G	Ph III ADP Unit Heater N-1	0.00E+00	0.00E+00	

NR7H	Ph III ADP Unit Heater N-2	0.00E+00	0.00E+00
NR7I	Ph III ADP Unit Heater S-1	0.00E+00	0.00E+00
NR7J	Ph III ADP Unit Heater S-2	0.00E+00	0.00E+00
	Total	**0.0515**	**0.0900**
	BRC		**6.00E-02**
	Level I Threshold[3]	**14 lb/mo**	
	Above or Below Level I Threshold	Below	

Notes:

[1]Facility emissions are BRC exempt

[2]Emissions for lead in lb/yr divided by 12 to obtain lb/month for comparison tc

[3] Modeling Thresholds for Criteria Pollutants, Tqble 2, State of Idaho Guideline

Commercial Creamery Company

TAPs	Emission Sources					TAPs Total[1]	Emission Screening Level (EL)	Below or Exceeds EL
	Boiler 1 (lb/hr)	Dryer 1 (lb/hr)	Dryer 2 (lb/hr)	Dryer 3 (lb/hr)	Dryer 4 (lb/hr)	(lb/hr)	(lb/hr)	
3-methylchloranthrene	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08	9.62E-08	2.500E-06	Below
Benzene	2.16E-05	2.47E-05	2.47E-05	1.65E-05	2.47E-05	9.06E-05	8.000E-04	Below
Dichlorobenzene	1.24E-05	1.41E-05	1.41E-05	9.41E-06	1.41E-05	5.18E-05	2.000E+01	Below
Formaldehyde	7.72E-04	8.82E-04	8.82E-04	5.88E-04	8.82E-04	**3.24E-03**	5.100E-04	**Exceeds**
Hexane	1.85E-02	2.12E-02	2.12E-02	1.41E-02	2.12E-02	7.76E-02	1.200E+01	Below
Naphthalene	6.28E-06	7.18E-06	7.18E-06	4.78E-06	7.18E-06	2.63E-05	9.100E-05	Below
Pentane	2.68E-02	3.06E-02	3.06E-02	2.04E-02	3.06E-02	1.39E-01	1.180E+02	Below
Toluene	3.50E-05	4.00E-05	4.00E-05	2.67E-05	4.00E-05	1.47E-04	2.500E+01	Below
Arsenic	2.06E-06	2.35E-06	2.35E-06	1.57E-06	2.35E-06	**8.63E-06**	1.500E-06	**Exceeds**
Barium	4.53E-05	5.18E-05	5.18E-05	3.45E-05	5.18E-05	2.35E-04	3.300E-02	Below
Beryllium	1.24E-07	1.41E-07	1.41E-07	9.41E-08	1.41E-07	5.18E-07	2.800E-05	Below
Cadmium	1.13E-05	1.29E-05	1.29E-05	8.63E-06	1.29E-05	**4.75E-05**	3.700E-06	**Exceeds**
Chromium	1.44E-05	1.65E-05	1.65E-05	1.10E-05	1.65E-05	6.04E-05	3.300E-02	Below
Cobalt	8.65E-07	9.88E-07	9.88E-07	6.59E-07	9.88E-07	3.62E-06	3.300E-03	Below
Copper	8.75E-06	1.00E-05	1.00E-05	6.67E-06	1.00E-05	4.54E-05	1.300E-02	Below
Manganese	3.91E-06	4.47E-06	4.47E-06	2.98E-06	4.47E-06	1.64E-05	6.700E-02	Below
Molybdenum	1.13E-05	1.29E-05	1.29E-05	8.63E-06	1.29E-05	5.88E-05	3.330E-01	Below
Nickel	2.16E-05	2.47E-05	2.47E-05	1.65E-05	2.47E-05	**9.06E-05**	2.700E-05	**Exceeds**
Selenium	2.47E-07	2.82E-07	2.82E-07	1.88E-07	2.82E-07	1.04E-06	1.300E-02	Below
Vanadium	2.37E-05	2.71E-05	2.71E-05	1.80E-05	2.71E-05	1.23E-04	3.000E-03	Below
Zinc	2.99E-04	3.41E-04	3.41E-04	2.27E-04	3.41E-04	1.55E-03	6.670E-01	Below
Benzo(a)pyrene*	1.24E-08	1.41E-08	1.41E-08	9.41E-09	1.41E-08	6.41E-08	2.000E-06	Below
Benzo(b)fluroanthene*	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08			
Benzo(k)fluroanthene*	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08			
Chrysene*	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08			
Dibenz(a,h)anthracene*	1.24E-08	1.41E-08	1.41E-08	3.55E-02	5.32E-02			
Indeno(1,2,3-cd)pyrene*	1.85E-08	2.12E-08	2.12E-08	1.41E-08	2.12E-08			
POM	1.17E-07	1.34E-07	1.34E-07	8.94E-08	1.34E-07	4.92E-07	2.00E-06	Below

Commercial Creamery Company
Replacement Boiler B1

Manufactuere	Superior	
Model	4-5-1276-S150	MG-105P burner
HP Rating	250	
Operating Hours	8760	
Rated Heat Input Capacity (MMBtu/hr)	10.5	Corrected to 10.5 MMBtu/hr per burner ma
BTU to FT^3 NG	1020	Source: AP 42 Table 1.4-1
NG usage (Ft^3/hr)	10294	

Pollutant	Emission Factors[1] ($lb/10^6\ Ft^3$)	Emission Factors[2] ($lb/10^6$ Btu)	Emissions (lb/hr)
PM10[3]		0.0076	7.98E-02
PM2.5[3]		0.0076	7.98E-02
CO		0.037	3.89E-01
NOX		0.0971	1.02E+00
SOX		0.0017	1.79E-02
VOC		0.0055	5.78E-02
Lead	0.0005		5.15E-06

Pollutant	CAS	Emission Factor ($lb/10^6\ ft^3$)[4]	Emission Rate (lb/hr)
2-methalnaphthalene	91-57-6	2.40E-05	2.47E-07
3-methylchloranthrene	56-49-5	1.80E-06	1.85E-08
7,12-dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.65E-07
Acenaphthene	83-32-9	1.80E-06	1.85E-08
Acenaphthylene	203-96-8	1.80E-06	1.85E-08
Anthracene	120-12-7	2.40E-06	2.47E-08
Benzene	71-43-2	2.10E-03	2.16E-05
Benzo(g,h.i)perylene	191-24-2	1.20E-06	1.24E-08
Dichlorobenzene	25321-22-6	1.20E-03	1.24E-05
Fluoranthene	206-44-0	3.00E-06	3.09E-08
Fluroene	86-73-7	2.80E-06	2.88E-08
Formaldehyde	50-00-0	7.50E-02	7.72E-04
Hexane	110-54-3	1.80E+00	1.85E-02
Naphthalene	91-20-3	6.10E-04	6.28E-06
Pentane	109-66-0	2.60E+00	2.68E-02
Phenanthrene	85-01-8	1.70E-05	1.75E-07
Pyrene	129-00-0	5.00E-06	5.15E-08
Toluene	108-88-3	3.40E-03	3.50E-05
Arsenic	7440-38-2	2.00E-04	2.06E-06
Barium	7440-39-3	4.40E-03	4.53E-05
Beryllium	7440-41-7	1.20E-05	1.24E-07
Cadmium	7440-43-9	1.10E-03	1.13E-05
Chromium	7440-47-3	1.40E-03	1.44E-05
Cobalt	7440-48-4	8.40E-05	8.65E-07
Copper	7440-50-8	8.50E-04	8.75E-06
Manganese	7439-96-5	3.80E-04	3.91E-06
Mercury (HAP not a TAP)	7439-97-6	2.60E-04	2.68E-06

Molybdenum	7439-98-7	1.10E-03	1.13E-05
Nickel	7440-02-0	2.10E-03	2.16E-05
Selenium	7782-49-2	2.40E-05	2.47E-07
Vanadium	7440-62-2	2.30E-03	2.37E-05
Zinc	7440-66-6	2.90E-02	2.99E-04
Benz(a)anthracene*	56-55-3	1.80E-06	1.85E-08
Benzo(a)pyrene*	50-32-8	1.20E-06	1.24E-08
Benzo(b)fluroanthene*	205-99-2	1.80E-06	1.85E-08
Benzo(k)fluroanthene*	207-08-9	1.80E-06	1.85E-08
Chrysene*	218-01-9	1.80E-06	1.85E-08
Dibenz(a,h)anthracene*	53-70-3	1.20E-06	1.24E-08
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	1.85E-08
POM	7440-66-6		1.17E-07

ınufacturer emission estimate

Emissions (tpy)
3.50E-01
3.50E-01
1.70E+00
4.47E+00
7.82E-02
2.53E-01
2.25E-05

Emission Rate (tpy)	
1.08E-06	
8.12E-08	
7.21E-07	
8.12E-08	
8.12E-08	
1.08E-07	
9.47E-05	
5.41E-08	
5.41E-05	
1.35E-07	
1.26E-07	
3.38E-03	
8.12E-02	
2.75E-05	
1.17E-01	
7.67E-07	
2.25E-07	
1.53E-04	
9.02E-06	
1.98E-04	0.0000
5.41E-07	
4.96E-05	
6.31E-05	
3.79E-06	
3.83E-05	
1.71E-05	
1.17E-05	

4.96E-05
9.47E-05
1.08E-06
1.04E-04
1.31E-03
8.12E-08
5.41E-08
8.12E-08
8.12E-08
8.12E-08
5.41E-08
8.12E-08
5.14E-07

Commercial Creamery Company
Dryer 1

Manufactuere	Maxon Corporation			
Model	Model NPLE-2 NG Burner			
Dry product throughput (ton/hr)	1.5	Existing max production limit:	2.40E+01 ton/day	
Operating Hours	8760	New max production limit:	3.60E+01 ton/day	
Rated Heat Input Capacity (MBTU/hr)	12000	Increase max produciton limit:	1.20E+01 ton/day	1.50E+00
Rated Heat Input Capacity (BTU/hr)	12000000	Increase in hours of operation:	8.00E+00 hr/day	
BTU to FT^3 NG	1020	Source: AP 42 Table 1.4-1		
NG usage (Ft^3/hr)	11765			

Pollutant	**Emission Factors[1] ($lb/10^6\ Ft^3$)**	**Emission Factor[2] (lb/hr)**	**Emissions (lb/hr)**	**Emissions (tpy)**	
PM10[3]		0.310	3.71E-01	1.63E+00	D1
PM2.5[4]		0.214	2.57E-01	1.12E+00	D2
CO	84		9.88E-01	4.33E+00	D3
NOX	100		1.18E+00	5.15E+00	
SOX	0.6		7.06E-03	3.09E-02	D3 values mo
VOC	5.5		6.47E-02	2.83E-01	
Lead	0.0005		5.88E-06	2.58E-05	

Pollutant	**CAS**	**Emission Factor ($lb/10^6\ ft^3$)[4]**	**Emission Rate (lb/hr)**	**Emission Rate (tpy)**
2-methalnaphthalene	91-57-6	2.40E-05	2.82E-07	1.24E-06
3-methylchloranthrene	56-49-5	1.80E-06	2.12E-08	9.28E-08
7,12-dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.88E-07	8.24E-07
Acenaphthene	83-32-9	1.80E-06	2.12E-08	9.28E-08
Acenaphthylene	203-96-8	1.80E-06	2.12E-08	9.28E-08
Anthracene	120-12-7	2.40E-06	2.82E-08	1.24E-07
Benzene	71-43-2	2.10E-03	2.47E-05	1.08E-04
Benzo(g,h.i)perylene	191-24-2	1.20E-06	1.41E-08	6.18E-08
Dichlorobenzene	25321-22-6	1.20E-03	1.41E-05	6.18E-05
Fluoranthene	206-44-0	3.00E-06	3.53E-08	1.55E-07
Fluroene	86-73-7	2.80E-06	3.29E-08	1.44E-07
Formaldehyde	50-00-0	7.50E-02	8.82E-04	3.86E-03
Hexane	110-54-3	1.80E+00	2.12E-02	9.28E-02
Naphthalene	91-20-3	6.10E-04	7.18E-06	3.14E-05
Pentane	109-66-0	2.60E+00	3.06E-02	1.34E-01
Phenanthrene	85-01-8	1.70E-05	2.00E-07	8.76E-07
Pyrene	129-00-0	5.00E-06	5.88E-08	2.58E-07
Toluene	108-88-3	3.40E-03	4.00E-05	1.75E-04
Arsenic	7440-38-2	2.00E-04	2.35E-06	1.03E-05
Barium	7440-39-3	4.40E-03	5.18E-05	2.27E-04
Beryllium	7440-41-7	1.20E-05	1.41E-07	6.18E-07
Cadmium	7440-43-9	1.10E-03	1.29E-05	5.67E-05
Chromium	7440-47-3	1.40E-03	1.65E-05	7.21E-05
Cobalt	7440-48-4	8.40E-05	9.88E-07	4.33E-06
Copper	7440-50-8	8.50E-04	1.00E-05	4.38E-05
Manganese	7439-96-5	3.80E-04	4.47E-06	1.96E-05
Mercury (HAP not a TAP)	7439-97-6	2.60E-04	3.06E-06	1.34E-05
Molybdenum	7439-98-7	1.10E-03	1.29E-05	5.67E-05
Nickel	7440-02-0	2.10E-03	2.47E-05	1.08E-04
Selenium	7782-49-2	2.40E-05	2.82E-07	1.24E-06
Vanadium	7440-62-2	2.30E-03	2.71E-05	1.19E-04
Zinc	7440-66-6	2.90E-02	3.41E-04	1.49E-03
Benz(a)anthracene*	56-55-3	1.80E-06	2.12E-08	9.28E-08
Benzo(a)pyrene*	50-32-8	1.20E-06	1.41E-08	6.18E-08
Benzo(b)fluroanthene*	205-99-2	1.80E-06	2.12E-08	9.28E-08
Benzo(k)fluroanthene*	207-08-9	1.80E-06	2.12E-08	9.28E-08
Chrysene*	218-01-9	1.80E-06	2.12E-08	9.28E-08
Dibenz(a,h)anthracene*	53-70-3	1.20E-06	1.41E-08	6.18E-08
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	2.12E-08	9.28E-08
POM	7440-66-6		1.34E-07	5.87E-07

April 21, 2015 Source Test:

Measured $PM_{2.5}$ Emission Rate (lb/hr)	Measured PM_{10} Emission Rate (lb/hr)	Ave. Production Rate During Test (T/hr)
1.08E-01	1.29E-01	8.00E-01
4.30E-02	4.80E-02	1.00E+00
6.70E-02	9.70E-02	4.70E-01

ıst conservative:

2.14E-01	**3.10E-01**	

Commercial Creamery Company
Dryer 2

Manufactuere	Maxon Corporation		
Model	Model NPLE-2 NG Burner		
Dry product throughput (ton/hr)	1.5	Existing max production limit:	2.40E+01 ton/day
Operating Hours	8760	New max production limit:	3.60E+01 ton/day
Rated Heat Input Capacity (MBTU/hr)	12000	Increase max produciton limit:	1.20E+01 ton/day
Rated Heat Input Capacity (BTU/hr)	12000000	Increase in hours of operation:	8.00E+00 hr/day
BTU to FT^3 NG	1020	Source: AP 42 Table 1.4-1	
NG usage (Ft^3/hr)	11765		

Pollutant	Emission Factors[1] (lb/10^6 Ft^3)	Emission Factor[2] (lb/hr)	Emissions (lb/hr)	Emissions (tpy)
PM10[3]		0.310	3.71E-01	1.63E+00
PM2.5[3]		0.214	2.57E-01	1.12E+00
CO	84		9.88E-01	4.33E+00
NOX	100		1.18E+00	5.15E+00
SOX	0.6		7.06E-03	3.09E-02
VOC	5.5		6.47E-02	2.83E-01
Lead	0.0005		5.88E-06	2.58E-05

Pollutant	CAS	Emission Factor (lb/10^6 ft^3)[4]	Emission Rate (lb/hr)	Emission Rate (tpy)
2-methalnaphthalene	91-57-6	2.40E-05	2.82E-07	1.24E-06
3-methylchloranthrene	56-49-5	1.80E-06	2.12E-08	9.28E-08
7,12-dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.88E-07	8.24E-07
Acenaphthene	83-32-9	1.80E-06	2.12E-08	9.28E-08
Acenaphthylene	203-96-8	1.80E-06	2.12E-08	9.28E-08
Anthracene	120-12-7	2.40E-06	2.82E-08	1.24E-07
Benzene	71-43-2	2.10E-03	2.47E-05	1.08E-04
Benzo(g,h.i)perylene	191-24-2	1.20E-06	1.41E-08	6.18E-08
Dichlorobenzene	25321-22-6	1.20E-03	1.41E-05	6.18E-05
Fluoranthene	206-44-0	3.00E-06	3.53E-08	1.55E-07
Fluroene	86-73-7	2.80E-06	3.29E-08	1.44E-07
Formaldehyde	50-00-0	7.50E-02	8.82E-04	3.86E-03
Hexane	110-54-3	1.80E+00	2.12E-02	9.28E-02
Naphthalene	91-20-3	6.10E-04	7.18E-06	3.14E-05
Pentane	109-66-0	2.60E+00	3.06E-02	1.34E-01
Phenanthrene	85-01-8	1.70E-05	2.00E-07	8.76E-07
Pyrene	129-00-0	5.00E-06	5.88E-08	2.58E-07
Toluene	108-88-3	3.40E-03	4.00E-05	1.75E-04
Arsenic	7440-38-2	2.00E-04	2.35E-06	1.03E-05
Barium	7440-39-3	4.40E-03	5.18E-05	2.27E-04
Beryllium	7440-41-7	1.20E-05	1.41E-07	6.18E-07
Cadmium	7440-43-9	1.10E-03	1.29E-05	5.67E-05
Chromium	7440-47-3	1.40E-03	1.65E-05	7.21E-05
Cobalt	7440-48-4	8.40E-05	9.88E-07	4.33E-06
Copper	7440-50-8	8.50E-04	1.00E-05	4.38E-05
Manganese	7439-96-5	3.80E-04	4.47E-06	1.96E-05
Mercury (HAP not a TAP)	7439-97-6	2.60E-04	3.06E-06	1.34E-05
Molybdenum	7439-98-7	1.10E-03	1.29E-05	5.67E-05
Nickel	7440-02-0	2.10E-03	2.47E-05	1.08E-04
Selenium	7782-49-2	2.40E-05	2.82E-07	1.24E-06
Vanadium	7440-62-2	2.30E-03	2.71E-05	1.19E-04
Zinc	7440-66-6	2.90E-02	3.41E-04	1.49E-03
Benz(a)anthracene*	56-55-3	1.80E-06	2.12E-08	9.28E-08
Benzo(a)pyrene*	50-32-8	1.20E-06	1.41E-08	6.18E-08
Benzo(b)fluroanthene*	205-99-2	1.80E-06	2.12E-08	9.28E-08
Benzo(k)fluroanthene*	207-08-9	1.80E-06	2.12E-08	9.28E-08
Chrysene*	218-01-9	1.80E-06	2.12E-08	9.28E-08
Dibenz(a,h)anthracene*	53-70-3	1.20E-06	1.41E-08	6.18E-08

Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	2.12E-08	9.28E-08
POM	7440-66-6		1.34E-07	5.87E-07

April 21, 2015 Source Test:

	Measured $PM_{2.5}$ Emission Rate (lb/hr)	Measured PM_{10} Emission Rate (lb/hr)	Ave. Production Rate During Test (T/hr)
D1	1.08E-01	1.29E-01	8.00E-01
D2	4.30E-02	4.80E-02	1.00E+00
D3	6.70E-02	9.70E-02	4.70E-01

D3 values most conservative:

	2.14E-01	**3.10E-01**

Commercial Creamery Company
Dryer 3

Manufactuere	Maxon Corporation		
Model	Model NPLE-2 NG Burner		
Dry product throughput (ton/hr)	1.5	Existing max production limit:	2.40E+01 ton/day
Operating Hours	8760	New max production limit:	3.60E+01 ton/day
Rated Heat Input Capacity (MBTU/hr)	8000	Increase max produciton limit:	1.20E+01 ton/day
Rated Heat Input Capacity (BTU/hr)	8000000	Increase in hours of operation:	8.00E+00 hr/day
BTU to FT^3 NG	1020	Source: AP 42 Table 1.4-1	
NG usage (Ft^3/hr)	7843		

Pollutant	Emission Factors[1] ($lb/10^6\ Ft^3$)	Emission Factor[2] (lb/hr)	Emissions (lb/hr)	Emissions (tpy)
PM10[3]		0.310	3.71E-01	1.63E+00
PM2.5[3]		0.214	2.57E-01	1.12E+00
CO	84		6.59E-01	2.89E+00
NOX	100		7.84E-01	3.44E+00
SOX	0.6		4.71E-03	2.06E-02
VOC	5.5		4.31E-02	1.89E-01
Lead	0.0005		3.92E-06	1.72E-05

Pollutant	CAS	Emission Factor ($lb/10^6\ ft^3$)[4]	Emission Rate (lb/hr)	Emission Rate (tpy)
2-methalnaphthalene	91-57-6	2.40E-05	1.88E-07	8.24E-07
3-methylchloranthrene	56-49-5	1.80E-06	1.41E-08	6.18E-08
7,12-dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.25E-07	5.50E-07
Acenaphthene	83-32-9	1.80E-06	1.41E-08	6.18E-08
Acenaphthylene	203-96-8	1.80E-06	1.41E-08	6.18E-08
Anthracene	120-12-7	2.40E-06	1.88E-08	8.24E-08
Benzene	71-43-2	2.10E-03	1.65E-05	7.21E-05
Benzo(g,h.i)perylene	191-24-2	1.20E-06	9.41E-09	4.12E-08
Dichlorobenzene	25321-22-6	1.20E-03	9.41E-06	4.12E-05
Fluoranthene	206-44-0	3.00E-06	2.35E-08	1.03E-07
Fluroene	86-73-7	2.80E-06	2.20E-08	9.62E-08
Formaldehyde	50-00-0	7.50E-02	5.88E-04	2.58E-03
Hexane	110-54-3	1.80E+00	1.41E-02	6.18E-02
Naphthalene	91-20-3	6.10E-04	4.78E-06	2.10E-05
Pentane	109-66-0	2.60E+00	2.04E-02	8.93E-02
Phenanthrene	85-01-8	1.70E-05	1.33E-07	5.84E-07
Pyrene	129-00-0	5.00E-06	3.92E-08	1.72E-07
Toluene	108-88-3	3.40E-03	2.67E-05	1.17E-04
Arsenic	7440-38-2	2.00E-04	1.57E-06	6.87E-06
Barium	7440-39-3	4.40E-03	3.45E-05	1.51E-04
Beryllium	7440-41-7	1.20E-05	9.41E-08	4.12E-07
Cadmium	7440-43-9	1.10E-03	8.63E-06	3.78E-05
Chromium	7440-47-3	1.40E-03	1.10E-05	4.81E-05
Cobalt	7440-48-4	8.40E-05	6.59E-07	2.89E-06
Copper	7440-50-8	8.50E-04	6.67E-06	2.92E-05
Manganese	7439-96-5	3.80E-04	2.98E-06	1.31E-05
Mercury (HAP not a TAP)	7439-97-6	2.60E-04	2.04E-06	8.93E-06
Molybdenum	7439-98-7	1.10E-03	8.63E-06	3.78E-05
Nickel	7440-02-0	2.10E-03	1.65E-05	7.21E-05
Selenium	7782-49-2	2.40E-05	1.88E-07	8.24E-07
Vanadium	7440-62-2	2.30E-03	1.80E-05	7.90E-05
Zinc	7440-66-6	2.90E-02	2.27E-04	9.96E-04
Benz(a)anthracene*	56-55-3	1.80E-06	1.41E-08	6.18E-08
Benzo(a)pyrene*	50-32-8	1.20E-06	9.41E-09	4.12E-08
Benzo(b)fluroanthene*	205-99-2	1.80E-06	1.41E-08	6.18E-08
Benzo(k)fluroanthene*	207-08-9	1.80E-06	1.41E-08	6.18E-08
Chrysene*	218-01-9	1.80E-06	1.41E-08	6.18E-08

Dibenz(a,h)anthracene*	53-70-3	1.20E-06	9.41E-09	4.12E-08
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	1.41E-08	6.18E-08
POM	7440-66-6		8.94E-08	3.92E-07

April 21, 2015 Source Test:

	Measured $PM_{2.5}$ Emission Rate (lb/hr)	Measured PM_{10} Emission Rate (lb/hr)	Ave. Production Rate During Test (T/hr)
D1	1.08E-01	1.29E-01	8.00E-01
D2	4.30E-02	4.80E-02	1.00E+00
D3	6.70E-02	9.70E-02	4.70E-01

D3 values most conservative:

	2.14E-01	**3.10E-01**

Commercial Creamery Company
New Dryer D4

Manufacturer	Maxon
Model	NP1-LE Burner
Dry product throughput (ton/hr)	1.5
Operating Hours	8760
Rated Heat Input Capacity (BTU/hr)	12000000
Rated Heat Input (MMBtu/hr)	12
NG Btu/Ft[3]	1020
NG usage (Ft[3]/hr)	11765

New max production limit: 3.60E+01 ton/day

Increase in hours of operation: 2.40E+01 hr/day

Source: AP 42 Table 1.4-1

Pollutant	**Emission Factors[1] (lb/10[6] Ft[3])**	**Emission Factor[2] (lb/hr)**	**Emissions (lb/hr)**	**Emissions (tpy)**
PM10[3]		0.310	3.71E-01	1.63E+00
PM2.5[3]		0.214	2.57E-01	1.12E+00
CO	84		9.88E-01	4.33E+00
NOX	100		1.18E+00	5.15E+00
SOX	0.6		7.06E-03	3.09E-02
VOC	5.5		6.47E-02	2.83E-01
Lead	0.0005		5.88E-06	2.58E-05

Pollutant	**CAS**	**Emission Factor (lb/10[6] ft[3])[4]**	**Emission Rate (lb/hr)**	**Emission Rate (tpy)**
2-methalnaphthalene	91-57-6	2.40E-05	2.82E-07	1.24E-06
3-methylchloranthrene	56-49-5	1.80E-06	2.12E-08	9.28E-08
7,12-dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.88E-07	8.24E-07
Acenaphthene	83-32-9	1.80E-06	2.12E-08	9.28E-08
Acenaphthylene	203-96-8	1.80E-06	2.12E-08	9.28E-08
Anthracene	120-12-7	2.40E-06	2.82E-08	1.24E-07
Benzene	71-43-2	2.10E-03	2.47E-05	1.08E-04
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.41E-08	6.18E-08
Dichlorobenzene	25321-22-6	1.20E-03	1.41E-05	6.18E-05
Fluoranthene	206-44-0	3.00E-06	3.53E-08	1.55E-07
Fluroene	86-73-7	2.80E-06	3.29E-08	1.44E-07
Formaldehyde	50-00-0	7.50E-02	8.82E-04	3.86E-03
Hexane	110-54-3	1.80E+00	2.12E-02	9.28E-02
Naphthalene	91-20-3	6.10E-04	7.18E-06	3.14E-05
Pentane	109-66-0	2.60E+00	3.06E-02	1.34E-01
Phenanthrene	85-01-8	1.70E-05	2.00E-07	8.76E-07
Pyrene	129-00-0	5.00E-06	5.88E-08	2.58E-07
Toluene	108-88-3	3.40E-03	4.00E-05	1.75E-04
Arsenic	7440-38-2	2.00E-04	2.35E-06	1.03E-05
Barium	7440-39-3	4.40E-03	5.18E-05	2.27E-04
Beryllium	7440-41-7	1.20E-05	1.41E-07	6.18E-07
Cadmium	7440-43-9	1.10E-03	1.29E-05	5.67E-05
Chromium	7440-47-3	1.40E-03	1.65E-05	7.21E-05
Cobalt	7440-48-4	8.40E-05	9.88E-07	4.33E-06
Copper	7440-50-8	8.50E-04	1.00E-05	4.38E-05
Manganese	7439-96-5	3.80E-04	4.47E-06	1.96E-05
Mercury (HAP not a TAP)	7439-97-6	2.60E-04	3.06E-06	1.34E-05
Molybdenum	7439-98-7	1.10E-03	1.29E-05	5.67E-05
Nickel	7440-02-0	2.10E-03	2.47E-05	1.08E-04
Selenium	7782-49-2	2.40E-05	2.82E-07	1.24E-06
Vanadium	7440-62-2	2.30E-03	2.71E-05	1.19E-04
Zinc	7440-66-6	2.90E-02	3.41E-04	1.49E-03
Benz(a)anthracene*	56-55-3	1.80E-06	2.12E-08	9.28E-08
Benzo(a)pyrene*	50-32-8	1.20E-06	1.41E-08	6.18E-08
Benzo(b)fluroanthene*	205-99-2	1.80E-06	2.12E-08	9.28E-08
Benzo(k)fluroanthene*	207-08-9	1.80E-06	2.12E-08	9.28E-08
Chrysene*	218-01-9	1.80E-06	2.12E-08	9.28E-08
Dibenz(a,h)anthracene*	53-70-3	1.20E-06	1.41E-08	6.18E-08
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	2.12E-08	9.28E-08

POM	7440-66-6		1.34E-07	5.87E-07

April 21, 2015 Source Test:

	Measured $PM_{2.5}$ Emission Rate (lb/hr)	Measured PM_{10} Emission Rate (lb/hr)
D1	1.08E-01	1.29E-01
D2	4.30E-02	4.80E-02
D3	6.70E-02	9.70E-02
D3 values most conservative:		
	2.14E-01	**3.10E-01**

Source P1: Tote Dump Dust Collector (Ruberg Blender) CRITERIA POLLUTANT EMISSION RATES

Source Characteristics

Filter Unit Manufacturer	AZO
Model	16 ox felted poly
Input Heat Capacity (BTU/hr)	na
Fuel	na
Heating Value (BTU/scf)	na
Fuel Consumption (scf/hr)	na

Process Characteristics

Total PM Emission Rate (lb/hr)	3.533		
PM2.5 Emission Rate (lb/hr)	3.427		
Design Throughput (lb tote xfer/hr)	4,000	Existing max production limit:	3.20E+01 ton/day
Hours of Operation (hr/yr)	8,760	New max production limit:	4.80E+01 ton/day
Filter Control (%)	0.995		

Criteria Pollutants

Pollutant	Pollutant Source	Emission Factor [a,b]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)
PM_{10}	Process	0.108	lb/ton processed	2.15E-01	9.43E-01
$PM_{2.5}$	Process	0.024	lb/ton processed	4.87E-02	2.13E-01

Non-Criteria Pollutants with Significant Threshold

Pollutant	Pollutant Source	Emission Factor [a,b]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)
PM	Process	0.108	lb/ton thru	2.15E-01	9.43E-01

Process Weight Rule (58.01.01.701.01.a)

Pollutant	Pollutant Source	Potential Emissions (lb/hr)		Allowable Emissions (lb/hr)	Meets Standard?
PM	Process	0.215		6.52E+00	yes

PM Grain Loading Standard - Not Applicable*

Notes:
(a1) Emission factor for PM-10 (process) from AP-42 Table 9.6.1-2 "Natural and Processed Cheese". *Controlled* EF for PM-10 is filterable PM + Condensible PM =2.5+0.73 =3.23 lbs PM-10/ton dry product. This is converted to "uncontrolled PM-10" assuming an 85% control in development of the AP-42 EF. 85% is a fair average of wet scrubber and venturi scrubber (footnote B to AP-42table 9.6.1-2) performance across the PM-10 size range (AP-42, Table B.2-3 AIRS Codes 1-3, and 53). 0.00E+00
Uncontrolled PM is then controlled by fabric filter at 99.5% (AP-42, Table B.2-3 AIRS Codes 16-18) capture. **3.23*(1/(1-0.85))*(1-0.995) = 0.108 lbs PM-10/ ton dry product**
(a2) Emission factor for PM-2.5(process) from AP-42 Chapter 9.6.1 "Natural and Processed Cheese". Controlled EF f 2.0995 0.0000 0.0000 0.0000
PM-2.5/ton dry product. This is converted to "uncontrolled PM-2.5" assuming an 85% control in development of the AP-42 EF. 85% is a fair average of wet scrubber and venturi scrubber (footnote B to AP-42 Table 9.6.1-2) performance across the PM-2.5 size range (AP-42, Table B.2-3 AIRS Codes 1-3, and 53). This Uncontrolled PM-2.5 is then controlled by fabric filter at 99.5% (AP-42, Table B.2-3 AIRS Codes 16-18) capture. 0.73*(1/(1-0.85))*(1-0.995) = 0.024 lbs PM-10/ ton dry product
a3) Filter effectiveness on Total PM is assumed = Filter effectivenes on PM-10 = 0.995, therefore PM EF = PM-10 EF.
(b) Assumes 4000 lbs transferred from totes/hr, 5824 hrs /yr tote transfer, and 99.5% dust filter control.
(c) IDAPA 58.01.01.006.106
(d) IDAPA 58.01.01.221.01
** NA - Not Applicable

Source P2: Tote Dump Dust Collector (Ruberg Blender)

CRITERIA POLLUTANT EMISSION RATES

Source Characteristics

Filter Unit Manufacturer	AZO
Model	16 ox felted poly
Input Heat Capacity (BTU/hr)	na
Fuel	na
Heating Value (BTU/scf)	na
Fuel Consumption (scf/hr)	na

Process Characteristics

Total PM Emission Rate (lb/hr)	3.533		
PM2.5 Emission Rate (lb/hr)	3.427		
Design Throughput (lb tote xfer/hr)	4,000	Existing max production limit:	3.20E+01 ton/day
Hours of Operation (hr/yr)	8,760	New max production limit:	4.80E+01 ton/day
Filter Control (%)	0.995		

Criteria Pollutants

Pollutant	Pollutant Source	Emission Factor [a,b]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)
PM_{10}	Process	0.108	lb/ton processed	2.15E-01	9.43E-01
$PM_{2.5}$	Process	0.024	lb/ton processed	4.87E-02	2.13E-01

Non-Criteria Pollutants with Significant Threshold

Pollutant	Pollutant Source	Emission Factor [a,b]	Emission Factor Unit	Potential Emissions (lb/hr)	Potential Emissions (TPY)
PM	Process	0.108	lb/ton thru	2.15E-01	9.43E-01

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: July 23, 2018

TO: Dan Pitman, P.E., Permit Writer, Air Program

FROM: Darrin Mehr, Air Quality Analyst, Air Program

PROJECT: P-2013.0063 PROJ 61992– PTC Modification Application for Commercial Creamery Company – New Proposed Rogers Dryer D4, Daily Throughput Increases with Existing Dryers, and Replacement Boiler B1 for the Facility Located in Jerome, Idaho.

SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203 .03 (TAPs)

Contents

Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration of a non-carcinogenic TAP
AACC	Acceptable Ambient Concentration of a Carcinogenic TAP
ACFM	Actual cubic feet per minute
AERMAP	The terrain data preprocessor for AERMOD
AERMET	The meteorological data preprocessor for AERMOD
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
Appendix W	40 CFR 51, Appendix W – Guideline on Air Quality Models
BPIP	Building Profile Input Program
BRC	Below Regulatory Concern
CFR	Code of Federal Regulations
CH2M	CH2M Consultants, now Jacobs (permittee's consultant)
CMAQ	Community Multi-Scale Air Quality Modeling System
CO	Carbon Monoxide
Commercial Creamery	Commercial Creamery Company (permittee)
DEQ	Idaho Department of Environmental Quality
EL	Emissions Screening Level of a TAP
EPA	United States Environmental Protection Agency
FTP	File Transfer Protocol
GEP	Good Engineering Practice
hr	hours
HVAC	Heating, Ventilation, and Air Conditioning
Idaho Air Rules	Rules for the Control of Air Pollution in Idaho, located in the Idaho Administrative Procedures Act 58.01.01
ISCST3	Industrial Source Complex Short Term 3 dispersion model
K	Kelvin
m	Meters
m/sec	Meters per second
MMBtu	Million British Thermal Units
NAAQS	National Ambient Air Quality Standards
NED	National Elevation Dataset
NO	Nitrogen Oxide
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
NWS	National Weather Service
O_3	Ozone
Pb	Lead
PM_{10}	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 10 micrometers
$PM_{2.5}$	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 2.5 micrometers
ppb	parts per billion
PRIME	Plume Rise Model Enhancement
PTC	Permit to Construct
PTE	Potential to Emit
SIL	Significant Impact Level

SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
T/yr	tons per year
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compounds
$\mu g/m^3$	Micrograms per cubic meter of air

1.0 Summary

1.1 General Project Summary

On January 16, 2018, the Commercial Creamery Company (Commercial Creamery) submitted a Permit to Construct (PTC) application for a modification to the existing PTC for the facility. The project proposes several changes to the facility and the allowable operating hours and material throughput limits:

- This project's scope includes the permitting of a recently-installed replacement boiler of increased heat input capacity in place of failed Boiler B1. The new boiler will have an increased heat input capacity of 10.5 MMBtu/hr versus 6.1 MMBtu/hr for the failed boiler, and will also be designated as Boiler B1.
- A new dryer unit labeled Dryer D4 is proposed for the facility. Dryer D4 will be placed in a new structure at the facility and will be permitted to operate at rated capacity for 24 hours per day with a daily production capacity of 36 tons/day.
- Existing Dryers 1, 2, and 3 will increase allowable throughput to 36 tons/day for each dryer by increasing allowable operating hours from 16 hours/day to 24 hours/day. Annual operating hours are unlimited at 8,760 hours/year.
- Product pneumatic conveyance systems, labeled P1 and P2, will also increase throughput to 48 tons/day during any 24-hour period and will operate 24 hours/day. Annual operating hours are unlimited at 8,760 hours/year.
- The facility has increased its footprint and the ambient air boundary has been expanded.

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 (IDAPA 58.01.01.203.02 [Idaho Air Rules Section 203.02]). CH2M submitted analyses and applicable information and data to enable DEQ to evaluate potential impacts to ambient air.

CH2M performed project-specific air quality impact analyses to demonstrate compliance with applicable air quality standards for facility-wide allowable $PM_{2.5}$, PM_{10}, and NO_2 emissions. The DEQ review summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the pollutant dispersion modeling analyses used to demonstrate that the estimated emissions associated with operation of the facility as modified will not cause or significantly contribute to a violation of the applicable air quality standards. This review did not evaluate compliance with other rules or analyses that do not pertain to the air impact analyses. This modeling review also did not evaluate the accuracy of emissions estimates. Evaluation of emissions estimates was the responsibility of the permit writer and is addressed in the main body of the DEQ Statement of Basis.

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

Table 1. KEY CONDITIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	**Explanation/Consideration**
New Dryer D4 - CE Rogers/Custom Fabricators Dryer A new dryer labeled Dryer D4 has been proposed for installation. This is a new emissions unit and is not in any way related to the past steam-heated Blaw Knox Dryer D4 which was removed from service in 2015. Daily production and emissions were based on the new unit's rated design capacity of 1.5 tons/hour and unlimited daily operation at 24 hours/day. Annual production was based on rated production capacity and 8,760 hours/year. PM_{10} and $PM_{2.5}$ emissions were limited by the fabric filtration control system on the new dryer. The new Dryer D4 is equipped with a 12 MMBtu/hr natural gas-fired burner.	Product throughput of 36 tons/day and 13,140 tons/year were used to establish the modeled emissions rates.
Existing Dryer Units – Dryers D1, D2, and D3, Dryer D1 – New Rogers Dryer Dryer D2 – Existing Rogers Dryer Dryer D3 – Existing Blaw Knox Dryer Daily production and emissions were based on the new unit's rated design capacity of 1.5 tons/hour and unlimited daily operation at 24 hours/day. Annual production was based on rated production capacity and 8,760 hours/year. PM_{10} and $PM_{2.5}$ emissions were limited by the fabric filtration control system on each dryer.	Allowable product throughput of 36 tons/day and 315,360 tons/year were used to establish the modeled emissions rates.
Existing Pneumatic Conveyance/Tote Dumps – P1 and P2 P1-Tote-Dump Dust Collector 1 P2-Tote-Dump Dust Collector 2 Daily production and emissions were based on the new unit's rated design capacity of 2.0 tons per hour and unlimited daily operation at 24 hours/day. Annual production was based on rated production capacity and 8,760 hours/year. PM_{10} and $PM_{2.5}$ emissions were limited by the fabric filtration control system on each pneumatic system.	Allowable product throughput for each emissions unit of 48 tons/day and 420,480 tons/year were used to establish the modeled emissions rates.
New Boiler B1 The boiler is limited to natural gas as a fuel. The boiler's emissions were modeled continuously for 24 hours/day and 8,760 hours/year at rated heat input capacity levels.	Natural gas combustion particulate matter emissions are low compared to other fuels. Modeled operating hours were unrestricted and rated capacity of the emissions unit was represented.

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). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition. The submitted information and analyses demonstrated to the satisfaction of the Department, using DEQ/EPA established guidance, policies, and procedures, that operation of the proposed facility or modification will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition.

1.2 Summary of Submittals and Actions

October 27, 2017:	DEQ received a modeling protocol from CH2M, on behalf of Commercial Creamery, via email.
November 6, 2017:	CH2M submitted supplemental emission estimates to support the modeling protocol.
November 16, 2017:	Representatives of DEQ, CH2M, and Commercial Creamery participated in a conference call to discuss the modeling protocol and the proposed project.
November 30, 2017:	DEQ received a modeling protocol addendum, via email.
November 30, 2017:	DEQ issued a modeling protocol approval letter to Commercial Creamery via email.
December 4, 2017:	DEQ sent CH2M and Commercial Creamery an email noting a correction to DEQ's modeling protocol approval letter.
January 16, 2018:	DEQ received a PTC modification application from Commercial Creamery.
February 12, 2018:	DEQ declared the application incomplete.
March 1, 2018:	Commercial Creamery submitted a response package to the incompleteness letter, including a revised modeling demonstration.
March 29, 2018:	The PTC application was declared complete.
May 21, 2018:	The permit package, including the draft modeling memorandum, was issued for facility draft review.
June 20 through July 20 2018:	A 30-day public comment period was held with no comments received.

2.0 Background Information

2.1 Permit Requirements for Permits to Construct

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

2.2 Project Location and Area Classification

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

2.3 Modeling Applicability for Criteria Pollutants

Idaho Air Rules Section 203.02 state that a PTC cannot be issued unless the application demonstrates to the satisfaction of DEQ that the new source or modification will not cause or significantly contribute to a NAAQS violation. Atmospheric dispersion modeling is used to evaluate the potential impact of a proposed project to ambient air and demonstrate NAAQS compliance. However, if the emissions associated with a project are very small, project-specific modeling analyses may not be necessary.

If project-wide potential to emit (PTE) values for criteria pollutants would qualify for a below regulatory concern (BRC) permit exemption as per Idaho Air Rules Section 221 if it were not for potential emissions of one or more criteria pollutants exceeding the BRC threshold of 10% of emissions defined by Idaho Air Rules as significant, then an air impact analysis may not be required for those pollutants. DEQ's regulatory interpretation policy[1] of exemption provisions of Idaho Air Rules Section 221 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. This permitting project cannot qualify for a BRC exemption from Idaho Air Rules Section 203.02 because there are existing permit conditions that require changes; however, because facility-wide emissions of some criteria pollutants are below BRC levels, a NAAQS compliance demonstration is not required for those pollutants.

Site-specific air impact analyses may not be required for a project, even when the project cannot use the BRC exemption from the NAAQS demonstration requirements. If the emissions increases associated with a project are below modeling applicability thresholds established in the *Idaho Air Modeling Guideline* ("State of Idaho Guideline for Performing Air Quality Impact Analyses[2]," available at http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf), then a project-specific analysis is not required. Modeling applicability emissions thresholds were developed by DEQ based on modeling of a hypothetical source and were designed to reasonably ensure that impacts are below the applicable SIL. DEQ has established two threshold levels: Level 1 thresholds are unconditional thresholds, requiring no DEQ approval for use; Level 2 thresholds are conditional upon DEQ approval, which depends on evaluation of the project and the site, including emissions quantities, stack parameters, number of sources emissions are distributed amongst, distance between the sources and the ambient air boundary, and the presence of sensitive receptors near the ambient air boundary.

The project was evaluated using Level 1 modeling thresholds as shown in Table 2. The project will alter the current permitted emissions limits and operating requirements, which removes the option to apply the BRC exemption policy for NAAQS compliance demonstrations. The distance to ambient air of one or more of the sources involve with the project modification and the building-induced downwash concerns were factors in DEQ use of the Level I thresholds rather than the Level II thresholds.

Table 2. CRITERIA POLLUTANT SIL AND NAAQS COMPLIANCE DEMONSTRATION APPLICABILITY				
Pollutant	**Averaging Period**	**Level 1 Modeling Thresholds**	**Applicable Potential Emissions Increase for the Project**	**Modeling Required?**
PM_{10}[a]	24-hour	0.22 lb/hr[c]	0.77 lb/hr	Yes
$PM_{2.5}$[b]	24-hour	0.054 lb/hr	0.44 lb/hr	Yes
	Annual	0.35 tons/year[d]	1.76 tons/year	Yes
Carbon Monoxide (CO)	1-hour and 8-hour	15 lb/hr	1.30 lb/hr	No
Sulfur Dioxide (SO_2)	1-hour and 3-hour	0.21 lb/hr	0.04 lb/hr	No
Nitrogen Oxides (NOx)	1-hour	0.20 lb/hr	2.0 lb/hr	Yes
	Annual	1.2 tons/year	13.3 tons/year	Yes
Lead (Pb)	Monthly	14 lb/month	0.05	No
Ozone as VOCs[e] or NO_x	8-hour	40 tons/year as VOCs	0.77 tons/year as VOCs	No

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
c. Pounds per hour.
d. Tons per year.
e. Volatile organic compounds.

2.4 Significant and Cumulative NAAQS Impact Analyses

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

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

Table 3. APPLICABLE REGULATORY LIMITS				
Pollutant	Averaging Period	Significant Impact Levels[a] ($\mu g/m^3$)[b]	Regulatory Limit[c] ($\mu g/m^3$)	Modeled Design Value Used[d]
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 $\mu g/m^3$)	75 ppb[p] (196 $\mu g/m^3$)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 $\mu g/m^3$)	100 ppb[s] (188 $\mu g/m^3$)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]
Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	70 ppb[w]	Not typically modeled

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

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

Compliance with Idaho Air Rules Section 203.02 is demonstrated if: a) specific applicable criteria pollutant emissions increases are at a level defined as Below Regulatory Concern (BRC), using the criteria established by DEQ regulatory interpretation[1]; or b) all modeled impacts of the SIL analysis are below the applicable SIL or other level determined to be inconsequential to NAAQS compliance; or c) modeled design values of the cumulative NAAQS impact analysis (modeling applicable emissions from the facility and co-contributing sources, and adding a background concentration) are less than applicable NAAQS at receptors where impacts from the proposed facility/modification exceeded the SIL or other identified level of consequence; or d) if the cumulative NAAQS analysis showed NAAQS violations, the impact of proposed facility/modification to any modeled violation was inconsequential (typically assumed to be less than the established SIL) for that specific receptor and for the specific modeled time when the violation occurred.

Significant impact level analyses for $PM_{2.5}$, PM_{10}, and NOx were required for the project emission increases, and cumulative impact analyses for facility-wide emissions were also required for these pollutants for short term and annual averaging periods.

2.5 Toxic Air Pollutant Analyses

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

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

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

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

Per Section 210, if the total project-wide 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. The DEQ permit writer evaluates the applicability of specific TAPs to the Section 210.20 exclusion. TAPs modeling was not triggered for this project.

Project emission increases of four carcinogenic TAPs exceeded ELs. Therefore, air impact modeling was required for these pollutants to evaluate compliance with allowable TAPs increments.

3.0 Analytical Methods and Data

3.1 Modeling Methodology

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

3.1.1 Overview of Analyses

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

Table 4 provides a brief description of parameters used in the modeling analyses.

Table 4. MODELING PARAMETERS

Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Jerome, Idaho	The area is an attainment or unclassified area for all criteria pollutants.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 16216r.
Meteorological Data	Jerome	2008-2012 - See Section 3.3 of this memorandum. Surface data from the Jerome airport and upper air data from Boise, Idaho.
Terrain	Considered	Receptor elevations were determined using a USGS NED map file based on the NAD83 datum.
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility and numerous nearby structures.
Receptor Grid	Grid 1	10-meter spacing exterior to the facility's ambient air boundary.
	Grid 2	10-meter spacing in a 520-meter (x) by 410-meter (y) rectangular grid centered on the facility's primary processing buildings.
	Grid 3	100-meter spacing in a 2,400-meter (x) by2,300-meter (y) rectangular grid located with the facility in the south central region of the grid.
	Grid 4	510-meter spacing in a 3,000-meter (x) by 3,000-meter (y) square grid centered on the facility.
	Grid 5	500-meter spacing in an 10,000-meter (x) by 11,000-meter (y) square grid centered on the facility.

3.1.2 Modeling Protocol

A modeling protocol was submitted via email on October 19, 2017, to DEQ prior to submittal of the application. On November 6, 2017, CH2M submitted an initial project emissions inventory spreadsheet to support the modeling protocol. DEQ, CH2M, and Commercial Creamery participated in a conference call on November 16, 2017, to discuss implications for the project. CH2M submitted a modeling protocol addendum on November 30, 2017. DEQ issued a modeling protocol approval with comments on November 30, 2017. DEQ issued a clarification email to CH2M and Commercial Creamery on December 4, 2017, correcting an error in the protocol approval letter which mistakenly exempted a criteria pollutant from modeling. Final project-specific modeling was generally conducted using data and methods described in the modeling protocol and protocol addendum and the *Idaho Air Modeling Guideline*[2].

3.1.3 Model Selection

Idaho Air Rules Section 202.02 requires that estimates of air pollutant concentrations in ambient air 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.

ERM used AERMOD version 16216r to evaluate pollutant impacts to ambient air from the facility, which is the current version of AERMOD.

NO_2 1-hour impacts can be assessed using a tiered approach to account for $NO/NO_2/O_3$ chemistry. Tier 1 assumes full conversion of NO to NO_2. Tier 2 Ambient Ratio Method (ARM) assumes a 0.80 default ambient ratio of NO_2/NOx. Tier 2 ARM2[3] was recently developed and replaces the previous ARM. Recent EPA guidance[4] on compliance methods for NO_2 states the following for ARM2:

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

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

The Tier 2 ARM2 and Tier 3 PVMRM and OLM methods are now regulatory options following the publication of final changes to EPA's Guideline on Air Quality Models on January 17, 2017. CH2M used the Tier 2 ARM2 method with regulatory default minimum and maximum ARM values of 0.5 and 0.9, respectively. ARM2 with the default minimum and maximum ratios is a regulatory default method and is considered reasonably conservative for estimating NO_2 impacts. Substantial justification and documentation for its use in permit applications is not typically necessary and was not required by DEQ for this project.

3.2 Background Concentrations

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

DEQ requested that Commercial Creamery's NAAQS compliance demonstration use the NW AIRQUEST backgrounds concentration tool to obtain ambient backgrounds for the project, with an access date of October 30, 2017. Background values applied to NAAQS compliance demonstrations for this project included the 24-hour PM_{10}, 24-hour, annual $PM_{2.5}$, 1-hour NO_2, and annual NO_2. The DEQ-recommended background values used for the project are listed in Table 5.

Table 5. BACKGROUND CONCENTRATIONS	
Pollutant and Averaging Period	**NW AIRQUEST Background Concentration ($\mu g/m^3$)[a]**
PM_{10}[b] 24-hour	52[d]
$PM_{2.5}$[c] 24-hour	24
$PM_{2.5}$ annual	8
NO_2[e], 1-hour	24.4 (13 ppb[f])
NO_2, annual	4.1 (2.2 ppb)

a. Micrograms per cubic meter, except where noted otherwise.
b. Particulate matter with a mean aerodynamic diameter of ten microns or less.
c. Particulate matter with a mean aerodynamic diameter of 2.5 microns or less.
d. Using the PM_{10} option in the NW-AIRQUEST tool for a concentration derived after removal of extreme values.
e. Nitrogen dioxide.
f. Parts per billion.

3.3 Meteorological Data

DEQ provided CH2M with a model-ready meteorological dataset processed from Jerome surface data and Boise upper air meteorological data covering the years 2008-2012. The model-ready dataset for this project was generated from monitored data collected at Jerome County airport (FAA airport code KJER) for surface and Automated Surface Observing System (ASOS) data and upper air data from the National Weather Service (NWS) Station site (site code BOI). Surface characteristics were determined by DEQ staff using AERSURFACE version 13016. AERMINUTE version 11325 was used to process ASOS wind data for use in AERMET. AERMET Version 12345 was used to process surface and upper air data and generate a model-ready meteorological data input file. DEQ determined these data were representative for the Commercial Creamery site in Jerome, Idaho, and approved use of this dataset for the project. This dataset has been used for past Commercial Creamery ambient impact analyses projects.

3.4 Terrain Effects

CH2M used a National Elevation Dataset (NED) file in WGS (World Geodetic System) to calculate elevations of receptors. The NED file was not included in the submitted files, but the AERMAP input and output files were submitted. The terrain preprocessor AERMAP version 11103 was used to extract the elevations from the NED file and assign them to receptors in the modeling domain in a format usable by AERMOD. The NAD83 coordinate system was used for the modeled receptors. AERMAP also determined the hill-height scale for each receptor. The hill-height scale is an elevation value based on the surrounding terrain which has the greatest effect on that individual receptor. AERMOD uses those heights to evaluate whether the emissions plume has sufficient energy to travel up and over the terrain or if the plume will travel around the terrain.

3.5 Building Downwash Effects on Modeled Impacts

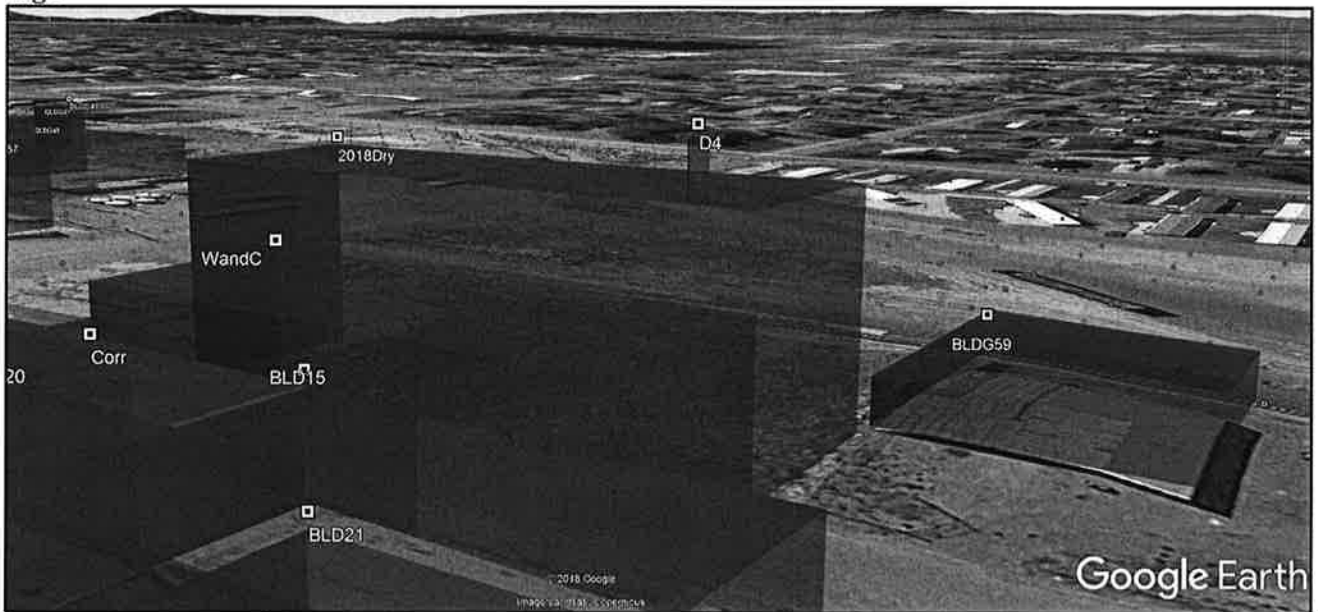
Potential downwash effects on emissions plumes were accounted for in the model by using building parameters as described by CH2M. The Building Profile Input Program for the PRIME downwash algorithm (BPIP-PRIME) was used to calculate direction-specific dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and release parameters for input to AERMOD. DEQ provided the modeling setup, including structure dimensions, to CH2M for the previous permitting project through a public records request (PRR) submitted by CH2M in September 2017. The facility is located in downtown Jerome and several nearby structures have been included to account for building downwash effects.

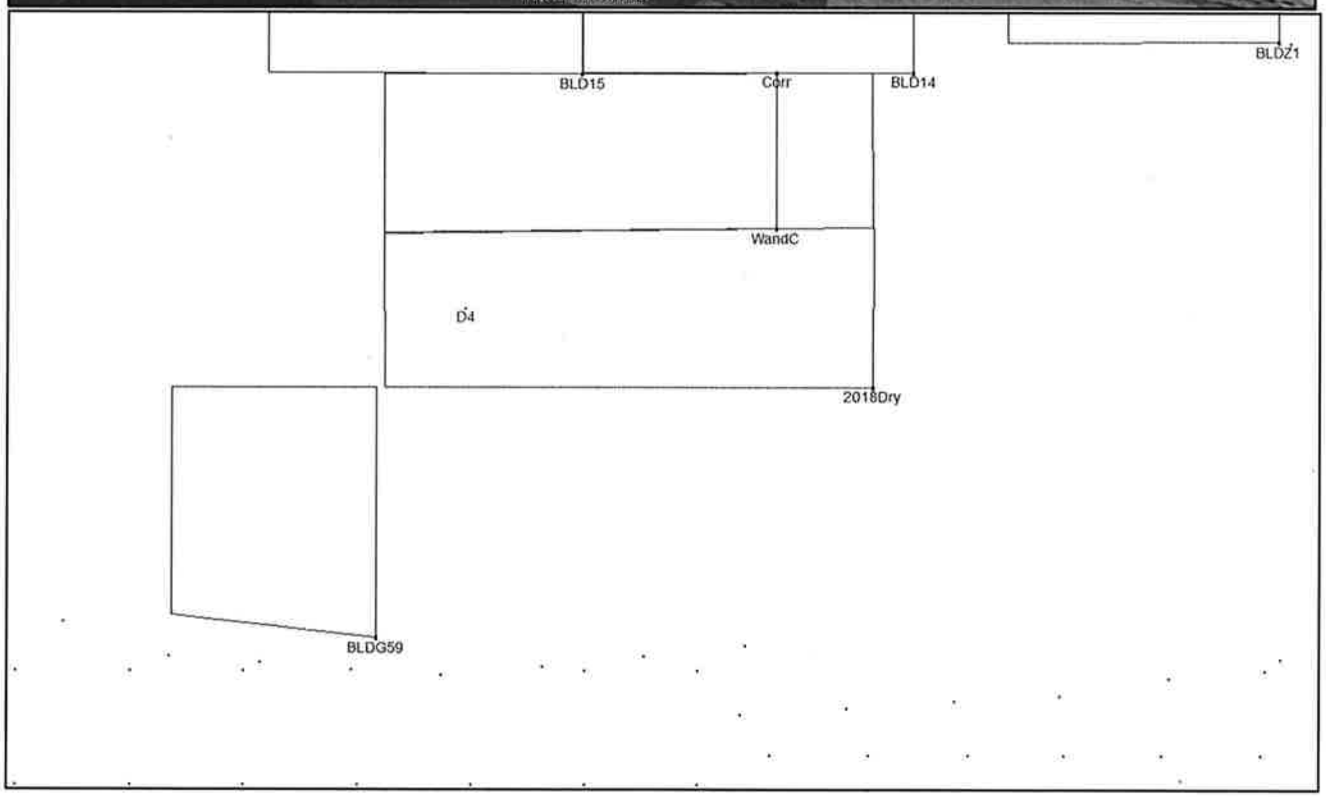
The additional building tier height documentation provided by CH2M for this project stated that the past model setup was "...slightly modified according to newer available satellite images of the city. Heights used in the dispersion modeling were also determined from architectural plans." Building and stack source base elevations were set at approximately the same elevation. Where any discrepancies occurred, the stack base elevations were set just slightly below the building base elevation. However, the differences would not affect the BPIP-PRME calculated dimensions that are used for input to AERMOD. Additional documentation on tier heights for other structures was not submitted, but DEQ performed a cursory spot check comparison against the 2015 permitting project modeled tier heights and didn't find discrepancies.

Figure 1 below depicts the BPIP setup and stack location and height for New Dryer 4 and the two new buildings that will be constructed for this project. Building "2018Dry" will house proposed Dryer 4 as viewed from an oblique angle in Google Earth Pro®. The tier height of the 2018Dry building was modeled at 50 feet above grade and the stack for new Dryer D4 will have a release height of 59 feet above grade. The other two buildings were labeled "WandC" and "Corr" and these single tier structures were modeled with heights of 31 and 18 feet above grade, respectively.

DEQ review concluded that the building downwash was appropriately evaluated.

Figure 1. NEW DRYER 4 PROJECT BUILDINGS AND STACK LOCATION

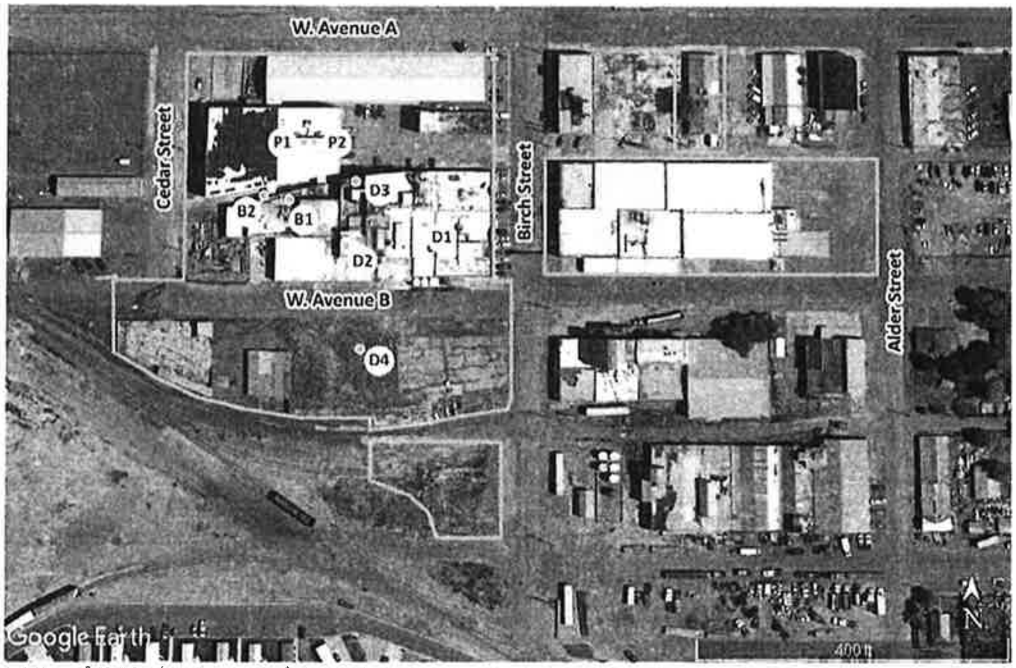




3.6 Facility Layout

Commercial Creamery's modeled emission points, structures, and ambient air boundary are shown in Figure 2, which was taken from the Commercial Creamery's modeling report. DEQ exported the model setup to Google Earth Pro and determined that the model setup for the facility's structure locations and horizontal dimensions matched the Google Earth Pro imagery reasonably well. The ambient air boundary for the facility is clearly shown in Figure 2 which was submitted by CH2M in the modeling report. Figure 4 below depicts the layout of structures and emissions points for the facility in the dispersion modeling setup.

Figure 2. COMMERCIAL CREAMERY FACILITY LAYOUT



Aerial Image © 2017 Google Earth. Annotation © 2017 CH2M HILL

LEGEND

B1 Boiler 1 (Superior)
B2 Boiler 2 (York Shipley)
D1 Dryer 1
D2 Dryer 2
D3 Dryer 3
D4 Dryer 4
P1 Tote Dump Dust Collector 1
P2 Tote Dump Dust Collector 2
Property Boundary is defined as Ambient Air Boundary

Figure 1.
Site Plan
Commercial Creamery Company
Jerome, Idaho

ch2m:

3.7 Ambient Air Boundary

The ambient air boundary used for this project was established as areas immediately exterior to all Commercial Creamery structures bordered by a publicly-accessible sidewalk. The facility is located in downtown Jerome. Paved access areas that Commercial Creamery uses for deliveries and facility-only access for the main processing buildings were excluded from ambient air. The facility does not operate a retail outlet on-site where the general public would be present. All public sidewalks and public roadways were considered as ambient air, with model impact receptors placed for evaluation. The ambient air boundary for this project included an expansion of the facility's footprint. Appendix G to the permit application includes an official notification of land conveyance from the City of Jerome to Commercial Creamery for a portion of a public street known as "Avenue B." Commercial Creamery will build structures on part of this land and this transfer of property will adjoin separate property parcels already owned by Commercial Creamery.
DEQ review concluded that the ambient air boundary employed in the final air impact analyses was

accurate and effectively precluded public access based on the methods described in the modeling report and requirements specified in DEQ's *Modeling Guideline*[2].

3.8 Receptor Network

Table 3 describes the receptor network used in the submitted modeling analyses. DEQ determined that the receptor network was adequate to reasonably assure compliance with applicable air quality standards at all ambient air locations. Figures 3 and 4 below present the modeled receptor network for the project. Each dot in the figures represents a discrete receptor location. A review of the ambient impact output files and the associated graphics files confirmed that all NAAQS design impacts were predicted to occur very close to the facility's ambient air boundary and were located within the fine resolution 10-meter spaced receptor grid. Refinement of the 100-meter-spaced receptor grid to resolve maximum ambient impacts was not necessary.

Figure 3. COMMERCIAL CREAMERY FULL RECEPTOR GRID

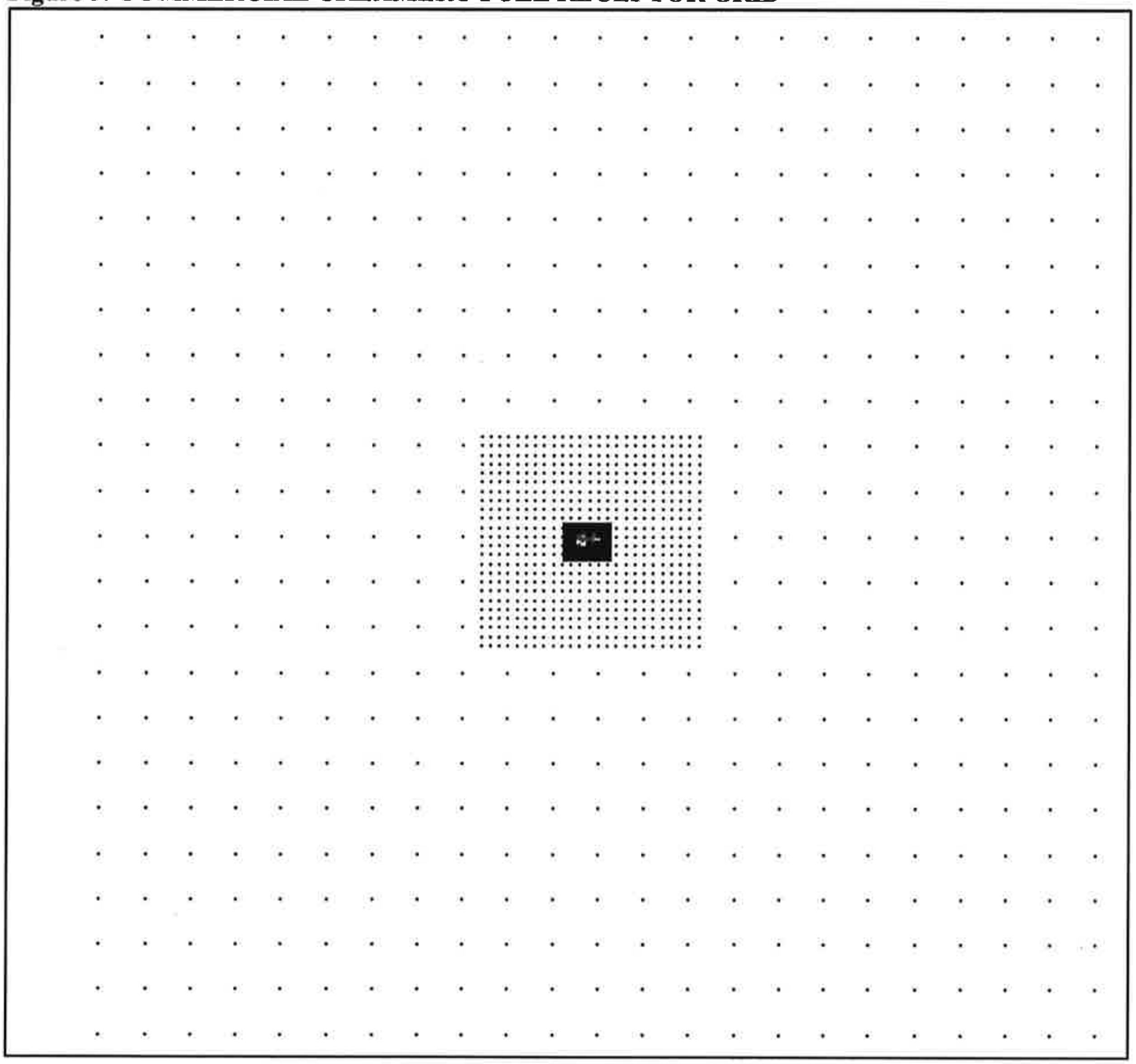
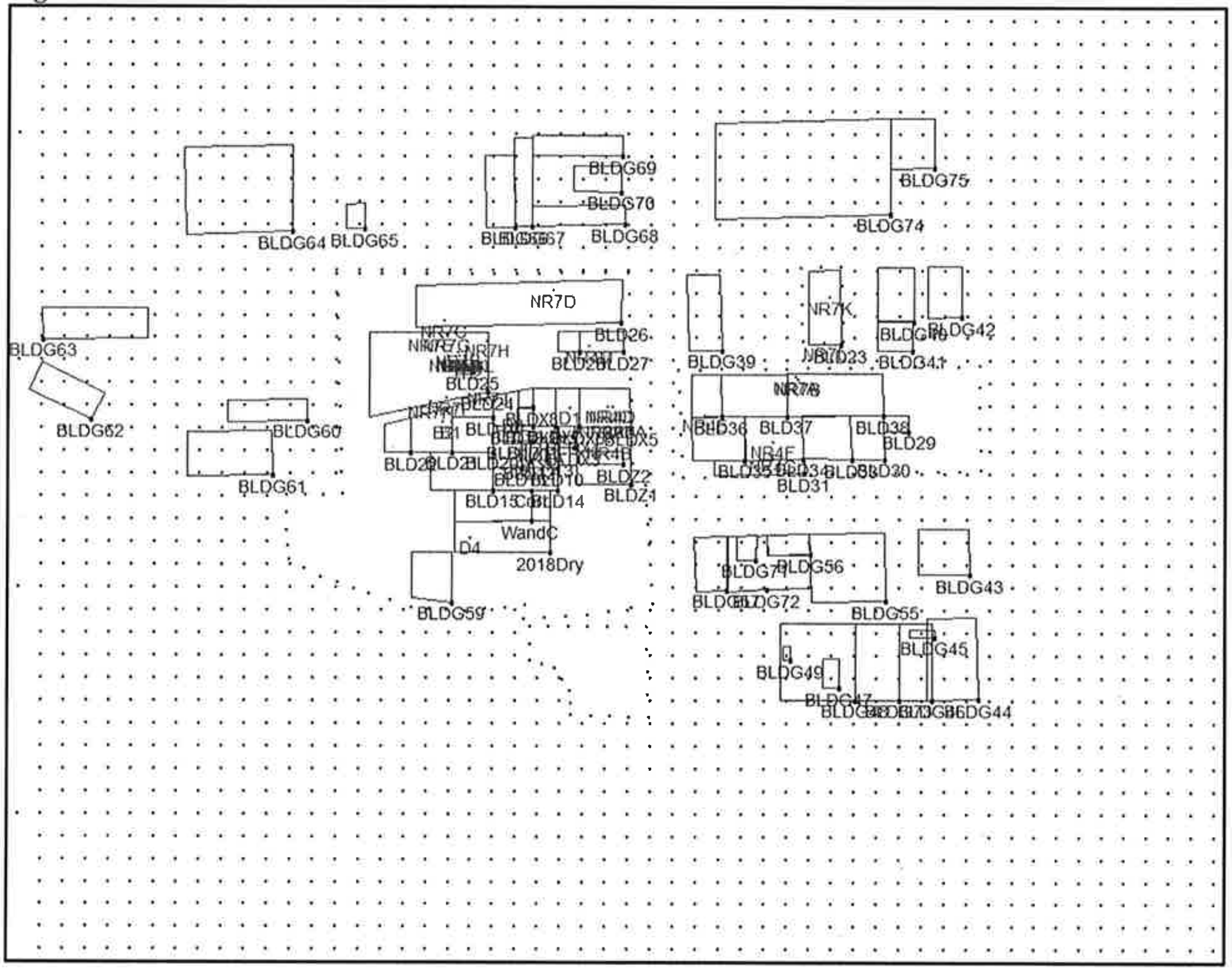


Figure 4. COMMERCIAL CREAMERY IMPACT RESOLUTION RECEPTOR GRID



3.9 Emission Rates

Criteria air pollutant and TAP emissions rates for this project were provided by CH2M.

Review and approval of estimated emissions is the responsibility of the DEQ permit writer, and the representativeness and accuracy of emissions estimates is not addressed in this modeling memorandum. DEQ air impact analyses review included verification that the potential emissions rates provided in the emissions inventory 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 impact analyses, as listed in this memorandum, should be reviewed by the DEQ permit writer and compared with those in the final emissions inventory. All modeled criteria air pollutant and TAP emissions rates must be equal to or greater than the facility's potential emissions calculated in the PTC emissions inventory or proposed permit allowable emissions rates.

3.9.1 Criteria Pollutant Emissions Rates for Significant Impact Level Analyses

Significant impact level (SIL) analyses were submitted as part of the NAAQS compliance demonstration.

Table 6 lists criteria pollutant continuous (24 hours/day) emissions rates used to evaluate SIL compliance for standards with averaging periods of 24 hours or less, and Table 7 presents the emission rates used to evaluate compliance with annual average SILs. The accuracy of the calculated emissions increase for the SIL analyses is not critical to the NAAQS compliance demonstration because cumulative NAAQS impact analyses, using facility-wide allowable emissions, were performed for these pollutants. This renders the SIL analyses inconsequential.

Table 6. SIL ANALYSES SHORT-TERM CRITERIA POLLUTANT EMISSION RATES

Emissions Point	Description	PM_{10}[a] (lb/hr)[d]	$PM_{2.5}$[b] (lb/hr)	NO_x[c] (lb/hr)
D1	Rogers Dryer	0.185	0.128	0.40
D2	Existing Rogers --1960 Rogers	0.185	0.128	0.40
D3	Existing Blaw Knox Spray Dryer since 1985	0.185	0.128	0.27
B1	Superior Boiler 10.5 MMBtu/hr - replacement	0.080	0.080	1.02
P1	Tote-Dump Dust Collector at Ruberg Blenders	0.072	0.020	--
P2	Tote-Dump Dust Collector below Ruberg blenders	0.072	0.020	--
D4	New CE Rogers Dryer project 61992	0.371	0.257	1.18

a. Particulate matter with a mean aerodynamic diameter of 10 microns or less.
b. Particulate matter with a mean aerodynamic diameter of 2.5 microns or less.
c. Nitrogen oxides.
d. Pounds per hour.

Table 7. SIL ANALYSES ANNUAL AVERAGE CRITERIA POLLUTANT EMISSION RATES

Emissions Point	Description	$PM_{2.5}$[a] (lb/hr)[c]	NO_x[b] (lb/hr)
D1	Rogers Dryer	0.171	0.660
D2	Existing Rogers --1960 Rogers	0.171	0.660
D3	Existing Blaw Knox Spray Dryer since 1985	0.171	0.440
B1	Superior Boiler 10.5 MMBtu/hr - replacement	0.080	1.020
P1	Tote-Dump Dust Collector at Ruberg Blenders	0.027	--
P2	Tote-Dump Dust Collector below Ruberg blenders	0.027	--
D4	New CE Rogers Dryer project 61992	0.257	1.18

a. Particulate matter with a mean aerodynamic diameter of 2.5 microns or less.
b. Nitrogen oxides.
c. Pounds per hour.

3.9.2 Criteria Pollutant Emissions Rates for Cumulative Impact Analyses

Cumulative NAAQS analyses were conducted for facility-wide allowable 24-hour PM_{10}, 24-hour $PM_{2.5}$, annual $PM_{2.5}$, 1-hour NO_2, and annual NO_2 emissions to demonstrate compliance with short-term and annual average NAAQS. Table 8 lists criteria air pollutant emissions for short term averaging periods for the NAAQS analyses. Short-term emission rates were modeled for 24 hours/day. Table 9 lists criteria air pollutant emissions for the annual averaging period for the NAAQS analyses. Annual average emission rates were modeled for 8,760 hours/year.

Table 8. SHORT-TERM EMISSIONS RATES USED IN NAAQS MODELING ANALYSES				
Emissions Point	Description	PM_{10}[a] (lb/hr)[b]	$PM_{2.5}$[c] (lb/hr)	NOx[d] (lb/hr)
D1	Rogers Dryer	0.371	0.26	1.18
D2	Existing Rogers --1960 Rogers	0.371	0.26	1.18
D3	Existing Blaw Knox Spray Dryer since 1985	0.371	0.26	0.78
B1	Superior Boiler 10.5 MMBtu/hr - replacement	0.080	0.080	1.02
P1	Tote-Dump Dust Collector at Ruberg Blenders	0.215	0.049	--
P2	Tote-Dump Dust Collector below Ruberg blenders	0.215	0.049	--
D4	New CE Rogers Dryer project 61992	0.371	0.26	1.18
NR3A	Clothes Dryer	8.31E-04	8.31E-04	0.0103
NR3B	Clothes Dryer	8.31E-04	8.31E-04	0.0103
NR5A	Water Heater 1	5.52E-04	5.52E-04	0.00682
NR5B	Water Heater 3	0.0015	0.00146	0.0181
NR4H	Break Room - Carrier HVAC	0.0017	0.00166	0.0205
NR4I	Blend Room - Carrier HVAC-1	0.0015	0.00147	0.0182
NR4J	Blend Room - Carrier HVAC-2	0.0017	0.00169	0.0209
NR4K	Blend Room - Carrier HVAC-3	0.0017	0.00169	0.0209
NR4L	Blend Room - Carrier HVAC-4	0.0025	0.00254	0.0314
NR4M	Shop - Carrier HVAC	0.0025	0.00254	0.0314
NR7C	Ph I ADP Unit Heater 1	0.0029	0.00287	0.0355
NR7D	Ph I ADP Unit Heater 2	0.0029	0.00287	0.0355
NR7K	E Shop- Modine Unit Heater 1	7.36E-04	7.36E-04	0.0091
NR7L	E Shop- Modine Unit Heater 2	7.36E-04	7.36E-04	0.0091
NR7A	E Side - Modine Unit Heater Down	0.00143	0.00143	0.0177
NR7B	E Side - Modine Unit Heater Up	0.00143	0.00143	0.0177
NR4A	Proc'B - Carrier HVAC	0.00202	0.00202	0.025
NR4B	Blend'C - Carrier HVAC	0.00202	0.00202	0.025
NR4C	QA - Carrier HVAC	0.00132	0.00132	0.0164
NR4D	QC - Carrier HVAC	5.44E-04	5.44E-04	0.00673
NR4E	E Side - Carrier HVAC Office	9.20E-04	9.20E-04	0.0114
NR4F	E Side - Carrier HVAC Bartelt	9.20E-04	9.20E-04	0.0114
NR4G	Littleford - Carrier HVAC-1	9.20E-04	9.20E-04	0.0114
NR7E	Ph II ADP Unit Heater 1	0.00184	0.00184	0.0227
NR7F	Ph II ADP Unit Heater 2	0.00132	0.00132	0.0164
NR7G	Ph III ADP Unit Heater N-1	0.00132	0.00132	0.0164
NR7H	Ph III ADP Unit Heater N-2	0.00132	0.00132	0.0164
NR7I	Ph III ADP Unit Heater S-1	0.00132	0.00132	0.0164
NR7J	Ph III ADP Unit Heater S-2	8.46E-04	8.46E-04	0.0105
B2	York Shipley 125 hp boiler	0.0449	0.045	0.591

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
b. Pounds per hour.
c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
d. Nitrogen oxides.

Table 9. ANNUAL AVERAGE EMISSIONS RATES USED IN NAAQS MODELING ANALYSES			
Emissions Point	Description	$PM_{2.5}$[a] (lb/hr)[b]	NOx[c] (lb/hr)
D1	Rogers Dryer	0.26	1.18
D2	Existing Rogers --1960 Rogers	0.26	1.18
D3	Existing Blaw Knox Spray Dryer since 1985	0.26	0.78
B1	Superior Boiler 10.5 MMBtu/hr - replacement	0.080	1.02
P1	Tote-Dump Dust Collector at Ruberg Blenders	0.049	--
P2	Tote-Dump Dust Collector below Ruberg blenders	0.049	--
D4	New CE Rogers Dryer project 61992	0.26	1.18
NR3A	Clothes Dryer	8.31E-04	0.0103
NR3B	Clothes Dryer	8.31E-04	0.0103
NR5A	Water Heater 1	5.53E-04	0.00682
NR5B	Water Heater 3	0.0015	0.0181
NR4H	Break Room - Carrier HVAC	0.0017	0.0205
NR4I	Blend Room - Carrier HVAC-1	0.00147	0.0182
NR4J	Blend Room - Carrier HVAC-2	0.00169	0.0209
NR4K	Blend Room - Carrier HVAC-3	0.00169	0.0209
NR4L	Blend Room - Carrier HVAC-4	0.0025	0.0314
NR4M	Shop - Carrier HVAC	0.0025	0.0314
NR7C	Ph I ADP Unit Heater 1	0.0029	0.0355
NR7D	Ph I ADP Unit Heater 2	0.0029	0.0355
NR7K	E Shop- Modine Unit Heater 1	7.35E-04	0.0091
NR7L	E Shop- Modine Unit Heater 2	7.35E-04	0.0091
NR7A	E Side - Modine Unit Heater Down	0.0014	0.0177
NR7B	E Side - Modine Unit Heater Up	0.0014	0.0177
NR4A	Proc'B - Carrier HVAC	0.0020	0.025
NR4B	Blend'C - Carrier HVAC	0.0020	0.025
NR4C	QA - Carrier HVAC	0.0013	0.0164
NR4D	QC - Carrier HVAC	5.43E-04	0.00673
NR4E	E Side - Carrier HVAC Office	9.20E-04	0.0114
NR4F	E Side - Carrier HVAC Bartelt	9.20E-04	0.0114
NR4G	Littleford - Carrier HVAC-1	9.20E-04	0.0114
NR7E	Ph II ADP Unit Heater 1	0.0018	0.0227
NR7F	Ph II ADP Unit Heater 2	0.0013	0.0164
NR7G	Ph III ADP Unit Heater N-1	0.0013	0.0164
NR7H	Ph III ADP Unit Heater N-2	0.0013	0.0164
NR7I	Ph III ADP Unit Heater S-1	0.0013	0.0164
NR7J	Ph III ADP Unit Heater S-2	8.47E-04	0.0105
B2	York Shipley 125 hp boiler	0.045	0.591

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
b. Pounds per hour.
c. Nitrogen oxides.

3.9.3 Toxic Air Pollutant Emissions

The increase in emissions from the proposed project are required to demonstrate compliance with the toxic air pollutant (TAP) increments, with an ambient impact analyses required for any TAP having a requested potential emission rate that exceeds the screening emissions level (EL) specified by Idaho Air Rules Section 585 or 586. Review of the TAPs emissions inventory is the responsibility of the permit writer/project manager.

This project modeled four TAPs with emission rates that exceeded the carcinogenic ELs specified in Section 586 of the Idaho *Air Rules*. The hourly TAPs emission rates listed in Table 10 were modeled for 8,760 hours/year for the carcinogenic TAPs.

Table 10. TOXIC AIR POLLUTANT EMISSIONS RATES

Emissions Point	Description	Arsenic (lb/hr)[a]	Cadmium (lb/hr)	Formaldehyde (lb/hr)	Nickel lb/hr
D1	Rogers Dryer	2.35E-06	1.29E-05	8.82E-04	2.47E-05
D2	Existing Rogers --1960 Rogers	2.35E-06	1.29E-05	8.82E-04	2.47E-05
D3	Existing Blaw Knox Spray Dryer since 1985	1.57E-06	8.63E-06	5.88E-04	1.65E-05
B1	Superior Boiler 10.5 MMBtu/hr - replacement	2.06E-06	1.13E-05	7.72E-04	2.16E-05
D4	New CE Rogers Dryer project 61992	2.35E-06	1.29E-05	8.82E-04	2.47E-05

a. Pounds per hour.

3.10 Emission Release Parameters

Tables 11a and 11b list emissions release parameters for the modeled emissions units.

Table 11a. EMISSIONS RELEASE PARAMETERS (METRIC UNITS)

Release Point	Description	UTM[a] Coordinates, Zone 11 Easting (m)[b]	Northing (m)	Stack Base Elevation (m)	Stack Height (m)	Modeled Diameter (m)	Stack Gas Temp (K)[c]	Stack Flow Velocity (m/s)[d]	Stack Release Type
D1	Rogers Dryer	702,844.4	4,732,979.5	1,141.6	17.98	1.270	322.37	11.36	Default[e]
D2	Existing Rogers --1960 Rogers	702,822.1	4,732,956.1	1,141.3	15.44	1.270	317.76	12.44	Default
D3	Existing Blaw Knox Spray Dryer since 1985	702,818.5	4,732,976.2	1,141.3	15.28	1.090	311.1	8.79	Default
B1	Superior Boiler 10.5 MMBtu/hr - replacement	702,791.2	4,732,973.0	1,140.9	14.98	0.508	477.6	8.30	Default
P1	Tote-Dump Dust Collector at Ruberg Blenders	702,797.0	4,732,999.0	1,141.1	14.94	0.080	366.5	23.47	Default
P2	Tote-Dump Dust Collector below Ruberg blenders	702,800.7	4,732,999.0	1,141.1	14.94	0.080	366.5	23.47	Default
D4	New CE Rogers Dryer project 61992	702,799.5	4,732,922.0	1,140.5	17.91	1.270	355.4	16.00	Default
NR3A	Clothes Dryer	702,858.0	4,732,973.4	1,141.8	6.4	0.080	333.15	15.02	Default
NR3B	Clothes Dryer	702,863.0	4,732,973.4	1,141.8	6.4	0.080	333.15	15.02	Default
NR5A	Water Heater 1	702,868.0	4,732,973.4	1,141.9	6.4	0.080	322.04	3.76	Default
NR5B	Water Heater 3	702,795.0	4,733,002.2	1,141.0	10.97	0.100	344.3	3.01	Default
NR4H	Break Room - Carrier HVAC	702,794.2	4,733,004.0	1,141.0	9.75	0.150	308.2	3.07	Default
NR4I	Blend Room - Carrier HVAC-1	702,789.5	4,733,002.2	1,141.0	6.71	0.150	305.4	2.67	Default
NR4J	Blend Room - Carrier HVAC-2	702,793.2	4,733,002.2	1,141.0	6.71	0.130	316.5	4.89	Default
NR4K	Blend Room - Carrier HVAC-3	702,796.9	4,733,002.2	1,141.1	6.71	0.130	316.5	4.09	Default
NR4L	Blend Room - Carrier HVAC-4	702,800.6	4,733,002.2	1,141.1	11.28	0.150	316.5	4.67	Default
NR4M	Shop - Carrier HVAC	702,852.7	4,733,006.5	1,141.8	11.28	0.150	316.5	4.67	Default
NR7C	Ph I ADP Unit Heater 1	702,788.0	4,733,017.6	1,141.0	11.28	0.150	333.2	5.34	Default
NR7D	Ph I ADP Unit Heater 2	702,837.0	4,733,031.0	1,141.7	11.28	0.150	333.2	5.34	Default

Table 11a. EMISSIONS RELEASE PARAMETERS (METRIC UNITS)									
Release Point	Description	UTM[a] Coordinates, Zone 11		Stack Base Elevation (m)	Stack Height (m)	Modeled Diameter (m)	Stack Gas Temp (K)[c]	Stack Flow Velocity (m/s)[d]	Stack Release Type
		Easting (m)[b]	Northing (m)						
NR7K	E Shop- Modine Unit Heater 1	702,959.0	4,733,028.0	1,143.2	6.71	0.150	330.4	1.34	Default
NR7L	E Shop- Modine Unit Heater 2	702,957.0	4,733,008.0	1,143.1	6.71	0.150	330.4	1.34	Default
NR7A	E Side - Modine Unit Heater Down	702,944.0	4,732,993.2	1,142.8	11.28	0.130	322.06	0.001	Default
NR7B	E Side - Modine Unit Heater Up	702,945.0	4,732,992.3	1,142.8	11.28	0.130	322.06	0.001	Default
NR4A	Proc'B - Carrier HVAC	702,832.1	4,732,961.0	1,141.4	7.31	0.080	410.9	0.001	Default
NR4B	Blend'C - Carrier HVAC	702,861.4	4,732,964.0	1,141.8	5.79	0.080	410.9	0.001	Default
NR4C	QA - Carrier HVAC	702,861.0	4,732,980.0	1,141.8	6.4	0.080	372.1	0.001	Default
NR4D	QC - Carrier HVAC	702,863.0	4,732,980.0	1,141.9	7.31	0.150	372.1	0.001	Default
NR4E	E Side - Carrier HVAC Office	702,904.0	4,732,976.0	1,142.3	7.62	0.080	399.83	0.001	Default
NR4F	E Side - Carrier HVAC Bartelt	702,934.0	4,732,964.3	1,142.4	6.1	0.080	388.7	0.001	Default
NR4G	Littleford - Carrier HVAC-1	702,934.0	4,732,958.5	1,142.3	6.1	0.080	388.7	0.001	Default
NR7E	Ph II ADP Unit Heater 1	702,782.0	4,733,011.4	1,140.9	10.97	0.080	399.8	0.001	Default
NR7F	Ph II ADP Unit Heater 2	702,782.0	4,732,982.0	1,140.8	10.97	0.080	388.7	0.001	Default
NR7G	Ph III ADP Unit Heater N-1	702,789.0	4,733,011.4	1,141.0	10.97	0.080	388.7	0.001	Default
NR7H	Ph III ADP Unit Heater N-2	702,807.0	4,733,009.0	1,141.2	10.97	0.080	388.7	0.001	Default
NR7I	Ph III ADP Unit Heater S-1	702,789.0	4,732,983.5	1,140.9	10.97	0.080	388.7	0.001	Default
NR7J	Ph III ADP Unit Heater S-2	702,807.0	4,732,988.0	1,141.2	7.32	0.080	360.9	0.001	Default
B2	York Shipley 125 hp boiler	702,787.6	4,732,973.0	1,141.2	14.33	0.305	375	11.64	Default

a. Universal Transverse Mercator.
b. Meters.
c. Temperature in Kelvin.
d. Meters per second.
e. Default = uninterrupted vertical release.

Table 11b. EMISSIONS RELEASE PARAMETERS (ENGLISH UNITS)									
Release Point	Description	UTM[a] Coordinates, Zone 11		Stack Base Elevation (ft)[c]	Stack Height (ft)	Modeled Diameter (ft)	Stack Gas Temperature (°F)[d]	Stack Flow Velocity (fps)[e]	Stack Release Type
		Easting (m)[b]	Northing (m)						
D1	Rogers Dryer	702,844.4	4,732,979.5	3,745.5	59.0	4.17	120.5	37.27	Default[f]
D2	Existing Rogers --1960 Rogers	702,822.1	4,732,956.1	3,744.4	50.7	4.17	112.3	40.81	Default
D3	Existing Blaw Knox Spray Dryer since 1985	702,818.5	4,732,976.2	3,744.3	50.1	3.58	100.3	28.84	Default
B1	Superior Boiler 10.5 MMBtu/hr - replacement	702,791.2	4,732,973.0	3,743.1	49.1	1.67	400.0	27.23	Default
P1	Tote-Dump Dust Collector at Ruberg Blenders	702,797.0	4,732,999.0	3,743.6	49.0	0.26	200.0	77.01	Default
P2	Tote-Dump Dust Collector below Ruberg blenders	702,800.7	4,732,999.0	3,743.8	49.0	0.26	200.0	77.01	Default
D4	New CE Rogers Dryer project 61992	702,799.5	4,732,922.0	3,741.9	58.8	4.17	180.1	52.49	Default
NR3A	Clothes Dryer	702,858.0	4,732,973.4	3,745.9	21.0	0.26	140.0	49.28	Default
NR3B	Clothes Dryer	702,863.0	4,732,973.4	3,746.2	21.0	0.26	140.0	49.28	Default
NR5A	Water Heater 1	702,868.0	4,732,973.4	3,746.4	21.0	0.26	120.0	12.32	Default
NR5B	Water Heater 3	702,795.0	4,733,002.2	3,743.5	36.0	0.33	160.1	9.86	Default
NR4H	Break Room - Carrier HVAC	702,794.2	4,733,004.0	3,743.5	32.0	0.49	95.1	10.08	Default
NR4I	Blend Room - Carrier HVAC-1	702,789.5	4,733,002.2	3,743.3	22.0	0.49	90.1	8.76	Default
NR4J	Blend Room - Carrier HVAC-2	702,793.2	4,733,002.2	3,743.4	22.0	0.43	110.0	13.42	Default
NR4K	Blend Room - Carrier HVAC-3	702,796.9	4,733,002.2	3,743.6	22.0	0.43	110.0	13.42	Default
NR4L	Blend Room - Carrier HVAC-4	702,800.6	4,733,002.2	3,743.8	37.0	0.49	110.0	15.33	Default
NR4M	Shop - Carrier HVAC	702,852.7	4,733,006.5	3,746.1	37.0	0.49	110.0	15.33	Default
NR7C	Ph I ADP Unit Heater 1	702,788.0	4,733,017.6	3,743.3	37.0	0.49	140.1	17.52	Default
NR7D	Ph I ADP Unit Heater 2	702,837.0	4,733,031.0	3,745.8	37.0	0.49	140.1	17.52	Default
NR7K	E Shop- Modine Unit Heater 1	702,959.0	4,733,028.0	3,750.6	22.0	0.49	135.1	4.38	Default
NR7L	E Shop- Modine Unit Heater 2	702,957.0	4,733,008.0	3,750.2	22.0	0.49	135.1	4.38	Default
NR7A	E Side - Modine Unit Heater Down	702,944.0	4,732,993.2	3,749.3	37.0	0.43	120.0	0.003	Default
NR7B	E Side - Modine Unit Heater Up	702,945.0	4,732,992.3	3,749.3	37.0	0.43	120.0	0.003	Default
NR4A	Proc'B - Carrier HVAC	702,832.1	4,732,961.0	3,744.8	24.0	0.26	280.0	0.003	Default
NR4B	Blend'C - Carrier HVAC	702,861.4	4,732,964.0	3,746.0	19.0	0.26	280.0	0.003	Default
NR4C	QA - Carrier HVAC	702,861.0	4,732,980.0	3,746.2	21.0	0.26	210.1	0.003	Default
NR4D	QC - Carrier HVAC	702,863.0	4,732,980.0	3,746.3	24.0	0.49	210.1	0.003	Default
NR4E	E Side - Carrier HVAC Office	702,904.0	4,732,976.0	3,747.7	25.0	0.26	260.0	0.003	Default
NR4F	E Side - Carrier HVAC Bartelt	702,934.0	4,732,964.3	3,748.0	20.0	0.26	240.0	0.003	Default
NR4G	Littleford - Carrier HVAC-1	702,934.0	4,732,958.5	3,747.8	20.0	0.26	240.0	0.003	Default
NR7E	Ph II ADP Unit Heater 1	702,782.0	4,733,011.4	3,743.0	36.0	0.26	260.0	0.003	Default
NR7F	Ph II ADP Unit Heater 2	702,782.0	4,732,982.0	3,742.7	36.0	0.26	240.0	0.003	Default
NR7G	Ph III ADP Unit Heater N-1	702,789.0	4,733,011.4	3,743.3	36.0	0.26	240.0	0.003	Default

Table 11b. EMISSIONS RELEASE PARAMETERS (ENGLISH UNITS)									
Release Point	Description	UTM[a] Coordinates, Zone 11		Stack Base Elevation (ft)[c]	Stack Height (ft)	Modeled Diameter (ft)	Stack Gas Temperature (°F)[d]	Stack Flow Velocity (fps)[e]	Stack Release Type
		Easting (m)[b]	Northing (m)						
NR7H	Ph III ADP Unit Heater N-2	702,807.0	4,733,009.0	3,744.2	36.0	0.26	240.0	0.003	Default
NR7I	Ph III ADP Unit Heater S-1	702,789.0	4,732,983.5	3,743.2	36.0	0.26	240.0	0.003	Default
NR7J	Ph III ADP Unit Heater S-2	702,807.0	4,732,988.0	3,744.0	24.0	0.26	190.0	0.003	Default
B2	York Shipley 125 hp boiler	702,787.6	4,732,973.0	3,744.0	47.0	1.00	215.3	38.19	Default

a. Universal Transverse Mercator.
b. Meters.
c. Feet.
d. Degrees Fahrenheit.
e. Feet per second.
f. Default = uninterrupted vertical release.

DEQ's permitting policies and guidance require that each permit application have stand-alone documentation to support the appropriateness of release parameters used in the air impact analyses. This project included new sources and existing sources.

PROJECT 61992 NEW SOURCES

New Dryer D4

Release parameter support documentation consisted of a dryer manufacturer schematic diagram. Important release parameters for the new Dryer 4:

- Exit diameter at release to atmosphere of 50 inches or less. This assumes there is no additional weather cap placed on the 50-inch diameter stack which increases the effective diameter.
- Release height of 59 feet above grade.
- Exit temperature after heat exchanger at point of release to atmosphere of 180 degrees Fahrenheit.
- 42,690 ACFM exhaust flow rate at the 180 °F release temperature.

DEQ's incompleteness letter requested confirmation of the exit diameter of the new stack because the pictoral representation of the new dryer D4 stack indicated it is equipped with a cap that may increase the release diameter. Commercial Creamery and CH2M responded with the statement that "A drawing has been provided by the manufacturer for Dryer D4 that confirms the exit outside diameter of 50 inches." DEQ verified that the schematic diagram of the stack presented in Appendix H depicted a 50-inch diameter stack. A weathercap was not shown on this diagram. DEQ accepts that the representation that the stack will 50 inches in diameter at the point of release and will not have an add-on cap that increases the effective diameter, which would reduce exit velocity and momentum buoyancy of the D4 Dryer exhaust plume.

Appendix C of the permit application contained a hand-written Dryer 4 specification listing on CE Rogers (the manufacturer) letterhead – a 5-head "special" box dryer with a 42,691 ACFM flow rate at 180°F. CH2M and Commercial Creamery provided these parameters as accurate representations of conditions at the stack termination.

Boiler B1 (Replacement Boiler)
This boiler was installed to replace an existing boiler. The new replacement boiler was manufactured by Superior Boiler Works, Inc., is rated at 10.5 MMBtu/hr heat input capacity, and is fired exclusively on natural gas. Appendix C of the permit application contained a specification sheet for the boiler. The specification sheet listed a 400°F exhaust temperature and a 3,565 ACFM flow rate. The 20-inch exit diameter of the stack was supported by the specification sheet and a schematic drawing of the boiler depicted a 20-inch stack flue opening on the boiler.

EXISTING SOURCES

DEQ requested substantiation of all release parameters used in the modeling demonstration in the modeling protocol approval letter, and, subsequently, for support documentation for the existing sources modeled release parameters. Commercial Creamery and CH2M's March 1, 2018, incompleteness response stated that "...the stack data information presented for the facility-wide emissions sources was field measured on-site in 2015. The 'Stack Data' information is provided for each emission unit in the Excel spreadsheet entitled 'Current permit emission estimates'." DEQ accepted this statement as adequate supporting documentation.

The current modeling setup relied upon a previous project's modeling demonstrations. Commercial Creamery submitted substantive documentation for support of the modeled release parameters for an earlier permitting project (Earl Gilmartin, Commercial Creamery Company to Darrin Mehr, DEQ, dated February 6, 2014, HPe Content Manager Record Number 2014AAG238). The certified letter and support materials covered release parameters for the existing emissions units. DEQ also compared this project's release parameters for existing process Dryers 1, 2, and 3 to a historical performance test report conducted in December 2014, on these emissions units (HPe Content Manager Record Number 2015AAI44). This source test report provided documentation matching volumetric flow rates and equivalent stack diameters for Dryers 1, 2, and 3 in this project's modeling demonstration so the source test results were used as the basis for the flow and diameter parameters. A comparison of the stack testing observed exhaust temperature, averaged over three runs of testing for each dryer, to the modeled stack exit temperatures revealed that the modeled stack temperatures were modeled at around 9 to 12°F higher than the actual recorded average temperature listed in the source test report. Stack release heights were supported in the referenced February 6, 2014 submittal.

Boiler B2
The boiler was modeled with an uninterrupted vertical release. Exit temperature for the boiler stack was listed as 215°F. This appears to be a conservative value for the boiler exhaust, based on typical exhaust temperatures used in other DEQ permitting applications, and the temperatures were accepted without additional justification.

The exhaust flow rate appeared accurate, corrected to Jerome's site elevation and the 215°F exit temperature given that EPA F-Factor flow rate for natural gas combustion was consistent with the modeled flow rate. The boiler stack diameter and release height were described as field verified values.

Other Natural Gas Combustion Sources-Hot Water Heaters, Clothes Dryers, HVAC Units:
The release parameters for these sources were field-verified. Several sources were modeled with actual measured release temperatures and release diameters, but with a worst-case assumption of 0.001 meters per second exit velocity to justify not validating exit velocities, or if a source was determined to exhaust in a horizontal orientation. All these sources were modeled as uninterrupted vertical releases. These sources have low emissions and do not greatly contribute to modeled impacts.

DEQ accepted the final modeling's release parameters as submitted as appropriate values for the project.

4.0 Results for Air Impact Analyses

4.1 Results for Significant Impact Analyses

Commercial Creamery performed significant impacts level (SIL) analyses for 24-hour PM_{10}, 24-hour $PM_{2.5}$, annual $PM_{2.5}$, 1-hour NO_2, and annual NO_2. Maximum ambient impacts exceeded the SILs for all pollutants and averaging periods modeled. Table 12 presents the results of the SIL analyses.

Table 12. RESULTS FOR SIGNIFICANT IMPACT ANALYSES

Pollutant	Averaging Period	Modeled Design Value Concentration (µg/m³)[a]	SIL[b] (µg/m³)	Percent of SIL
$PM_{2.5}$[c]	24-hour	3.6[f]	1.2	300%
	Annual	0.9[g]	0.3	300%
PM_{10}[d]	24-hour	5.6[h]	5.0	112%
NO_2[e]	1-hour	32.3[i]	7.5	430%
	Annual	3.7[j]	1.0	370%

a. Micrograms per cubic meter.
b. Significant impact level.
c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
d. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
e. Nitrogen dioxide.
f. Modeled design value is the maximum 5-year mean of highest 24-hour values from each year of a 5-year meteorological dataset.
g. Modeled design value is the maximum 5-year mean of annual average values from each year of a 5-year meteorological dataset.
h. Modeled design value is the maximum of highest 24-hour values from a 5-year meteorological dataset, or the maximum of 24-hour value from five individual years of meteorological data.
i. Modeled design value is the maximum 5-year mean of maximum 1st highest daily 1-hour maximum impacts for each year of a 5-year meteorological dataset. The SIL compliance design value was calculated assuming complete conversion of total NO_x to NO_2.
j. Modeled design value is the maximum annual impact of the individual years of a 5-year meteorological dataset. Complete conversion of NO_x to NO_2 was assumed.

4.2 Results for Cumulative NAAQS Impact Analyses

The results for the cumulative impact analyses are listed in Table 13. Ambient impacts for the facility were well below the applicable NAAQS.

Table 13. RESULTS FOR CUMULATIVE IMPACT ANALYSES

Pollutant	Averaging Period	Modeled Design Value Concentration (µg/m³)[a]	Background Concentration (µg/m³)	Total Ambient Impact (µg/m³)	NAAQS[b] (µg/m³)	Percent of NAAQS
$PM_{2.5}$[c]	24-hour	5.0[f]	24	29	35	83%
	Annual	1.6[g]	8	9.6	12	80%
PM_{10}[d]	24-hour	12.3[h]	52	64.3	150	43%
NO_2[e]	1-hour	70.8[i]	24.4	95.2	188	51%
	Annual	9.1[j]	4.1	13.2	100	13%

Table 13. RESULTS FOR CUMULATIVE IMPACT ANALYSES

a. Micrograms per cubic meter.
b. National ambient air quality standards.
c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
d. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
e. Nitrogen dioxide.
f. Modeled design value is the maximum 5-year mean of 8th highest 24-hour values from each year of a 5-year meteorological dataset.
g. Modeled design value is the maximum 5-year mean of annual average values from each year of a 5-year meteorological dataset.
h. Modeled design value is the maximum of 6th highest 24-hour values from a 5-year meteorological dataset.
i. Modeled design value is the maximum 5-year mean of 8th highest daily 1-hour maximum impacts for each year of a 5-year meteorological dataset.
j. Modeled design value is the maximum annual impact of the individual years of a 5-year meteorological dataset.

4.3 Results for Toxic Air Pollutant Impact Analyses

Table 14 presents results for TAPs impact modeling. The impacts listed below are attributed to the project's TAPs emissions increases. Annual average carcinogenic TAPs impacts used the maximum annual impacts averaged over five years of meteorological data. All TAP impacts were below the applicable increments.

Table 14. RESULTS FOR TOXIC AIR POLLUTANT ANALYSES

Pollutant	CAS[a] Number	Averaging Period	Maximum Modeled Concentration ($\mu g/m^3$)[b]	AACC[c] ($\mu g/m^3$)	Percent of Increment
Arsenic	7440-38-2	Annual	1E-05	2.3E-04	4%
Cadmium	7440-43-9	Annual	5E-05	5.6E-04	9%
Formaldehyde	50-00-0	Annual	3.5E-03	7.7E-02	5%
Nickel	7440-02-0	Annual	1.0E-04	4.2E-03	2%

a. Chemical Abstract Service
b. Micrograms per cubic meter.
c. Acceptable Ambient Concentration for Carcinogens (Toxic Air Pollutant allowable increments listed in Idaho Air Rules Section 586).

5.0 Conclusions

The submitted ambient air impact analyses, in combination with DEQ verification analyses, demonstrated to DEQ's satisfaction that emissions from the Commercial Creamery facility will not cause or significantly contribute to a violation of any NAAQS or TAPs increments.

References

1. *Policy on NAAQS Compliance Demonstration Requirements of IDAPA 58.01.01.203.02 and 01.403.02.* Idaho Department of Environmental Quality Policy Memorandum. Tiffany Floyd, Administrator, Air Quality Division, June 10, 2014.

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

3. *Ambient Ratio Method Version 2(ARM2) for use with AERMOD for 1-hr NO_2 Modeling Development and Evaluation Report,* Prepared for American Petroleum Institute, 1220 L Street NW, Washington, DC 20005, by M. Podrez, RTP Environmental Associates, Inc., 2031 Broadway, Suite 2, Boulder, Colorado 80302, September 20, 2013.

4. *Clarification on the Use of AERMOD Dispersion Modeling for Demonstrating Compliance with the NO_2 National Ambient Air Quality Standard,* R. Chris Owen and Roger Brode, Environmental Protection Agency, Office of Air Quality Planning and Standards, September 30, 2014.

APPENDIX C – 40 CFR 60 SUBPART Dc

Commercial Creamery Company, Inc. – Regulatory Applicability

40 CFR Part 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).

The facility proposes to replace Boiler 1 (York Shipley) rated at 6.1 MMBTU/hr with a new natural gas steam Superior boiler rated at 10.461 MMBTU/hr.

(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 (SO_2) 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.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

(e) Affected facilities (*i.e.* heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators, fuel heaters, and other affected facilities that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator, fuel heater, or other affected facility is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA or subpart CCCC of this part is not subject to this subpart.

(g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject to this subpart.

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO_X standards under this subpart and the SO_2 standards under subpart J or subpart Ja of this part, as applicable.

(i) Temporary boilers are not subject to this subpart.

§60.41c Definitions.

Purposefully left blank

§60.42c Standard for sulfur dioxide (SO_2).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

The new Superior boiler rated at 10.461 MMBtu/hr combusts natural gas exclusively.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO_2 emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO_2 emissions limit or the 90 percent SO_2 reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO_2 emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 50 percent (0.50) of the potential SO_2 emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO_2 reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/h) or less;

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area; or

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of the following:

(1) The percent of potential SO_2 emission rate or numerical SO_2 emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/h); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s = SO_2 emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a = 520 ng/J (1.2 lb/MMBtu);

K_b = 260 ng/J (0.60 lb/MMBtu);

K_c = 215 ng/J (0.50 lb/MMBtu);

H_a = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H_c = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO_2 emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO_2 emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2 control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), (3), or (4) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(4) Other fuels-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(i) The SO_2 emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

§60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

The new Superior boiler rated at 10.461 MMBtu/hr combusts natural gas exclusively.

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph (c).

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO_2 emissions is not subject to the PM limit in this section.

§60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO_2 emission limits under §60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO_2 emission limits under §60.42c is based on the average percent reduction and the average SO_2 emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO_2 emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO_2 emission rate (E_{ho}) and the 30-day average SO_2 emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E_{ao} when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho} ($E_{ho}o$) is used in Equation 19-19 of Method 19 of appendix A of this part to compute the adjusted E_{ao} ($E_{ao}o$). The $E_{ho}o$ is computed using the following formula:

$$E_{ho}o = \frac{E_{ho} - E_w(1 - X_1)}{X_1}$$

Where:

$E_{ho}o$ = Adjusted E_{ho}, ng/J (lb/MMBtu);

E_{ho} = Hourly SO_2 emission rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w = 0.

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E_w or X_k if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO_2 emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO_2 emission rate is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:

$\%P_s$ = Potential SO_2 emission rate, in percent;

$\%R_g$ = SO_2 removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$ = SO_2 removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_g$ ($\%R_go$) is computed from $E_{ao}o$ from paragraph (e)(1) of this section and an adjusted average SO_2 inlet rate ($E_{ai}o$) using the following formula:

$$\%R_go = 100\left(1 - \frac{E_{ao}^o}{E_{ai}^o}\right)$$

Where:

$\%R_go$ = Adjusted $\%R_g$, in percent;

$E_{ao}o$ = Adjusted E_{ao}, ng/J (lb/MMBtu); and

$E_{ai}o$ = Adjusted average SO_2 inlet rate, ng/J (lb/MMBtu).

(ii) To compute $E_{ai}o$, an adjusted hourly SO_2 inlet rate ($E_{hi}o$) is used. The $E_{hi}o$ is computed using the following formula:

$$E_{hi}o = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

$E_{hi}o$ = Adjusted E_{hi}, ng/J (lb/MMBtu);

E_{hi} = Hourly SO_2 inlet rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w = 0; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{ho} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$ or E_{ho} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

§60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O_2) or carbon dioxide (CO_2) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O_2 or CO_2 measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A-4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2 (or CO_2) data shall be collected concurrently (or within a 30- to 60-

minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) For O2 (or CO_2), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in §60.8, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (*i.e.,* reference method) data and performance test (*i.e.,* compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/h).

§60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO_2 emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO_2 concentrations and either O_2 or CO_2 concentrations at the outlet of the SO_2 control device (or the outlet of the steam generating unit if no SO_2 control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO_2 concentrations and either O_2 or CO_2 concentrations at both the inlet and outlet of the SO_2 control device.

§60.42c does not apply since the new boiler combusts natural gas only.

(b) The 1-hour average SO_2 emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO_2 emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO_2 emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO_2 CEMS at the inlet to the SO_2 control device shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted, and the span value of the SO_2 CEMS at the outlet from the SO_2 control device shall be 50 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO_2 CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if

no SO_2 control device is used) shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2 input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO_2 at the inlet or outlet of the SO_2 control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO_2 and CO_2 measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in §60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

§60.43c does not apply since the new boiler combusts natural gas only.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.*, 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.*, 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in §60.45c(a)(8).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in

paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO2 or PM emissions and that are subject to an opacity standard in §60.43c(c) are not required to operate a COMS if they follow the applicable procedures in §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.45c(c). The CEMS specified in paragraph §60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date

and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An owner or operator of an affected facility that is subject to an opacity standard in §60.43c(c) is not required to operate a COMS provided that the affected facility meets the conditions in either paragraphs (f)(1), (2), or (3) of this section.

(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section §60.48Da of this part.

(2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section §60.48Da of this part.

(3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under §60.48c(c).

§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 SO_2 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.

A notification of the date of constructing and startup including the information requested from paragraphs 1 through 4 above will be submitted.

(b) The owner or operator of each affected facility subject to the SO_2 emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in §60.7, the owner or operator of an affected facility subject to the opacity limits in §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO_2 emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO_2 emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO_2 or diluent (O_2 or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and

(iii) The sulfur content or maximum sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

The new Superior boiler will combust natural gas exclusively.

(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 SO_2 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.

The facility will maintain records of monthly natural gas usage.

(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 SO_2 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.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

APPENDIX D – PROCESSING FEE

PTC Processing 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: **Commercial Creamery Co -Jerome**
Address: **218 South Birch Street**
City: **Jerome**
State: **Idaho**
Zip Code: **83338**
Facility Contact: **William Gilmartin**
Title: **Operations Manager**
AIRS No.: **053-00031**

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	0	0.0
SO_2	0.1	0	0.1
CO	0.0	0	0.0
PM10	1.1	0	1.1
VOC	0.6	0	0.6
TAPS/HAPS	0.1	0	0.1
Total:	0.0	0	**1.8**
Fee Due	**$ 2,500.00**		

Comments: