Statement of Basis

Permit to Construct No. P-2011.0132
Project ID 61459

Rexburg Facility of Basic American Foods, a Division of Basic American, Inc.
Rexburg, Idaho

Facility ID 065-00008

Final

October 7, 2015
Darrin Pampaian, 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
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards

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

FACILITY INFORMATION

Description

The Rexburg Facility of Basic American Foods (BAF) produces a variety of dehydrated food products for both internal use and for external customers. Products include potato granules, formulated dehydrated food products, dehydrated whole and piece food products, and animal feed. BAF uses a variety of dehydration technologies to produce products to meet exacting customer specifications. The main sources of air emissions include boilers, dryers, dehydration lines, pneumatic material transfer, and packaging operations. Steam for plant operations is provided by boiler numbers 1 and 2 and the Kipper & Sons boiler.

Materials transport occurs both internally within a processing activity and externally to transfer materials between processes, to place them into or take them out of bulk storage, or to transport them to packaging and load-out activities. BAF uses air suspension systems to transport granules and most formulated products; these suspension processes include air slides and pneumatic bulk transfer operations. BAF also uses belt and bucket conveyors at various locations in its operations to transport raw materials, products in processing, and finished products. All bucket and belt conveyors are entirely contained within enclosed buildings. BAF also uses wet flumes to transport raw potatoes. Forklifts are used to transfer tote containers within the plant. Materials recovery units (primarily cyclones and baghouses) are integral to the operation of all unit processes in which granules or formulated products are suspended in air.

BAF operates packaging equipment to fill product containers with bulk product. Spices and flavoring may be added to the bulk product during the packaging process. Dust pickups located within the packaging area exhaust to the atmosphere through baghouses.

Raw materials are received on site by truck. Granules can be received by rail as well as by truck. All shipments are by rail or truck. Trucks are also used to move potatoes to and from the onsite cellars.

Plant process heating is provided by both direct firing with natural gas and indirect heating using steam supplied by facility boilers. Plant space heating is by natural gas.

Plant products are described as follows.

Dehydrated potato granules

Potato granules are individual potato cells prepared from raw potatoes by cooking, followed by gentle drying. Granules typically range from 50 to 120 microns in size. Most of the granules produced at the Rexburg Plant are used at the Rexburg Plant; occasionally granules are shipped to other BAF plants for use in products produced at those plants.

Dehydrated piece food products

BAF prepares dehydrated piece food products by dehydrating cooked and/or blanched foods. These foods can be either whole vegetables or vegetable pieces. Piece products range up to several inches in diameter.

Food processing byproducts

Sellable food fractions and off-specification materials that are not suitable for use in other products are produced as by-products of plant processes. BAF uses various materials classification processes to segregate, collect, and transport these byproducts. Food byproducts are transferred directly to load-out operations after collection without further processing beyond collection.

Air suspension unit processes are also used to classify materials and to remove unsuitable fractions from the production stream.

Food processing by-products are produced from food fractions that are not suitable for sale as primary products.

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).

July 23, 2013	T1-2012.0066, Tier I renewal, Permit status (A)
October 5, 2012	T1-2008.0110, Tier I Administrative Amendment to incorporate PTC P-2011.0132, issued June 1, 2012 (S)
June 1, 2012	P-2011.0132, Conversion of Tier II permit T2-2008.0109 to PTC P-2011.0132 (A, but will become S upon issuance of this permit)
October 8, 2008	T2-2008.0109, Permit to include existing requirements for the facility's Kipper boiler, and to also satisfy PTC requirements for new or modified sources that potentially required a PTC, but for which a PTC was not obtained prior to construction, Permit status (S)
June 10, 2008	T1-2008.0053, Tier I Operating Permit Modification – Incorporate Tier II Operating Permit No. T2-030515, Permit status (S)
June 10, 2008	T2-030515, Facility-wide Tier Operating Permit and Permit to Construct, Permit status (S)
April 16, 2008	T1-2010.0110, Tier I Operating Permit Renewal, Permit status (S)
December 11, 2002	Initial Tier I Operating Permit No. 065-00008 issued, Permit status (S)
May 8, 1984	PTC Letter was amended to clarify coal/wood input limits, Permit status (S)
April 30, 1981	PTC Letter was amended to revise test dates, Permit status (S)
July 30, 1980	PTC Letter (no number assigned) for the Kipper & Sons boiler issued, Permit status (S)

Application Scope

This PTC is for a modification at an existing Tier I facility.

The applicant has proposed to replace an existing production line consisting of two fresh potato dryers at the facility with a new fresh potato dehydration production line that has five dryers. The production line associated with Stacks 311, 312, and 410/411 at the Rexburg Facility has been replaced with a new production line that has five exhaust stacks. The removed production line included two steam-heated belt dryers used to dehydrate vegetable pieces. The new production line will prepare dried vegetable product from a combination of fresh vegetables and previously dried vegetables. The new production line equipment has five stacks that have been designated as M33, M44, M56, M62 (all natural gas-fired), and M86 (steam heated).

The applicant also requested minor revisions for clarity in the language for determining heat input to the Kipper boiler from biomass and coal fuel sources. The Kipper and Sons boiler is subject to the area source Boiler MACT provisions of 40 CFR 63, Subpart JJJJJJ, which are incorporated into existing facility Tier I Permit No. T1-2012.0066. The Subpart JJJJJJ rules are not included in the existing PTC No. P-2011.0132 because Subpart JJJJJJ was not an applicable rule at the time when the PTC was issued. The applicant has requested that the permit incorporate language from Subpart JJJJJJ pertaining to reduced frequency of boiler tune-up for boilers that have oxygen trim systems. This language was inadvertently omitted from the Subpart JJJJJJ provisions in the Tier I Permit.

The applicant also requested during the draft permit review to remove the GHG emissions limit, calculation, and reporting requirement since an annual limit of 99,000 T-GHG/yr is no longer desired by the facility.

No physical changes or changes in method of operation are proposed for any other emissions units at the facility.

Application Chronology

December 3, 2014	DEQ received an application and an application fee.
January 8, 2015	DEQ determined that the application was incomplete.
February 11, 2015	DEQ received supplemental information from the applicant.
March 16, 2015	DEQ determined that the application was incomplete.
May 5, 2015	DEQ received supplemental information from the applicant.
June 3, 2015	DEQ determined that the application was complete.
July 22, 2015	DEQ made available the draft permit and statement of basis for peer and regional office review.
July 27, 2015	DEQ made available the draft permit and statement of basis for applicant review.
Aug. 18 – Sept. 17, 2015	DEQ provided a public comment period and EPA review on the proposed action.
September 30, 2015	DEQ received the permit processing fee.
October 7, 2015	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
Boilers			
Kipper & Sons Boiler	Manufacturer: Kipper & Sons Model: N/A S/N: 1300 Heat input rating: 90.0 MMBtu/hr Maximum steam production rate: 65,000 lb/hr Fuels: Coal (39% by weight) and wood Date installed: 1981	Multiclone, Wet Scrubber	
Boiler 1	Manufacturer: Erie City Model: Not given on Boiler Name Plate S/N: 96047 Heat input rating: 52 MMBtu/hr (Not given on Boiler Name Plate) Maximum steam production rate: 40,000 lb/hr Fuels: Natural gas only Date installed: Prior to 1965	None	
Boiler 2	Manufacturer: Murray Model: MCF3-43 S/N: 10509 Heat input rating: 49.9 MMBtu/hr Maximum steam production rate: 40,000 lb/hr Fuels: Natural gas only Date installed: 2010	None	
Process A			
7020	Cooler/Dryer 7020 (Cooler vent)	None	
7101	Cooler/Dryer 7101 (Dryer, 6.5 MMBtu/hr, natural gas-fired)	None	
7102	Cooler/Dryer 7102 (Dryer, 6.5 MMBtu/hr, natural gas-fired)	None	
7019	Cooler/Dryer 7019 (Dryer, 6.6 MMBtu/hr, steam and natural gas)	None	
7001	Cooler/Dryer 7001 (Dryer, steam-heated)	None	
7027	Cooler/Dryer 7027 (Cooler)	None	
7006	Material Recovery Unit 7006	None	

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION (continued)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
Process B			
5034	Material Recovery Unit 5034	None	
5037	Cooler/Dryer 5037 (Cooler/dryer vent, dryer is steam heated)	None	
4000	Cooler/Dryer 4000 (Dryer, steam heated)	None	
228	Cooler/Dryer 228 (Dryer, natural gas-fired, 16.1 MMBtu/hr)	None	
234	Cooler/Dryer 234 (Second exhaust from dryer 228)	None	
638	Cooler/Dryer 638 (Dryer vent, steam-heated)	None	
613/614	Cooler/Dryer 613/614 (Dryer vent, steam heated)	None	
615/616	Cooler/Dryer 615/616 (Dryer vent, steam heated)	None	
707	Material Recovery Unit 707 (fabric filter)	None	
725	Material Recovery Unit 725 (fabric filter)	None	
8	Material Recovery Unit 8 (fabric filter)	None	
5001	Material Recovery Unit 5001	None	
5000	Material Recovery Unit 5000 (fabric filter)	None	
432	Material Recovery Unit 432 (fabric filter)	None	
322	Material Recovery Unit 322	None	
572	Material Recovery Unit 572 (vent from material recovery cyclone in animal feed load-out system)	None	
33	Vegetable Dryer M33 (Dryer, natural gas-fired, 2.7 MMBtu/hr)	None	
44	Vegetable Dryer M44 (Dryer, natural gas-fired, 2.75 MMBtu/hr)	None	
56	Vegetable Dryer M56 (Dryer, natural gas-fired, 1.6 MMBtu/hr)	None	
62	Vegetable Dryer M62 (Dryer, natural gas-fired, 1.6 MMBtu/hr)	None	
86	Vegetable Dryer M86 (Dryer, steam heated)	None	
	Plant Space Heaters	None	

Emissions Inventories

Potential to Emit

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

Using this definition of Potential to Emit an emission inventory was developed for the M33, M44, M56, M62 (all natural gas-fired), and M86 (steam heated) dried vegetable production lines at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant, HAP PTE were based on emission factors from AP-42, Section 1.4 (7/98), Maxon Cyclomax (the burner manufacturer), source testing performed at the facility, operation of 8,760 hours per year, and process information specific to the facility for this proposed project.

Uncontrolled Potential to Emit

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

The uncontrolled Potential to Emit is used to determine if a facility is a "Synthetic Minor" source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAPs above the applicable Major Source threshold without permit limits. As the facility classification was previously determined for permitting project, T2-2008.0109 dated October 8, 2008 (based upon T2-030515), the uncontrolled PTE will not be presented for this 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.

This is an existing facility. Therefore, post project emissions from the most recently permitted project can be used for pre-project emissions for this project. Therefore, the post project emissions calculated for permitting project, P-2011.0132, dated June 1, 2012, will be presented as the pre-project PTE.

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

Emissions Unit	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO[c]		VOC		CO_2e[d]
	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	T/yr[b]
Point Sources											
Kipper & Sons Boiler	16.3	71.20	48.53	214.00	25.27	110.70	51.34	224.88	2.71	10.97	76,869
Boiler 1	0.39	1.70	0.12	0.54	5.10	22.33	4.28	18.76	0.28	1.23	27,331
Boiler 2	0.37	1.63	0.12	0.51	4.89	21.43	4.11	18.00	0.27	1.18	26,227
Cooler/Dryer 7020	0.41	1.82	0	0	0	0	0	0	0	0	0
Cooler/Dryer 7101	2.16	9.47	0.12	0.51	0.33	1.42	1.69	7.40	0.04	0.15	3,416
Cooler/Dryer 7102	2.16	9.47	0.12	0.51	0.33	1.42	1.69	7.40	0.04	0.15	3,416
Cooler/Dryer 7019	3.39	14.83	0.22	0.96	0.33	1.45	1.72	7.52	0.04	0.16	3,469
Cooler/Dryer 7001	0.23	1.03	0.03	0.11	0	0	0	0	0	0	0
Cooler/Dryer 7027	0.04	0.18	0	0	0	0	0	0	0	0	0
Material Recovery Unit 7006	0.12	0.54	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5034	0.02	0.07	0	0	0	0	0	0	0	0	0
Cooler/Dryer 5037	1.29	5.66	1.87	8.19	0	0	0	0	0	0	0
Cooler/Dryer 4000	1.72	7.53	0.26	1.14	0	0	0	0	0	0	0
Cooler/Dryer 228	1.10	4.80	0.19	0.84	0.48	2.12	2.51	11.00	0.05	0.23	5,077
Cooler/Dryer 234	0.31	1.37	0.06	0.28	0.32	1.41	1.67	7.33	0.03	0.15	3,385
Cooler/Dryer 410/411	0.29	1.28	0.05	0.20	0	0	0	0	0	0	0
Cooler/Dryer 311	0.29	1.28	0.05	0.20	0	0	0	0	0	0	0
Cooler/Dryer 312	0.59	2.57	0.09	0.39	0	0	0	0	0	0	0
Cooler/Dryer 638	1.09	4.80	0.17	0.74	0	0	0	0	0	0	0
Cooler/Dryer 613/614	0.85	3.74	0.13	0.56	0	0	0	0	0	0	0
Cooler/Dryer 615/616	0.24	1.05	0.04	0.16	0	0	0	0	0	0	0
Material Recovery Unit 707	0.00	0.01	0	0	0	0	0	0	0	0	0
Material Recovery Unit 725	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 8	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5001	0.24	1.07	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5000	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 432	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 322	0.24	0.00	0	0	0	0	0	0	0	0	0
Material Recovery Unit 572	1.14	0.25	0	0	0	0	0	0	0	0	0
Heaters	0.23	0.50	0.07	0.16	1.54	3.37	8.01	17.54	0.17	0.36	16,188
Pre-Project Totals	**35.41**	**148.69**	**52.24**	**230.00**	**38.59**	**165.65**	**77.02**	**249.00**	**3.63**	**14.58**	**99,000**

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.
c) CO emissions are required to be less than 249.00 T/yr.
d) Greenhouse gas emissions are required to be less than 99,000 Tyr.

Note: The highlighted emissions units in the table above will be removed as a result of this project.

Post Project Potential to Emit

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

An emission inventory was developed for the M33, M44, M56, M62 (all natural gas-fired), and M86 (steam heated) dried vegetable production lines at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant, HAP PTE were based on emission factors from AP-42, Section 1.4 (7/98), Maxon Cyclomax (the burner manufacturer), source testing performed at the facility, operation of 8,760 hours per year, and process information specific to the facility for this proposed project.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Emissions Unit	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO[c]		VOC		CO_2e[d]
	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	T/yr[b]
Point Sources											
Kipper & Sons Boiler	16.3	71.20	48.53	214.00	25.27	110.70	51.34	224.88	2.71	10.97	76,869
Boiler 1	0.39	1.70	0.12	0.54	5.10	22.33	4.28	18.76	0.28	1.23	27,331
Boiler 2	0.37	1.63	0.12	0.51	4.89	21.43	4.11	18.00	0.27	1.18	26,227
Cooler/Dryer 7020	0.41	1.82	0	0	0	0	0	0	0	0	0
Cooler/Dryer 7101	2.16	9.47	0.12	0.51	0.33	1.42	1.69	7.40	0.04	0.15	3,416
Cooler/Dryer 7102	2.16	9.47	0.12	0.51	0.33	1.42	1.69	7.40	0.04	0.15	3,416
Cooler/Dryer 7019	3.39	14.83	0.22	0.96	0.33	1.45	1.72	7.52	0.04	0.16	3,469
Cooler/Dryer 7001	0.23	1.03	0.03	0.11	0	0	0	0	0	0	0
Cooler/Dryer 7027	0.04	0.18	0	0	0	0	0	0	0	0	0
Material Recovery Unit 7006	0.12	0.54	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5034	0.02	0.07	0	0	0	0	0	0	0	0	0
Cooler/Dryer 5037	1.29	5.66	1.87	8.19	0	0	0	0	0	0	0
Cooler/Dryer 4000	1.72	7.53	0.26	1.14	0	0	0	0	0	0	0
Cooler/Dryer 228	1.10	4.80	0.19	0.84	0.48	2.12	2.51	11.00	0.05	0.23	5,077
Cooler/Dryer 234	0.31	1.37	0.06	0.28	0.32	1.41	1.67	7.33	0.03	0.15	3,385
Cooler/Dryer 638	1.09	4.80	0.17	0.74	0	0	0	0	0	0	0
Cooler/Dryer 613/614	0.85	3.74	0.13	0.56	0	0	0	0	0	0	0
Cooler/Dryer 615/616	0.24	1.05	0.04	0.16	0	0	0	0	0	0	0
Material Recovery Unit 707	0.00	0.01	0	0	0	0	0	0	0	0	0
Material Recovery Unit 725	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 8	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5001	0.24	1.07	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5000	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 432	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 322	0.24	0.00	0	0	0	0	0	0	0	0	0
Material Recovery Unit 572	1.14	0.25	0	0	0	0	0	0	0	0	0
Vegetable Dryer M33	0.44	1.34	0.06	0.20	0.08	0.34	0.14	0.63	0.15	0.64	
Vegetable Dryer M44	0.27	0.83	0.04	0.12	0.08	0.35	0.15	0.64	0.15	0.65	
Vegetable Dryer M56	0.12	0.36	0.02	0.06	0.05	0.20	0.09	0.37	0.09	0.38	
Vegetable Dryer M62	0.02	0.07	0.01	0.04	0.05	0.20	0.09	0.37	0.09	0.38	
Vegetable Dryer M86	0.01	0.02	0.01	0.03	0	0	0	0	0	0	0
Heaters	0.23	0.50	0.07	0.16	1.54	3.37	8.01	17.54	0.17	0.36	16,188
Post Project Totals	**35.10**	**146.18**	**52.19**	**229.66**	**38.85**	**166.74**	**77.49**	**249.00**	**4.11**	**16.63**	**99,000**

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.
c) CO emissions are required to be less than 249.00 T/yr.
d) Greenhouse gas emissions are required to be less than 99,000 T/yr.

Note: The highlighted emissions units in the table above will be installed as a result of this project.

Change in Potential to Emit

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

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC		CO_2e
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	T/yr
Pre-Project Potential to Emit	35.41	148.69	52.24	230.00	38.59	165.65	77.02	249.00	3.63	14.58	99,000
Post Project Potential to Emit	35.10	146.18	52.19	229.66	38.85	166.74	77.49	249.00	4.11	16.63	99,000
Changes in Potential to Emit	**-0.31**	**-2.51**	**-0.05**	**-0.34**	**0.26**	**1.09**	**0.47**	**0.00**	**0.48**	**2.05**	**0.00**

Non-Carcinogenic TAP Emissions

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

Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions for the emissions units involved in the project are presented in the following table:

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

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Chromium	0.00E-03	1.19E-05	0.000012	0.033	No
Cobalt metal dust and fume	0.00E-03	7.13E-07	0.00000071	0.0033	No
o-Dichlorobenzene	0.00E-03	1.02E-05	0.000010	20	No
Hexane	0.00E-03	1.53E-02	0.015	12	No
Manganese dust & compounds	0.00E-03	3.23E-06	0.0000032	0.333	No
Naphthalene	0.00E-03	5.17E-06	0.0000052	3.33	No
Pentane	0.00E-03	2.20E-02	0.022	118	No
Selenium	0.00E-03	2.03E-07	0.00000020	0.013	No
Toluene	0.00E-03	2.88E-05	0.000029	25	No

None of the PTEs for non-carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Carcinogenic TAP Emissions

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

Pre- and post-project, as well as the change in, carcinogenic TAP emissions for the new emissions units involved in the project are presented in the following table:

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

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Arsenic compounds	**0.00E-03**	**1.70E-06**	**0.0000017**	**1.5E-06**	**Yes**
Beryllium & compounds	0.00E-03	1.02E-07	0.00000010	2.8E-05	No
Cadmium and compounds	**0.00E-03**	**9.34E-06**	**0.0000093**	**3.7E-06**	**Yes**
Chromium IV	**0.00E-03**	**5.93E-07**	**0.00000059**	**5.6E-07**	**Yes**
Formaldehyde	**0.00E-03**	**6.36E-04**	**0.00064**	**5.1E-04**	**Yes**
3-Methylchloroanthene	0.00E-03	1.53E-08	0.000000015	2.5E-06	No
Nickel	0.00E-03	1.78E-05	0.000018	2.7E-05	No
POM	0.00E-03	9.67E-08	0.00000010	2.00E-06	No

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

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

Post Project HAP Emissions

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

Table 7 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (lb/hr)	PTE (T/yr)
EPA total listed HAPs	1.60E-02	0.070
Totals	**0.02**	**0.070**

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of PM_{10}, $PM_{2.5}$, and NO_X exceeded published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline[1]. Refer to the Emissions Inventories section for additional information concerning the emission inventories. In addition, TAP emissions from this project were above applicable screening emission levels (ELs) for arsenic compounds, cadmium and compounds, chromium VI, and formaldehyde. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

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

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

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

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

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

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For THAPs (Total Hazardous Air Pollutants) Only:

A = Use when any one HAP has actual or potential emissions ≥ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions ≥ 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 ≥ 8 T/yr of a single HAP or ≥ 20 T/yr of THAP.

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

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

UNK = Class is unknown

For All Other Pollutants:

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

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

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

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

UNK = Class is unknown.

Table 8 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
$PM_{10}/PM_{2.5}$	148.69	146.18	**100**	A
SO_2	230.00	229.66	**100**	A
NO_X	165.65	166.74	**100**	A
CO	319.83	249.00	**100**	A
VOC	14.58	16.63	**100**	B
HAP (single)	0.07	0.07	**10**	B
HAP (Total)	0.07	0.07	**25**	B

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed new emissions units involved in the project. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

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

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 have a potential to emit greater than 100 tons per year for PM_{10}, SO_2, NO_X, and CO 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, this facility is classified as a major facility, as defined in IDAPA 58.01.01.008.10.

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)

Because the facility has three boilers rated at greater than 10 MMBtu/hr (but less than 100 MMBtu/hr) the following NSPS requirement apply to this facility:

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

The three boilers subject to 40 CFR 60, Subpart Dc, are not being modified as a result of this project. Therefore, refer to the Statement of Basis for permit P-2011.0132, project 60943, dated June 1, 2012, for the compliance discussion of Subpart Dc.

NESHAP Applicability (40 CFR 61)

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

MACT Applicability (40 CFR 63)

The project is not subject to any MACT standards in 40 CFR Part 63.

Permit Conditions Review

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

Permit Condition 1.1 describes the modifications to the existing processes at the facility process being permitted as a result of this project.

Permit Condition 1.3 explains which previous permit for the facility is being replaced as a result of this project.

Table 1.1 was updated to reflect the existing equipment being removed and the new equipment being installed as a result of this project.

KIPPER BOILER

Permit Condition 3.12, pervious permit condition 3.10, was corrected as requested by the Applicant to correct a technical oversight during permit issuance, in which provisions applicable to boilers with oxygen trim systems was not included in the permit. Since the applicable provisions of 40 CFR 60, Subpart JJJJJJ were not included in the current PTC, these provisions are being added to the existing permit, including the applicable provisions for boilers with an oxygen trim system.

Permit Condition 3.17, pervious permit condition 3.15, was modified as requested by the Applicant to clarify the steam and coal monitoring requirements.

Permit Condition 3.18, pervious permit condition 3.16, was modified as requested by the Applicant to clarify the steam and coal monitoring requirements. In lieu of a fixed factor for heat content of coal as requested by the applicant, DEQ is proposing to use fuel supplier data on heat content of coal to calculate heat supplied from coal and from biomass.

PROCESS B (DRYING PROCESS AND MATERIAL TRANSFER SYSTEMS

Table 6.1 was updated to reflect the existing equipment being removed and the new equipment being installed as a result of this project.

Permit Condition 6.3, pervious permit condition 6.1, was modified to remove and include the PM_{10} emissions limits of the exhaust stacks being removed and installed as a result of this project.

SUMMARY OF EMISSIONS RATE LIMITS

Table 9.1 was updated to reflect the existing equipment being removed and the new equipment being installed as a result of this project.

PUBLIC REVIEW

Public Comment Period

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.05.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

	Burner capacity			Emission Factors, lb/MMBTU							Emissions: CO Emissions		NOx		PM10		PM2.5		SO2		VOC		Pb	
											Hourly	Annual	Hourly	Annual	Hourly	Annual	Hourly	Annual	Hourly	Annual	Hourly	Annual	Hourly	Annual
Stack	unit process, MMBTU/hr	% assigned to stack	stack, MMBTU/hr	CO	NOx	PM10	PM2.5	SO2	VOC	Pb	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
M33	2.70	100%	2.70	0.053	0.029	0.0075	0.0075	0.0024	0.054	4.9E-07	0.144	0.629	0.079	0.344	0.020	0.088	0.020	0.088	0.006	0.028	0.146	0.639	1.3E-06	5.8E-06
M44	2.75	100%	2.75	0.053	0.029	0.0075	0.0075	0.0024	0.054	4.9E-07	0.146	0.641	0.080	0.351	0.020	0.090	0.020	0.090	0.007	0.029	0.149	0.650	1.3E-06	5.9E-06
M56	1.60	100%	1.60	0.053	0.029	0.0075	0.0075	0.0024	0.054	4.9E-07	0.085	0.373	0.047	0.204	0.012	0.052	0.012	0.052	0.004	0.017	0.086	0.378	7.8E-07	3.4E-06
M62	1.60	100%	1.60	0.053	0.029	0.0075	0.0075	0.0024	0.054	4.9E-07	0.085	0.373	0.047	0.204	0.012	0.052	0.012	0.052	0.004	0.017	0.086	0.378	7.8E-07	3.4E-06
M86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
311	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
410/411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1

Operating Information for Newly Installed and Removed Equipment

Stack ID	Operating Status	Type of Emission Unit	Materials Processed	Operating Rate		Dryer Heating	
				lb/hr	lb/yr	Fuel Type	MMBTU/hr
M33	New	vegetable dryer	fresh potatoes	1,000	6,000,000	natural gas	2.7
M44	New	vegetable dryer	fresh potatoes	1,000	6,000,000	natural gas	2.75
M56	New	vegetable dryer	fresh potatoes	1,000	6,000,000	natural gas	1.6
M62	New	vegetable dryer	fresh potatoes	1,000	6,000,000	natural gas	1.6
M86	New	vegetable dryer	fresh potatoes	1,000	6,000,000	steam	NA
311	Removed	vegetable dryer	fresh potatoes	1,500	13,140,000	steam	NA
312	Removed	vegetable dryer	fresh potatoes	1,500	13,140,000	steam	NA
410/411	Removed	vegetable dryer	fresh potatoes	1,500	13,140,000	steam	NA

Table 2

Criteria Air Pollutant Emission Factors - Maxon Cyclomax Burners

Pollutant	Emission Factor*	Units	Emission Factor Basis
CO	0.053	lbs CO/MM Btu	Burner manufacturer emission estimate of 75 ppmv at 3% oxygen.
NOx	0.029	lbs NOx/MM Btu	Burner manufacturer emission estimate of 25 ppmv at 3% oxygen.
SO2	0.0024	lb SO2/MMBtu	Based on AP-42, Table 1.4-2 (7/98), for uncontrolled combustion and assuming 1020 BTU/scf and 0.8 gr/Ccf sulfur content of natural gas.
PM	0.007	lb PM/MM Btu	AP-42 Table 1.4-2.
PM_{10}	0.007	lb PM_{10}/MM Btu	AP-42 Table 1.4-2. All PM assumed to be PM_{10}.
$PM_{2.5}$	0.007	lb $PM_{2.5}$/MM Btu	AP-42 Table 1.4-2. All PM assumed to be $PM_{2.5}$
VOC	0.0054	lbs VOC/ MM Btu	Based on AP-42 emission factor of 5.5 lbs/1000 scf of natural gas combusted.
Pb	4.9E-07	lbs Pb/ MM Btu	Based on AP-42 emission factor of 0.0005 lbs Pb/MMscf of natural gas combusted.

* Based on 1020 BTU/scf natural gas heat content

Table 3
Toxic and Hazardous Air Pollutant Emission Factors - Maxon Cyclomax Burners

Air Pollutant	lb/MMBTU*	Emission Factor Reference	EPA HAP?	Idaho TAP?
EPA Total HAPs	1.85E-03	Summation of individual EPA HAP components	Yes	No
Polycyclic Organic Matter (ID POM Summation)	1.12E-08	Summation of individual ID POM components	No	Yes
Acenaphthene	1.76E-09	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Acenaphthylene	1.76E-09	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Anthracene	2.35E-09	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Benz(a)anthracene	1.76E-09	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)
Benzene	2.06E-06	AP-42, Table 1.4-3	Yes	Yes
Benzo(a)pyrene	1.18E-09	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)
Benzo(b)fluoranthene	1.76E-09	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)
Benzo(g,h,i)perylene	1.18E-09	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Benzo(k)fluoroanthene	1.76E-09	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)
Chrysene	1.76E-09	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)
Dibenzo(a,h)anthracene	1.18E-09	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)
Dichlorobenzene (mixed isomers)	1.18E-06	AP-42, Table 1.4-3	Yes	Yes
7,12-Dimethylbenz(a)anthracene	1.57E-08	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Fluoranthene	2.94E-09	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Fluorene	2.75E-09	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Formaldehyde	7.35E-05	AP-42, Table 1.4-3	Yes	Yes
Hexane	1.76E-03	AP-42, Table 1.4-3	Yes	Yes
Indeno(1,2,3-cd)pyrene	1.76E-09	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)
2-Methylnaphthalene	2.35E-08	AP-42, Table 1.4-3	Yes	Yes (General PAH)
3-Methylchloroanthene	1.76E-09	AP-42, Table 1.4-3	Yes	Yes
Naphthalene	5.98E-07	AP-42, Table 1.4-3	Yes	Yes
Pentane	2.55E-03	AP-42, Table 1.4-3	No	Yes
Phenanthrene	1.67E-08	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Pyrene	4.90E-09	AP-42, Table 1.4-3	Yes	Yes (General PAH)
Toluene	3.33E-06	AP-42, Table 1.4-3	Yes	Yes
Arsenic	1.96E-07	AP-42, Table 1.4-4	Yes	Yes
Beryllium	1.18E-08	AP-42, Table 1.4-4	Yes	Yes
Cadmium	1.08E-06	AP-42, Table 1.4-4	Yes	Yes
Chromium	1.37E-06	AP-42, Table 1.4-4	Yes	Yes
Chromium (VI)	6.86E-08	AP-42, Table 1.4-4	No	Yes
Cobalt	8.24E-08	AP-42, Table 1.4-4	Yes	Yes
Manganese	3.73E-07	AP-42, Table 1.4-4	Yes	Yes
Mercury	2.55E-07	AP-42, Table 1.4-4	Yes	Yes
Nickel	2.06E-06	AP-42, Table 1.4-4	Yes	Yes
Selenium	2.35E-08	AP-42, Table 1.4-4	Yes	Yes

* Based on 1020 BTU/scf natural gas heat content

Table 4

Criteria Air Pollutant Emission Factors - Dehydration Operations

Pollutant	Emission Factor	Units	Emission Factor Basis
SO2	0.120	lbSO2/1000 lbs production	Based on process similarity, assumed to be the same as sum of measured emissions from stacks HEB and HNL at Blackfoot Plant.
PM	0.914	lb PM/000 lbs production	Total process emission assumed to be the same as Process P8 at Blackfoot Plant. Condensible PM_{10} included in PM emission factor.
PM_{10}	0.781	lb PM_{10}/1000 lbs production	Total process emission assumed to be the same as Process P8 at Blackfoot Plant. All condensible PM included in PM_{10}.
$PM_{2.5}$	0.749	lb $PM_{2.5}$/1000 lbs production	Derived from PM_{10} emission factor. 50% of filterable PM_{10} assumed to be $PM_{2.5}$. All condensible PM included in $PM_{2.5}$.

Table 5

Criteria Pollutant Emissions from Newly Installed Equipment

	Combustion Emissions @ 8.65 MMBTU/hr				Process Emissions @ 1000 lb/hr & 6,000,000 lb/yr					
			Emissions				Emissions		Emissions Increase	
Pollutant	Emission Factor		lb/hr	Tpy	Emission Factor		lb/hr	Tpy	lb/hr	Tpy
CO	0.053	lbs CO/MM Btu	0.46	2.01	-	-	-	-	0.46	2.01
NOx	0.029	lbs NOx/MM Btu	0.25	1.10	-	-	-	-	0.25	1.10
SO2	0.0024	lb SO2/MMBtu	0.02	0.09	0.12	lb SO2/1000 lbs production	0.12	0.36	0.14	0.45
PM	0.007	lb PM/MM Btu	0.06	0.28	0.91	lb PM/1000 lbs production	0.91	2.74	0.98	3.02
PM_{10}	0.007	lb PM_{10}/MM Btu	0.06	0.28	0.78	lb PM_{10}/1000 lbs production	0.78	2.34	0.85	2.63
$PM_{2.5}$	0.007	lb $PM_{2.5}$/MM Btu	0.06	0.28	0.75	lb $PM_{2.5}$/1000 lbs production	0.75	2.25	0.81	2.53
VOC	0.0054	lbs VOC/ MM Btu	0.05	0.20	-	-	-	-	0.05	0.20
Pb	4.9E-07	lbs Pb/ MM Btu	0.00	1.86E-05	-	-	-	-	4.24E-06	1.86E-05

Table 6

Changes in Criteria Pollutant Emissions from Removed Equipment

	Combustion Emissions @ 8.65 MMBTU/hr				Process Emissions @ 1500 lb/hr & 13,140,000 lb/yr				Emissions Decrease	
			Emissions				Emissions			
Pollutant	Emission Factor		lb/hr	Tpy	Emission Factor		lb/hr	Tpy	lb/hr	Tpy
CO	0.053	lbs CO/MM Btu	-	-	-	-	-	-	-	-
NOx	0.029	lbs NOx/MM Btu	-	-	-	-	-	-	-	-
SO2	0.0024	lb SO2/MMBtu	-	-	0.12	lb SO2/1000 lbs production	-0.18	-0.79	-0.18	-0.79
PM	0.007	lb PM/MM Btu	-	-	0.91	lb PM/1000 lbs production	-1.37	-6.00	-1.37	-6.00
PM_{10}	0.007	lb PM_{10}/MM Btu	-	-	0.78	lb PM_{10}/1000 lbs production	-1.17	-5.13	-1.17	-5.13
$PM_{2.5}$	0.007	lb $PM_{2.5}$/MM Btu	-	-	0.75	lb $PM_{2.5}$/1000 lbs production	-1.12	-4.92	-1.12	-4.92
VOC	0.0054	lbs VOC/ MM Btu	-	-	-	-	-	-	-	-
Pb	4.9E-07	lbs Pb/ MM Btu	-	-	-	-	-	-	-	-

Note: Negative values indicated emissions decreases.

Table 7

Criteria Pollutant Emissions Summary

	Hourly Emissions, lb/hr			Annual Emissions, tpy		
Pollutant	New Equipment	Removed Equipment	Project Net Change	New Equipment	Removed Equipment	Project Net Change
CO	0.46	-	0.46	2.01	-	2.01
NOx	0.25	-	0.25	1.10	-	1.10
SO2	0.14	-0.18	-0.04	0.45	-0.79	-0.34
PM	0.98	-1.37	-0.39	3.02	-6.00	-2.98
PM_{10}	0.85	-1.17	-0.33	2.63	-5.13	-2.51
$PM_{2.5}$	0.81	-1.12	-0.31	2.53	-4.92	-2.39
VOC	0.05	-	0.05	0.20	-	0.20
Pb	4.24E-06	-	4.24E-06	1.86E-05	-	1.86E-05

Table 8
HAP and TAP Emissions for Newly Installed Equipment

Air Pollutant	Emission Factor, lb/MMBTU	Combustion Rate, MMBTU/hr	Emission Rate	
			lb/hr	tpy
EPA Total HAPs	1.85E-03	8.65	1.60E-02	7.01E-02
Polycyclic Organic Matter (ID POM Summation)	1.12E-08	8.65	9.67E-08	4.23E-07
Acenaphthene	1.76E-09	8.65	1.53E-08	6.69E-08
Acenaphthylene	1.76E-09	8.65	1.53E-08	6.69E-08
Anthracene	2.35E-09	8.65	2.04E-08	8.91E-08
Benz(a)anthracene	1.76E-09	8.65	1.53E-08	6.69E-08
Benzene	2.06E-06	8.65	1.78E-05	7.80E-05
Benzo(a)pyrene	1.18E-09	8.65	1.02E-08	4.46E-08
Benzo(b)fluoranthene	1.76E-09	8.65	1.53E-08	6.69E-08
Benzo(g,h,i)perylene	1.18E-09	8.65	1.02E-08	4.46E-08
Benzo(k)fluoroanthene	1.76E-09	8.65	1.53E-08	6.69E-08
Chrysene	1.76E-09	8.65	1.53E-08	6.69E-08
Dibenzo(a,h)anthracene	1.18E-09	8.65	1.02E-08	4.46E-08
Dichlorobenzene (mixed isomers)	1.18E-06	8.65	1.02E-05	4.46E-05
7,12-Dimethylbenz(a)anthracene	1.57E-08	8.65	1.36E-07	5.94E-07
Fluoranthene	2.94E-09	8.65	2.54E-08	1.11E-07
Fluorene	2.75E-09	8.65	2.37E-08	1.04E-07
Formaldehyde	7.35E-05	8.65	6.36E-04	2.79E-03
Hexane	1.76E-03	8.65	1.53E-02	6.69E-02
Indeno(1,2,3-cd)pyrene	1.76E-09	8.65	1.53E-08	6.69E-08
2-Methylnaphthalene	2.35E-08	8.65	2.04E-07	8.91E-07
3-Methylchloroanthene	1.76E-09	8.65	1.53E-08	6.69E-08
Naphthalene	5.98E-07	8.65	5.17E-06	2.27E-05
Pentane	2.55E-03	8.65	2.20E-02	9.66E-02
Phenanthrene	1.67E-08	8.65	1.44E-07	6.31E-07
Pyrene	4.90E-09	8.65	4.24E-08	1.86E-07
Toluene	3.33E-06	8.65	2.88E-05	1.26E-04
Arsenic	1.96E-07	8.65	1.70E-06	7.43E-06
Beryllium	1.18E-08	8.65	1.02E-07	4.47E-07
Cadmium	1.08E-06	8.65	9.34E-06	4.09E-05
Chromium	1.37E-06	8.65	1.19E-05	5.19E-05
Chromium (VI)	6.86E-08	8.65	5.93E-07	2.60E-06
Cobalt	8.24E-08	8.65	7.13E-07	3.12E-06
Manganese	3.73E-07	8.65	3.23E-06	1.41E-05
Mercury	2.55E-07	8.65	2.21E-06	9.66E-06
Nickel	2.06E-06	8.65	1.78E-05	7.80E-05
Selenium	2.35E-08	8.65	2.03E-07	8.90E-07

Table 9

Comparison of Project Emissions with Significant Emissions Increase Thresholds

Pollutant	Significant Emissions Rate Threshold*	Project Net Change in Emissions	
		tpy	% of Significant Emissions Rate Threshold
CO	100	2.01	2.0%
NOx	40	1.10	2.8%
SO2	40	-0.34	-0.8%
PM	25	-2.98	-11.9%
PM_{10}	15	-2.51	-16.7%
$PM_{2.5}$	10	-2.39	-23.9%
VOC	40	0.20	0.5%
Pb	0.6	1.86E-05	0.0%

* Per IDAPA 58.01.01.006.106

Table 10

Comparison of Project Emissions with Level I Modeling Thresholds

		New Equipment Only		New and Removed Equipment	
	Threshold	Emission Rate	% of Threshold	Emission Rate	% of Threshold
CO	15 lb/hr	0.46 lb/hr	3%	0.46 lb/hr	3%
NOx	0.20 lb/hr	0.25 lb/hr	126%	0.25 lb/hr	126%
	1.2 ton/yr	1.1 ton/yr	92%	1.1 ton/yr	92%
SO2	0.21 lb/hr	0.14 lb/hr	67%	-0.04 lb/hr	-19%
	1.2 ton/yr	0.5 ton/yr	38%	-0.3 ton/yr	-28%
PM_{10}	0.22 lb/hr	0.85 lb/hr	384%	-0.33 lb/hr	-148%
$PM_{2.5}$	0.054 lb/hr	0.81 lb/hr	1506%	-0.31 lb/hr	-574%
	0.35 ton/yr	2.53 ton/yr	723%	-2.39 ton/yr	-683%
Pb	14 lb/month	3.1E-03 lb/month	0%	3.1E-03 lb/month	0%

Table 11

Comparison of TAP Emissions with TAP Screening Emissions Levels

Pollutant	TAP Screening Emissions Level, lb/hr*	Emission Rate	
		lb/hr	% of Screening Level
Polycyclic Organic Matter (ID POM Summation)	2.00E-06	9.67E-08	4.83%
Acenaphthene	9.10E-05	1.53E-08	0.02%
Acenaphthylene	9.10E-05	1.53E-08	0.02%
Anthracene	9.10E-05	2.04E-08	0.02%
Benz(a)anthracene	NA (ID POM Summation)	1.53E-08	-
Benzene	8.00E-04	1.78E-05	2.23%
Benzo(a)pyrene	NA (ID POM Summation)	1.02E-08	-
Benzo(b)fluoranthene	NA (ID POM Summation)	1.53E-08	-
Benzo(g,h,i)perylene	9.10E-05	1.02E-08	0.01%
Benzo(k)fluoroanthene	NA (ID POM Summation)	1.53E-08	-
Chrysene	NA (ID POM Summation)	1.53E-08	-
Dibenzo(a,h)anthracene	NA (ID POM Summation)	1.02E-08	-
Dichlorobenzene (mixed isomers)	20	1.02E-05	0.00%
7,12-Dimethylbenz(a)anthracene	9.10E-05	1.36E-07	0.15%
Fluoranthene	9.10E-05	2.54E-08	0.03%
Fluorene	9.10E-05	2.37E-08	0.03%
Formaldehyde	5.10E-04	6.36E-04	124.71%
Hexane	12	1.53E-02	0.13%
Indeno(1,2,3-cd)pyrene	NA (ID POM Summation)	1.53E-08	-
2-Methylnaphthalene	9.10E-05	2.04E-07	0.22%
3-Methylchloroanthene	9.10E-05	1.53E-08	0.02%
Naphthalene	3.33	5.17E-06	0.00%
Pentane	118	2.20E-02	0.02%
Phenanthrene	9.10E-05	1.44E-07	0.16%
Pyrene	9.10E-05	4.24E-08	0.05%
Toluene	25	2.88E-05	0.00%
Arsenic	1.50E-06	1.70E-06	113.03%
Beryllium	2.80E-05	1.02E-07	0.36%
Cadmium	3.70E-06	9.34E-06	252.49%
Chromium	0.033	1.19E-05	0.04%
Chromium (VI)	5.60E-07	5.93E-07	105.96%
Cobalt	0.003	7.13E-07	0.02%
Manganese	0.333	3.23E-06	0.00%
Nickel	2.70E-05	1.78E-05	66.00%
Selenium	0.013	2.03E-07	0.00%

* Per IDAPA 58.01.01, §585-586.

Table 12

Emissions of Criteria Pollutants Included in Ambient Impacts Analysis

	Process Emissions Data				Combustion Emissions Data					Estimated Emissions			
	Operating Rate, 1000 lbs*		Emission Factors, lb/1000 lbs		Firing Rate, MMBTU		Emission Factors, lb/MMBTU						
Stack ID	Hourly	Annual	PM_{10}	$PM_{2.5}$	Hourly	Annual	PM_{10}	$PM_{2.5}$	NOx	PM_{10}, lb/hr	$PM_{2.5}$, lb/hr	$PM_{2.5}$, ton/yr	NOx, lb/hr
M33	1.0	6,000	0.417	0.408	2.7	23,652	0.0075	0.0075	0.028	0.44	0.43	1.31	0.08
M44	1.0	6,000	0.246	0.235	2.75	24,090	0.0075	0.0075	0.028	0.27	0.26	0.80	0.08
M56	1.0	6,000	0.104	0.098	1.6	14,016	0.0075	0.0075	0.028	0.12	0.11	0.35	0.05
M62	1.0	6,000	0.007	0.003	1.6	14,016	0.0075	0.0075	0.028	0.02	0.02	0.06	0.05
M86	1.0	6,000	0.008	0.004	NA	NA	NA	NA	NA	0.01	0.00	0.01	-
311	-1.5	-13,140	0.195	0.187	NA	NA	NA	NA	NA	-0.29	-0.28	-1.23	-
312	-1.5	-13,140	0.195	0.187	NA	NA	NA	NA	NA	-0.29	-0.28	-1.23	-
410/411	-1.5	-13,140	0.391	0.375	NA	NA	NA	NA	NA	-0.59	-0.56	-2.46	-

* Negative operating rates indicate operating rates for removed equipment.

Table 13

Unit Tap Emission Rates for Newly Installed Stacks

Stack ID	Burner Rating, MMBTU/hr	Unit TAP Emission Rate, lb/hr
M33	2.70	0.312
M44	2.75	0.318
M56	1.60	0.185
M62	1.60	0.185
M86	0.00	0.000
Total:	*8.65*	*1.00*

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: July 22, 2015

TO: Darrin Pampaian, Permit Writer, Air Program

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

PROJECT: Rexburg Facility of Basic American Foods (BAF), Rexburg ID, Addition of New Production Line and Replacement of Existing Production Line, Permit to Construct (PTC), Facility No. 065-00008

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

Contents

1.0 Summary

Basic American Foods (BAF) submitted an application for a Permit to Construct (PTC) for a facility in Rexburg, ID. The facility has an existing PTC, has constructed a new production line with five dryers, and replaced an existing production line.

The BAF facility includes two steam-heated belt dryers used to dehydrate vegetable pieces. The entire process is discussed in detail in the main body of the DEQ Statement of Basis supporting the issued PTC. This modeling review memorandum provides a summary and approval of the ambient air impact analyses submitted with the permit application. It also describes DEQ's review of those analyses, DEQ's verification analyses, additional clarifications, and conclusions.

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

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

A modeling protocol was not submitted to DEQ for this project. CCEA submitted a PTC application on December 3, 2014. DEQ responded with comments on the modeling analyses report on January 8, 2015, requesting further refinement on several modeling issues. CCEA and BAF responded with a revised application on February 6, 2015, that was later deemed still insufficient with respect to modeling issues. DEQ responded with comments on March 16, 2015. CCEA replied with an Ambient Impacts Analysis Supplement to the application, including modeling files, on April 30, 2015. The application was then deemed complete by DEQ. The final submitted air quality impact analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data (review of emissions estimates was addressed by the DEQ permit writer); 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the project as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from emissions associated with the project as modeled, when appropriately combined with co-contributing sources and background concentrations, were below applicable National Ambient Air Quality Standards (NAAQS) at ambient air locations where and when the project has a significant impact; 5) showed that Toxic Air Pollutant (TAP) emissions increases associated with the project will not result in increased ambient air impacts exceeding allowable TAP increments.

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

Air impact analyses are required by Idaho Air Rules to be conducted according to methods outlined in 40 CFR 51, Appendix W (*Guideline on Air Quality Models*). Appendix W requires that facilities be modeled using` emissions and operations representative of design capacity or as limited by a federally enforceable

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

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	**Explanation/Consideration**
General Emissions Rates. Emissions rates used in the modeling analyses, as listed in this memorandum, represent maximum potential emissions as given by design capacity or as limited by the issued permit for the specific pollutant and averaging period.	Compliance has not been demonstrated for emissions rates greater than those used in the modeling analyses.
Level I Modeling Thresholds for Criteria Pollutant Emissions. Maximum short-term and long-term emissions of $PM_{2.5}$, PM_{10}, and oxides of nitrogen (NOx) associated with the proposed project are above Tier I modeling applicability thresholds as found in State of Idaho Modeling Guidelines. Emissions of other criteria pollutants were below Level I Thresholds.	Project-specific air impact analyses demonstrating compliance with NAAQS, as required by Idaho Air Rules Section 203.02, are required for pollutants having an emissions increase that is greater than Tier I level modeling applicability thresholds. These thresholds are set to assure that impacts are below significant impact levels (SILs).Compliance with NAAQS has not demonstrated for emissions that exceed the emission estimates presented in the application..
Stack Height Increases: The modeling analyses demonstrated compliance with all criteria SILs by raising the existing stack heights of sources M33, M44, M56, and M62 by ten feet.	Compliance has not been demonstrated for stack heights less than those used in the modeling analyses.
TAPS Modeling : Maximum emission rates (as presented in January 2015 application) of several TAPS per Idaho Air Rules Sections 585 and 586 exceeded Emissions Screening Level (EL) rates.	Air impact analyses demonstrating compliance with TAPS, as required by Idaho Air Rules Section 203.03, is required for pollutants having an emissions rate greater than ELs.

2.0 Background Information

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

2.1 Project Description

The BAF facility is a potato processing facility consisting of two potato dehydration production lines which are used to dehydrate vegetable pieces from a combination of fresh vegetables and previously dried vegetables. The production line previously associated with stack identification numbers 311, 312, and 401/411 has been replaced with a line that has five exhaust stacks (M13, M44, M56, M62, and M86).

2.2 Proposed Location and Area Classification

The BAF facility is located in Rexburg , Idaho. This area is designated as an attainment or unclassifiable area for sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), lead (Pb), ozone (O_3), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$). The area is not classified as non-attainment for any criteria pollutants.

2.3 Air Impact Analyses Required for All Permits to Construct

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

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

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

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

2.4 Significant Impact Level and Cumulative NAAQS Impact Analyses

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

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

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

DEQ has developed modeling applicability thresholds that effectively assure that project-related emissions increases below stated values will result in ambient air impacts below the applicable SILs. The threshold levels and dispersion modeling analyses supporting those levels are presented in the *State of Idaho Guideline*

for Performing Air Quality Impact Analyses[l] (*Idaho Air Modeling Guideline*). Use of a modeling threshold represents the use of conservative modeling, performed in support of the threshold, as a project SIL analysis. Project-specific modeling applicability for this project is addressed in Section 3.1.1 of this memorandum.

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

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

Table 2. APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels[a] ($\mu g/m^3$)[b]	Regulatory Limit[c] ($\mu g/m^3$)	Modeled Design Value Used[d]
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 $\mu g/m^3$)	75 ppb[p] (196 $\mu g/m^3$)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
	24-hour	5	365[m]	Maximum 2nd highest[n]
	Annual	1.0	80[r]	Maximum 1st highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 $\mu g/m^3$)	100 ppb[s] (188 $\mu g/m^3$)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]
Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	75 ppb[w]	Not typically modeled

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

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

2.5 Toxic Air Pollutant Analyses

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

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

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

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

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

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

3.0 Analytical Methods and Data

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

3.1 Emission Source Data

Emissions rates of criteria pollutants and TAPs for the proposed project at the BAF Rexburg facility were provided by Mr. Stephen Nelson at Coal Creek Environmental Associates, LLC (CCEA) for various applicable averaging periods. Review and approval of estimated emissions was the responsibility of the DEQ permit writer, and is not addressed in this modeling memorandum. DEQ modeling review included verification that the application's potential emissions rates were properly used in the model. The rates listed must represent the maximum allowable rate as averaged over the specified period.

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

3.1.1 Criteria Pollutant Emissions Rates and Modeling Applicability

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

exceed 100 ton/year (Idaho Air Rules Section 220.01.a.i) is not applicable when evaluating whether a NAAQS impact analyses is required. A permit will be issued limiting PTE below 100 ton/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year.

An impact analysis must be performed for pollutant increases that would not qualify for an exclusion as BRC. Modeling applicability thresholds are provided in the *Idaho Air Modeling Guideline*. Modeling applicability emissions thresholds published in the *Idaho Air Modeling Guideline* were based on assuring an ambient impact of less than established SIL for that specific pollutant and averaging period. Because this project also necessitates a modification to provisions of the Tier I permit, BAF is submitting this PTC application so that the necessary modifications to the Tier I permit can be made. Therefore, BAF is assessing project emissions with Level I modeling thresholds, and electing to show compliance with air quality modeling for those pollutants that have emissions exceeding the Level I modeling thresholds.

If project-specific total emissions rates are below Level I thresholds, project-specific air impact analyses are not necessary for permitting. Use of Level II Modeling Thresholds are conditional, requiring DEQ approval. Table 3 provides the emissions-based modeling applicability summary. BAF selected to do air quality modeling analyses for all pollutants having emissions greater than the Level I Modeling Threshold (PM_{10}, $PM_{2.5}$, and NO_x. Table 4 lists the source specific criteria pollutant emission rates as used in the modeling analyses. All short term periods were modeled with maximum short term emission rates as listed in Table 4.

Table 3. Modeling Applicability Analysis Results

Pollutant	Averaging Period	Emissions	BRC Threshold TPY	Level I Modeling Thresholds	Level II Modeling Thresholds	Modeling Required
$PM_{2.5}$	24-hour	0.81 lb/hr		0.054	0.63	Yes
	Annual	2.5 ton/yr	1	0.35	4.1	Yes
PM_{10}	24-hour	0.85 lb/hr		0.22	2.6	Yes
NOx	1-hour	0.25 lb/hr		0.2	2.4	Yes
	Annual	1.1 ton/yr	4	1.2	14	No
SO_2	1-hour, 3-hour	0.14 lb/hr	4	0.21	2.5	No
	24-hour	0.14 lb/hr		0.21	2.5	No
	Annual	0.5 ton/yr	4	1.2	14	No
CO	1-hour, 8-hour	0.46 lb/hr		15	175	No
	annual	2.01	10			
Pb	monthly	3.1E-03 lbs/month		14		No

Table 4. Criteria Emission Rates by Source				
Emissions Point	**NO_2 (lb/hr)**	**PM_{10} (lb/hr)**	**$PM_{2.5}$ (lb/hr)**	**$PM_{2.5}$ (ton/yr)**
M33	0.08	0.44	0.43	1.31
M44	0.08	0.27	0.26	0..80
M56	0.05	0.12	0.11	0.35
M62	0.05	0.02	0.02	0.06
M86		0.01	0.00	0.013
311		-0.29	-0.28	-1.23
312		-0.29	-0.28	-1.23
410/411		-0.59	-0.56	-2.46

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

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

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

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

Secondary Particulate Formation

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

3.1.2 Toxic Air Pollutant Emissions Rates

TAP emissions regulations under Idaho Air Rules Section 220 are only applicable for new or modified

sources constructed after July 1, 1995. The submitted emissions inventory in the January 2015 application identified four TAPs that potential increases of the Idaho Air Rules Section 586 could exceed screening emissions levels (ELs). Potential increases in emissions of other TAPs were all less than applicable ELs. Table 5 lists emission increases for these TAPs and compares them to the EL, and Table 6 provides source-specific TAP emission rates used in the air impact analyses. Since all TAPS emissions were based on natural gas usage and the BTU rating of each dryer, the TAPS emissions were modeled using a x/Q factor as listed in Table 6. DEQ confirmed that final results were correct when using this methodology.

Table 5. MODELED TAP EMISSIONS RATES

Pollutant	CAS No.	Total Emissions Increase (lbs/hr)	EL (lbs/hr)
Arsenic	7440-38-2	1.70E-06	1.50E-06
Cadmium	7440-43-9	9.34E-06	3.70E-06
Chromium (VI)	18540-29-9	5.93E-07	5.60E-07
Formaldehyde	50-00-0	6.36E-04	5.10E-04

Table 6. TAPS Emission Rates (lbs/hr)

Source ID	Factor	Arsenic	Cadmium	Chromium (VI)	Formaldehyde
M33	0.312	6.68E-04	3.67E-07	2.33E-08	2.50E-05
M44	0.318	6.81E-04	3.74E-07	2.38E-08	2.55E-05
M56	0.185	3.96E-04	2.18E-07	1.38E-08	1.48E-05
M62	0.185	3.96E-04	2.18E-07	1.38E-08	1.48E-05

3.1.3 Emissions Release Parameters

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

Stack parameters used in the modeling analyses were not documented/justified in the originally submitted application, as was requested in the DEQ-issued incompleteness notification. A description of release parameters was later provided with the submitted revised analyses. Stacks M33, M44, M56, and M62 needed to be increased by 10 feet in height to enable the results of the SIL analyses to stay below the applicable limit. The exhaust flows of the stacks are largely based upon a similar facility in Blackfoot, where more documented flow data is available.

Table 7. Stack Parameters used in Modeling							
Source ID	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter
	(m)	(m)	(m)	(ft)	(°F)	(fps)	(ft)
M33	437055	4854320	1483.3	50	160	53.9	1.66
M44	437053	4854318	1483.3	50	250	40.8	1.25
M56	437054	4854305	1483.2	42	170	53.1	1.00
M62	437052	4854305	1483.2	42	140	40.8	1.25
M86	437047	4854295	1483.1	37	137	50.1	1.66
311	437048	4854314	1483.3	31	124	50.0	2.94
312	437049	4854314	1483.3	31	114	50.0	2.94
410/411	437054	4854314	1483.3	31	130	23.1	3.61

3.2 Background Concentrations

Background concentrations were provided by DEQ and obtained from NWQUEST, and are deemed representative of the Rexburg area. Because the modeling analyses showed maximum impacts for all criteria pollutants to be less than the Significant Impact Level (SIL) for each pollutant and averaging period, background concentrations were not needed for final NAAQS compliance demonstration.

3.3 Impact Modeling Methodology

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

3.3.1 General Overview of Analyses

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

Table 8 provides a brief description of parameters used in the modeling analyses.

3.3.2 Modeling protocol and Methodology

BAF did not submit a modeling protocol to DEQ prior to submitting the original ap-plication in December, 2014. Project-specific modeling and other required impact analyses were generally conducted using data and methods discussed in post-application correspondence and in the *Idaho Air Quality Modeling Guideline*[1]. BAF originally requested usage of non-guideline values for modeling NO2 with PVMRM . The February 2015 submittal used an alternative or "non-default" equilibrium, ratio for the 1-hour NO_2 Significant Impact Level (SIL) analyses. The justifications in the submittal, references to EPA's guidance memoranda, were not adequate for use of the requested non-default value of 0.5. Therefore CCEA and BAF utilized the default ARM2 method in the final April 2015 modeling submittal.

Table 8. MODELING PARAMETERS		
Parameter	**Description/Values**	**Documentation/Addition Description**
General Facility Location	Rexburg, ID	The facility is located in an area that is attainment or unclassified for all criteria air pollutants
Model	AERMOD	AERMOD with the PRIME downwash algorithm,.
Meteorological Data	Madison County surface data and Boise upper air data	The meteorological model input files for this project were provided by and recommended as most representative for this project by IDEQ, as described in the IDEQ modeling protocol and verified by IDEQ's approval of that protocol.
Terrain	Considered	See section 3.3.5 below
Building Downwash	Considered	BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
NOx Chemistry	Default Tier 2	Default ARM ratio of 0.8 was used fro 1 hour NO2 analyses.
Receptor Grid	**Significant Impact Analyses**	
	Grid 1	25-meter spacing along the ambient air boundary
	Grid 2	25-meter spacing for at least 400 meters from the ambient air boundary
	Grid 3	100-meter spacing for at least 1500 meters from the ambient air boundary

3.3.3 Model Selection

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

AERMOD version 14134 was used by BAF for the modeling analyses to evaluate impacts of the facility. This version is the current version at the time the application was received by DEQ.

3.3.4 Meteorological Data

DEQ provided five years of data from the Madison County, Idaho airport for the years 2008-2012. This data included both surface and upper air data, and is deemed adequately representative of the meteorology in the Mayfield area for minor source permitting.

3.3.5 Effects of Terrain on Modeled Impacts

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

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

DEQ reviewed the area surrounding the facility by using the web-based mapping program Google Earth, which uses the WGS84 datum. DEQ also overlaid modeling files with a digital photograph background

images acquired from the 2013 ARCGIS NAIP (National Agriculture Imagery Program) data base. The immediate area is effectively flat with regard to dispersion modeling affects. Elevations in the modeling domain matched those indicated by the background images

3.3.6 Facility Layout

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

3.3.7 Effects of Building Downwash on Modeled Impacts

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

3.3.8 Ambient Air Boundary

Ambient air is defined in Section 006 of the Idaho Air Rules as "that portion of the atmosphere, external to buildings, to which the general public has access." BAF Rexburg has a fenceline which clearly precludes public access to the facility and defines the ambient boundary for the facility.

3.3.9 Receptor Network

Table 8 describes the receptor grid used in the submitted analyses. The receptor grid met the minimum recommendations specified in the *Idaho Air Quality Modeling Guideline*[1]. DEQ determined this grid assured maximum impacts were reasonably resolved by the model considering: 1) types of sources modeled; 2) modeled impacts, and the modeled concentration gradient; 3) conservatism of the methods and data used as inputs to the analyses; 4) potential for continual exposures or exposure to sensitive receptors.

3.3.10 Good Engineering Practice Stack Height

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

$H = S + 1.5L$, where:

H = good engineering practice stack height measured from the ground-level elevation at the base of the stack.

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

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

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

4.0 Impact Modeling Results

4.1 Results for NAAQS Significant Impact Level Analyses

All criteria pollutant emission increases associated with the proposed project above the Level I Modeling Applicability Thresholds were modeled to show compliance with the NAAQS. Although the net project emissions of $PM_{2.5}$ and PM_{10} were below the Level I threshold values, the estimated modeled impacts from particulates were assessed because the emissions from the newly added equipment alone did exceed the Level I thresholds. All modeled impacts were below the SIL for each pollutant. These thresholds, based on modeling of a single emissions stack with specified release parameters, were established to assure that impacts of projects when emissions equal to or less than these levels will not cause impacts exceeding the SILs. Since the emission increases associated with the proposed project are below these threshold values, a project-specific air impact analysis is not required to demonstrate NAAQS compliance for issuance of the PTC.

Table 9. RESULTS FOR SIGNIFICANT IMPACT ANALYSES

Pollutant	Averaging Period	Modeled Design Concentration ($\mu g/m^3$)[a]	Significant Impact Level ($\mu g/m^3$)	% of SIL	NAAQS ($\mu g/m^3$)
$PM_{2.5}$[b]	24-hour	0.32 [a]	1.2	27%	35
	Annual	0.00 [b]	0.3	0.0	12
PM_{10}[c]	24-hour	0.59	5	12.0	150
NO_2[d]	1-hour	6.34[e]	7.5	84.0	188

a. Highest max any year
b. Highest annual average any year..
c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
d. Nitrogen dioxide.
e. Maximum 1 hour values averaged over eight years.; Tier 2 factor of 80% applied to maximum value.

4.2 Results for TAPs Impact Analyses

Dispersion modeling is required to demonstrate compliance with TAP increments specified by Idaho Air Rules Section 585 and 586for those TAPs with project-specific emission increases exceeding emissions screening levels (ELs). The Decembe 2014 application identified four TAPs that required air impact `modeling analysis. The results of the TAPs analyses are listed in Table 10. The predicted ambient TAPs impacts were considerably below any TAPs increments. The TAP emission rates as modeled are listed in Tables 5 and 6.

Table 10. TAP MODELING RESULTS					
Pollutant	**CAS No.**	**Average**	**Modeled Conc. ($\mu g/m^3$)[a]**	**AAC/AAAC ($\mu g/m^3$)[a]**	**%AAC/AAAC**
Arsenic	7440-38-2	Annual	1.82E-06	2.3E-04	1%
Cadmium	7440-43-9	Annual	1.00E-05	5.6E-04	2%
Chromium (VI)	18540-29-9	Annual	6.37E-07	8.30E-05	1%
Formaldehyde	50-00-0	Annual	6.83E-04	7.7E-02	1%

5.0 Conclusions

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

References:

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

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on August 5, 2015:

Facility Comment: Permit Condition 3.17, Steam and Coal Monitoring – During a recent inspection there was confusion over the need to calculate the heat input when we were not co-firing with coal. In order to preclude this confusion in the future we propose to indent the coal heat input calculation requirements or denote that coal heat input calculations are required only when coal is co-fired with wood.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Permit Conditions 8.1, 8.4, 8.5, 8.6, and the second paragraph of 8.7, Carbon Monoxide Emissions Limit – In our original application we over looked this item. Although we asked to have this included in the past we have now changed our minds and would like it removed for there is no longer a basis for a GHG limit at this facility.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Permit Table 9.1, Summary of Emissions Rate Limits – References to Stacks 311, 312, and 410/411. These stacks are no longer in operation and have been removed in the previous sections of this permit.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Statement of Basis, Facility Information, Description, Dehydrated potato granules – Correct the plant reference from Shelley to Rexburg.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Statement of Basis, Facility Information, Application Scope – The current Application Scope does not have language for clarification of heat input calculations and reduced tuning due to utilizing an O_2 trim system and the request to remove the 99,000 T-GHG/yr limit.

DEQ Response: The requested change will be made to the Statement of Basis.

Facility Comment: Statement of Basis, Emissions Inventories, Potential to Emit – Based on the request to remove the GHG limit in the permit there no longer be a need to reference this constituent..

DEQ Response: The requested change will be made to the Statement of Basis.

Facility Comment: Statement of Basis, Ambient Air Quality Impact Analyses – Clarify which pollutants were modeled.

DEQ Response: The requested change will be made to the Statement of Basis.

Facility Comment: Statement of Basis, Permit Conditions Review, Kipper Boiler – Specify the clarification of Permit Condition 3.12 as discussed previously.

DEQ Response: The requested change will be made to the Statement of Basis.

Facility Comment: Statement of Basis, Permit Conditions Review, Kipper Boiler – Specify the clarification of Permit Condition 3.17 as discussed previously.

DEQ Response: The requested change will be made to the Statement of Basis.

APPENDIX D – PROCESSING FEE

PTC Fee Calculation

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: Rexburg Facility of BAF
Address: 10 East 7th North
City: Rexburg
State: ID
Zip Code: 83440
Facility Contact: Nelson Rovig
Title: Director of Operations
AIRS No.: 065-00008

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	1.1	0	1.1
SO_2	0.0	0.34	-0.3
CO	0.0	0	0.0
PM10	0.0	2.51	-2.5
VOC	2.1	0	2.1
TAPS/HAPS	0.0	0	0.0
Total:	0.0	2.85	**0.3**
Fee Due	$ 1,000.00		

Comments: