

Statement of Basis

**Permit to Construct No. P-2010.0057
Project ID 62080**

**Basic American Potato Company, Inc.
Blackfoot, Idaho**

Facility ID 011-00012

Final

September 14, 2018
Rakael Pope
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..... 3

FACILITY INFORMATION..... 5

 Description..... 5

 Permitting History..... 5

 Application Scope..... 6

 Application Chronology..... 6

TECHNICAL ANALYSIS..... 6

 Emissions Units and Control Equipment..... 6

 Emissions Inventories..... 9

 Ambient Air Quality Impact Analyses..... 12

REGULATORY ANALYSIS..... 12

 Attainment Designation (40 CFR 81.313)..... 12

 Facility Classification..... 13

 Permit to Construct (IDAPA 58.01.01.201)..... 13

 Tier II Operating Permit (IDAPA 58.01.01.401)..... 14

 Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)..... 14

 PSD Classification (40 CFR 52.21)..... 14

 NSPS Applicability (40 CFR 60)..... 14

 NESHAP Applicability (40 CFR 61)..... 14

 MACT/GACT Applicability (40 CFR 63)..... 14

 Permit Conditions Review..... 15

PUBLIC REVIEW..... 15

 Public Comment Opportunity..... 15

APPENDIX A – EMISSIONS INVENTORIES..... 16

APPENDIX B – FACILITY DRAFT COMMENTS..... 17

APPENDIX C – PROCESSING FEE..... 19

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ACP	Alternative Compliance Plan
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAS No.	Chemical Abstracts Service registry number
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
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
hr/yr	hours per consecutive 12 calendar month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
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
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
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
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
U.S.C.	United States Code
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

In 2013, Basic American Foods acquired the potato dehydration facility located adjacent to its existing Blackfoot, ID facility. Basic American Foods now owns and operates the two facilities, located in Blackfoot, Idaho, which, as contiguous and adjacent properties, owned and operated by the same company are recognized by DEQ as a single facility, numbered 011-00012. However, Basic American Foods continues to permit the plants separately as Basic American Potato Co., Inc. (BAPCI) and Basic American Foods Blackfoot Facility (BAF).

This PTC is for Basic American Potato Company, Inc. (BAPCI), which is a potato processing plant that packs, processes, and dehydrates various potato products. BAPCI has three divisions, all of which are contained within the same property boundary: Idaho Potato Packers, BAPCI Dehydrated, and BAPCI Processing.

- Idaho Potato Packers - a fresh potato operation where potatoes are washed, sorted, sized, and packaged.
- BAPCI Dehydrated - obtains potatoes from Idaho Potato Packers. Potatoes are peeled or not peeled, scrubbed, sorted, sliced or diced, wet sorted, blanched, and dried to form dehydrated potato pieces including slices, dices, strips, crush, and hash browns. Unacceptable wet and some unacceptable dried potatoes are taken to BAPCI Processing.
- BAPCI Processing - produces dehydrated potato flakes, flour, and other flake and flour-based potato products. Potatoes may be peeled and are scrubbed, sorted, slabbed, precooked or not precooked, cooled, cooked, riced, and dried. Products are dried to 6% moisture and are broken up and ground to customer specifications, packaged or stored, and then sold. This is the site where the east and west boilers are located. The process also includes dryers, flakers, peelers, and baghouse equipment, which are also sources of emissions.

Basic American Potato Company, Inc. uses the following drying equipment:

- Flakers: Flakers are for the conversion of materials from a liquid state to solid flakes in a single operation. This change of state is achieved by applying a film of the material to be flaked to the outer surface of a horizontal rotating steam drum. As the drum rotates, the water evaporates; the liquid film solidifies and is subsequently scraped from the drum surface and collected.
- Multi-Stage Dryers: These dryers incorporate a series of single-stage, multi-zone units. It is ideal for products with a high incoming moisture content, which would benefit from reorientation by transferring between conveyor belts at the ideal time in their drying cycle. Product bed depth and air flow vary between stages based on the product's drying curve. Discrete zones allow both air flow and temperature to be independently altered to maintain proper process parameters.

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).

January 28, 2016	P-2010.0057, Permitting action description, Permit status (A, but will become S upon issuance of this permit).
June 8, 2012	P-2010.0057 Project No. 61004, PTC revision for adding new equipment, such as Dryer No. 6 and removing old equipment, such as scratch and starch dryers. (S).
September 13, 2010	T1-2008.0077 Project No. 60533 Tier I amendment to include the provisions of PTC No. P-2010.0057 issued on September 13, 2010 (S)
September 13, 2010	P-2010.0057 PTC modification for adding a natural gas-fired 2 MMBtu/hr bin dryer and a natural gas-fired 3.3 MMBtu/hr room heater (S)

October 10, 2008 T1-2008.0077 initial Tier I operating permit. The facility became a Title V major source after a modification that was permitted in PTC No. P-050300 issued on May 9, 2007. (S)

June 13, 2008 P-2008.0057 PTC modification for replacing the existing east processing boiler with a new boiler. (S)

May 9, 2007 P-050300 was issued to modify and replace the existing Tier II operating permit with a facility-wide permit to construct to establish permit limits for the use of residual oil and emulsifiers in the boilers and to modify throughput limits and establish emissions rates for potato processing. The facility was also reclassified as a major source for PM₁₀, SO₂, and NO_x emissions. (S)

August 5, 2002 T2-9811-169-2 was issued as an initial Tier II operating permit. Synthetic minor limits were established to limit the facility's potential to emit below the major source thresholds. (S)

Application Scope

This PTC is for a modification at an existing Tier I facility. See the current Tier I permit statement of basis for the permitting history.

The applicant has proposed to remove Dehydration Air Dryer #5, Dehydration Air Dryer #6, and the Dryer #6 Air Makeup, which have been physically removed from the facility.

Application Chronology

June 25, 2018 DEQ received an application and an application fee.

July 26, 2018 DEQ determined that the application was complete.

August 1, Year DEQ made available the draft permit and statement of basis for peer and regional office review.

August 10, 2018 DEQ made available the draft permit and statement of basis for applicant review.

August 28, 2018 DEQ received the permit processing fee.

September 14, 2018 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.
EU 01	<u>East processing boiler</u> Manufacturer: Nebraska Boiler Co. Model: NS-C-50 Construction date: 1998 (NSPS) Design capacity: 53.4 MMBtu/hr Fuel types: Natural gas	<u>Low-NO_x (30ppm) burner for natural gas</u>	Exit height: 60.0 ft (18.29 m) Exit diameter: 2.30 ft (0.70 m) Exit flow rate: 9,397.24 acfm Exit temperature: 410 °F (483.15 K)
EU 02	<u>West processing boiler</u> Manufacturer: Erie City Model: SA60H-21 Construction date: 1962 (non-NSPS) Heat input rating: 40.5 MMBtu/hr Fuel: Natural gas	None	Exit height: 60.0 ft (18.29 m) Exit diameter: 3.0 ft (0.91 m) Exit flow rate: 9,415.35 acfm Exit temperature: 410 °F (483.15 K)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
EU 6	<u>Reblend-room air makeup</u> Manufacturer: Hartzell Heat input rating: 1 MMBtu/hr Fuel: Natural gas	None	Exit height: 32.8 ft (10 m) Horizontal dimension: 2.3 ft (0.71 m) Vertical dimension: 7.7 ft (2.34 m)
EU 7	<u>Scratch-mash air makeup</u> Manufacturer: Hartzell, Heat input rating: 5 MMBtu/hr Fuel: Natural gas	None	Exit height: 32.8 ft (10 m) Horizontal dimension: 2.3 ft (0.71 m) Vertical dimension: 7.7 ft (2.34 m)
EU 8	<u>Building No. 3 air makeup</u> Manufacturer: Hartzell Heat input rating: 3 MMBtu/hr Fuel: Natural gas	None	Exit height: 32.8 ft (10 m) Horizontal dimension: 2.3 ft (0.71 m) Vertical dimension: 7.7 ft (2.34 m)
EU 9	<u>Building No. 4 air makeup</u> Manufacturer: Hartzell Heat input rating: 10 MMBtu/hr Fuel: Natural gas	None	Exit height: 32.8 ft (10 m) Horizontal dimension: 2.3 ft (0.71 m) Vertical dimension: 7.7 ft (2.34 m)
EU 10	<u>Processing peeler exhaust</u> Manufacturer: Odenburg Maximum capacity: 5,000 lb/hr output	None	Exit height: 24 ft (7.315 m) Exit diameter: 2.0 ft (0.61 m) Exit flow rate: 37.7 acfm Exit temperature: 190 °F
EU 11	<u>Flaker No. 1</u> Manufacturer: Blau-Knox Maximum capacity: 1,250 lb/hr output Fuel: Natural gas	None	Exit height: 54 ft (16.46 m) Exit diameter: 3.0 ft (0.91 m) Exit flow rate: 19,934 acfm Exit temperature: 120 °F
EU 12	<u>Flaker No. 2</u> Manufacturer: Blau-Knox Maximum capacity: 1,250 lb/hr output Fuel: Natural gas	None	Exit height: 54 ft (16.46 m) Exit diameter: 3.0 ft (0.91 m) Exit flow rate: 19,934 acfm Exit temperature: 120 °F
EU 13	<u>Flaker No. 3</u> Manufacturer: Blau-Knox Maximum capacity: 1,000 lb/hr output Fuel: Natural gas	None	Exit height: 54 ft (16.46 m) Exit diameter: 3.0 ft (0.91 m) Exit flow rate: 19,934 acfm Exit temperature: 120 °F
EU 14	<u>Flaker No. 4</u> Manufacturer: Blau-Knox Maximum capacity: 1,000 lb/hr output Fuel: Natural gas	None	Exit height: 54 ft (16.46 m) Exit diameter: 3.0 ft (0.91 m) Exit flow rate: 19,934 acfm Exit temperature: 120 °F
EU 15	<u>Flaker No. 5</u> Manufacturer: Blau-Knox Maximum capacity: 1,000 lb/hr output Fuel: Natural gas	None	Exit height: 54 ft (16.46 m) Exit diameter: 3.0 ft (0.91 m) Exit flow rate: 19,934 acfm Exit temperature: 120 °F
EU 16	<u>Grinding circuit No. 1 material transfer</u>	<u>Grinding circuit No. 1 baghouse</u> Manufacturer: Mikropulsaire No. of bags: 36 Bags Flowrate: 2,500 cfm	Exit height: 20 ft (6.1 m) Exit diameter: 0.003 ft Exit flow rate: 0.05 acfm Exit temperature: 70 °F
EU 18	<u>Grinding circuit No. 2 material transfer</u>	<u>Grinding circuit No. 2 baghouse</u> Manufacturer: Mikropulsaire No. of bags: 48 Bags Flowrate: 3,360 cfm	Exit height: 16.5 ft (5.03 m) Exit diameter: 1.1 ft Exit flow rate: 3364 acfm Exit temperature: 70 °F
EU 19	<u>Flake material transfer</u>	<u>Flake baghouse</u> Manufacturer: Mikropulsaire No. of bags: 100 bag Flowrate: 7,000 cfm	Exit height: 20 ft (6.1 m) Exit diameter: 1.2 ft Exit flow rate: 7003 acfm Exit temperature: 70 °F
EU 20	<u>Dehydration North Boiler</u> Manufacturer: Highlander Model: 250-3 Manufacture Date: 1981 Heat input rating: 10.5 MMBtu/hr Fuel: Natural Gas Fuel consumption: 10,500 scf/hr for gas	None	Exit height: 28 ft (8.5 m) Exit diameter: 1.6 ft Exit flow rate: 2437 acfm Exit temperature: 320 °F

Source ID No.	Sources	Control Equipment	Emission Point ID No.
EU 21	<u>Dehydration South boiler</u> Manufacturer: Highlander Model: 200-3 Burner Model: Scotch Marine Manufacture Date: 1981 Heat input rating: 8.4 MMBtu/hr Fuel: Natural Gas Fuel consumption: 8,400 scf/hr	None	Exit height: 28 ft (8.5 m) Exit diameter: 3.0 ft Exit flow rate: 1950 acfm Exit temperature: 320 °F
EU 22 (1A) EU23 (1B&1C)	<u>Dehydration air dryer No. 1</u> Manufacturer: Proctor Model: NA Burner Model: Eclipse Manufacture Date: 1982 Heat input rating: Stage A = 6.4 MMBtu/hr Stage B = 2.8 MMBtu/hr Stage C = 2.8 MMBtu/hr Max. production: Stage A = 1,000 lb/hr Stage B&C = 1,000 lb/hr Fuel: Natural gas	None	<u>Stage 1A</u> Exit height: 36 ft (10.97 m) Exit diameter: 2.5 ft Exit flow rate: 12017 acfm Exit temperature: 187 °F <u>Stage 1B&C</u> Exit height: 30 ft (9.14 m) Exit diameter: 3 ft Exit flow rate: 8016 acfm Exit temperature: 150 °F
EU 24 (2A) EU25 (2B&2C)	<u>Dehydration air dryer No. 2</u> Manufacturer: Proctor Model: NA Burner Model: Eclipse Manufacture Date: 1982 Heat input rating: Stage A = 6.4 MMBtu/hr Stage B = 2.8 MMBtu/hr Stage C = 2.8 MMBtu/hr Max. production: Stage A = 1,000 lb/hr Stage B&C = 1,000 lb/hr Fuel: Natural gas	None	<u>Stage 2A</u> Exit height: 36 ft (10.97 m) Exit diameter: 2.5 ft Exit flow rate: 12017 acfm Exit temperature: 187 °F <u>Stage 2B&C</u> Exit height: 30 ft (9.14 m) Exit diameter: 3 ft Exit flow rate: 8016 acfm Exit temperature: 150 °F
EU 26 (3A) EU27 (3B&3C)	<u>Dehydration air dryer No. 3</u> Manufacturer: Proctor Model: NA Burner Model: Eclipse Manufacture Date: 1982 Heat input rating: Stage A = 6.4 MMBtu/hr Stage B = 2.8 MMBtu/hr Stage C = 2.8 MMBtu/hr Max. production: Stage A = 1,000 lb/hr Stage B&C = 1,000 lb/hr Fuel: Natural gas	None	<u>Stage 3A</u> Exit height: 36 ft (10.97 m) Exit diameter: 2.5 ft Exit flow rate: 12017 acfm Exit temperature: 187 °F <u>Stage 3B&C</u> Exit height: 30 ft (9.14 m) Exit diameter: 3 ft Exit flow rate: 8016 acfm Exit temperature: 150 °F
EU 34	<u>Dehydration bin dryer</u> Manufacturer: Nonpareil Model: NA Burner Model: Eclipse Manufacture Date: 2007 Heat input rating: 2 MMBtu/hr Max. production: 1,000 lb/hr output Fuel: Natural Gas	None	Exit height: 41.5 ft (12.65 m) Exit diameter: 1.4 ft (0.43 m) Exit flow rate: 554 acfm Exit temperature: 90 °F
EU 35	<u>Wet area air makeup</u> Manufacturer: Hartzell Heat input rating: 3.5 MMBtu/hr Fuel: Natural gas	None	Exit height: 32.8 ft (10 m) Horizontal dimension: 2.3 ft (0.71 m) Vertical dimension: 7.7 ft (2.34 m)
EU 36	<u>South dryer room air makeup</u> Manufacturer: Hartzell Heat input rating: 5 MMBtu/hr Fuel: Natural gas	None	Exit height: 32.8 ft (10 m) Horizontal dimension: 2.3 ft (0.71 m) Vertical dimension: 7.7 ft (2.34 m)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
EU 37	<u>South dryer room roof air makeup</u> Manufacturer: Hartzell Heat input rating: 5 MMBtu/hr Fuel: Natural gas	None	Exit height: 32.8 ft (10 m) Horizontal dimension: 2.3 ft (0.71 m) Vertical dimension: 7.7 ft (2.34 m)
EU 38	<u>Inspection room roof air makeup</u> Manufacturer: Hartzell Heat input rating: 3.5 MMBtu/hr Fuel: Natural gas	None	Exit height: 32.8 ft (10 m) Horizontal dimension: 2.3 ft (0.71 m) Vertical dimension: 7.7 ft (2.34 m)
EU 68	<u>Room Heater</u> Manufacturer: Concept Designs Heat input rating: 3.5 MMBtu/hr Fuel: Natural gas	None	NA (Volume source)
EU 39	<u>Dehydration research dryer</u> Manufacturer: Carrier Model: OAC Burner Model: Maxon Manufacture Date: 1990 Heat input rating: 0.88 MMBtu/hr Max. production: 125 lb/hr output Fuel: Natural gas	None	Exit height: 24 ft (7.3 m) Exit diameter: 0.5 ft Exit flow rate: 70.2 acfm Exit temperature: 95 °F
EU 40	<u>Packaging material transfer</u>	<u>Packaging baghouse No. 1</u> Manufacturer: Mikropulsaire No. of bags: 9 Bags Flowrate: 630 cfm PM ₁₀ control efficiency: 99%	Exit height: 20 ft (6.1 m) Exit diameter: 0.5 ft Exit flow rate: 630 acfm Exit temperature: 70 °F
EU 41	<u>Packaging material transfer</u>	<u>Packaging baghouse No. 2</u> Manufacturer: Mikropulsaire, No. of bags: 25 Bags Flowrate: 1,750 cfm PM ₁₀ control efficiency: 99%	Exit height: 20 ft (6.1 m) Exit diameter: 0.5 ft Exit flow rate: 1744 acfm Exit temperature: 70 °F
EU 42	<u>Crush-room material transfer</u>	<u>Crush-room baghouse No. 1</u> Manufacturer: Mikropulsaire No. of bags: 9 Bag Flowrate: 630 cfm PM ₁₀ control efficiency: 99%	Exit height: 16 ft (4.88 m) Effective diameter: 0.003 ft Exit flow rate: 0.05 acfm Exit temperature: 70 °F
EU 43	<u>Crush-room material transfer</u>	<u>Crush-room baghouse No. 2</u> Manufacturer: Mikropulsaire No. of bags: 25 Bag Flowrate: 1,750 cfm PM ₁₀ control efficiency: 99%	Exit height: 16 ft (4.88 m) Effective diameter: 0.003 ft Exit flow rate: 0.05 acfm Exit temperature: 70 °F
EU 44	<u>Dehydration steam peeler</u> Manufacturer: Odenberg Max. production: 5,000 lb/hr output	None	Exit height: 24 ft (7.3 m) Exit diameter: 2 ft Exit flow rate: 56.6 acfm Exit temperature: 190 °F

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. Though permit to construct P-2010.0057 applies to BAPCI, this Statement of Basis demonstrates compliance with emission requirements as an aggregate of BAPCI and BAF.

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project. The following table presents the pre-project potential to emit for all criteria pollutants from all emissions units at

the facility/for the one unit being modified 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 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS AT BAPCI

Source	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC		Lead
	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
Pre-Project Totals	31.59	138.38	0.13	0.55	18.42	80.68	17.67	77.40	1.16	5.07	4.61E-04

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

Post Project Potential to Emit

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

The following table presents the post project Potential to Emit (PTE) for criteria pollutants from all emissions units at the facility as determined by DEQ staff. This post project PTE accounts for the removal of Dryer #5 and Dryer #6. This data also accounts for the Dehydration bin dryer process emissions contribution, which is not a new emission unit, but was overlooked in the emission inventory of the previous permitting action. Also, the emission factors used for Flaker and Dryer calculations were updated using PM₁₀ emission factors described in the Basic American Foods Alternate Compliance Plan submitted to DEQ August 4, 2017 and is included in the Statement of Basis for the BAF Permit to Construct No. P-2009-0043, Project Number 61536. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS AT BAPCI

Source	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC		Lead
	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	T/yr
Post Project Totals	17.98	78.13	0.11	0.42	13.32	49.85	15.05	58.81	0.99	3.85	3.50E-04

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

Change in Potential to Emit

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

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS AT BAPCI

Source	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC		Lead
	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	31.59	138.38	0.13	0.55	18.42	80.68	17.67	77.40	1.16	5.07	4.61E-04
Post Project Potential to Emit	17.98	78.13	0.11	0.42	13.32	49.85	15.05	58.81	0.99	3.85	3.50E-04
Changes in Potential to Emit	-13.61	-60.25	-0.02	-0.13	-5.10	-30.83	-2.62	-18.59	-0.17	-1.22	-1.15E-04

Facility-Wide Potential to Emit

Facility-wide emissions from DEQ Facility Number 011-00012, an aggregate of BAPCI and BAF, are presented in the following table.

Table 5 AGGREGATED POTENTIAL TO EMIT FOR BAPCI AND BAF

Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC	Lead
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
BAPCI Potential to Emit	78.13	0.42	49.85	58.81	3.85	3.50E-04
BAF ^(a) Potential to Emit	94.24	18.17	77.58	195 ^(b)	7.70	9.39E-04
Facility-Wide Potential to Emit	172.37	18.59	127.43	253.81	11.55	1.96E-03

- a) Taken from the statement of basis for PTC No. P-2017.0031 project 61894 issued to Basic American Foods – Blackfoot Plant (BAF) on September 12, 2017.
- b) While CO emissions could potentially reach 317 T/yr, the facility’s current actual CO emissions are well below that value. The applicant has proposed to take 195 T/yr as an enforceable emissions limit for PTC No. P-2017.0031, project 61894.

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions decrease of non-carcinogenic toxic air pollutants (TAP) for BAPCI is provided in the following table. Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

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

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Dichlorobenzene	2.15E-04	2.11E-04	0.0000	20	No
Hexane	3.23E-01	3.16E-01	-0.0062	12	No
Pentane	4.66E-01	4.57E-01	-0.0089	118	No
Toluene	6.09E-04	5.98E-04	0.0000	25	No
Chromium	2.50E-04	2.46E-04	0.0000	0.033	No
Cobalt	1.51E-05	1.48E-05	0.0000	0.0033	No
Lead	8.96E-05	8.79E-05	0.0000	0.01	No
Manganese	6.82E-05	6.69E-05	0.0000	0.067	No
Mercury	4.66E-05	4.57E-05	0.0000	0.00285	No
Nitrous Oxide	0.3942	3.87E-01	-0.0075	6	No
Selenium	4.30E-06	4.21E-06	0.0000	0.013	No

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

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions decrease of carcinogenic toxic air pollutants (TAP) for BAPCI is provided in the following table. Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

Table 7 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Benzene	3.76E-04	3.76E-04	0.0000	8.00E-04	No
Formaldehyde	1.34E-02	1.34E-02	0.0000	5.10E-04	No
Arsenic	3.58E-05	3.58E-05	0.0000	1.50E-06	No
Beryllium	2.16E-06	2.16E-06	0.0000	2.80E-05	No
Cadmium	1.97E-04	1.94E-04	0.0000	3.70E-06	No
Chromium (VI)	1.25E-05	1.23E-05	0.0000	5.60E-07	No
Nickel	3.77E-04	3.69E-04	0.0000	2.70E-05	No
PAH	1.23E-04	1.23E-04	0.0000	9.10E-05	No
POM (7-PAH)	2.04E-06	2.04E-06	0.0000	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.

All changes in emissions rates for carcinogenic TAP were reductions and therefore, below EL (screening emissions level) as a result of this project. Therefore, modeling is not required for any carcinogenic TAP because none of 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 all emissions units at BAPCI as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 8 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (T/yr)
Acenaphthene	1.26E-06
Acenaphthylene	1.26E-06
Anthracene	1.68E-06
Benzo(a)anthracene	1.26E-06
Benzo(a)pyrene	8.40E-07
Benzo(b)fluoranthene	1.26E-06
Benzo(g,h,i)perylene	8.40E-07
Benzo(k)fluoroanthene	1.26E-06
Chrysene	1.26E-06
Dibenzo(a,h)anthracene	8.40E-07
7,12-Dimethylbenz(a)anthracene	1.12E-05
Fluoranthene	2.10E-06
Fluorene	1.96E-06
Indeno(1,2,3-cd)pyrene	1.26E-06
2-Methylnaphthalene	1.68E-05
3-Methylchloroanthene	1.26E-06
Naphthalene	4.27E-04
Phenanthrene	1.19E-05
Pyrene	3.50E-06
Benzene	1.47E-03
Dichlorobenzene	8.40E-04
Formaldehyde	5.25E-02
Hexane*	1.26E+00
Toluene	2.38E-03
Arsenic	1.40E-04
Beryllium	8.43E-06
Cadmium	7.71E-04
Chromium	9.78E-04
Cobalt	5.88E-05
Lead	3.50E-04
Manganese	2.66E-04
Mercury	1.82E-04
Nickel	1.47E-03
Selenium	1.68E-05
Total	1.32

*Maximum Individual HAP

Ambient Air Quality Impact Analyses

Modeling is not required for this project because there are no emissions increases.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Bingham County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

- A = Use when any one HAP has permitted emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has permitted emissions > 25 T/yr.
- SM80 = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits > 8 T/yr of a single HAP or ≥ 20 T/yr of Total HAPs.
- SM = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits < 8 T/yr of a single HAP and/or < 20 T/yr of Total HAPs.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 10 and 25 T/yr HAP major source thresholds.
- UNK = Class is unknown

For All Other Pollutants:

- A = Use when permitted emissions of a pollutant are > 100 T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are ≥ 80 T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are < 80 T/yr.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 100 T/yr major source threshold.
- UNK = Class is unknown.

Table 9 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION AT BAPCI AND BAF^(a)

Pollutant	Uncontrolled Facility PTE (T/yr)	Total Permitted PTE Facility-Wide (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM/PM10	>100	172.37	100	A
PM2.5	>100	172.37	100	A
SO2	<100	18.59	100	B
NOX	>100	127.43	100	A
CO	>100	253.81 ^(b)	100	A
VOC	<100	11.55	100	B
HAP (single, max)	<10	5.35	10	B
HAP (total)	<25	5.4	25	B
Pb	<100	1.96E-03	100	B

a) Taken from the statement of basis for PTC No. P-2017.0031 project 61894 issued to Basic American Foods – Blackfoot Plant (BAF) on September 12, 2017.

b) While CO emissions could potentially reach 317 T/yr at BAF, the facility’s current actual CO emissions at BAF are well below that value. The applicant has proposed to take 195 T/yr as an enforceable emissions limit for PTC No. P-2017.0031 project 61894 for BAF.

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 BAPCI for the removal of Dryer #5 and Dryer #6. 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 PM₁₀, NO_x, and CO 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. Therefore, this facility is classified as a major facility, as defined in IDAPA 58.01.01.008.10. The facility currently has a Tier I operating permit for BAF and a Tier I operating permit for BAPCI. Per IDAPA 58.01.01.209.05, the requirements of this PTC will be incorporated into the facility’s Tier I operating permit during renewal.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality
In DEQ Project 61894 for BAF’s PTC, P-2017.0031, issued September 12, 2017, the facility was changed from PSD major status to a PSD minor source. With the installation of BAF Boiler 2A and the retirement of BAF Boilers 1 and 2 at BAF, facility-wide boiler capacity is less than 250 MMBtu/hr, and the only criteria air pollutant with emissions exceeding 250 ton/yr is carbon monoxide. However, since an enforceable BAF limit of 195 ton/yr on facility-wide carbon monoxide was created in BAF’s September 12, 2017 permit, P-2017.0031, the facility was no longer a PSD major source when the BAF permit was issued.

NSPS Applicability (40 CFR 60)

While the east processing boiler continues being subject to 40 CFR 60 Subpart Dc, these requirements could apply to the west processing boiler because though it was built in 1962, it has been retrofitted from a dual-fired distillate oil and natural gas burner to a natural gas only burner.

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

§ 60.40c Applicability and delegation of authority.

Section (a) states that the requirements of this subpart apply to steam generating units for which construction, modification, or reconstruction commenced after June 9, 1989. However, modification is defined in the General Provisions of 40 CFR 60 Subpart A as any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere not previously emitted. The modification on the west processing boiler did not increase emissions, it reduced them. Therefore, the west processing boiler is not subject to 40 CFR 60 Subpart Dc, at the time of this permitting action.

NESHAP Applicability (40 CFR 61)

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

MACT/GACT Applicability (40 CFR 63)

The permittee is not subject to 40 CFR 63 Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources because the east processing boiler is no longer physically equipped to burn No. 2 fuel oil, only natural gas and this facility is not an area source.

Permit Conditions Review

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

Existing Permit Condition 2.4

Fuel Type Limits

The east boiler shall only be fueled on natural gas.

The west boiler shall only be fueled on natural gas. The west boiler shall be rendered inoperable on No.6 fuel oil.

Revised Permit Condition 2.4

Fuel Type Limits

The east and west boiler shall only be fueled on natural gas.

This permit condition has been revised to remove the reference to the No. 6 fuel oil of the west boiler because the west boiler has been physically modified to use only natural gas as a fuel source. This was reported in section 3 of the Alternate PM10 Compliance Plan for Blackfoot Facility of Basic American Foods provided to DEQ August 4, 2017 (DEQ document number 2017AAG1588).

Existing Permit Condition 3.2 and 3.4

Control Device Descriptions, Table 3.1 and Throughput Limits, Table 3.2 (included Dryer No. 5 and Dryer No. 6)

Revised Permit Condition 3.2 and 3.4

Control Device Descriptions, Table 3.1 and Throughput Limits, Table 3.2 (removed Dryer No. 5 and Dryer No. 6)

The tables in these permit conditions has been revised to remove the reference to Dryer No. 5 and Dryer No. 6 because they have been physically removed from the facility.

Existing Permit Condition 3.5

Stack Height

The height of each exhaust stack for the No. 5B dehydration dryer, the No. 5C dehydration dryer, and the dehydration bin dryer shall be at least 41 feet 4 inches, as measured from the ground level elevation.

This permit condition has been removed because it referenced stack height requirements for Dryer No. 5, which has been physically removed from the facility.

Existing Permit Condition 5.1

PM10 Emission Limits, Table 5.1(included Dryer No. 5 and Dryer No. 6)

Revised Permit Condition 5.1

PM10 Emission Limits, Table 5.1(removed Dryer No. 5 and Dryer No. 6)

The table in this permit condition has been revised to remove the reference to Dryers No. 5 and 6 because they have been physically removed from the facility. Updated PM₁₀ limits for Flaker Nos. 1-5 and A stages of Dryers 1, 2, and 3 to reflect updated emission factors from Basic American Foods Alternate Compliance Plan submitted to DEQ August 4, 2017. The remaining permit condition was renumbered, accordingly.

PUBLIC REVIEW

Public Comment Opportunity

Because this permitting action does not authorize an increase in emissions, an opportunity for public comment period was not required or provided in accordance with IDAPA 58.01.01.209.04 or IDAPA 58.01.01.404.04.

APPENDIX A – EMISSIONS INVENTORIES

Activity	Hourly Emissions, lb/hr							Annual Emissions, ton/yr						
	PM10	PM2.5	NOx	SO ₂	CO	Pb	VOC	PM10	PM2.5	NOx	SO ₂	CO	Pb	VOC
Process Emissions	16.6	16.6	-	-	-	-	-	72.8	72.8	-	-	-	-	-
Combustion Emissions	1.4	1.4	13.3	0.1	15.1	8.96E-05	1.0	5.3	5.3	49.8	0.4	58.8	3.50E-04	3.9
<i>Total:</i>	<i>17.98</i>	<i>17.98</i>	<i>13.32</i>	<i>0.11</i>	<i>15.05</i>	<i>8.96E-05</i>	<i>0.99</i>	<i>78.13</i>	<i>78.13</i>	<i>49.85</i>	<i>0.42</i>	<i>58.81</i>	<i>3.50E-04</i>	<i>3.85</i>

Parameter	Value	Units	Basis
HHV, natural gas	1020	Btu/scf	typical value

NG Emission Factors - fuel usage

NOx - low Nox burners	50	lb/MMscf	AP-42, Table 1.4-1, 1998, Low NOx Burners
NOx	100	lb/MMscf	AP-42, Table 1.4-1, 1998
CO	84	lb/MMscf	AP-42, Table 1.4-1, 1998
PM-10	7.6	lb/MMscf	AP-42, Table 1.4-2, 1998
SO ₂	0.6	lb/MMscf	AP-42, Table 1.4-2, 1998
VOC	5.5	lb/MMscf	AP-42, Table 1.4-2, 1998
Lead	0.0005	lb/MMscf	AP-42, Table 1.4-2, 1998

NG Emission Factors - fuel usage

NOx - low Nox burners	0.0490	lb/MMscf	AP-42, Table 1.4-1, 1998, Low NOx Burners
NOx	0.0490	lb/MMscf	AP-42, Table 1.4-1, 1998
CO	0.0490	lb/MMscf	AP-42, Table 1.4-1, 1998
PM-10	0.0490	lb/MMscf	AP-42, Table 1.4-2, 1998
SO ₂	0.0490	lb/MMscf	AP-42, Table 1.4-2, 1998
VOC	0.0490	lb/MMscf	AP-42, Table 1.4-2, 1998
Lead	0.0490	lb/MMscf	AP-42, Table 1.4-2, 1998

CRITERIA EMISSIONS - NATURAL GAS COMBUSTION - Basic American Potato

Current Equipment					Pounds per Hour						Tons per Year						
Emission Unit	Description	Capacity, MMBtuh	Maximum Gas Usage		PM-10/PM-2.5 Emissions (lb/hr)	NOx Emissions (lb/hr)	SOx Emissions (lb/hr)	CO Emissions (lb/hr)	Lead Emissions (lb/hr)	VOC Emissions (lb/hr)	PM-10/PM-2.5 Emissions (ton/yr)	NOx Emissions (ton/yr)	SOx Emissions (ton/yr)	CO Emissions (ton/yr)	Lead Emissions (ton/yr)	VOC Emissions (ton/yr)	
			Maximum Annual Duty	scf/hr	MMscf/yr												
EU 01	Processing East Boiler	53.4	100%	52,353	458.6	0.3979	2.6176	0.0314	4.3975	2.618E-05	0.2879	1.7427	11.4653	0.1376	19.2617	1.147E-04	1.2612
EU 02	Processing West Boiler	40.5	100%	39,706	347.8	0.3018	1.9853	0.0238	3.3353	1.985E-05	0.2184	1.3217	8.6956	0.1043	14.6086	8.696E-05	0.9565
EU 7	Scratch Match Air Makeup	5	50%	4,902	21.5	0.0373	0.4902	0.0029	0.4118	2.451E-06	0.0270	0.0816	1.0735	0.0064	0.9018	5.368E-06	0.0590
EU 6	Reblend Room Air Makeup	1	50%	980	4.3	0.0075	0.0980	0.0006	0.0824	4.902E-07	0.0054	0.0163	0.2147	0.0013	0.1804	1.074E-06	0.0118
EU 8	Building #3 Air Makeup	3	50%	2,941	12.9	0.0224	0.2941	0.0018	0.2471	1.471E-06	0.0162	0.0490	0.6441	0.0039	0.5411	3.221E-06	0.0354
EU 9	Building #4 Air Makeup	10	50%	9,804	42.9	0.0745	0.9804	0.0059	0.8235	4.902E-06	0.0539	0.1632	2.1471	0.0129	1.8035	1.074E-05	0.1181
EU 20	Dehydration North Boiler	10.5	100%	10,294	90.2	0.0782	1.0294	0.0062	0.8647	5.147E-06	0.0566	0.3427	4.5088	0.0271	3.7874	2.254E-05	0.2480
EU 21	Dehydration South Boiler	8.4	100%	8,235	72.1	0.0626	0.8235	0.0049	0.6918	4.118E-06	0.0453	0.2741	3.6071	0.0216	3.0299	1.804E-05	0.1984
EU 22	Dryer #1 A Stage	6.4	100%	6,275	55.0	0.0477	0.6275	0.0038	0.5271	3.137E-06	0.0345	0.2089	2.7482	0.0165	2.3085	1.374E-05	0.1512
EU 23	Dryer #1 B&C Stages	2.8	100%	2,745	24.0	0.0209	0.2745	0.0016	0.2306	1.373E-06	0.0151	0.0914	1.2024	0.0072	1.0100	6.012E-06	0.0661
EU 24	Dryer #2 A Stage	6.4	100%	6,275	55.0	0.0477	0.6275	0.0038	0.5271	3.137E-06	0.0345	0.2089	2.7482	0.0165	2.3085	1.374E-05	0.1512
EU 25	Dryer #2 B&C Stages	2.8	100%	2,745	24.0	0.0209	0.2745	0.0016	0.2306	1.373E-06	0.0151	0.0914	1.2024	0.0072	1.0100	6.012E-06	0.0661
EU 26	Dryer #3 A Stage	6.4	100%	6,275	55.0	0.0477	0.6275	0.0038	0.5271	3.137E-06	0.0345	0.2089	2.7482	0.0165	2.3085	1.374E-05	0.1512
EU 27	Dryer #3 B&C Stages	2.8	100%	2,745	24.0	0.0209	0.2745	0.0016	0.2306	1.373E-06	0.0151	0.0914	1.2024	0.0072	1.0100	6.012E-06	0.0661
EU 34	Dehy Bin Dryer - New Burner	2	100%	1,961	17.2	0.0149	0.1961	0.0012	0.1647	9.804E-07	0.0108	0.0653	0.8588	0.0052	0.7214	4.294E-06	0.0472
EU 35	Wet Area Air Makeup	3.5	50%	3,431	15.0	0.0261	0.3431	0.0021	0.2882	1.716E-06	0.0189	0.0571	0.7515	0.0045	0.6312	3.757E-06	0.0413
EU 36	South Dryer Room 4&5 Air Makeup	5	50%	4,902	21.5	0.0373	0.4902	0.0029	0.4118	2.451E-06	0.0270	0.0816	1.0735	0.0064	0.9018	5.368E-06	0.0590
EU 37	South Dryer Room 4&5 Roof Air Makeup	5	50%	4,902	21.5	0.0373	0.4902	0.0029	0.4118	2.451E-06	0.0270	0.0816	1.0735	0.0064	0.9018	5.368E-06	0.0590
EU 38	Inspection Room Roof Air Makeup	3.5	50%	3,431	15.0	0.0261	0.3431	0.0021	0.2882	1.716E-06	0.0189	0.0571	0.7515	0.0045	0.6312	3.757E-06	0.0413
EU 39	Dehydration Research Dryer	0.88	100%	863	7.6	0.0066	0.0863	0.0005	0.0725	4.314E-07	0.0047	0.0287	0.3779	0.0023	0.3174	1.889E-06	0.0208
EU 68	New Air Makeup Unit	3.5	50%	3,431	15.0	0.03	0.34	0.0021	0.2882	1.72E-06	0.0189	0.06	0.75	0.00	0.63	3.757E-06	0.04
Total		182.78		179,196	1,400.1	1.36	13.32	0.1075	15.0525	8.96E-05	0.9856	5.32	49.85	0.42	58.81	3.500E-04	3.85

Notes:

* Potential to Emit for Air Makeup Unit is 50% of capacity for annual usage.

PARTICULATE PROCESS EMISSIONS - DRYERS, FLAKERS, PEELERS AND BAGHOUSE EQUIPMENT - NONPAREIL

Description	Throughput		PM Emission Factor		Reference	PM		PM10		PM2.5	
	Value	Units	Value	Units		lb/hr	ton/yr ^a	lb/hr	ton/yr ^a	lb/hr	ton/yr ^a
Current Equipment											
Processing Peeler Exhaust	5,000	lb/hr	0.064	lb/ton	Mass Balance - Tier II OP 011-00027, Tech Memo	0.16	0.70	0.16	0.70	0.16	0.70
Flaker Nos. 1	1,250	lb/hr	4	lb/ton	Based on review of five flaker emissions tests	2.50	10.95	2.50	10.95	2.50	10.95
Flaker Nos. 2	1,250	lb/hr	4	lb/ton	Same as Flaker #1	2.50	10.95	2.50	10.95	2.50	10.95
Flaker Nos. 3	1,000	lb/hr	4	lb/ton	Same as Flaker #1	2.00	8.76	2.00	8.76	2.00	8.76
Flaker Nos. 4	1,000	lb/hr	4	lb/ton	Same as Flaker #1	2.00	8.76	2.00	8.76	2.00	8.76
Flaker Nos. 5	1,000	lb/hr	4	lb/ton	Same as Flaker #1	2.00	8.76	2.00	8.76	2.00	8.76
Dehydration Air Dryer #1 A Stage	1,000	lb/hr	2.08	lb/ton	Based on review of four stack tests from similar dryers	1.04	4.56	1.04	4.56	1.04	4.56
Dehydration Air Dryer #1 B&C Stages	1,000	lb/hr	0.92	lb/ton	Based on review of four stack tests from similar dryers	0.46	2.01	0.46	2.01	0.46	2.01
Dehydration Air Dryer #2 A Stage	1,000	lb/hr	2.08	lb/ton	Same as Dehydration Air Dryer #1 A Stage	1.04	4.56	1.04	4.56	1.04	4.56
Dehydration Air Dryer #2 B&C Stages	1,000	lb/hr	0.92	lb/ton	Same as Dehydration Air Dryer #1 B&C Stages	0.46	2.01	0.46	2.01	0.46	2.01
Dehydration Air Dryer #3 A Stage	1,000	lb/hr	2.08	lb/ton	Same as Dehydration Air Dryer #1 A Stage	1.04	4.56	1.04	4.56	1.04	4.56
Dehydration Air Dryer #3 B&C Stages	1,000	lb/hr	0.92	lb/ton	Same as Dehydration Air Dryer #1 B&C Stages	0.46	2.01	0.46	2.01	0.46	2.01
Dehydration Bin Dryer ^b	1,000	lb/hr	1.25	lb/ton	2004 Source Test - PM-10 emissions assume 44% of PM is PM-10 (AP-42, Appendix B, 1-9.9.2)	0.63	2.74	0.63	2.74	0.63	2.74
Dehydration Research Dryer	125	lb/hr	2.8	lb/ton	Mass Balance - Tier II OP 011-00027, Tech Memo	0.18	0.77	0.18	0.77	0.18	0.77
Dehydration Steam Peeler	5,000	lb/hr	0.064	lb/ton	Mass Balance - Tier II OP 011-00027, Tech Memo	0.16	0.70	0.16	0.70	0.16	0.70
Description	Throughput (ACF/hr)		Emission Factor (lb PM / ACF)^c		EF Reference	PM Emissions (lb/hr)^d	PM Emissions (T/yr)^d	PM-10 Emissions (lb/hr)	PM-10 Emissions (T/yr)^d	PM-2.5 Emissions (lb/hr)	PM-2.5 Emissions (T/yr)^d
Grinding Circuit No. 1 Baghouse	150,000		2.87E-09		Manufacturer's Guarantee - See Environmental Quality Evaluation Report	0.00043	0.00188	0.00	0.00	0.00	0.00
Grinding Circuit No. 2 Baghouse	201,600		2.87E-09		Manufacturer's Guarantee - See Environmental Quality Evaluation Report	0.00058	0.00253	0.00058	0.00253	0.00058	0.00253
Flake Baghouse	420,000		2.87E-09		Manufacturer's Guarantee - See Environmental Quality Evaluation Report	0.00120	0.00527	0.00120	0.00527	0.00120	0.00527
Packing Baghouse No. 1	37,800		2.87E-09		Manufacturer's Guarantee - See Environmental Quality Evaluation Report	0.00011	0.00047	0.00011	0.00047	0.00011	0.00047
Packing Baghouse No. 2	105,000		2.87E-09		Manufacturer's Guarantee - See Environmental Quality Evaluation Report	0.00030	0.00132	0.00030	0.00132	0.00030	0.00132
Crush-room Baghouse No. 1	37,800		2.87E-09		Manufacturer's Guarantee - See Environmental Quality Evaluation Report	0.00011	0.00047	0.00011	0.00047	0.00011	0.00047
Crush-room Baghouse No. 2	105,000		2.87E-09		Manufacturer's Guarantee - See Environmental Quality Evaluation Report	0.00030	0.00132	0.00030	0.00132	0.00030	0.00132
Total Equipment Emissions						16.62	72.81	16.62	72.81	16.62	72.81

^a Based on 8,760 hours per year
^b The Dehydration Bin Dryer process closely resembles the Dehydration Air Dryers Stage C
^c EF = (0.000017 g/dscf / 7000 gr/ton) * 1.18 dscf/ton = 2.87E-09 acf = dscf * (70 * 480/528 * (29.9225/422))

Toxic and Hazardous Air Pollutant Emission Factors - NG Burners

Maximum NG Combustion, MMscf **Hourly** **Annual**
0.179 **0.179** **1400.1**

Air Pollutant	Emission Factor		EPA Hazardous Air Pollutant?	Idaho Toxic Air Pollutant?	Potential Emissions	
	lb/MMscf	Reference			lb/hr	lb/yr
POM Components						
Acenaphthene	1.80E-06*	AP-42, Table 1.4-3	Yes	Yes (General PAH)	3.23E-07	2.52E-03
Acenaphthylene	1.80E-06*	AP-42, Table 1.4-3	Yes	Yes (General PAH)	3.23E-07	2.52E-03
Anthracene	2.40E-06*	AP-42, Table 1.4-3	Yes	Yes (General PAH)	4.30E-07	3.36E-03
Benzo(a)anthracene	1.80E-06*	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)	3.23E-07	2.52E-03
Benzo(a)pyrene	1.20E-06*	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)	2.15E-07	1.68E-03
Benzo(b)fluoranthene	1.80E-06*	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)	3.23E-07	2.52E-03
Benzo(g,h,i)perylene	1.20E-06*	AP-42, Table 1.4-3	Yes	Yes (General PAH)	2.15E-07	1.68E-03
Benzo(k)fluoroanthene	1.80E-06*	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)	3.23E-07	2.52E-03
Chrysene	1.80E-06*	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)	3.23E-07	2.52E-03
Dibenzo(a,h)anthracene	1.20E-06*	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)	2.15E-07	1.68E-03
7,12-Dimethylbenz(a)anthracene	1.60E-05*	AP-42, Table 1.4-3	Yes	Yes (General PAH)	2.87E-06	2.24E-02
Fluoranthene	3.00E-06	AP-42, Table 1.4-3	Yes	Yes (General PAH)	5.38E-07	4.20E-03
Fluorene	2.80E-06	AP-42, Table 1.4-3	Yes	Yes (General PAH)	5.02E-07	3.92E-03
Indeno(1,2,3-cd)pyrene	1.80E-06*	AP-42, Table 1.4-3	Yes	Yes (7-PAH Group)	3.23E-07	2.52E-03
2-Methylnaphthalene	2.40E-05	AP-42, Table 1.4-3	Yes	Yes (General PAH)	4.30E-06	3.36E-02
3-Methylchloroanthene	1.80E-06*	AP-42, Table 1.4-3	Yes	Yes (General PAH)	3.23E-07	2.52E-03
Naphthalene	6.10E-04	AP-42, Table 1.4-3	Yes	Yes (General PAH)	1.09E-04	8.54E-01
Phenanthrene	1.70E-05	AP-42, Table 1.4-3	Yes	Yes (General PAH)	3.05E-06	2.38E-02
Pyrene	5.00E-06	AP-42, Table 1.4-3	Yes	Yes (General PAH)	8.96E-07	7.00E-03
PAH (Idaho)	6.87E-04	Summation of individual ID PAH components	-	Yes (Carcinogen)	1.23E-04	9.62E-01
POM (Idaho)	1.14E-05	Summation of ID POM 7-PAH components	-	Yes (Carcinogen)	2.04E-06	1.60E-02
POM (EPA)	6.98E-04	Sum of individual POM components	Yes	-	1.25E-04	9.78E-01
Benzene	2.10E-03	AP-42, Table 1.4-3	Yes	Yes (Carcinogen)	3.76E-04	2.94E+00
Dichlorobenzene	1.20E-03	AP-42, Table 1.4-3	Yes	Yes (Noncarcinogen)	2.15E-04	1.68E+00
Formaldehyde	7.50E-02	AP-42, Table 1.4-3	Yes	Yes (Carcinogen)	1.34E-02	1.05E+02
Hexane	1.80E+00	AP-42, Table 1.4-3	Yes	Yes (Noncarcinogen)	3.23E-01	2.52E+03
Pentane	2.60E+00	AP-42, Table 1.4-3	No	Yes (Noncarcinogen)	4.66E-01	3.64E+03
Toluene	3.40E-03	AP-42, Table 1.4-3	Yes	Yes (Noncarcinogen)	6.09E-04	4.76E+00
Arsenic	2.00E-04	AP-42, Table 1.4-4	Yes	Yes (Carcinogen)	3.58E-05	2.80E-01
Beryllium	1.20E-05*	AP-42, Table 1.4-4	Yes	Yes (Carcinogen)	2.16E-06	1.69E-02
Cadmium	1.10E-03	AP-42, Table 1.4-4	Yes	Yes (Carcinogen)	1.97E-04	1.54E+00
Chromium	1.40E-03	AP-42, Table 1.4-4	Yes	Yes (Noncarcinogen)	2.50E-04	1.96E+00
Chromium (VI)	6.99E-05	5% of chromium assumed to be Chromium (VI) [†]	No	Yes (Carcinogen)	1.25E-05	9.78E-02
Cobalt	8.40E-05	AP-42, Table 1.4-4	Yes	Yes (Noncarcinogen)	1.51E-05	1.18E-01
Lead	5.00E-04	AP-42, Table 1.4-2	Yes	Yes (Noncarcinogen)	8.96E-05	7.00E-01
Manganese	3.80E-04	AP-42, Table 1.4-4	Yes	Yes (Noncarcinogen)	6.82E-05	5.33E-01
Mercury	2.60E-04	AP-42, Table 1.4-4	Yes	Yes (Noncarcinogen)	4.66E-05	3.64E-01
Nickel	2.10E-03	AP-42, Table 1.4-4	Yes	Yes (Carcinogen)	3.77E-04	2.94E+00
Selenium	2.40E-05*	AP-42, Table 1.4-4	Yes	Yes (Noncarcinogen)	4.30E-06	3.36E-02
Nitrous Oxide	2.20E+00	AP-42, Table 1.4-2	No	Yes (Noncarcinogen)	3.94E-01	3.08E+03
HAP Analysis						
EPA Total HAPs	1.89E+00	Summation of individual EPA HAP components				2644
Largest Individual HAP						
Hexane	1.80E+00					2520

* Emission factor is Method Detection Limit

† Based on 1020 BTU/scf natural gas heat content

‡ See "AB 2588 Combustion Emission Factors", Ventura County APCD, May 17, 2001.

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on August 22, 2018:

There were no comments from the facility.

APPENDIX C – PROCESSING FEE

PTC Processing Fee Calculation Worksheet

Instructions:

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

Company: Basic American Potato Company, Inc.
Address: 409 West Collins Road
City: Blackfoot
State: Idaho
Zip Code: 83221
Facility Contact: Steve Brockett
Title: Idaho Campus Env. Manager
AIRS No.: 011-00027

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

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	30.83	-30.8
SO ₂	0.0	0.13	-0.1
CO	0.0	18.59	-18.6
PM10	0.0	60.25	-60.3
VOC	0.0	1.22	-1.2
TAPS/HAPS	0.0	0	0.0
Total:	0.0	111.02	-111.0
Fee Due	\$ 1,900.00		

Comments: P-2010.0057 - Project 62080