

Statement of Basis

**Permit to Construct No. P-2010.0057
Project ID 61651**

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

Facility ID 011-00012

Final

**January 28, 2016
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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.

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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
BAF	Basic American Foods – Blackfoot Plant
BAPCI	Basic American Potato Company, Inc.
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 ₂ e	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

ND	no data provided
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
Nonpareil	Nonpareil Corporation
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
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SIC	Standard Industrial Classification
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
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

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

- Idaho Potato Packers - a fresh potato facility 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).

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. (A, will be S after issuing this revised PTC).
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 a ownership transfer from Nonpareil Corporation (Facility ID No. 011-00027) to Basic American Potato Company, Inc. (Facility ID No. 011-00012) through a permit revision. In addition, the applicant has proposed the following changes to the permit:

- Remove the 18 heaters and pressure washer which are not owned by BAPCI.
- Remove Dehydrated Air Dryer No. 4 which is no longer operational.
- The existing PTC allows for No. 2 fuel oil usage in the east processing boiler. BAPCI combusts natural gas exclusively throughout the plant and has requested to remove No. 2 fuel oil as a fuel option for the east processing boiler.
- Due to the removal of No. 2 fuel oil, 40 CFR 63 Subpart JJJJJ is no longer applicable as stated by section 40 CFR 63.11195(e). BAPCI has requested to remove these requirements.
- Revise 40 CFR 60 Subpart Dc to reflect the removal of No. 2 fuel oil usage.

Application Chronology

July 29, 2015	DEQ received an application.
August 14, 2015	DEQ determined that the application was complete.
October 5, 2015	DEQ made available the draft permit and statement of basis for peer and regional office review.
October 9, 2015	DEQ made available the draft permit and statement of basis for applicant review.
October 26 – November 25, 2015	DEQ provided a public comment period and concurrent EPA review on the proposed action.
January 26, 2016	DEQ received the permit processing fee.
January 28, 2016	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Basic American Inc. purchased the potato dehydration plants of Nonpareil Corporation on May 17, 2013 and named them as Basic American Potato Company, Inc. Because BAPCI and Basic American Foods – Blackfoot Plant (BAF) have the same owner, are adjacent, and have same first two digits of SIC, the two are considered as one Tier I source or Tier I facility. Except that facility's classification is based on emissions from BAPCI and BAF, all technical analyses in this SOB are for the BAPCI only.

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 Company Model: NS-C-50 Construction date: 1998 (NSPS) Design capacity: 53.4 MMBtu/hr Fuel types: Natural gas	Low-NO _x (30ppm) burner for natural gas	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)
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	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

Source ID No.	Sources	Control Equipment	Emission Point ID No.
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 Bag, 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 bag 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

Source ID No.	Sources	Control Equipment	Emission Point ID No.
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
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: 1,000 lb/hr for each stage. 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: 1,000 lb/hr for each stage. 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

Source ID No.	Sources	Control Equipment	Emission Point ID No.
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: 1,000 lb/hr for each stage. 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 31 (4A) EU 32 (4B) EU 33 (4C)	<u>Dehydration air dryer No. 5</u> Manufacturer: National Model: NA Burner Model: Eclipse Manufacture Date: 1991 Heat input rating: Stage A = 10.4 MMBtu/hr Stage B = 3.2 MMBtu/hr Stage C = 3.3 MMBtu/hr Max. production: 1,200 lb/hr for each stage. Fuel: Natural gas	None	<u>Stage 4A</u> Exit height: 41.5 ft (12.65 m) Exit diameter: 3.4 ft Exit flow rate: 26039 acfm Exit temperature: 160 °F <u>Stage 4B</u> Exit height: 41.5 ft (12.65 m) Exit diameter: 2.6 ft Exit flow rate: 10991 acfm Exit temperature: 150 °F <u>Stage 4C</u> Exit height: 41.5 ft (12.65 m) Exit diameter: 2 ft Exit flow rate: 6993 acfm Exit temperature: 90 °F
EU 45 (6A) EU46 (6B) EU47 (6C)	<u>Dehydration Air Dryer 6:</u> Manufacturer: Buhler Model: NA Burner Model: Eclipse Manufacture Date: 2012 Heat input rating: Stage A = 10.4 MMBtu/hr Stage B = 3.2 MMBtu/hr Stage C = 3.3 MMBtu/hr Max. production: 1,200 lb/hr for each stage. Fuel: Natural gas	None	<u>Stage A</u> Exit height: 41.5 ft (12.65 m) Exit diameter: 3.07 ft (0.94 m) Exit flow rate: 26,037 acfm Exit temperature: 160 °F (344.26 K) <u>Stage B</u> Exit height: 27.0 ft (8.23 m) Exit diameter: 2.59 ft (0.79 m) Exit flow rate: 10,990 acfm Exit temperature: 150 °F (338.71 K) <u>Stage C</u> Exit height: 27.0 ft (8.23 m) Exit diameter: 1.93 ft (0.59 m) Exit flow rate: 7,012.7 acfm Exit temperature: 130 °F (327.59 K)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
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)
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: 3.3 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

Source ID No.	Sources	Control Equipment	Emission Point ID No.
EU 40	<u>Packaging material transfer</u>	<u>Packaging baghouse No. 1</u> Manufacturer: Mikropulsaire, No. of bags: 9 Bag, 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 Bag, 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
EU 48	<u>Dryer 6 Air Makeup:</u> Manufacturer: Reyco Model: AMU-350 Heat input rating: 3.5 MMBtu/hr Fuel: Natural gas	None	NA (Volume source)

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit (PTE) 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 that 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.

Pre-Project Potential to Emit

Pre-project PTE 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 and GHG pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

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

	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC	Lead	CO ₂ e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	Tonne/yr
Pre-Project Totals (All sources)	141.1	138.0	91.6	98.5	80.8	5.3	0.002	107,673

Post Project Potential to Emit

Post project PTE is to determine the facility's classification as a result of this project. Post project PTE considers all permit limits resulting from this project.

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

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

	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC	Lead	CO ₂ e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	Tonne/yr
Post Project Totals (All sources)	138.38	135.30	0.55	80.68	77.40	5.07	4.61E-04	102,230

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. Emissions calculations for this permitting action can be found in Appendix A and the application supplement.

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

	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC	Lead	CO ₂ e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	Tonne/yr
Changes in Potential to Emit	-2.7	-2.7	-91.1	-17.9	-3.4	-0.2	-0.0015	-5,443

Non-Carcinogenic TAP Emissions

With the proposed changes, the emissions of non-carcinogenic TAP, based on 24-hr average, decreases.

Carcinogenic TAP Emissions

All carcinogenic TAP increments are less than their respective screening levels (EL).

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP 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 5 HAZARDOUS AIR POLLUTANTS EMISSIONS PRE-PROJECT POTENTIAL TO EMIT SUMMARY AT BAPCI

HAP Pollutants	PTE (T/yr)
Mercury Compounds	2.40E-04
Ethylbenzene	0.00E+00

Hexane*	1.66E+00
Naphthalene	5.62E-04
Toluene	3.13E-03
o-Xylene	0.00E+00
Benzene	1.94E-03
Beryllium Compounds	1.11E-05
Cadmium Compounds	1.01E-03
Formaldehyde	6.91E-02
Total	1.73E+00

* 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 within AQCR 61 and UTM zone 12. The facility is located in Bingham County, which is designated as unclassifiable for PM₁₀, PM_{2.5}, CO, NO₂, SO_x, and ozone. There are no Class I areas within 10 kilometers of the facility. 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 6 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE from BAPCI (T/yr)	Permitted PTE from BAF ¹ (T/yr)	Total Permitted PTE Facility-Wide (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM/PM ₁₀	ND	138.38	128	266.38	100	A
PM _{2.5}	ND	135.30	128	263.3	100	A
SO ₂	>100	0.55	161	161.55	100	A
NO _x	>100	80.68	235	315.68	100	A
CO	>100	77.40	235	312.4	100	A
VOC	<100	5.07	5.1	10.17	100	B
HAP (single, max.)	<10	1.66	<2.97	4.63	10	B
HAP (Total)	<25	1.73	2.97	4.7	25	B

¹ Taken from the statement of basis for PTC No. P-2009.0043 project 0043 issued to Basic American Foods – Blackfoot Plant (BAF) on January 20, 2011.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The permittee has requested to transfer the existing PTC issued on June 8, 2012 from Nonpareil Corporation to BAPCI, to remove a few existing emissions units, and to remove No. 2 fuel oil as a fuel option for the east processing boiler. 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

The facility is currently a Tier I major facility and is operating under Tier I Operating Permit T1-2008.0077 issued on September 13, 2010. It will be administratively amended in accordance with IDAPA 58.01.01.209.05.c and 381.

Basic American Potato Company, Inc. and Basic American Foods – Blackfoot Plant are one facility for Title V program. The facility classification is based on emissions from both plants.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a PSD major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change or change in the method of operation 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)

While the east processing boiler continues being subject to 40 CFR 60 Subpart Dc, the applicable requirements are revised in the permit because the east processing boiler is no longer permitted to burn No. 2 fuel oil but burn natural gas only.

NESHAP Applicability (40 CFR 61)

This permitting action does not trigger any new NESHAP requirements in 40 CFR 61.

NESHAP Applicability (40 CFR 63)

The permittee is no longer subject to 40 CFR 63 Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources because the east processing boiler is no longer permitted to burn No. 2 fuel oil but burn natural gas only. The requirements from this subpart are removed from the permit.

The west processing boiler is only permitted to burn natural gas and is not subject to this subpart either.

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. The current PTC formatting is used for this permitting action.

PERMIT SCOPE

Permit Conditions 1.1 – 1.3

Permit Condition 1.1 states the purpose of this permitting action. Permit Condition 1.2 states that permit conditions affected by this permitting action are identified by a date citation located directly under the permit condition and on the right hand margin. Permit Condition 1.3 states that this PTC replaces PTC No. P-2010.0057 project 61004, issued on June 8, 2012.

Table 1.1

Table 1.1 lists the regulated sources by this permit. No. 2 fuel oil is removed from the east processing boiler as a fuel option. Dehydrating Air Dryer No.4 and office space heaters are also removed.

EAST AND WEST PROCESSING BOILERS

Table 2.1

No. 2 fuel oil is removed from the east processing boiler as a fuel option. Other fuel oil related information is removed.

Table 2.2

The PM₁₀ emission limits for the east processing boiler are revised to reflect that the boiler is only permitted to burn natural gas.

Permit Condition 2.4

“No. 2 Fuel oil” is removed from PC 2.4 as the east processing boiler is to be permitted to burn natural gas only.

Old Permit Conditions 2.4, 2.6, 2.8, 2.9 – 2.12 and 2.15 to 2.27

Because the east processing boiler is to be permitted to burn natural gas only, it is no longer subject to 40 CFR 63 Subpart JJJJJ and some requirements in 40 CFR 60 Subpart Dc. Old PCs 2.4, 2.6, 2.8, 2.9 to 2.12 and 2.15 to 2.27 are no longer applicable and removed.

Permit Condition 2.6

PC 2.6 is revised to reflect that the east processing boiler is to be permitted to burn natural gas only.

DRYERS

Permit Condition 3.1 and Tables 3.1 and 3.2

The applicant no longer uses Dehydration Air Dryer No. 4 and has requested to remove it from the permit. Permit Condition 3.1, Table 3.1, Table 3.2 have revised to reflect this change.

MATERIAL TRANSFER OPERATIONS, FLAKERS, AND PEELERS

Old PC 4.4 requiring raising stack height prior to burning No. 2 fuel oil in the east processing boiler is removed because the east processing boiler is no longer permitted to burn fuel oil.

SUMMARY OF EMISSION RATE LIMITS

Table 5.1

Emissions limits for Dehydration Air Dryer No. 4 are removed because the applicant no longer uses dehydration air dryer No. 4 and has requested to remove it from the permit. Emissions limits for east processing boiler are revised to reflect that the boiler is now permitted to burn natural gas only.

GENERAL PROVISIONS

General Provisions have been updated to the current template.

PUBLIC REVIEW

Public Comment Period and EAP Concurrent Review

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.

In accordance with IDAPA 58.01.01.209.05.c, DEQ provided the draft permit to EAP Region 10 for a concurrent review with the public comment period. No comments were received from EAP.

APPENDIX A – EMISSIONS INVENTORIES

CHANGE IN COMBUSTION EMISSIONS

Current Emissions Description	PM-10/PM-2.5 Emissions		NOx Emissions		SOx Emissions		CO Emissions		VOC Emissions		Lead Emissions	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Processing East Boiler (#2 Fuel) and West Boiler	1.42	5.50	10.77	42.72	24.50	91.29	5.04	33.87	0.51	2.22	4.39E-04	1.65E-03
Other Combustion Equipment	0.84	3.69	12.74	55.82	0.08	0.33	10.71	46.89	0.70	3.07	6.37E-05	2.79E-04
TOTAL	2.27	9.19	23.51	98.54	24.58	91.63	15.74	80.76	1.21	5.29	5.03E-04	1.93E-03

Changes of Emissions Description	PM-10/PM-2.5 Emissions		NOx Emissions		SOx Emissions		CO Emissions		VOC Emissions		Lead Emissions	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Processing East Boiler and West Boiler (NG only)	0.70	3.06	6.59	28.86	0.06	0.24	7.73	33.87	0.51	2.22	4.60E-05	2.02E-04
Other Combustion Equipment	0.84	3.69	12.74	55.82	0.08	0.33	10.71	46.89	0.70	3.07	6.37E-05	2.79E-04
Heater Equipment Removed	-0.03	-0.13	-0.38	-1.68	-0.002	-0.01	-0.32	-1.41	-0.02	-0.09	-1.92E-06	-8.40E-06
Dryer #4 Removed	-0.04	-0.18	-0.53	-2.32	-0.003	-0.01	-0.44	-1.95	-0.03	-0.13	-2.65E-06	-1.16E-05
TOTAL	1.47	6.45	18.42	80.68	0.13	0.55	17.67	77.40	1.16	5.07	1.05E-04	4.61E-04

PROCESS EMISSIONS

Description	PM-10 Emissions		PM-2.5 Emissions	
	lb/hr	T/yr	lb/hr	T/yr
Process Equipment	30.12	131.93	29.42	128.85
TOTAL	30.12	131.93	29.42	128.85

^a East boiler lb/hr and ton/yr maximum emissions between NG and Fuel Oil # 2

TOTAL CHANGE IN EMISSIONS

Description	PM-10 Emissions		PM-2.5 Emissions		NOx Emissions		SOx Emissions		CO Emissions		VOC Emissions	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Current Facility-Wide PTE (2008 Tier 1 SOB)		164.99		n/a		117.63		248.32		75.49		5.54
Pre-Project Totals (2012 mod)	32.4	141.1	31.7	138.0	23.5	98.5	24.6	91.6	15.7	80.8	1.2	5.3
Proposed Facility Modification Change	-0.8	-2.7	-0.8	-2.7	-5.1	-17.9	-24.5	-91.1	1.9	-3.4	-0.1	-0.2
Post-Project TOTAL	31.59	138.38	30.89	135.30	18.42	80.68	0.13	0.55	17.67	77.40	1.16	5.07

CRITERIA EMISSIONS - NATURAL GAS COMBUSTION - NONPAREIL

NG Emission Factors

NOx	50 lb/10 ⁶ scf	AP-42, Table 1.4-1, 1998, Low NOx Burners
NOx	100 lb/10 ⁶ scf	AP-42, Table 1.4-1, 1998
CO	84 lb/10 ⁶ scf	AP-42, Table 1.4-1, 1998
PM-10	7.6 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
SOx	0.6 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
VOC	5.5 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998
Lead	0.0005 lb/10 ⁶ scf	AP-42, Table 1.4-2, 1998

Current Equipment

Description	Capacity (MMBtu/hr)	Throughput (scf/hr)	Hour/yr	Pounds per Hour						Tons per Year					
				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)
Processing East Boiler	53.4	52,360	8760	0.3979	2,6180	0.0314	4,3982	2,618E-05	0.2880	1.7430	11.4668	0.1376	19.2643	1,147E-04	1.2614
Processing West Boiler	40.5	39,705.9	8760	0.3018	3,9706	0.0238	3,3353	1.985E-05	0.2184	1.3217	17.3912	0.1043	14.6086	8.696E-05	0.9565
Scratch Match Air Makeup	5	4,902.0	8760	0.0373	0.4902	0.0029	0.4118	2.451E-06	0.0270	0.1632	2.1471	0.0129	1.8035	1.074E-05	0.1181
Reblend Room Air Makeup	1	980.4	8760	0.0075	0.0980	0.0006	0.0824	4.902E-07	0.0054	0.0326	0.4294	0.0026	0.3607	2.147E-06	0.0236
Building #3 Air Makeup	3	2,941.2	8760	0.0224	0.2941	0.0018	0.2471	1.471E-06	0.0162	0.0979	1.2882	0.0077	1.0821	6.441E-06	0.0709
Building #4 Air Makeup	10	9,803.9	8760	0.0745	0.9804	0.0059	0.8235	4.902E-06	0.0539	0.3264	4.2941	0.0258	3.6071	2.147E-05	0.2362
Dehydration North Boiler	10.5	10,294.1	8760	0.0782	1.0294	0.0062	0.8647	5.147E-06	0.0565	0.3427	4.5088	0.0271	3.7874	2.254E-05	0.2480
Dehydration South Boiler	8.4	8,235.3	8760	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
Dryer #1 A Stage	6.4	6,274.5	8760	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
Dryer #1 B&C Stages	2.8	2,745.1	8760	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
Dryer #2 A Stage	6.4	6,274.5	8760	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
Dryer #2 B&C Stages	2.8	2,745.1	8760	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
Dryer #3 A Stage	6.4	6,274.5	8760	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
Dryer #3 B&C Stages	2.8	2,745.1	8760	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
Dryer #4 A Stage	4.77	4,676.5	8760	0.0355	0.4676	0.0028	0.3928	2.338E-06	0.0257	0.1557	2.0483	0.0123	1.7206	1.024E-05	0.1127
Dryer #4 B Stage	0.33	323.5	8760	0.0025	0.0324	0.0002	0.0272	1.618E-07	0.0018	0.0108	0.1417	0.0009	0.1190	7.085E-07	0.0078
Dryer #4 C Stage	0.3	294.1	8760	0.0022	0.0294	0.0002	0.0247	1.471E-07	0.0016	0.0098	0.1288	0.0008	0.1082	6.441E-07	0.0071
Dryer #5 A Stage	10.4	10,196.1	8760	0.0775	1.0196	0.0061	0.8565	5.098E-06	0.0561	0.3394	4.4659	0.0268	3.7513	2.233E-05	0.2456
Dryer #5 B Stage	3.2	3,137.3	8760	0.0238	0.3137	0.0019	0.2635	1.569E-06	0.0173	0.1044	1.3741	0.0082	1.1543	6.871E-06	0.0756
Dryer #5 C Stage	3.3	3,235.3	8760	0.0246	0.3235	0.0019	0.2718	1.618E-06	0.0178	0.1077	1.4171	0.0085	1.1903	7.085E-06	0.0779
Wet Area Air Makeup	3.5	3,431.4	8760	0.0261	0.3431	0.0021	0.2882	1.716E-06	0.0189	0.1142	1.5029	0.0090	1.2625	7.515E-06	0.0827
South Dryer Room 4&5 Air Makeup	5	4,902.0	8760	0.0373	0.4902	0.0029	0.4118	2.451E-06	0.0270	0.1632	2.1471	0.0129	1.8035	1.074E-05	0.1181
South Dryer Room 4&5 Roof Air Makeup	5	4,902.0	8760	0.0373	0.4902	0.0029	0.4118	2.451E-06	0.0270	0.1632	2.1471	0.0129	1.8035	1.074E-05	0.1181
Inspection Room Roof Air Makeup	3.5	3,431.4	8760	0.0261	0.3431	0.0021	0.2882	1.716E-06	0.0189	0.1142	1.5029	0.0090	1.2625	7.515E-06	0.0827
Dehydration Research Dryer	0.88	862.7	8760	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
New Dehy Dryer #6 A Stage ¹	10.4	10,196.1	8760	0.00	1.02	0.01	0.8565	5.10E-06	0.0561	0.00	4.47	0.03	3.75	2.23E-05	0.25
New Dehy Dryer #6 B Stage	3.2	3,137.3	8760	0.00	0.31	0.0019	0.2635	1.57E-06	0.0173	0.00	1.37	0.01	1.15	6.87E-06	0.08
New Dehy Dryer #6 C Stage	3.3	3,235.3	8760	0.00	0.32	0.0019	0.2718	1.62E-06	0.0178	0.00	1.42	0.01	1.19	7.09E-06	0.08
New Air Makeup Unit	3.5	3,431.4	8760	0.03	0.34	0.0021	0.2882	1.72E-06	0.0189	0.11	1.50	0.01	1.26	7.51E-06	0.08
Office Space Heater #1	0.25	245.1	8760	0.0019	0.02	0.0001	0.0206	1.23E-07	0.0013	0.01	0.11	0.00	0.09	5.37E-07	0.01
Office Space Heater #2	0.25	245.1	8760	0.0019	0.02	0.0001	0.0206	1.23E-07	0.0013	0.01	0.11	0.00	0.09	5.37E-07	0.01
Office Space Heater #3	0.085	83.3	8760	0.0006	0.01	0.0001	0.0070	4.17E-08	0.0005	0.003	0.04	0.00	0.03	1.83E-07	0.002
Fab Shop Space Heater #1	0.25	245.1	8760	0.0019	0.02	0.0001	0.0206	1.23E-07	0.0013	0.01	0.11	0.00	0.09	5.37E-07	0.01
Fab Shop Space Heater #2	0.25	245.1	8760	0.0019	0.02	0.0001	0.0206	1.23E-07	0.0013	0.01	0.11	0.00	0.09	5.37E-07	0.01
Fab Shop Space Heater #3	0.3	294.1	8760	0.0022	0.03	0.0002	0.0247	1.47E-07	0.0016	0.01	0.13	0.001	0.11	6.44E-07	0.01
Fab Shop Space Heater #4	0.045	44.1	8760	0.0003	0.00	0.00003	0.0037	2.21E-08	0.0002	0.001	0.02	0.0001	0.02	9.66E-08	0.001
TruckShop Heater #1	0.3	294.1	8760	0.0022	0.03	0.0002	0.0247	1.47E-07	0.0016	0.01	0.13	0.001	0.11	6.44E-07	0.01
Truck Shop Heater #2	0.3	294.1	8760	0.0022	0.03	0.0002	0.0247	1.47E-07	0.0016	0.01	0.13	0.001	0.11	6.44E-07	0.01
Truck Shop Heater #3	0.3	294.1	8760	0.0022	0.03	0.0002	0.0247	1.47E-07	0.0016	0.01	0.13	0.001	0.11	6.44E-07	0.01
Truck Shop Heater #4	0.3	294.1	8760	0.0022	0.03	0.0002	0.0247	1.47E-07	0.0016	0.01	0.13	0.001	0.11	6.44E-07	0.01
Truck Shop Heater #5	0.045	44.1	8760	0.0003	0.004	0.00003	0.0037	2.21E-08	0.0002	0.001	0.02	0.0001	0.02	9.66E-08	0.001
Storage Heater #1	0.03	29.4	8760	0.0002	0.003	0.00002	0.0025	1.47E-08	0.0002	0.001	0.01	0.0001	0.01	6.44E-08	0.001
Storage Heater #2	0.03	29.4	8760	0.0002	0.003	0.00002	0.0025	1.47E-08	0.0002	0.001	0.01	0.0001	0.01	6.44E-08	0.001
Storage Heater #3	0.045	44.1	8760	0.0003	0.004	0.00003	0.0037	2.21E-08	0.0002	0.001	0.02	0.0001	0.02	9.66E-08	0.001
Well House Heater	0.03	29.4	8760	0.0002	0.003	0.00002	0.0025	1.47E-08	0.0002	0.001	0.01	0.0001	0.01	6.44E-08	0.001
Pressure Washer	0.4	392.2	8760	0.0030	0.04	0.00024	0.0329	1.96E-07	0.0022	0.01	0.17	0.001	0.14	8.59E-07	0.01
Annex Heater #1	0.35	343.1	8760	0.0026	0.03	0.0002	0.0288	1.72E-07	0.0019	0.01	0.15	0.001	0.13	7.51E-07	0.01
Annex Heater #2	0.35	343.1	8760	0.0026	0.03	0.0002	0.0288	1.72E-07	0.0019	0.01	0.15	0.001	0.13	7.51E-07	0.01
Total				1.54	19.33	0.13	18.44	0.00	1.21	6.76	84.68	0.58	80.76	4.81E-04	5.29

¹ New emission unit. Meets PTC exemption criteria under IDAPA 58.01.01.220 and 222.02.c

² PM/PM10 emissions rate obtained from 2007 source test includes PM/PM10 emissions from the burner using natural gas; therefore the PM/PM10 emissions from the burner using natural gas is set to zero.

Removed Equipment Description	Capacity (MMBtu/hr)	Throughput (scf/hr)	Hour/yr	Pounds per Hour						Tons per Year					
				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)
Office Space Heater #1	0.25	245.1	8760	0.0019	0.0245	0.0001	0.0206	1.225E-07	0.0013	0.0082	0.1074	0.0006	0.0902	5.368E-07	0.0059
Office Space Heater #2	0.25	245.1	8760	0.0019	0.0245	0.0001	0.0206	1.225E-07	0.0013	0.0082	0.1074	0.0006	0.0902	5.368E-07	0.0059
Office Space Heater #3	0.085	83.3	8760	0.0006	0.0083	0.0001	0.0070	4.167E-08	0.0005	0.0028	0.0365	0.0002	0.0307	1.825E-07	0.0020
Fab Shop Space Heater #1	0.25	245.1	8760	0.0019	0.0245	0.0001	0.0206	1.225E-07	0.0013	0.0082	0.1074	0.0006	0.0902	5.368E-07	0.0059
Fab Shop Space Heater #2	0.25	245.1	8760	0.0019	0.0245	0.0001	0.0206	1.225E-07	0.0013	0.0082	0.1074	0.0006	0.0902	5.368E-07	0.0059
Fab Shop Space Heater #3	0.3	294.1	8760	0.0022	0.0294	0.0002	0.0247	1.471E-07	0.0016	0.0098	0.1288	0.0008	0.1082	6.441E-07	0.0071
Fab Shop Space Heater #4	0.045	44.1	8760	0.0003	0.0044	0.0000	0.0037	2.206E-08	0.0002	0.0015	0.0193	0.0001	0.0162	9.662E-08	0.0011
TruckShop Heater #1	0.3	294.1	8760	0.0022	0.0294	0.0002	0.0247	1.471E-07	0.0016	0.0098	0.1288	0.0008	0.1082	6.441E-07	0.0071
Truck Shop Heater #2	0.3	294.1	8760	0.0022	0.0294	0.0002	0.0247	1.471E-07	0.0016	0.0098	0.1288	0.0008	0.1082	6.441E-07	0.0071
Truck Shop Heater #3	0.3	294.1	8760	0.0022	0.0294	0.0002	0.0247	1.471E-07	0.0016	0.0098	0.1288	0.0008	0.1082	6.441E-07	0.0071
Truck Shop Heater #4	0.3	294.1	8760	0.0022	0.0294	0.0002	0.0247	1.471E-07	0.0016	0.0098	0.1288	0.0008	0.1082	6.441E-07	0.0071
Truck Shop Heater #5	0.045	44.1	8760	0.0003	0.0044	0.0000	0.0037	2.206E-08	0.0002	0.0015	0.0193	0.0001	0.0162	9.662E-08	0.0011
Storage Heater #1	0.03	29.4	8760	0.0002	0.0029	0.0000	0.0025	1.471E-08	0.0002	0.0010	0.0129	0.0001	0.0108	6.441E-08	0.0007
Storage Heater #2	0.03	29.4	8760	0.0002	0.0029	0.0000	0.0025	1.471E-08	0.0002	0.0010	0.0129	0.0001	0.0108	6.441E-08	0.0007
Storage Heater #3	0.045	44.1	8760	0.0003	0.0044	0.0000	0.0037	2.206E-08	0.0002	0.0015	0.0193	0.0001	0.0162	9.662E-08	0.0011
Well House Heater	0.03	29.4	8760	0.0002	0.0029	0.0000	0.0025	1.471E-08	0.0002	0.0010	0.0129	0.0001	0.0108	6.441E-08	0.0007
Pressure Washer	0.4	392.2	8760	0.0030	0.0392	0.0002	0.0329	1.961E-07	0.0022	0.0131	0.1718	0.0010	0.1443	8.588E-07	0.0094
Annex Heater #1	0.35	343.1	8760	0.0026	0.0343	0.0002	0.0288	1.716E-07	0.0019	0.0114	0.1503	0.0009	0.1262	7.515E-07	0.0083
Annex Heater #2	0.35	343.1	8760	0.0026	0.0343	0.0002	0.0288	1.716E-07	0.0019	0.0114	0.1503	0.0009	0.1262	7.515E-07	0.0083
Dryer #4 A Stage	4.77	4676.5	8760	0.0355	0.4676	0.0028	0.3928	2.338E-06	0.0257	0.1557	2.0483	0.0123	1.7206	1.024E-05	0.1127
Dryer #4 B Stage	0.33	323.5	8760	0.0025	0.0324	0.0002	0.0272	1.618E-07	0.0018	0.0108	0.1417	0.0009	0.1190	7.085E-07	0.0078
Dryer #4 C Stage	0.30	294.1	8760	0.0022	0.0294	0.0002	0.0247	1.471E-07	0.0016	0.0098	0.1288	0.0008	0.1082	6.441E-07	0.0071
HEATER DECREASE				-0.03	-0.38	0.00	-0.32	-1.92E-06	-0.02	-0.13	-1.68	-0.01	-1.41	-8.40E-06	-0.09
DRYER #4				-0.04	-0.53	0.00	-0.44	-2.65E-06	-0.03	-0.18	-2.32	-0.01	-1.95	-1.16E-05	-0.13
TOTAL				-0.07	-0.91	-0.01	-0.77	-4.56E-06	-0.05	-0.30	-4.00	-0.02	-3.36	-2.00E-05	-0.22

CRITERIA EMISSIONS - BOILER COMBUSTION

#2 Fuel Oil Emission Factors

NOx	20 lb/10 ³ gal	AP-42, Table 1.3-1, 2010
CO	5 lb/10 ³ gal	AP-42, Table 1.3-1, 2010
PM-10	3.3 lb/10 ³ gal	AP-42, Table 1.3-1 and Table 1.3-2, 2010
SO2	142 *S lb/10 ³ gal	AP-42, Table 1.3-1, 2010 S= 0.5
SO3	2 *S lb/10 ³ gal	AP-42, Table 1.3-1, 2010 S= 0.5
VOC	0.252 lb/10 ³ gal	AP-42, Table 1.3-1, 2010
Lead	9 lb/10 ⁴ 12 Btu	AP-42, Table 1.3-1, 2010

Current Boiler Usage Description	Capacity (MMBtu/hr)	Throughput (gal/hr) or (scf/hr)	Hour/yr	Pounds per Hour						Tons per Year					
				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)
Processing East Boiler NG ^a	53.4	52,360	8760	0.40	2.62	0.03	4.4	4.38E-06	0.29	1.74	11.47	0.14	19.26	1.92E-05	1.26
Processing East Boiler #2 ^{b,c}	53.4	340	7450	1.12	6.8	24.48	1.7	4.19E-04	0.086	4.18	25.33	91.19	6.33	1.56E-03	0.32
Processing West Boiler NG	40.5	39,706	8760	0.30	3.97	0.02	3.34	1.99E-05	0.22	1.32	17.39	0.10	14.61	8.70E-05	0.96

^a Utilize Low NOx Burners

^b As the sum of SO2 and SO3 emissions

^c Current permitted limit = 2,533,000 gal/yr No. 2 fuel oil usage = 7,450 hr/yr

Removal of Fuel Oil #2 Description	Capacity (MMBtu/hr)	Throughput (scf/hr)	Hour/yr	Pounds per Hour						Tons per Year					
				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)
Processing East Boiler NG ^a	53.4	52,360	8760	0.40	2.62	0.03	4.4	4.38E-06	0.29	1.74	11.47	0.14	19.26	1.92E-05	1.26
Processing West Boiler NG	40.5	39,706	8760	0.30	3.97	0.02	3.34	1.99E-05	0.22	1.32	17.39	0.10	14.61	8.70E-05	0.96
TOTAL				0.70	6.59	0.06	7.73	2.42E-05	0.51	3.06	28.86	0.24	33.87	1.06E-04	2.22

Reduction of Emissions

Processing East Boiler	53.4	52,360	8760	-0.72	-4.18	-24.45	2.70	-4.15E-04	0.20	-2.44	-13.86	-91.05	12.93	-1.54E-03	0.94
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PARTICULATE PROCESS EMISSIONS - DRYERS, FLAKERS, PEELERS AND BAGHOUSE EQUIPMENT - NONPAREIL

Description	Throughput (lb/hr dry)	Emission Factor (lb PM/PM10/lb)	EF Reference	PM Emissions (lb/hr) ^b	PM Emissions (T/yr) ^a	PM-10 Emissions (lb/hr)	PM-10 Emissions (T/yr) ^a	PM-2.5 Emissions (lb/hr)	PM-2.5 Emissions (T/yr) ^a
Current Equipment									
Processing Peeler Exhaust	5,000	0.064	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	6.07	Nonpareil Source Test	3.79	16.62	3.79	16.62	3.79	16.62
Flaker Nos. 2	1,250	6.07	Nonpareil Source Test	3.79	16.62	3.79	16.62	3.79	16.62
Flaker Nos. 3	1,000	6.07	Nonpareil Source Test	3.04	13.29	3.04	13.29	3.04	13.29
Flaker Nos. 4	1,000	6.07	Nonpareil Source Test	3.04	13.29	3.04	13.29	3.04	13.29
Flaker Nos. 5	1,000	6.07	Nonpareil Source Test	3.04	13.29	3.04	13.29	3.04	13.29
Dehydration Air Dryer #1 A Stage	1,000	2.84	Nonpareil Source Test	1.42	6.22	1.42	6.22	1.42	6.22
Dehydration Air Dryer #1 B&C Stages	1,000	1.25	Nonpareil Source Test	0.63	2.74	0.63	2.74	0.63	2.74
Dehydration Air Dryer #2 A Stage	1,000	2.84	Nonpareil Source Test	1.42	6.22	1.42	6.22	1.42	6.22
Dehydration Air Dryer #2 B&C Stages	1,000	1.25	Nonpareil Source Test	0.63	2.74	0.63	2.74	0.63	2.74
Dehydration Air Dryer #3 A Stage	1,000	2.84	Nonpareil Source Test	1.42	6.22	1.42	6.22	1.42	6.22
Dehydration Air Dryer #3 B&C Stages	1,000	1.25	Nonpareil Source Test	0.63	2.74	0.63	2.74	0.63	2.74
Dehydration Air Dryer #4 A Stage	750	2.84	Nonpareil Source Test	1.07	4.66	1.07	4.66	1.07	4.66
Dehydration Air Dryer #4 B Stage	750	1.25	Nonpareil Source Test	0.47	2.05	0.47	2.05	0.47	2.05
Dehydration Air Dryer #4 C Stage	750	1.25	Nonpareil Source Test	0.47	2.05	0.47	2.05	0.47	2.05
Dehydration Air Dryer #5 A Stage	1,200	2.84	Nonpareil Source Test	1.70	7.46	1.70	7.46	1.70	7.46
Dehydration Air Dryer #5 B Stage	1,200	1.25	Nonpareil Source Test	0.75	3.29	0.75	3.29	0.75	3.29
Dehydration Air Dryer #5 C Stage	1,200	1.25	Nonpareil Source Test	0.75	3.29	0.75	3.29	0.75	3.29
New Dehy Dryer #6 A Stage ^b	1,200	0.000465 lb PM10/lb	2007 Dryer #5 Source Test PM/PM-10 emissions. PM-2.5 emissions is assumed to be 27% of PM (AP-42, Appendix B.1-9.9.2). 20% safety factor is also used.	0.67	2.93	0.67	2.93	0.18	0.79
New Dehy Dryer #6 B Stage ^c	1,200	0.0001023	2007 Dryer #5 Source Test PM/PM-10 emissions in combination with 2004 Dryer #1 Source Test PM/PM-10. PM-2.5 emissions is assumed to be 27% of PM (AP-42, Appendix B.1-9.9.2). 20% safety factor is used.	0.15	0.65	0.15	0.65	0.04	0.17
New Dehy Dryer #6 C Stage ^c	1,200	0.0001023	2007 Dryer #5 Source Test PM/PM-10 emissions in combination with 2004 Dryer #1 Source Test PM/PM-10. PM-2.5 emissions is assumed to be 27% of PM (AP-42, Appendix B.1-9.9.2). 20% safety factor is used.	0.15	0.65	0.15	0.65	0.04	0.17
Dehydration Bin Dryer ^d	1,000	1.25	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	2.8	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	0.064	Mass Balance - Tier II OP 011-00027, Tech Memo	0.16	0.70	0.16	0.70	0.16	0.70
				30.12	131.92	30.12	131.92	29.41	128.83
Baghouse Equipment									
Description	Throughput (ACF/hr)	Emission Factor (lb PM / ACF) ^c	EF Reference	PM Emissions (lb/hr) ^b	PM Emissions (T/yr) ^a	PM-10 Emissions (lb/hr)	PM-10 Emissions (T/yr) ^a	PM-2.5 Emissions (lb/hr)	PM-2.5 Emissions (T/yr) ^a
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
				0.003	0.013	0.003	0.013	0.003	0.013
Total Equipment Emissions				30.12	131.93	30.12	131.93	29.42	128.85

^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 gr/dscf / 7000 gr/lb) * 1.18 dscf/acf = 2.87E-09. acf = dscf * (70 + 460)/528 * (29.92/75.422).

**TOXIC AIR POLLUTANTS (TAPs) COMBUSTION CALCULATIONS
NONPAREIL CORPORATION**

	Fuel Usage
Current Combustion Equipment	127,441.18 scf/hr
Removed Combustion Equipment	-9,127.45 scf/hr
New Total	118,313.73 scf/hr

Pollutant	CAS #	EF for NG Combustion (lb/10 ⁶ scf) ^a	Net Change TAP Emissions Comb. Eq. (lb/hr)	Net Change TAP Emissions Boilers (lb/hr)	Total Net Change TAP Emissions (lb/hr)	Screening Level (lb/hr)	Modeling? (Y/N)
Antimony	7440-38-0	0.0E+00	0.00E+00	0.00E+00	0.00E+00	3.3E-02	No
Barium	7440-39-3	4.4E-03	-4.02E-05	1.75E-04	1.35E-04	3.3E-02	No
Chromium	7440-47-3	1.4E-03	-1.28E-05	-1.05E-04	-1.17E-04	3.3E-02	No
Cobalt	7440-48-4	8.4E-05	-7.67E-07	3.34E-06	2.57E-06	3.3E-03	No
Copper	7440-50-8	8.5E-04	-7.76E-06	-2.87E-04	-2.94E-04	6.7E-02	No
Ethylbenzene	100-41-4	0.0E+00	0.00E+00	-2.16E-05	-2.16E-05	2.9E+01	No
Fluoride (as F)	16984-48-8	0.0E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-01	No
Hexane	110-54-3	1.8E+00	-1.64E-02	7.15E-02	5.50E-02	1.2E+01	No
Manganese	7439-96-5	3.8E-04	-3.47E-06	-3.05E-04	-3.09E-04	3.33E-01	No
Mercury	7439-97-6	2.6E-04	-2.37E-06	-1.50E-04	-1.52E-04	3.E-03	No
Molybdenum	7439-98-7	1.1E-03	-1.00E-05	4.37E-05	3.36E-05	3.33E-01	No
Naphthalene	91-20-3	6.1E-04	-5.57E-06	-3.60E-04	-3.66E-04	3.33E+00	No
Pentane	109-66-0	2.6E+00	-2.37E-02	1.03E-01	7.95E-02	1.18E+02	No
Phosphorous	7723-14-0	0.0E+00	0.00E+00	0.00E+00	0.00E+00	7.E-03	No
Selenium	7782-49-2	2.4E-05	-2.19E-07	-8.00E-04	-8.00E-04	1.3E-02	No
1,1,1-Trichloroethane	71-55-6	0.0E+00	0.00E+00	-8.02E-05	-8.02E-05	1.27E+02	No
Toluene	108-88-3	3.4E-03	-3.10E-05	-1.97E-03	-2.00E-03	2.5E+01	No
o-Xylene	1330-20-7	0.0E+00	0.00E+00	-3.71E-05	-3.71E-05	2.9E+01	No
Vanadium	1314-62-1	0.0E+00	0.00E+00	9.13E-05	9.13E-05	3.0E-03	No
Zinc	7440-66-6	2.9E-02	-2.65E-04	9.38E-04	6.73E-04	6.67E-01	No

CARCINOGENS (POUNDS PER HOUR)

Pollutant	CAS #	EF for NG Combustion (lb/10 ⁶ scf) ^a	Net Change TAP Emissions Comb. Eq. (lb/hr)	Net Change TAP Emissions Boilers (lb/hr)	Total Net Change TAP Emissions (lb/hr)	Screening Level (lb/hr)	Modeling? (Y/N)
Arsenic	7440-38-2	2.0E-04	-1.83E-06	-2.53E-06	-4.36E-06	1.5E-06	No
Benzene	71-43-2	2.1E-03	-1.92E-05	1.06E-05	-8.55E-06	8.0E-04	No
Beryllium	7440-41-7	1.2E-05	-1.10E-07	-1.52E-07	-2.61E-07	2.8E-05	No
Cadmium	7440-43-9	1.1E-03	-1.00E-05	-1.39E-05	-2.40E-05	3.7E-06	No
Formaldehyde	50-00-0	7.5E-02	-6.85E-04	-8.24E-03	-8.93E-03	5.1E-04	No
Nickel	7440-02-0	2.1E-03	-1.92E-05	-2.66E-05	-4.57E-05	2.7E-05	No
Benzo(a)pyrene	50-32-8	1.2E-06	-1.10E-08	4.76E-08	3.67E-08	2.0E-06	No
Benz(a)anthracene	56-55-3	1.8E-06	-1.64E-08	-1.29E-06	-1.31E-06	NA	No
Benzo(b)fluoranthene	205-82-3	1.8E-06	-1.64E-08	-4.32E-07	-4.48E-07	NA	No
Benzo(k)fluoranthene	205-99-2	1.8E-06	-1.64E-08	-4.32E-07	-4.48E-07	NA	No
Chrysene	218-01-9	1.8E-06	-1.64E-08	-7.38E-07	-7.54E-07	NA	No
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	-1.10E-08	-5.20E-07	-5.31E-07	NA	No
Indeno(1,2,3-cd)pyrene	193-39-5	1.8E-06	-1.64E-08	-6.56E-07	-6.73E-07	NA	No
Total PAHs		1.1E-05	-1.04E-07	-4.02E-06	-4.13E-06	2.00E-06	No

^aEFs from AP-42, Tables 1.4-3 and 1.4-4, 7/98

^bEFs from AP-42, Table 1.3-10, 9/98

**TOXIC AIR POLLUTANTS (TAPs) CALCULATIONS
CARCINOGENS (POUNDS PER HOUR)**

Pollutant	CAS #	EF for NG Combustion (lb/10 ⁶ scf) ^a	EF for Fuel Oil #2 Combustion (lb/10 ¹² Btu) or (lb/10 ³ gal) ^{b,c}	West Boiler NG Combustion (lb/hr)	East Boiler #2 Combustion (lb/hr)	East Boiler NG Combustion (lb/hr)
Arsenic	7440-38-2	2.0E-04	4.0E+00	7.94E-06	1.05E-05	1.05E-05
Benzene	71-43-2	2.1E-03	2.1E-04	8.34E-05	7.28E-05	1.10E-04
Beryllium	7440-41-7	1.2E-05	3.0E+00	4.76E-07	6.28E-07	6.28E-07
Cadmium	7440-43-9	1.1E-03	3.0E+00	4.37E-05	5.76E-05	5.76E-05
Formaldehyde	50-00-0	7.5E-02	3.3E-02	2.98E-03	1.12E-02	3.93E-03
Nickel	7440-02-0	2.1E-03	3.0E+00	8.34E-05	1.10E-04	1.10E-04
Benzo(a)pyrene	50-32-8	1.2E-06	0.0E+00	4.76E-08	0.00E+00	6.28E-08
Benz(a)anthracene	56-55-3	1.8E-06	4.0E-06	7.15E-08	1.36E-06	9.42E-08
Benzo(b)fluoranthene	205-82-3	1.8E-06	1.5E-06	7.15E-08	5.03E-07	9.42E-08
Benzo(k)fluoranthene	205-99-2	1.8E-06	1.5E-06	7.15E-08	5.03E-07	9.42E-08
Chrysene	218-01-9	1.8E-06	2.4E-06	7.15E-08	8.09E-07	9.42E-08
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	1.7E-06	4.76E-08	5.68E-07	6.28E-08
Indeno(1,2,3-cd)pyrene	193-39-5	1.8E-06	2.1E-06	7.15E-08	7.28E-07	9.42E-08
Total PAHs		1.1E-05	1.3E-05	4.53E-07	4.47E-06	5.97E-07

^aEFs from AP-42, Tables 1.4-3 and 1.4-4, 7/98

^bEFs from AP-42, Tables 1.3-9 and 1.3-11, 9/98

IDEQ PTC Forms

Facility Wide Hazardous Air Pollutant Potential to Emit

Table 1 HAP POTENTIAL TO EMIT EMISSIONS SUMMARY

HAP Pollutants	PTE (T/yr)
Mercury Compounds	2.40E-04
Ethylbenzene	0.00E+00
Hexane*	1.66E+00
Naphthalene	5.62E-04
Toluene	3.13E-03
o-Xylene	0.00E+00
Benzene	1.94E-03
Beryllium Compounds	1.11E-05
Cadmium Compounds	1.01E-03
Formaldehyde	6.91E-02
Total	1.73E+00

* Maximum Individual HAP

GHG EMISSIONS

Calculation Method- Tier 1

CO₂ = 1x10⁻³ * Fuel * HHV * EF

NG Emission Factors

CO ₂	53.02	kg/MMBtu	40 CFR 98 Table C-1
CH ₄	0.001	kg/MMBtu	41 CFR 98 Table C-2
N ₂ O	0.0001	kg/MMBtu	42 CFR 98 Table C-2

#2 Fuel Oil Emission Factors

CO ₂	73.96	kg/MMBtu	40 CFR 98 Table C-1
CH ₄	3.00E-03	kg/MMBtu	41 CFR 98 Table C-2
N ₂ O	6.00E-04	kg/MMBtu	42 CFR 98 Table C-2

#6 Fuel Oil Emission Factors

CO ₂	75.1	kg/MMBtu	40 CFR 98 Table C-1
CH ₄	3.00E-03	kg/MMBtu	41 CFR 98 Table C-2
N ₂ O	6.00E-04	kg/MMBtu	42 CFR 98 Table C-2

High Heating Value

NG HHV	1.028E-03	MMBtu/scf	40 CFR 98 Table C-1
#2 Fuel Oil	1.380E-01	MMBtu/gal	40 CFR 98 Table C-1

Unit ID	Combustion Source	Capacity (MMBtu/hr)	Fuel	Throughput (scf/yr)*	CO ₂ (tonne/yr)	CH ₄ (tonne/yr)	N ₂ O (tonne/yr)	CO ₂ e (tonne/yr)
	Processing East Boiler - NG	53.4	Nat. Gas	455,042,801.6	24,802	0.47	0.047	24,827.5
	Processing East Boiler - Fuel Oil #2	53.4	Fuel Oil #2	2,533,000.0	25,853	1.05	0.210	25,941.7
	Processing West Boiler - NG	40.5	Nat. Gas	345,116,731.5	18,810	0.35	0.035	18,829.9
	Scratch Match Air Makeup	5	Nat. Gas	42,607,003.9	2,322	0.04	0.004	2,324.7
	Reblend Room Air Makeup	1	Nat. Gas	8,521,400.8	464	0.01	0.001	464.9
	Building #3 Air Makeup	3	Nat. Gas	25,564,202.3	1,393	0.03	0.003	1,394.8
	Building #4 Air Makeup	10	Nat. Gas	85,214,007.8	4,645	0.09	0.009	4,649.4
	Dehydration North Boiler	10.5	Nat. Gas	89,474,708.2	4,877	0.09	0.009	4,881.8
	Dehydration South Boiler	8.4	Nat. Gas	71,579,766.5	3,901	0.07	0.007	3,905.5
	Dryer #1 A Stage	6.4	Nat. Gas	54,536,965.0	2,973	0.06	0.006	2,975.6
	Dryer #1 B&C Stages	2.8	Nat. Gas	23,859,922.2	1,300	0.02	0.002	1,301.8
	Dryer #2 A Stage	6.4	Nat. Gas	54,536,965.0	2,973	0.06	0.006	2,975.6
	Dryer #2 B&C Stages	2.8	Nat. Gas	23,859,922.2	1,300	0.02	0.002	1,301.8
	Dryer #3 A Stage	6.4	Nat. Gas	54,536,965.0	2,973	0.06	0.006	2,975.6
	Dryer #3 B&C Stages	2.8	Nat. Gas	23,859,922.2	1,300	0.02	0.002	1,301.8
	Dryer #4 A Stage	4.77	Nat. Gas	40,647,081.7	2,215	0.04	0.004	2,217.7
	Dryer #4 B Stage	0.33	Nat. Gas	2,812,082.3	153	0.00	0.000	153.4
	Dryer #4 C Stage	0.3	Nat. Gas	2,556,420.2	139	0.00	0.000	139.5
	Dryer #5 A Stage	10.4	Nat. Gas	88,622,568.1	4,830	0.09	0.009	4,835.3
	Dryer #5 B Stage	3.2	Nat. Gas	27,268,482.5	1,486	0.03	0.003	1,487.8
	Dryer #5 C Stage	3.3	Nat. Gas	28,120,622.6	1,533	0.03	0.003	1,534.3
	New Dehy Dryer #6 A Stage	10.4	Nat. Gas	88,622,568.1	4,830	0.09	0.009	4,835.3
	New Dehy Dryer #6 B Stage	3.2	Nat. Gas	27,268,482.5	1,486	0.03	0.003	1,487.8
	New Dehy Dryer #6 C Stage	3.3	Nat. Gas	28,120,622.6	1,533	0.03	0.003	1,534.3
	New Air Makeup Unit	3.5	Nat. Gas	29,824,902.7	1,626	0.03	0.003	1,627.3
	West Area Air Makeup	3.5	Nat. Gas	29,824,902.7	1,626	0.03	0.003	1,627.3
	South Dryer Room 4&5 Air Makeup	5	Nat. Gas	42,607,003.9	2,322	0.04	0.004	2,324.7
	South Dryer Room 4&5 Roof Air Makeup	5	Nat. Gas	42,607,003.9	2,322	0.04	0.004	2,324.7
	Package/Crush Room Air Makeup	3.3	Nat. Gas	28,120,622.6	1,533	0.03	0.003	1,534.3
	Inspection Room Roof Air Makeup	3.5	Nat. Gas	29,824,902.7	1,626	0.03	0.003	1,627.3
	Dehydration Bin Dryer	2	Nat. Gas	17,042,801.6	929	0.02	0.002	929.9
	Dehydration Research Dryer	0.88	Nat. Gas	7,498,832.7	409	0.008	0.001	409.1
	Office Space Heater #1	0.25	Nat. Gas	2,130,350.2	116	0.002	0.0002	116.2
	Office Space Heater #2	0.25	Nat. Gas	2,130,350.2	116	0.002	0.0002	116.2
	Office Space Heater #3	0.085	Nat. Gas	724,319.1	39	0.001	0.0001	39.5
	Fab Shop Space Heater #1	0.25	Nat. Gas	2,130,350.2	116	0.002	0.0002	116.2
	Fab Shop Space Heater #2	0.25	Nat. Gas	2,130,350.2	116	0.002	0.0002	116.2
	Fab Shop Space Heater #3	0.3	Nat. Gas	2,556,420.2	139	0.003	0.0003	139.5
	Fab Shop Space Heater #4	0.045	Nat. Gas	383,463.0	21	0.000	0.0000	20.9
	TruckShop Heater #1	0.3	Nat. Gas	2,556,420.2	139	0.003	0.0003	139.5
	Truck Shop Heater #2	0.3	Nat. Gas	2,556,420.2	139	0.003	0.0003	139.5
	Truck Shop Heater #3	0.3	Nat. Gas	2,556,420.2	139	0.003	0.0003	139.5
	Truck Shop Heater #4	0.3	Nat. Gas	2,556,420.2	139	0.003	0.0003	139.5
	Truck Shop Heater #5	0.045	Nat. Gas	383,463.0	21	0.000	0.0000	20.9
	Storage Heater #1	0.03	Nat. Gas	255,642.0	14	0.000	0.0000	13.9
	Storage Heater #2	0.03	Nat. Gas	255,642.0	14	0.000	0.0000	13.9
	Storage Heater #3	0.045	Nat. Gas	383,463.0	21	0.000	0.0000	20.9
	Well House Heater	0.03	Nat. Gas	255,642.0	14	0.000	0.0000	13.9
	Pressure Washer	0.4	Nat. Gas	3,408,560.3	186	0.004	0.0004	186.0
	Annex Heater #1	0.35	Nat. Gas	2,982,490.3	163	0.003	0.0003	162.7
	Annex Heater #2	0.35	Nat. Gas	2,982,490.3	163	0.003	0.0003	162.7
Current Facility Wide PTE					107,500	2.6	0.4	107,673
<i>Removed Combustion Equipment (includes removal of #2 Fuel oil emissions, Heaters and Dryer #4)</i>					<i>-5,375</i>	<i>-0.7</i>	<i>-0.2</i>	<i>-5,443</i>
New Facility Wide PTE					102,124	1.9	0.2	102,230

*East Boiler #2 Fuel Oil throughput in gal/yr. Based on maximum permitted #2 fuel oil usage of 2,533,000 gal/yr.

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on October 19, 2015:

Facility Comment: Editorial correction to Table 3.1.

DEQ Response: Correction is made to Table 3.1.

APPENDIX C – PROCESSING FEE

The allowable emissions rates decrease as a result of this permitting action. In accordance with IDAPA 58.01.01.225 and the DEQ's fee calculation spreadsheet, the PTC processing fee is \$1,000.

Emissions Inventory	
Pollutant	Annual Emissions Change (T/yr)
NO _x	-17.9
SO ₂	-91.9
CO	-3.4
PM ₁₀	-2.7
VOC	-0.2
TAPS/HAPS	Included in VOC emissions
Total:	-116.10
Fee Due	\$ 1,000.00