Statement of Basis

Permit to Construct P-2009.0043
Project No. 0043

Basic American Foods
Basic American Foods – Blackfoot Plant
Blackfoot, Idaho

Facility ID No. 011-00012

Final

January 20, 2011
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Permit Writer

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

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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
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
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
gpm	gallons per minute
gph	gallons per hour
gr	grain (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per year
ICE	internal combustion engines
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
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance

PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
Rules	Rules for the Control of Air Pollution in Idaho
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/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
U.S.C.	United States Code
UTM	Universal Transverse Mercator
VOC	volatile organic compounds
yd^3	cubic yards
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

The Basic American Foods (BAF) Blackfoot Plant includes a food dehydrating plant and a co-located research and development laboratory related to vegetable dehydrating and product development. A portion of the Blackfoot Plant is leased to Idaho Fresh Cooperative as a fresh potato packing operation. This portion of the plant is operated by Idaho Gold and Liberty Produce, both of which are district members of the Idaho Fresh Cooperative. The Blackfoot plant produces dehydrated food products using a variety of drying and dehydration processes. Products are dried by contact with heated air. Drying air is heated either by direct-firing with natural gas or indirectly using steam heat exchangers. Air suspension unit processes are also used to classify materials and to remove unsuitable fractions from the production stream. Steam for plant operations is provided by Boiler Numbers 1, 2, and 3.

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

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

Boilers can be fueled with natural gas, #2 oil, and #6 oil. The fuels used to fire the boiler vary with the relative costs of each fuel. Boiler fueling is subject to enforceable limits included in PTC P-050301.

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

Plant products are described as follows.

Dehydrated potato granules

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

Formulated dehydrated food products

Formulated products are prepared from various combinations of dried ingredients, fresh and fresh-cooked ingredients, and food additives. BAF dries these formulations to create final products.

Dehydrated whole and piece food products

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

Animal feed

Animal feed, consisting of food fractions and off-specification materials that are not suitable for use in other products, is produced as a co-product of other plant processes. BAF uses various materials classification processes to segregate, collect, and transport animal feed. Animal feed is transferred directly to load-out operations after collection without further processing.

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).

August 29, 2009	PTC P-2009.0042 (A, but will become S upon issuance of this permit)
September 16, 2005	PTC No. P-050301 (A, superseded P-040300)
March 22, 2004	PTC No. P-040300 (S)
April 27, 1995	PTC No. 011-000012 (A)
November 12, 1982	PTC letter issued (A)
December 27, 1975	PTC letter issued (A)

Application Scope

This project was originally for the issuance of an initial facility-wide Tier II operating permit and permit to construct. However, prior to completion of this project the Applicant requested, and DEQ staff agreed, that this application would be processed as a PTC permit. The initial Tier I Operating Permit No. 011-00012 for this facility, issued December 11, 2002, contained a compliance schedule that required the facility to submit a facility-wide permit application to address compliance issues related to obtaining appropriate permit to construct review for prior projects.

In compliance with the requirements of that permit, the facility submitted a Tier II Operating Permit Application on May 28, 2003, and DEQ issued a letter that determined this Application complete on August 8, 2003. On March 30, 2009, the Applicant submitted an addendum to the Tier II Permit Application that included an updated ambient impacts analysis for this facility. The ambient impacts analysis included a program of facility changes to demonstrate compliance with ambient air quality standards and also included a request for issuance of Facility Emissions Cap pursuant to IDAPA 58.01.01.177. On October 18, 2010 the Applicant submitted a request to process this application as a Permit to Construct instead of a Tier II permit and DEQ concurred with the request. Therefore, the final permit issued as a result of this project will be a PTC FEC permit.

The scope of this permit includes the specific issues described as follows:

- Satisfying PTC requirements for new or modified sources that potentially required a PTC but for which a PTC was not obtained prior to construction. Those sources include:
  - The installation of the 13 MMBtu/hr Reyco Slice space heater in 1982,
  - The installation of dryer exhaust stacks designated as CTQ, CTR, CTS, and CTT in 1973,
  - The "debottlenecking" of the dryers served by the exhaust stack designated CIR over various dates,
  - Installation of the dryer served by the exhaust stack designated as CBB in the early 1980's,
  - Replacement of the process burners for the dryer exhausted to stacks designated as CHX, CHY, and CHZ in 1995,
  - Installation of the dryer served by the exhaust stack designated as CNV in 2001,
  - Installation of the dryer served by the exhaust stack designated as CNW in 2001,
  - Upgrade of the dryer served by exhaust stacks designated as CXX and CYY in 1999.

In addition, BAF has requested that the permit include facility emission cap (FEC) limits.

Issuance of this PTC permit meets the requirement to obtain a PTC for these changes. This permitting action will also create additional facility operating requirements needed to demonstrate compliance with ambient air quality standards.

Application Chronology

December 11, 2002	DEQ issues initial Tier I Operating Permit for Blackfoot Facility, which includes a requirement that BAF submit a Tier II Operating Permit Application.
May 28, 2003	BAF submitted a Tier II Operating Permit Application for the Blackfoot Facility.
August 8, 2003	DEQ issued a completeness determination for BAF's Tier II Operating Permit Application.
November 20, 2007	DEQ issues a renewal of the Tier I Operating Permit for the Blackfoot Facility.
March 31, 2009	DEQ received a second Tier II permit application.
April 28, 2009	DEQ determined that the application was incomplete.
January 27, 2010	DEQ determined that the application was complete.
March 23, 2010	DEQ made available the draft permit and statement of basis for peer and regional office review.
March 25, 2010	DEQ made available the draft permit and statement of basis for applicant review.
October 18, 2010	The Applicant submitted a request to process this application as a Permit to Construct instead of a Tier II permit and DEQ concurred with the request
November 15 – December 15, 2011	DEQ provided a public comment period on the proposed action.
January 14, 2011	DEQ received the permit processing fee.
January 20, 2011	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Table 1 lists emissions units for which emissions of any criteria air pollutant exceeds 10 per cent (10%) of the levels contained in the definition of "significant" in IDAPA 58.01.01.006.

Emissions Units and Control Devices

Table 1 EMISSIONS UNIT AND CONTROL DEVICE INFORMATION

ID No.	Source Description	Control Equipment Description	Emissions Point ID No. and Description
Boiler 1	Manufacturer: Murray Model: D-Style S/N: 9925 Heat input rating: 57 MMBtu/hr Maximum steam production rate: 45,500 lb/hr Fuels: Natural gas, #2 fuel oil, and #6 fuel oil Date installed: 1982	Wet scrubber: Manufacturer: Carbo-Tech Environmental Group, Inc. Model: 48x48-96HE Type: Venturi Note: Venturi wet scrubber system is used whenever Boilers 1 and/or Boiler 2 are combusting fuel oil	
Boiler 2	Manufacturer: Johnston Model: 509 Series Heat input rating: 75.4 MMBtu/hr Maximum steam production rate: 62,100 lb/hr Fuels: Natural gas, #2 fuel oil, and #6 fuel oil Date installed: 1994		
Boiler 3	Manufacturer: Springfield Model: 52 Heat input rating: 39 MMBtu/hr Maximum steam production rate: 30,000 lb/hr Date installed: 1975 Fuel: Natural gas and #2 fuel oil	None	
Process A			
DHQ	Cooler	None	DHQ
DHT	Dryer - 7 MMBtu/hr, natural gas-fired	None	DHT
DHU	Dryer - 7 MMBtu/hr, natural gas-fired	None	DHU
DHZ	Dryer - 6 MMBtu/hr, steam heated and natural gas-fired	None	DHZ
Process B			
DUQ	Dryer - 7 MMBtu/hr, natural gas-fired	None	DUQ
DUT	Dryer - 7 MMBtu/hr, natural gas-fired	None	DUT
DUV	Dryers – Two, each rated at 6 MMBtu/hr, steam heated and natural gas-fired	None	DUV
DQA	Dryer - 7 MMBtu/hr, natural gas-fired	None	DQA
DQB	Dryer - 7 MMBtu/hr, natural gas-fired	None	DQB

ID No.	Source Description	Control Equipment Description	Emissions Point ID No. and Description
Process C			
CIR	Dryer – Steam heated	None	CIR
CXX/CYY	Dryer – 6.05 MMBtu/hr pre-heater, 4.4 MMBtu/hr front dryer, 6.6 MMBtu/hr rear dryer, all natural gas-fired	None	CXX/CYY
CHX	Dryer – 10.3 MMBtu/hr, steam heated and natural gas-fired, with a 2.9 MMBtu/hr pre-heater, natural gas-fired	None	CHX
HEB	Dryer - 6 MMBtu/hr, natural gas-fired	None	HEB
CBB	Dryer — 1.5 MMBtu/hr, steam heated and	None	CBB
CNV	Dryer - 12 MMBtu/hr, natural gas-fired	None	CNV
CNW	Dryer - 12 MMBtu/hr, natural gas-fired	None	CNW
CTU	Dryer – Steam heated	None	CTU
CTZ	Dryer – 5.75 MMBtu/hr, natural gas-fired	Lo-NO_X/CO burner	CTZ

Emissions Inventories

As part of the PTC permit BAF requested a facility emissions cap (FEC) on criteria pollutant emissions. The proposed FEC emissions limits are provided in Table 3.3.

Combustion emissions result from operation of natural gas, #2 fuel oil and #6 fuel oil-fired boilers, natural gas-fired dryers, and natural gas-fired space heaters.

An emissions inventory for the emissions units at the facility was not performed for this project because current Tier I permit T1-060315 established a facility-wide PTE. The facility-wide PTE from the current Tier I permit is presented in Table 3.2.

Table 3.2 PRE-PROJECT CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS CURRENT FEC/POTENTIAL TO EMIT

Emissions Unit	PM_{10}		SO_2		NO_X		CO		VOC	
	lb/hr[1]	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Sources Affected by the Permitting Action										
Current Facility-Wide PTE	N/A	134	N/A	160	N/A	235	N/A	233	N/A	7.5
Current FEC	**N/A**	**134.00**	**N/A**	**160.00**	**N/A**	**235.00**	**N/A**	**233.00**	**N/A**	**7.50**

The facility has calculated a new FEC per the procedures prescribed in IDAPA 58.01.01.176, the results of which are presented in Table 3.3.

Table 3.3 POST PROJECT CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS PROPOSED FEC/POTENTIAL TO EMIT

Emissions Unit	PM_{10}		SO_2		NO_X		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Sources Affected by the Permitting Action										
Baseline Actual Emissions	N/A	76.7	N/A	20.3	N/A	57.4	N/A	86.9	N/A	2.8
Baseline Actual Emissions	N/A	76.7	N/A	20.3	N/A	57.4	N/A	86.9	N/A	2.8
Operational variability	N/A	51.3	N/A	140.7	N/A	177.6	N/A	148.1	N/A	2.3
Negative growth	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0
Growth component	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0
Proposed FEC	**N/A**	**128.0**	**N/A**	**161.0**	**N/A**	**235.0**	**N/A**	**235.0**	**N/A**	**5.1**

Table 3.4 CHANGES IN CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS POTENTIAL TO EMIT

	PM_{10}		SO_2		NO_X		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Sources Affected by the Permitting Action										
Pre-Project Totals	N/A	134	N/A	160	N/A	235	N/A	233	N/A	7.5
Post Project Totals	N/A	128.0	N/A	161.0	N/A	235.0	N/A	235.0	N/A	5.1
Facility Total Change in Emissions	**N/A**	**-6.00**	**N/A**	**1.00**	**N/A**	**0.00**	**N/A**	**2.00**	**N/A**	**-2.40**

Post Project HAP Emissions

The applicant provided HAPs emissions calculations for all emissions units at the facility as a combined total for all HAPs as listed. The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff.

Table 2 HAP EMISSIONS SUMMARY POTENTIAL TO EMIT

HAP Pollutants	PTE (T/yr)
PAHs, POM, Benz(a)anthracene, Benzo(b,k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Indo(1,2,3-cd)pyrene, Acenaphthene, Acenaphthylene, Anthracene, Benzo(g,h,i)perylene, Fluoranthene, Fluorene, Phenanthrene, Pyrene, Benzene, Dichlorobenzene, Formaldehyde, Hexane, Toluene, Ethyl Benzene, o-Xylene, 1,1,1-Trichloroethane, OCDD, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chloride (as HCl), Chromium, Chromium (VI), Cobalt, Copper, Fluoride, Lead, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Selenium, Vanadium, Vanadium (as V_2O_5). Zinc, and Nitrous Oxide	2.97

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix A, the estimated emission rates of PM_{10}, SO_2, NO_X, CO, VOC, HAP, and TAPs from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline[1]. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

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

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

[1] Criteria pollutant thresholds in Table 1, State of Idaho Air Quality Modeling Guideline, Doc ID AQ-011, rev. 1, December 31, 2002.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

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

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

This Permit to Construct incorporates the PTC requirements of PTC No. P-2009.0042. This permitting action also reviews PTC requirements for emission units at the facility that were installed previously without new source review. The compliance schedule in Tier I Operating Permit No. T1-060315, issued November 20, 2007, requires BAF to obtain a facility-wide Tier II (which, as mentioned previously, has now been changed to PTC permit) and PTC to come into compliance with applicable PTC requirements.

The application identifies seven space heaters (all less than 13 MMBtu/hr) as sources that potentially required a permit to construct (see Section 7 of the application). Based on potential emissions of the sources, the space heaters rated at less than 3.43 MMBtu/hr meet the exemption criteria of IDAPA 58.01.01.221.01, 223.01, and 223.02. The Reyco Slice, a 13 MMBtu/hr natural gas-fired heater does not meet the exemption criteria and BAF has requested a PTC for this emissions unit as part of the application.

The application also identifies 15 process changes that potentially required a permit to construct (see Section 7 of the application). Based on review of potential to emit for these process changes and criteria for demonstrating compliance with TAP requirements, the following process changes did not meet permit to construct exemption criteria and BAF has requested a PTC for these emissions units as part of the application:

- Installation of dryer and stacks CTQ, CTR, CTS, and CTT,
- "Debottlenecking" of Dryer served by stack CIR,
- Installation of dryer served by stack CBB,
- Replacement of process burners for the dryer serving stacks CHX, CHY, and CHZ,
- Installation of dryer served by stack CNV,
- Installation of dryer served by stack CNW, and
- Upgrade of dryer served by stacks CXX and CYY.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The permit is being issued as a facility-wide Permit to Construct. The permit application was required by the compliance schedule in Tier I Operating Permit No. T1-060315, issued November 20, 2007.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 Visible Emissions

The sources of PM_{10} emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 7.4 and 8.4.

Standards for New Sources (IDAPA 58.01.01.676)

IDAPA 58.01.01.676 Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels and 0.050 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting liquid fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured by Permit Condition 4.9.

Particulate Matter – New Equipment Process Weight Limitations (IDAPA 58.01.01.701)

IDAPA 58.01.01.701 Particulate Matter – New Equipment Process Weight Limitations

IDAPA 58.01.01.700 through 703 set PM emission limits for process equipment based on when the piece of equipment commenced operation and the piece of equipment's process weight (PW) in pounds per hour (lb/hr). IDAPA 58.01.01.701 and IDAPA 58.01.01.702 establish PM emission limits for equipment that commenced operation on or after October 1, 1979 and for equipment operating prior to October 1, 1979, respectively.

For equipment that commenced operation on or after October 1, 1979, the PM allowable emission rate (E) is based on one of the following two equations:

IDAPA 58.01.01.701.01.a: If PW is $< 9{,}250$ lb/hr; $E = 0.045\ (PW)^{0.60}$

IDAPA 58.01.01.701.01.b: If PW is $\geq 9{,}250$ lb/hr; $E = 1.10\ (PW)^{0.25}$

For equipment that commenced prior to October 1, 1979, the PM allowable emission rate is based on one of the following two equations:

IDAPA 58.01.01.702.01.a: If PW is $< 17{,}000$ lb/hr; $E = 0.045\ (PW)^{0.60}$

IDAPA 58.01.01.702.01.b: If PW is $\geq 17{,}000$ lb/hr; $E = 1.12\ (PW)^{0.27}$

These requirements are assured by Permit Condition 7.3.

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

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility have a potential to emit greater than 100 tons per year for PM_{10}, SO_2, NO_X, and CO as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, this facility is classified as a major facility, as defined in IDAPA 58.01.01.008.10.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1). This section defines a Major stationary source as:

Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant: Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants, or

Notwithstanding the stationary source size specified in paragraph (b)(1)(i) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or

Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source, if the changes would constitute a major stationary source by itself.

This facility is not one of the facilities designated and does not have facility-wide emissions for any criteria pollutant that exceed 250 T/yr. In addition, the facility is not undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore, in accordance with 40 CFR 52.21(a)(2), the PSD requirements do not apply.

NSPS Applicability (40 CFR 60)

The facility is subject to the requirements of 40 CFR 60 Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

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

The three boilers at this facility combust natural gas, #2 fuel oil, and #6 fuel oil, as fuel as required by Permit Condition 4.11, and have the following heat input ratings and installation dates:

- Boiler 1 has a heat input rating of 57 MMBtu/hr and was installed in 1982,
- Boiler 2 has a heat input rating of 75.4 MMBtu/hr and was installed in 1994,
- Boiler 3 has a heat input rating of 39 MMBtu/hr and was installed in 1975,

The applicability date for this Subpart is June 9, 1989. Therefore, only Boiler 2 is subject to this Subpart. Because this boiler can combust natural gas and fuel oil the Sections of this Subpart that are applicable are the Applicability and Delegation of Authority specified in § CFR 60.40c, the Emissions Standards of § CFR 60.40c(c), § CFR 60.42c(e)(2), (i)-(j), and § CFR 60.43c, the Monitoring/Testing requirements of § CFR 60.44c(a), [G](e), j, § CFR 60.45c, § CFR 60.46c, and § CFR 60.47c, the Recordkeeping requirements of § CFR 60.48c(e), (g)(1)-(3), (i), and the Reporting requirements of § CFR 60.48c(a), (b), (d) and § CFR 60.48c(e), (j).

All applicable requirements for Boiler 2 have been incorporated with the previously issued Tier I operating permit. Therefore, no further discussion is required.

NESHAP Applicability (40 CFR 61)

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

MACT Applicability (40 CFR 63)

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

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.

New Permit Condition 1.1 establishes the purpose for issuing this PTC permit.

New Permit Condition 1.2 explains which previously issued permits will remain in effect at the facility.

New Permit condition 1.3 lists the PTCs that will be replaced by this PTC.

New Permit condition 1.4 lists the permitted sources of emissions at this facility.

New Permit condition 2.1 establishes that the facility-wide requirements are established in the Tier I permit.

New permit Section 3 was added to the permit to include the Facility Emissions Cap (FEC) requirements.

New Permit Condition 3.1 explains the limitations of the FEC.

New Permit Condition 3.2 explains the emissions units that are covered by the FEC.

New Permit Condition 3.3 establishes the PM_{10}, SO_2, NO_X, CO, and VOC emissions limits.

New Permit Condition 3.4 establishes how the Permittee shall calculate emissions to demonstrate compliance with the FEC. This condition also establishes that the Permittee shall calculate a 12-month rolling total of PM_{10}, SO_2, NO_X, CO, and VOC emissions.

New Permit Condition 3.5 requires that the permittee maintain documentation that demonstrates compliance with IDAPA 58.01.01.210 (Demonstration of Preconstruction Compliance with Toxic Standards).

New Permit Condition 3.6 requires that the Permittee submit, to the DEQ State Office, an annual report detailing annual emissions and how they were calculated to determine compliance with the FEC.

New Permit Condition 3.7 requires that the Permittee perform emissions modeling analysis, as required by IDAPA 58.01.01.181.01.b, for changes in emissions that occur at the facility.

New Permit Condition 3.8 requires that the Permittee renew the PTC permit every five years as required by IDAPA 58.01.01.177 and 179.

New Permit Condition 3.9 requires that the Permittee maintain a list of emissions units installed at the facility covered by the FEC (except for space heaters with emissions which are "Below Regulatory Concern").

New Permit condition 4.1 establishes that the Boiler 1, Boiler 2, and Boiler 3 requirements are established in the Tier I permit.

New Permit condition 5.1 establishes that the Process A requirements are established in the Tier I permit.

New Permit condition 6.1 establishes that the Process B requirements are established in the Tier I permit.

New permit Section 7 has the requirements from Section 6 of the current Tier I permit.

Permit Conditions 6.1 and 6.2 from the current Tier I permit were placed in the PTC permit as new Permit Conditions 7.3 and 7.4.

New Permit Condition 7.5 establishes the emissions limits for finish dryer CTZ as established in PTC P-2009.0042.

New Permit Condition 7.6 establishes the fuel to be combusted in finish dryer CTZ as established in PTC P-2009.0042.

New Permit Condition 7.7 establishes the dehydrated food products hourly limit for finish dryer CTZ as established in PTC P-2009.0042.

New Permit Condition 7.8 establishes the dehydrated food products annual limit for finish dryer CTZ as established in PTC P-2009.0042.

Permit Condition 6.3 from the current Tier I permit was placed in the PTC permit as new Permit Condition 7.9.

New Permit Condition 7.10 establishes the dehydrated food products hourly production weight monitoring and recordkeeping requirements for finish dryer CTZ as established in PTC P-2009.0042.

New Permit Condition 7.11 establishes the dehydrated food products annual production weight monitoring and recordkeeping requirements for finish dryer CTZ as established in PTC P-2009.0042.

New Permit Condition 7.12 establishes that the Permittee shall maintain records as required by the General Provision recordkeeping requirements.

New permit Section 8 was included to specify the requirements for the space heater.

PUBLIC REVIEW

Public Comment Opportunity

The initial processing of this project was for a Tier II permit. In accordance with IDAPA 58.01.01.404.02.b proposed Tier II permits shall be made available to the public for a 30-day public comment period. Therefore, an opportunity for public comment period on the application was not performed for this project. However, prior to completion of this project the Applicant requested, and DEQ staff agreed, that this application would be processed as a PTC permit. Because the initial opportunity allowing the public to request a 30-day comment period was not performed, this project will be made available for a 30-day public comment period prior to finalizing.

Public Comment Period

A public comment period was made available to the public in accordance with IDAPA 58.01.01.404.02.b. During this time, comments were not submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

APPENDIX A – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: July 29, 2010

TO: Darrin Pampaian, Air Quality Analyst, Air Program

FROM: Kevin Schilling, Stationary Source Modeling Coordinator, Air Program

PROJECT NUMBER: P-2009.0043

SUBJECT: Modeling Review for the Basic American Foods Tier II Operating Permit for their Food Products Facility, Located Blackfoot, Idaho

1.0 Summary

Basic American Foods (BAF) submitted a Tier II Operating Permit (OP) application for their dehydrated food products and animal feed facility, located in Blackfoot, Idaho. Air quality analyses involving atmospheric dispersion modeling of potential or allowable emissions associated with the facility were performed to demonstrate the facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.403.02 [Idaho Air Rules Section 403.02]) or any applicable Toxic Air Pollutant (TAP) increment (Idaho Air Rules Section 203.03). BAF also requested a Facility Emissions Cap (FEC) as authorized by Idaho Air Rules Sections 175-181.

A technical review of the submitted information and analyses was conducted by DEQ. The submitted information and analyses, in combination with DEQ's analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the facility as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from emissions associated with the facility as modeled, when appropriately combined with background concentrations, were below applicable air quality standards at all ambient air locations; 5) showed that TAP emissions increases associated with applicable past projects did not result in increased ambient air impacts exceeding allowable TAP increments.

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

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

Table 1. KEY CONDITIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	**Explanation/Consideration**
Compliance with the PM_{10} 24-hour standard was not demonstrated for the current operational configuration at the BAF facility. BAF requested a 3-year period to implement changes that will enable compliance to be demonstrated using appropriate modeling methods.	The compliance demonstration assumes there is a 3-year enforceable compliance plan to require plant modifications necessary to demonstrate compliance through applicable modeling analyses.
Analyses were not submitted to demonstrate compliance with 1-hour NO_2 and 1-hour SO_2 standards because these standards have not yet been incorporated by reference into Idaho Air Rules.	Future modeling analyses will be required to demonstrate compliance with these recently promulgated standards once they are incorporated by reference into Idaho Air Rules. This includes modeling performed in support of changes made as authorized under the Facility Emissions Cap (FEC) permit issued and supported by this memorandum.
Compliance with $PM_{2.5}$ standards was demonstrated by showing compliance with PM_{10}, as directed by the EPA surrogate policy.	Future modeling analyses will be required to demonstrate compliance with $PM_{2.5}$ directly once any of the following occur: 1) Idaho completes $PM_{2.5}$ implementation measures in its State Implementation Plan (SIP); 2) the PM_{10} surrogate policy is revoked by EPA; 3) DEQ and/or EPA change how the PM_{10} surrogate policy is implemented (see Section 2.1.2).
Emissions point locations and release heights are as described in the submitted application.	Compliance with air quality standards has not been demonstrated for other emissions locations and release heights.
Stack parameters of exhaust temperature and flow rate should not be less than about 75% of values listed in this memorandum.	Higher temperatures and flow rates increase plume rise, allowing the plume to disperse to a larger degree before impacting ground level.
Boiler Operations/Emissions are restricted as follows: 1. Emissions will not exceed those values listed in Table 5 of this memorandum. 2. When combusting fuel oil in Boilers 1 and/or 2, exhaust will be vented through stack BLR1_2, and hourly PM_{10} emissions will not exceed 5.7 pounds/hour. 3. Boiler 3 may combust natural gas or No. 2 fuel oil, may operate a maximum of 8568 hr/yr, and hourly PM_{10} emissions will not exceed 0.30 lb/hr. 4. Annual combined emissions from Boilers 1, 2, and 3 will not exceed 18.3 ton/yr PM_{10}, 145 ton/yr SO_2, and 198 ton/yr NOx.	Compliance with air quality standards has not been demonstrated for other emissions or operational conditions.

2.0 Background Information

2.1 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality limits and analyses used to demonstrate compliance.

2.1.1 Area Classification

The BAF facility is located in Blackfoot, Idaho. The area is designated as an attainment or unclassifiable area for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$), and sulfur dioxide (SO_2).

There are no Class I areas within 10 kilometers of the proposed site location.

2.1.2 Significant and Cumulative NAAQS Impact Analyses

If estimated maximum pollutant impacts to ambient air from the emissions sources associated with the facility exceed Significant Impact Levels (SILs) of Idaho Air Rules Section 006.105, then a cumulative impact analysis is necessary to demonstrate compliance with National Ambient Air Quality Standards (NAAQS) and Idaho Air Rules Section 403.02. A cumulative NAAQS impact analysis for attainment area pollutants involves adding ambient impacts from facility-wide emissions, and emissions from any nearby co-contributing sources, to DEQ-approved background concentration values that are appropriate for the criteria pollutant/averaging-time at the facility location and the area of significant impact. The resulting maximum pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled value that must be used for comparison to the NAAQS.

New source review requirements for assuring compliance with $PM_{2.5}$ standards have not yet been completed and promulgated into Idaho Air Rules. At the time this memorandum was issued, EPA had asserted through a policy memorandum (John S. Seitz, EPA, *Interim Implementation for the New Source Review Requirements for $PM_{2.5}$*, October 23, 1997) that compliance with $PM_{2.5}$ standards will be assured through an air quality analysis for the corresponding PM_{10} standard. DEQ has determined a surrogate analysis involves modeling PM_{10} emissions, combining the PM_{10} results metric (maximum of 6th highest modeled values) with an appropriate PM_{10} background concentration, and comparing results to the PM_{10} NAAQS. Although the PM_{10} annual standard was revoked in 2006, compliance with the revoked PM_{10} annual standard must be demonstrated as a surrogate to the annual $PM_{2.5}$ standard.

EPA has proposed to end use of the PM_{10} surrogate policy (Fecruary 11, 2010, Federal Register at 75 FR 6827). If the policy is ended, permits issued after the effective date of such action must be supported by direct $PM_{2.5}$ impact analyses.

2.1.3 Toxic Air Pollutant Analyses

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

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

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

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

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

Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAPs requirements has been demonstrated.

A TAPs compliance demonstration was only required for applicable past modifications that were not previously assessed. Facility-wide TAPs impact assessment is not required by Idaho Air Rules.

Table 2. APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels[a] ($\mu g/m^3$)[b]	Regulatory Limit[c] ($\mu g/m^3$)	Modeled Value Used[d]
PM_{10}[e]	Annual[f]	1.0	50[g]	Maximum 1st highest[h]
	24-hour	5.0	150[i]	Maximum 2nd highest[j]
$PM_{2.5}$[k]	Annual	Not established	15[l]	Use PM_{10} as surrogate
	24-hour	Not established	35[m]	Use PM_{10} as surrogate
Carbon monoxide (CO)	8-hour	500	10,000[n]	Maximum 2nd highest[h]
	1-hour	2,000	40,000[n]	Maximum 2nd highest[h]
Sulfur Dioxide (SO_2)	Annual[o]	1.0	80[g]	Maximum 1st highest[h]
	24-hour[o]	5	365[n]	Maximum 2nd highest[h]
	3-hour	25	1,300[n]	Maximum 2nd highest[h]
	1-hour[p]	Not established	195[q]	Mean of maximum 4th highest[r]
Nitrogen Dioxide (NO_2)	Annual	1.0	100[g]	Maximum 1st highest[h]
	1-hour[p]	Not established	189[s]	Mean of maximum 8th highest[t]
Lead (Pb)	Quarterly	NA	1.5[g]	Maximum 1st highest[h]
	3-month[u]	NA	0.15[g]	Maximum 1st highest[h]

a. Idaho Air Rules Section 006.105.
b. Micrograms per cubic meter.
c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.03.b, unless indicated otherwise.
d. The maximum of 1st highest modeled value is always used for the significant impact analysis.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers.
f. The annual PM_{10} standard was revoked in 2006. The standard is still listed because compliance with the annual $PM_{2.5}$ standard is demonstrated by a PM_{10} analysis that demonstrates compliance with the revoked PM_{10} standard.
g. Not to be exceeded for any calendar year.
h. Concentration at any modeled receptor.
i. Not expected to be exceeded more than once in any calendar year.
j. Concentration at any modeled receptor when using one year of meteorological data.
k. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
l. Three-year mean of annual averages not to exceed standard.
m. Three-year mean of 98th percentile not to exceed standard.
n. Not to be exceeded more than once in any calendar year.
o. Standard has been revoked (Federal Register Vol 75, No 119, June 22, 2010). It is still applicable for permitting in Idaho until the change is incorporated by reference into Idaho Air Rules, as per Idaho Air Rules Section 107.03.b.
p. Not yet considered in DEQ permitting analyses. The standard has not yet been incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.03.b.
q. 3-year average of the upper 99th percentile of the distribution of maximum daily 1-hour concentrations not to exceed standard.
r. Mean (of 5 years of data) of the maximum of 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled.
s. 3-year average of the upper 98th percentile of the distribution of maximum daily 1-hour concentrations not to exceed standard.
t. Mean (of 5 years of data) of the maximum of 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled.
u. 3-month rolling average not to exceed standard.

2.2 Background Concentrations

Background concentrations are used in the cumulative NAAQS impact analyses to account for impacts from sources not explicitly modeled. Table 3 lists appropriate background concentrations for rural Idaho areas.

Background concentrations were revised for all areas of Idaho by DEQ in March 2003[1]. Background concentrations in areas where no monitoring data are available were based on monitoring data from areas with similar population density, meteorology, and emissions sources. Background concentrations in these analyses were based on DEQ default values for rural/agricultural areas.

Table 3. BACKGROUND CONCENTRATIONS

Pollutant	Averaging Period	Background Concentration ($\mu g/m^3$)[a]
PM_{10}[b]	24-hour	73
	Annual	26
Carbon monoxide (CO)	1-hour	3,600
	8-hour	2,300
Sulfur dioxide (SO_2)	3-hour	34
	24-hour	26
	Annual	8
Nitrogen dioxide (NO_2)	Annual	17
Lead (Pb)	Quarterly	0.03

a. Micrograms per cubic meter.
b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

3.0 Modeling Impact Assessment

3.1 Modeling Methodology

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

3.1.1 Overview of Analyses

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

1 Hardy, Rick and Schilling, Kevin. *Background Concentrations for Use in New Source Review Dispersion Modeling.* Memorandum to Mary Anderson, March 14, 2003.

Table 4. MODELING PARAMETERS		
Parameter	**Description/Values**	**Documentation/Additional Description**
General Location	Bingham County	Immediately to the west of Blackfoot.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 07026, was used for all air impact analyses. DEQ's verification analyses were performed using the current AERMOD Version 09292.
Meteorological Data	Blackfoot site station, Pocatello surface, Boise upper air	1995-1999 hourly data
Terrain	Considered	Receptor, building, and emissions source elevations were determined using Digital Elevation Model (DEM) files.
Building Downwash	Considered	Buildings present on the site that could reasonably cause plume downwash were included in the analyses through the use of the BPIP-PRIME program.
Receptor Grid	Grid 1	25-meter spacing along the ambient air boundary out to 100 meters.
	Grid 2	100-meter spacing out to 1,000 meters.

3.1.2 Modeling protocol and Methodology

Refined air impact analyses were performed by Coal Creek Environmental Associates, LLC (Coal Creek), BAF's consultant. A modeling protocol was submitted to DEQ prior to the application and DEQ provided conditional approval of the protocol and had numerous discussions with Coal Creek regarding meteorological processing and specific modeling methods. Modeling was generally conducted using data and methods described in the protocol and/or in the *State of Idaho Air Quality Modeling Guideline*.

3.1.3 Model Selection

Idaho Air Rules Section 402.03 requires that estimates of ambient concentrations be based on air quality models specified in 40 CFR 51, Appendix W (Guideline on Air Quality Models). The refined, steady state, multiple source, Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. EPA provided a 1-year transition period during which either ISCST3 or AERMOD could be used at the discretion of the permitting agency. AERMOD must be used for all near-field air impact analyses, performed in support of air quality permitting, conducted after November 2006.

AERMOD retains the single straight line trajectory of ISCST3, but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD offers the following improvements over ISCST3:

- Improved dispersion in the convective boundary layer and the stable boundary layer
- Improved plume rise and buoyancy calculations
- Improved treatment of terrain affects on dispersion
- New vertical profiles of wind, turbulence, and temperature

Site-specific analyses performed by Coal Creek used AERMOD Version 07026. AERMOD Version 09292 was not used for the submitted modeling because Version 07026 was the current version when the application was submitted. DEQ verification analyses were performed using the current AERMOD version 09292.

3.1.4 Meteorological Data

Five years of meteorological data (1995 – 1999) from an Idaho National Laboratory (INL) tower located in the Blackfoot area were used with surface data from the National Weather Service station at the Pocatello Airport and upper air data from the National Weather Service station at the Boise Airport. The Blackfoot tower is located about 3.8 miles NNW of the BAF facility. These data were merged and processed using the meteorological perprocessor AERMET Version 06341.

The program AERSURFACE was used to calculate surface characteristic of roughness, albedo, and Bowen ratio at the INL tower site. U.S. Geological Survey (USGS) National Land Cover Data 1992 archives (NLCD92) was input to AERSURFACE to characterize the land in the area of the INL tower. Details on the meteorological data processing are presented in the submitted application.

3.1.5 Ambient Air Boundary

The plant fenceline was used as the ambient air boundary. A fence provides an adequate barrier to preclude access of the general public.

3.1.6 Facility Layout

DEQ checked locations specified in the model against those listed in the application, and reviewed the general location using Google Earth.

3.1.7 Building Downwash

Downwash effects potentially caused by structures at the facility were accounted for in the dispersion modeling analyses. The Building Profile Input Program for the PRIME downwash algorithm (BPIP-PRIME) was used to calculate direction-specific building dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and emissions release parameters for AERMOD.

3.1.8 Terrain Effects

Terrain effects on dispersion were considered in the analyses. Receptor elevations and hill heights were obtained by Coal Creek using AERMAP and Digital Elevation Model (DEM) 7.5-minute files.

3.1.9 Receptor Network

A fenceline receptor grid with 25-meter spacing was used, extending out 100 meters. A secondary grid with 100-meter spacing was used out to a distance of 1,000 meters. Previous modeling preformed for the facility demonstrated that a receptor grid extending beyond 1,000 meters was not necessary to assure maximum modeled concentrations were resolved.

The ambient air receptor network met the minimal requirements established in the *State of Idaho Air Quality Modeling Guideline*. DEQ also determined that the receptor spacing used was adequate to reasonably resolve maximum modeled concentrations.

3.1.10 Co-Contributing Sources

Nonpareil Corporation (Nonpareil) is located immediately to the east of BAF. When BAF was generating their Tier II Operating Permit application, DEQ did not have a comprehensive emissions inventory for Nonpareil to include as a co-contributing source. Since then, Nonpareil performed air impact analyses in support of a Tier II Operating Permit, so DEQ now has allowable emissions data and modeling parameters for the Nonpareil facility. DEQ performed PM_{10} verification analyses that accounted for co-contributing impacts from the Nonpareil facility.

3.2 Emission Rates

Emissions rates used in the modeling analyses for the BAF facility were equal to or greater than those presented in other sections of the permit application or the DEQ Statement of Basis except where noted otherwise. These emissions rates should represent potential operations as limited by design or as limited by the permit.

3.2.1 Criteria Pollutant Emissions Rates

Table 5 lists criteria pollutant emissions rates used in the NAAQS impact analyses for all averaging periods. BAF did not provide a description of modeled emissions points from a process perspective, electing to keep such descriptions as company confidential.

Compliance with PM_{10} NAAQS could not be demonstrated using current allowable emissions associated with the facility as currently configured. To enable compliance the following emissions points were eliminated: CHI, CHK, DKV, DRY, DSK, DSO, and DUU. BAF has requested a compliance plan be established by the issued permit, allowing BAF a three-year period from the date of permit issuance to either make the described changes or develop and implement alternate methods to enable compliance with NAAQS.

The application states that Boilers 1 and 2 may combust natural gas, distillate oil, or residual oil. Boiler 3 may combust natural gas as the primary fuel and low sulfur distillate oil as the secondary fuel. When combusting fuel oil in Boilers 1 and/or 2, emissions are channeled through a scrubber prior to exhaust through a separate shared stack (BLR1_2). Emissions of PM_{10}, SO_2, and NOx from Boilers 1 and 2 (BLR1_GAS and BLR2_GAS) while combusting natural gas were assumed to be negligible in comparison to emissions from combusting fuel oil, even with the control achieved by the scrubber. DEQ modeling staff calculated emissions of these pollutants from natural gas combustion for comparison and for verification analyses to demonstrate that oil combustion was worst-case for PM_{10}, SO_2, and NOx.

DEQ also performed modeling to verify that allowable annual PM_{10} from all boilers (18.3 ton/year) is worst-case for all emissions from emissions point BLR1_2. This test involved assuming that Boiler 3 operated on No. 2 fuel oil for the maximum allowable 8,568 hour/year at 0.30 pounds/hour, and the remaining allowable annual boiler emissions consisted of Boilers 1 and 2 combusting No. 6 oil and venting out stack BLR1_2.

CO emissions were modeled from Boiler 1 and 2 for the natural gas scenario only. Emissions of CO also occur from the scenario of combusting fuel oil. Modeling a separate CO scenario for fuel oil combustion was not required because: 1) emissions are not substantially higher for combustion fuel oil; 2) when fuel oil is combusted, emissions are released from a higher stack, which increases the dispersion of the plume

prior to impacting ground-level receptors; 3) modeled CO emissions are well below any applicable standards.

Table 5. EMISSIONS RATES USED FOR IMPACT MODELING

Emissions Point	Emissions Rates (pounds/hour)					
	PM_{10}[a]		Carbon Monoxide	Sulfur Dioxide		Oxides of Nitrogen
	24-Hr	Annual		3-Hr, 24-Hr	Annual	
BLR2_GAS[b]	0.5648[f]		6.1	0.04435[f]		7.392[f]
BLR3[c]	0.3	0.2934[g]	1.8	1.9		
BLR1_2[d]	5.7	4.178 3.885[g]		45.3	33.11	45.21
BLR1_GAS[e]	0.4247[f]		4.6	0.03353[f]		5.588[f]
AGQ	0.002475	0.0015	0	0	0	0
AEV	0.1815	0.11	0.858	0.04257	0.02892	0.1683
AEW	0.1287	0.078	0	0.03465	0.021	0
ALB	0.1375	0.1008	0	0.02625	0.01925	0
ALQ	0.0875	0.06416	0	0.02625	0.01925	0
ALT	0.01	0.007332	0	0	0	0
ALV	0.2035	0.165	0	0.03885	0.0315	0
ALW	0.1295	0.105	0	0.03885	0.0315	0
ALX	0.0148	0.012	0	0	0	0
ALY	0.001875	0.001375	0	0	0	0
CBB	0.5802	0.5199	0.39	0.09189	0.08271	0.0765
CHV	0.009	0.006375	0	0	0	0
CHX	1.2871	0.8235	3.172	0.08194	0.06298	0.6222
CHY	0.48177	0.3083	0.442	0.02379	0.01670	0.0867
CHZ	0.22507	0.1440	0.208	0.01113	0.007813	0.0408
CIR	0.906	0.6418	0	1.32	0.935	0
CIS	0.09805	0.06275	0	0.004012	0.002568	0
CIT	0.09805	0.06275	0	0.004012	0.002568	0
CNV	0.1914	0.1225	3.12	0.05793	0.04744	0.612
CNW	0.1914	0.1225	3.12	0.05793	0.04744	0.612
CTQ	0.3739	0.3350	1.0677	0.06675	0.06083	0.2093
CTR	0.3177	0.2846	0.9067	0.05671	0.05168	0.1779
CTS	0.1329	0.1191	0.3794	0.02373	0.02162	0.07441
CTT	0.1593	0.1427	0.4547	0.02844	0.02592	0.08919
CTU	1.225	0.7840	0	0.1864	0.1193	0
CTZ	0.5819	0.3724	2.808	0.1145	0.08259	0.5508
CXX	2.573	1.715	2.727	0.46074	0.3157	0.5822
CYY	2.453	1.635	2.352	0.47556	0.3231	0.3527
DHQ	0.5047	0.3155	0	0	0	0
DHT	1.848	1.155	2.8	0.1008	0.0693	0.539
DHU	1.848	1.155	2.8	0.1008	0.0693	0.539
DHZ	2.789	1.743	1.56	0.1824	0.1194	0.306
DKW	0.0126	0.007875	0	0	0	0
DPY	0.2768	0.1730	0	0	0	0
DPZ	0.2768	0.1730	0	0	0	0
DQA	1.848	1.155	2.8	0.1008	0.0693	0.539
DQB	1.848	1.155	2.8	0.1008	0.0693	0.539
DSX	0.009	0.009	0	0	0	0
DUO	0.2768	0.1730	0	0	0	0
DUQ	1.848	1.155	2.8	0.1008	0.0693	0.539
DUT	1.848	1.155	2.8	0.1008	0.0693	0.539
DUV	5.578	3.486	3.12	0.3648	0.2388	0.612

Table 5. EMISSIONS RATES USED FOR IMPACT MODELING						
Emissions Point	Emissions Rates (pounds/hour)					
	PM_{10}[a]		Carbon Monoxide	Sulfur Dioxide		Oxides of Nitrogen
	24-Hr	Annual		3-Hr, 24-Hr	Annual	
DUY	0.0252	0.01575	0	0	0	0
DUZ	0.0252	0.01575	0	0	0	0
DXS	0.2768	0.1730	0	0	0	0
EDO	0.0189	0.005134	0	0	0	0
EGS	0.0189	0.009535	0	0	0	0
EGT	0.0189	0.009535	0	0	0	0
ENR	0.0189	0.005134	0	0	0	0
ENV	0.0043	0.0043	0	0	0	0
EUW	0.0006	0.0043	0	0	0	0
FIF	0.57	0.02993	0	0	0	0
HEB	2.24	1.408	0.4635	0.3829	0.2503	0.2911
HNL	0.497	0.3124	0.1385	0.06723	0.04513	0.08694
IBE	0.0864	0.0612	0	0	0	0
TAC	0.1564	0.1564	0.325	0.019	0.019	1.314
TAH	0.1564	0.1564	0.325	0.019	0.019	2.564
TCD	0.03422	0.03422	0.52	0.1238	0.1238	0.102
TCO	0.03422	0.03422	0	0	0	0
HEATERS	0.5780	0.2890	6.389	7.605	0.1862	0.1862

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers.
b. Boiler No. 2 fueled on natural gas only.
c. Boiler No. 3 fueled on either natural gas or fuel oil.
d. Boiler No. 1 and 2 combined, fueled by fuel oil, vented out a common stack.
e. Boiler No. 1 fueled on natural gas only.
f. Emissions calculated by DEQ based on MMBtu/hr boiler capacity. When this source is emitting, BLR1_2 will not be emitting.
g. DEQ scenario of Boiler 3 operating for the allowable 8568 hr/yr at 0.30 lb/hr (annual average rate of 0.2934 lb/hr = 1.29 ton/yr), and Boilers 1 and 2 operating on fuel oil to use the remainder of the combined allowable annual PM_{10} rate of 18.3 ton/yr (18.3 ton/yr – 1.29 ton/yr = 17.0 ton/yr or 3.885 lb/hr annual average).

Nonpareil Corporation operates a facility immediately adjacent to the BAF facility. Comprehensive emissions data were not readily available at the time BAF submitted a modeling protocol to DEQ. Since then, DEQ has obtained better emissions data for the Nonpareil facility. DEQ performed verification impact analyses that accounted for PM_{10} emissions from Nonpreil. Nonpareil's emissions of other pollutants were not further evaluated because the BAF modeling results indicated BAF impacts were well below applicable NAAQS.

Table 6 provides PM_{10} emissions modeled for the Nonpareil facility.

Table 6. NONPAREIL PM_{10} 24-HOUR EMISSIONS RATES USED FOR IMPACT MODELING					
Emissions Point	Emissions Rates (pounds/hour)	Emissions Point	Emissions Rates (pounds/hour)	Emissions Point	Emissions Rates (pounds/hour)
EU_01	5.1	EU_21	0.06260	EU_41	3.00E-04
EU_02	5.1	EU_22	1.47	EU_42	1.10E-04
EU_03	0.37	EU_23	0.65	EU_43	3.00E-04
EU_04	2.56	EU_24	1.47	EU_44	0.16
EU_05	4.30E-04	EU_25	0.65	EU_01_NG	0.3018
EU_10	0.16	EU_26	1.47	EU_02_NG	0.3018
EU_11	3.794	EU_27	0.65	EU_06	0.007
EU_12	3.794	EU_28	1.1	EU_07	0.0370
EU_13	3.035	EU_29	0.47	EU_08	0.022
EU_14	3.035	EU_30	0.47	EU_09	0.0750
EU_15	3.035	EU_31	1.78	EU_35	0.026
EU_16	4.30E-04	EU_32	0.77	EU_36	0.0370
EU_17	0.00086	EU_33	0.77	EU_37	0.0370
EU_18	0.00058	EU_34	0.63	EU_38	0.026
EU_19	0.0012	EU_39	0.181567		
EU_20	0.07820	EU_40	1.10E-04		

3.2.2 TAP Emissions Rates

TAPs modeling applicability was determined on a project-by-project basis for those past projects evaluated for PTC exemptions or permit requirements. All increases in TAPs emitted from such projects were a result of natural gas combustion. Because of this, permit exemption and modeling applicability could be evaluated by reviewing emissions of the controlling TAPs. Controlling TAPs are those having the smallest ratio of the AAC or AACC to the emissions factor for that TAP. Cadmium for AACCs and nitrous oxide for AACs were the controlling TAPs. The need for modeling was assessed by calculating project-specific emissions of the controlling TAPs and comparing those to applicable emissions screening levels (ELs).

Past projects that did not go through permitting applicability were evaluated for compliance with TAP rules. The following are past projects that had TAP emissions over the Emissions Screening Levels (ELs) of Idaho Air Rules Section 585 and 586:

1. Installation of dryer and stacks CTQ, CTR, CTS, and CTT
2. Installation of dryer served by stack CBB
3. Replacement of process burners for the dryer serving stacks CHX, CHY, and CHZ
4. Installation of dryer served by stack CNV
5. Installation of dryer served by stack CNW
6. Installation of dryer served by stacks TCD and TCO
7. Upgrade of dryer served by stacks CXX and CYY
8. Installation of dryer served by stack TAC and TAH
9. Installation of gas-fired preheater to dryer served by stacks HEB and HNL

Emissions of the controlling TAPs for specific stacks are listed in Table 7.

Table 7. CONTROLLING TAP EMISSIONS		
Stack Id	Emissions lb/hour	
	Nitrous Oxide[a]	Cadmium[b]
CTQ	8.85E-3	4.43E-6
CTR	7.52E-3	3.77E-6
CTS	3.15E-3	1.58E-6
CTT	3.77E-3	1.89E-6
CBB	3.24E-3	1.62E-6
CHX	2.63E-2	1.32E-5
CHY	3.67E-3	1.84E-6
CHZ	1.73E-3	8.64E-7
CNV	2.59E-2	1.30E-5
CNW	2.59E-2	1.30E-5
TCD	4.31E-3	2.16E-6
TCO	0.00	0.00
CXX	2.31E-2	1.16E-5
CYY	1.62E-2	8.13E-6
TAC	2.70E-3	1.35E-6
TAH	2.70E-3	1.35E-6
HEB	2.33E-2	1.16E-5
HNL	6.95E-3	3.48E-6

a. Pound per hour average for a 24-hour period.
b. Pound per hour average for a annual period.

All process emissions points were modeled separately using a 1.0 pound/hour emissions rate, and the maximum period average impact was evaluated for use in AACC compliance and the maximum 24-hour average impact was evaluated for use in AAC compliance. The results were used to generate dispersion factors in terms of $\mu g/m^3$ per pound/hour of emissions. The impact of a specific source was then determined by multiplying the emissions for the applicable averaging period by the dispersion factor for that source. TAPs compliance for a particular project was then evaluated by summing the individual impacts of the emissions points associated with the project. This method is very conservative because maximum impacts of different emissions points are not likely to occur at the same receptor, as is assumed by summing maximum impacts of all emissions points.

3.3 Emission Release Parameters

Table 8 provides emissions release parameters for the analyses including stack height, stack diameter, exhaust temperature, and exhaust velocity. BAF indicated compliance with PM_{10} NAAQS could not be demonstrated using the current configuration of stack heights at the BAF facility, even without considering emissions from the neighboring Nonpareil facility. The stack heights of the following sources were increased to 90 feet (27.43 meters) to minimize downwash and enable compliance with PM_{10} NAAQS: CHX, CXX, DHT, DHU, DHZ, DQA, DQB, DUQ, DUT, DUV. BAF has requested a compliance plan be established by the issued permit allowing BAF a three-year period from the date of permit issuance to either make the described changes or develop and implement alternate methods to enable compliance with NAAQS.

Table 8. EMISSIONS RELEASE PARAMETERS					
Release Point /Location	Source Type	Stack Height (m)[a]	Modeled Diameter (m)	Stack Gas Temp. (K)[b]	Stack Gas Flow Velocity (m/sec)[c]
BLR2_GAS[d]	Point	15.24	1.07	422	13.30
BLR3[e]	Point	13.41	0.86	519	15.41
BLR1_2[f]	Point	30.48	1.07	320	15.23
BLR1_GAS[g]	Point	14.33	1.07	422	9.99
AGQ	Point	10.13	0.15	298	6.75
AEV	Point	15.52	0.81	300	16.83
AEW	Point	15.98	0.66	300	15.84
ALB	Point	10.54	0.49	349	16.39
ALQ	Point	8.03	0.33	311	26.74
ALT	Point	8.03	0.33	319	30.67
ALV	Point	8.74	0.60	344	17.49
ALW	Point	10.24	0.60	318	14.92
ALX	Point	10.11	0.60	313	12.37
ALY	Point	9.85	0.10	315	18.90
CBB	Point	11.73	0.59	328	12.25
CHV	Point	9.09	0.15	325	35.60
CHX	Point	27.43	0.97	361	8.46
CHY	Point	9.57	0.63	348	7.48
CHZ	Point	10.92	0.55	359	4.54
CIR	Point	9.73	0.56	329	20.70
CIS	Point	11.13	0.46	314	21.59
CIT	Point	11.10	0.46	314	20.12
CNV	Point	19.51	0.91	478	26.66
CNW	Point	19.51	0.91	478	26.66
CTQ	Point	11.18	0.59	344	12.16
CTR	Point	10.82	0.40	330	21.06
CTS	Point	10.82	0.34	329	11.77
CTT	Point	10.82	0.34	323	13.63
CTU	Point	12.04	0.94	344	12.61
CTZ	Point	15.24	0.78	334	17.39
CXX	Point	27.43	0.76	323	17.75
CYY	Point	18.62	1.22	321	13.86
DHQ	Point	11.31	0.76	302	7.16
DHT	Point	27.43	0.91	333	22.38
DHU	Point	27.43	0.91	333	22.38
DHZ	Point	27.43	0.91	330	13.51
DKW	Point	11.66	0.13	303	20.68
DPY	Point	10.04	0.61	306	11.91
DPZ	Point	10.13	0.53	311	7.45
DQA	Point	27.43	1.07	333	14.15
DQB	Point	27.43	1.07	333	14.15
DSX	Point	15.93	0.08	297	15.24
DUO	Point	8.88	0.53	311	7.45
DUQ	Point	27.43	1.07	333	15.00
DUT	Point	27.43	1.07	333	15.00
DUV	Point	27.43	1.22	330	15.20
DUY	Point	11.30	0.13	303	20.68
DUZ	Point	11.30	0.13	303	20.68
DXS	Point	9.28	0.61	306	11.91
EDO	Point	5.94	0.15	298	6.75
EGS	Point	20.98	0.30	307	4.54
EGT	Point	20.67	0.30	296	8.64
ENR	Point	20.88	0.20	296	7.28

Table 8. EMISSIONS RELEASE PARAMETERS					
Release Point /Location	**Source Type**	**Stack Height (m)[a]**	**Modeled Diameter (m)**	**Stack Gas Temp. (K)[b]**	**Stack Gas Flow Velocity (m/sec)[c]**
ENV	Point	8.08	0.26	313	4.44
EUW	Point	10.06	0.23	309	14.90
FIF	Point	14.63	0.36	294	9.95
HEB	Point	19.05	0.91	350	27.60
HNL	Point	14.99	0.51	343	25.85
IBE	Point	9.18	0.29	305	7.09
TAC	Point	13.72	0.39	505	14.07
TAH	Point	13.72	0.41	505	12.19
TCD	Point	9.91	0.69	338	11.18
TCO	Point	10.82	0.61	311	5.34
Volume Sources					
Release Point /Location	**Source Type**	**Release Height (m)**	**Initial Horizontal Dispersion Coefficient σ_{y0} (m)**	**Initial Vertical Dispersion Coefficient σ_{z0} (m)**	
HEATERS	Volume	14.88	37.44	6.92	

a. meters.
b. Kelvin.
c. meters per second.
d. Boiler No. 2 stack when fueled on natural gas only.
e. Boiler No. 3 stack.
f. Boiler No. 1 and 2 combined stack, used when fueled by fuel oil.
g. Boiler No. 1 stack when fueled on natural gas only.

3.4 Results for NAAQS Cumulative Impact Analyses

This section presents results of the air impact analyses.

3.4.1 Facility-Wide Impact Analyses

Table 9 summarizes the cumulative NAAQS impact analyses performed for the BAF facility. Demonstrating compliance with PM_{10} NAAQS was problematic for BAF, and will require modification of the stacks and/or emissions reductions. To demonstrate compliance it was assumed that some emissions points were removed and the stack heights of some points were increased. BAF requested that a three-year compliance plan be included in the issued permit for BAF to either make the changes as described or alternate changes that, when analyzed by the methods used in the application, demonstrate compliance with NAAQS. This request was made as per Idaho Air Rules Section 401.04.

Table 9. RESULTS FOR CUMULATIVE IMPACT ANALYSES						
Pollutant	**Averaging Period**	**Maximum Modeled Concentration[a] ($\mu g/m^3$)[b]**	**Background Concentration ($\mu g/m^3$)**	**Total Ambient Impact ($\mu g/m^3$)**	**NAAQS[c] ($\mu g/m^3$)**	**Percent of NAAQS**
PM_{10}[d]	24-hour	68.4[e] (69.0)[e]	73	141.4 (142.0)	150	94 (95)
	Annual	13.5[f]	26	39.5	50	79
Carbon monoxide (CO)	1-hour	989[g]	3,600	4589	40,000	12
	8-hour	213[g]	2,300	2513	10,000	25
Sulfur dioxide (SO_2)	3-hour	353[g]	34	387	1,300	30
	24-hour	86.1[g]	26	112	365	31
	Annual	13.0[f]	8	21.0	80	26
Nitrogen dioxide (NO_2)	Annual	25.2[f]	17	42.2	100	42

a. Values in parentheses were obtained through DEQ verification modeling.
b. Micrograms per cubic meter.
c. National ambient air quality standards.
d. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
e. Modeled design values are the maximum 6th highest modeled value from a 5-year meteorological data set.
f. Modeled design values are the maximum 1st highest modeled value from five 1-year meteorological data sets.
g. Modeled design values are the maximum 2nd highest modeled value from a 5-year meteorological data set.

3.4.2 DEQ Analyses to Verify Worst-Case Scenarios

DEQ modeling staff performed analyses to compare impacts of Boiler 1 and 2 when combusting natural gas to those when Boiler 1 and 2 are combusting oil, with emissions controlled by the scrubber and vented out a common stack. Emissions from natural gas combustion were modeled as positive values and emissions from oil combustion were modeled as negative values. Any positive results at receptors indicated the scenario of combusting natural gas has a greater impact than when combusting fuel oil for the averaging period modeled. Comparisons were made for 24-hour PM_{10} and annual NO_2. For most conditions and at most receptor locations the scenario for combusting oil was worst-case for impacts of 24-hour PM_{10} and annual NO_2. The maximum of first highest 24-hour impact differences for 24-hour PM_{10} was 1.5 $\mu g/m^3$ and the maximum annual NO_2 impact difference was 1.0 $\mu g/m^3$ (using a NO_2:NOx ratio of 0.75). These results indicate that in the worst-case conditions the scenario for combusting natural gas in Boilers 1 and 2 has an impact less than 2.0 $\mu g/m^3$ greater than that for the boilers combusting oil. For most times and receptor locations, the impacts for combusting oil in Boilers 1 and 2 results in higher impacts than when combusting natural gas.

Coal Creek modeled annual PM_{10} assuming total allowable emissions from boilers (18.3 ton/year) are emitted only from the combined Boiler 1 and 2 stack (BLR1_2). Boiler 3 is allowed to operate for 8,568 hour/year on No. 2 oil. If Boiler 3 operates for the allowable 8,568 hour/year, emitting 1.29 ton/year of PM_{10}, that leaves an allowable annual PM_{10} emissions from the combined Boiler 1 and 2 stack BLR1_2 of 17.0 ton/yr (18.3 ton/year – 1.29 ton/yr).

DEQ compared boiler PM_{10} annual impacts of all 18.3 ton/year from BLR1_2 to the scenario of 1.29 ton/year from Boiler 3 and the remaining 17.0 ton/year from BLR1_2. The model was run for 1999 meteorological data only. Results indicated the scenario involving Boiler 3 at 1.29 ton/year gave higher impacts. However, the maximum difference in concentrations among all receptors was 0.04 $\mu g/m^3$.

3.4.3 Impacts Considering Nonpareil's Contribution

PM_{10} 24-hour impacts were very close to the NAAQS when combined with a conservative background concentration value. Since model results did not account for impacts from the co-contributing Nonpareil

facility, DEQ performed additional analyses to asses combined impacts. DEQ added Nonpareil allowable emissions for the DEQ verification analyses.

Receptors on Nonpareil's property were not assessed for combined impacts because Nonpareil property is not ambient air with regard to emissions from the Nonpareil facility. Modeling results showed that one receptor at E 388500 N4784300 had a modeled 24-hour 6th highest concentration over 150 $\mu g/m^3$. The combined modeled impact was 80.6 $\mu g/m^3$, giving 153.6 $\mu g/m^3$ when combined with the 73 $\mu g/m^3$ background value.

DEQ evaluated whether the BAF facility had a significant contribution to impacts exceeding the 24-hour PM_{10} NAAQS. Table 10 summarizes BAF's contribution to modeled exceedances of the NAAQS. Of the 10 modeled values at receptor E 388500 N4784300 that exceeded the 24-hour PM_{10} NAAQS, BAF only had a significant contribution to two of those. The greatest contribution to modeled values at the receptor exceeding the NAAQS were by far the Nonpareil facility.

The responsibility of NAAQS compliance at ambient air receptors is the responsibility of both BAF and Nonpareil. Measures necessary to assure compliance should involve careful evaluation of operations at both facilities. This will be accomplished during the 3-year compliance period requested by the submitted permit application. Future measures taken to achieve compliance will be required to also demonstrate compliance with $PM_{2.5}$, 1-hour NO_2, and 1-hour SO_2.

Table 10. BAF CONTRIBUTION OF MODELED EXCEEDANCE

Rank of Modeled Value[a]	Modeled Value[b] ($\mu g/m^3$)	Total Impact with Backgrond ($\mu g/m^3$)	Date of Modeled Value	BAF Contribution ($\mu g/m^3$)	BAF Significant Contribution[c]
1st	124.4	197.4	12/04/98	0.28	No
2nd	94.5	167.5	12/29/98	0.17	No
3rd	87.7	160.7	2/14/95	3.97	No
4th	81.2	154.2	1/10/97	0.05	No
5th	81.0	154.0	1/29/96	3.59	No
6th	80.6	153.6	1/11/98	5.11	Yes
7th	80.0	153.0	11/12/95	6.34	Yes
8th	79.9	152.9	12/24/96	0.39	No
9th	77.9	150.9	11/13/95	2.78	No
10th	77.0	150.0	12/28/96	0.14	No

a. Modeled value at receptor E 388500 N4784300.
b. Combined impact of BAF and Nonpareil.
c. Significant contribution as defined by Idaho Air Rules Section 006.105.

3.5 Results for TAPs Analyses

Past projects that did not go through permitting applicability were evaluated for compliance with TAP rules. The following are past projects that had TAP emissions over the Emissions Screening Levels (ELs) of Idaho Air Rules Section 585 and 586:

1. Installation of dryer and stacks CTQ, CTR, CTS, and CTT
2. Installation of dryer served by stack CBB
3. Replacement of process burners for the dryer serving stacks CHX, CHY, and CHZ

4. Installation of dryer served by stack CNV
5. Installation of dryer served by stack CNW
6. Installation of dryer served by stacks TCD and TCO
7. Upgrade of dryer served by stacks CXX and CYY
8. Installation of dryer served by stack TAC and TAH
9. Installation of gas-fired preheater to dryer served by stacks HEB and HNL

Table 11 lists impacts of the controlling TAPs, cadmium for Section 586 carcinogens and nitrous oxide for Section 585 noncarcinogens, for specific emissions points. Project impacts were calculated by summing maximum impacts for those stacks affected by the specific project. Total TAP impacts for individual projects are all well under the AAC and AACC for the controlling TAPs. Therefore, TAPs compliance has been adequately demonstrated for those past projects identified as requiring TAP modeling.

Table 11. TAP IMPACTS FOR SPECIFIC STACKS ASSOCIATED WITH TAPS-APPLICABLE PAST PROJECTS

Stack Id	Impacts for 1 lb/hr Emissions		Nitrous Oxide Impact[a]		Cadmium Impact[b]	
	24-hour	Period	µg/m³	% of AAC	µg/m³	% of AAC
CTQ	12.11	1.239	0.1072	0.0024	5.49E-6	0.98
CTR	12.22	1.353	0.0919	0.0020	5.10E-6	0.91
CTS	13.59	1.662	0.0428	0.0010	2.62E-6	0.47
CTT	13.09	1.580	0.0494	0.0011	2.98E-6	0.53
CBB	12.63	1.264	0.0409	0.0009	2.05E-6	0.37
CHX	3.00	0.314	0.0789	0.0018	4.14E-6	0.74
CHY	14.79	1.515	0.0542	0.0012	2.78E-6	0.50
CHZ	15.39	1.630	0.0265	0.0006	1.41E-6	0.25
CNV	2.72	0.303	0.0703	0.0016	3.92E-6	0.70
CNW	2.60	0.282	0.0674	0.0015	3.66E-6	0.65
TCD	9.49	1.480	0.0409	0.0009	3.20E-6	0.57
CXX	3.36	0.293	0.0777	0.0017	3.40E-6	0.61
CYY	3.27	0.410	0.0531	0.0012	3.33E-6	0.59
TAC	8.37	1.297	0.0226	0.0005	1.75E-6	0.31
TAH	8.50	1.315	0.0229	0.0005	1.78E-6	0.32
HEB	2.96	0.439	0.0689	0.0015	5.11E-6	0.91
HNL	4.22	0.711	0.0293	0.0007	2.47E-6	0.44

a. Impact from actual emissions, calculated by multiplying 24-hour impact for 1 lb/hr by calculated allowable emissions.

b. Impact from actual emissions, calculated by multiplying period impact for 1 lb/hr by calculated allowable emissions.

4.0 Facility Emissions Cap Modeling

The applicant requested that a Facility Emissions Cap (FEC) permit be issued as authorized by Idaho Air Rules Section 176-181. The submitted impact analyses accounted for multiple operational scenarios of boiler operation. These scenarios were thoroughly described in the submitted application and the modeling performed supports operation of those scenarios. There were no other operational scenarios evaluated.

Any changes to emissions units that were not adequately assessed by the submitted impact analyses must be assessed as described in Idaho Air Rules Section 181. Such changes would include the following:

- Addition of a new emissions point.
- Potential emissions from any points in excess of the quantity modeled in the submitted analyses.
- Modifications made that change the location of emissions release points or affect stack parameters (stack height, stack diameter, exhaust temperature, and exhaust flow rate).
- Changes in site buildings that may affect plume downwash.

The permittee must provide notice to DEQ as required by Idaho Air Rules Section 181.01 if changes made result in changes in the design concentration above the SILs, but do not cause or significantly contribute to a violation. If the changes result in a change in the design concentration below SILs, then the permittee must record and maintain documentation on-site.

The air impact analyses submitted for this FEC did not address compliance with $PM_{2.5}$, 1-hour NO_2, nor 1-hour SO_2. At the time this memorandum was issued, DEQ's policy was to use the standard PM_{10} compliance demonstration as a surrogate for the $PM_{2.5}$ analysis, and the 1-hour NO_2 and SO_2 standards were not being considered in permitting decisions because they have not yet been incorporated into Idaho Air Rules as specified by Idaho Air Rules Section 107.03.b. With regard to compliance with changing NAAQS, facility changes may not be made under the FEC in the following circumstances:

- The proposed change affects $PM_{2.5}$ emissions and the PM_{10} surrogate policy is either revoked or DEQ's and EPA's interpretation of the policy changes such that a standard PM_{10} analysis does not suffice as an appropriate surrogate for a $PM_{2.5}$ analysis.
- The proposed change affects 1-hour NO_2 and 1-hour SO_2 emissions and the 1-hour NO_2 and SO_2 standards have been incorporated by reference into Idaho Air Rules.

5.0 NAAQS Compliance Plan

BAF requested a three-year compliance plan to make changes necessary to demonstrate compliance with NAAQS, primarily because of the inability to demonstrate compliance with the 24-hour PM_{10} NAAQS for the current facility configuration. The methods provided in the submitted analyses are just one potential approach to meet NAAQS. This approach is authorized under Idaho Air Rules Section 401.04:

> *Subject to approval by EPA, the Director may issue one or more Tier II operating permits to a facility which allow any specific stationary source or emissions unit within that facility a future compliance date of up to three years beyond the compliance date of any provisions of these rules, provided the Director has reasonable cause to believe such a future compliance date is warranted.*

The established three-year compliance plan should require BAF to perform the following by the conclusion of the three-year compliance period:

1) Submit a final proposal to DEQ for facility changes that will enable NAAQS compliance, if the final facility configuration differs from what is proposed in the submitted application and described in this memorandum.

2) If any changes affect impacts of $PM_{2.5}$, 1-hour NO_2, or 1-hour SO_2, then perform air impact analyses that demonstrate compliance with all applicable NAAQS, including $PM_{2.5}$, 1-hour NO_2, and 1-hour SO_2.

3) Submit a permit modification application if changes cannot me made under the existing FEC Tier II Operating Permit, and if changes affect emissions and/or impacts of $PM_{2.5}$, 1-hour NO_2, or 1-hour SO_2.

4) Implement the proposed changes needed to assure NAAQS compliance.

6.0 Conclusions

BAF indicated in the submitted application that air impact analyses for the current configuration of their facility could not demonstrate that emissions from the facility will not cause or significantly contribute to a violation of any air quality standard. An operational scenario was offered as a potential option for NAAQS compliance, and BAF requested a 3-year compliance period to either implement the proposed changes or propose alternative measure to enable compliance with NAAQS to be demonstrated.

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on May 1, 2010:

Comments on the Facility Draft Permit

Facility Comment: Responsible Official: Ed Conn. Change to *Brent Higginson.* Ed Conn has retired. Brent Higginson is the new Plant Manger of the Blackfoot Facility

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

Facility Comment: Permit Condition 1.1 - Replace with the following language: This is an original Tier II operating permit and Permit to Construct for the Blackfoot facility of Basic American Foods (BAF). This scope of this permit includes the three specific issues described below:

- Satisfying PTC requirements for new or modified sources that potentially required a PTC but for which a PTC was not obtained prior to construction. Those sources include:
  - 1982, Installation of Reyco Slice 13 MMBtu/hr space heater
  - 1973, Installation of dryer and stacks CTQ, CTR, CTS, and CTT
  - Various dates, "Debottlenecking" of Dryer served by stack CIR
  - Early 1980s, Installation of dryer served by stack CBB
  - 1995, Replacement of process burners for the dryer serving stacks CHX, CHY, and CHZ
  - 2001, Installation of dryer served by stack CNV
  - 2001, Installation of dryer served by stack CNW
  - 1999, Upgrade of dryer served by stacks CXX and CYY
- Establishing a facility emissions cap (FEC) for the Blackfoot facility.
- Creating additional facility operating requirements needed to demonstrate compliance with ambient air quality standards.

This reflects the specific purposes for which this permit is being issued.

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

Facility Comment: Permit Condition 1.1 - Replace with: The following Permits to Construct are in effect at the facility and will remain active:

- August 29, 2009 PTC P-2009.0042
- September 16, 2005 PTC No. P-050301
- April 27, 1995 PTC No. 011-000012
- November 12, 1982 PTC letter issued
- December 27, 1975 PTC letter issued

This provides a summary of other applicable Permits to Construct at the facility, and clarifies that the Tier II permit does not supersede any of the existing permits.

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

Facility Comment: Permit Condition 1.3 - Table 1.1 lists all sources of regulated emissions in this permit. Add the following: The sources listed are those emissions units for which emissions of any criteria air pollutant exceeds 10 per cent (10%) of the levels contained in the definition of "significant" in IDAPA 58.01.01.006.

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

Facility Comment: Permit Condition 1.3, Table 1.1, Column 3 - Model XXX (Need facility input) Replace with "D-Style S/N 9925." The nameplate doesn't list a model identification. The boiler is a D-Style boiler with S/N 9925.

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

Facility Comment: Permit Condition 1.3, Table 1.1, Column 4 - Note: Venturi wet scrubber system is used whenever Boilers 1 and 2 are combusting fuel oil. Change to read: "Note: Venturi wet scrubber system is used whenever Boilers 1 and/or 2 are combusting fuel oil." The venturi scrubber must be used when either Boiler 1 or Boiler 2 combusts fuel oil. They don't both have to be running.

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

Facility Comment: Permit Condition 1.3, Table 1.1, General - Process A, B, & C Stacks. Add stack CBB to Table 1.1. If these are stacks that are "significant" under Tier I, stack CBB should be included.

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

Facility Comment: Permit Condition 1.3, Table 1.1, General - Process A, B, & C Stacks. Change Emissions Control(s) for Source ID CTZ to "Low-emission burners." The CTZ Finish Dryer was constructed with low-emission burners.

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

Facility Comment: Permit Condition 3.1, Second sentence - The exemption criteria in IDAPA 58.01.01.220-222 are **not** applicable to changes in design or equipment at the facility that result in any change in the nature or amount of emissions, provided that the permittee complies with the conditions of Sections 3 through 8 of this permit and meets the requirements of IDAPA 58.01.01.181. Please clarify for us what this means. We understand that any exemptions under IDAPA 58.01.01.220-222 cannot be claimed outside the context of the FEC rules specified in IDAPA 58.01.01.181. That is, the exemptions cannot be used to ratchet emissions up beyond the cap. However, it seems the exemptions could still be useful to partially justify changes within the framework (bounds) of the FEC permit. Is that not true?

DEQ Response: The language used in this permit condition is standard language taken from previously issued FEC permits (including BAF's Shelly facility). In addition, this condition does not preclude the facility from using the exemption criteria specified in IDAPA 58.01.01.220-222. Instead, the condition specifies that if the permittee follows the requirements of IDAPA 58.01.01.181 (FEC requirements for ambient concentrations) then the requirements of IDAPA 58.01.01.220-222 do not apply to the modification.

Facility Comment: Permit Condition 3.2, Table 3.1 - The Boiler 1 Emission Control Device is listed as a Lo-NO_X burner. Change Boiler 1 Emission Control Device to "Scrubber." Also make the emission control device for Boiler 2 be "Scrubber". Add Footnote 2 indicating the scrubber is to be used when either boiler combusts fuel oil. Boiler 1 does not have a Lo-NO_X burner. There is a scrubber that serves Boilers 1 and 2 when they combust fuel oil

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

Facility Comment: Permit Condition 3.6.1 - Records of the quantity of fuel consumption, steam production, and process throughput used for determining the 12-month total facility-wide criteria pollutant emissions shall be submitted with the annual report. Add the following: Fuel and steam production records shall be based on recordkeeping required by PTC P-050301, 9/16/05. Process throughput records shall be based on production and operating data maintained by BAF in the course of its normal business operations. It is not clear what records need to be submitted. The proposed language clarifies that the records are based on the boiler PTC and BAF's ordinary business records.

DEQ Response: The language used in this permit condition is standard language taken from previously issued FEC permits. In addition, DEQ practice is to not reference other permits within the language of another permit condition because of issues that arise if and when the referenced permit is modified or changed. Therefore, the requested change will not be made to the permit.

Facility Comment: Permit Condition 3.7.1 - In the event the facility change would result in a significant contribution (as defined in IDAPA 58.01.01.006) above the design concentration determined by the estimate of ambient concentration analysis approved for the permit establishing the FEC, but does not cause or significantly contribute to a violation of any ambient air quality standard, the permittee shall provide notice to DEQ in accordance with IDAPA 58.01.01.181.01.b. Add the following: This notice shall also identify new or modified emission factors used to estimate emissions for purposes of this review of the estimate of ambient concentration analysis and for determining compliance with criteria pollutant Facility Emission Cap in accordance with Section 3.4 of this permit. The current language is silent on how to select emission factors for modifications made under the FEC cap. This clarifies that for the larger projects, those that would not be PTC exempt absent the cap, BAF shall submit information on new or modified emission factors when BAF submits the required notice of the change.

DEQ Response: The change requesting that the review of the ambient concentration analysis shall be maintained on site will added to the permit as requested. The change requesting that additional language be added to the permit condition is not consistent with the requirements in IDAPA 58.01.01.181.01.b. Therefore, this requested change will not be made to the permit.

Facility Comment: Permit Condition 3.7.1, last sentence - Change to: The permittee shall record and maintain documentation on site of the review of ambient concentration analysis.

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

Facility Comment: Permit Condition 3.8.2 - In accordance with IDAPA 58.01.01.177.02, the permittee's renewal application for this permit shall include ambient concentration estimates as specified in IDAPA 58.01.01.202.02 or IDAPA 58.01.01.402.03. Please delete this provision. If there have been no changes in the facilities and operations subject to the permitting, an updated ambient impacts assessment should not be needed. If changes are made under the FEC, IDAPA 58.01.01.181.01.b requires the permittee to notify the Department and submit an ambient concentration estimate. Thus, this requirement is redundant and not needed.

DEQ Response: The language used in this permit condition is standard language taken from previously issued FEC permits (including BAF's Shelly facility). In addition, this language is taken directly from IDAPA 58.01.01.177.02 which allows that an ambient concentration analysis is not required for a renewal unless the Department determines otherwise. Therefore, the requested change will not be made to the permit.

Facility Comment: Permit Condition 3.9.1 - A list of boilers, dryers, coolers, and space heaters installed at the facility shall be maintained by the permittee and provided to DEQ personnel upon request. Add: (Space heaters of less than 343,000 Btu/hr heat input rate need not be included in the list.). There are many very small space heaters at the facility that are of trivial air quality concern. With AP-42 emission factors for TAPs, 343,000 Btu/hr is the level at which a space heater would no longer qualify for a BRC exemption from PTC permitting.

DEQ Response: The emissions factors in AP-42 change time to time so heater that is exempt from permit today might be subject to permit requirements in the future. Therefore, the requested change will not be made to the permit. However, the following language will be added to the permit condition: ...(except for space heaters with emissions which are "Below Regulatory Concern")...

Facility Comment: Sections 4 through 8, General comments - Almost all of the content of Sections 4, 5, 6, 7, and 8 simply repeats provisions that already exist in other permits. Also, most of this language is not needed to accomplish the purposes of this permit, which is to 1) address legacy permitting issues, 2) establish FEC requirements, and, 3) create requirements needed to demonstrate compliance with ambient air quality standards. BAF believes most of the material in these sections should be deleted from the permit as it makes the permit needlessly cumbersome and complex. The Tier I (Title V) air operating permit will unite the various PTCs and this Tier II permit into one permit.

DEQ Response: DEQ practice is to list the applicable permit unit requirements in both the Tier I and Tier II permit. Therefore, the requested changes will not be made to the permit.

Facility Comment: Section 4, various locations - Some of the conditions in Section 4 appear to be "cleanup" or clarification of language from PTC No. P-050301. We do not believe this permit is the appropriate location to address these issues. If provisions of PTC No. P-050301 need revision or clarification, that should be accomplished by modifying PTC No. P-050301 rather than creating two permits, governing the same facilities, but with differing permit conditions.

DEQ Response: As mentioned previously DEQ practice is to list the applicable permit unit requirements in both the Tier I and Tier II permit. Therefore, the requested change will not be made to the permit.

Facility Comment: Permit Condition 4.6 - When the exhausts from Boiler 1 and 2 are merged ahead of a single scrubber to comply with the simultaneous boiler operation – boilers 1, 2, and 3 requirement (Permit Condition 4.14), the exhaust from Boiler 1 shall be subject to the same emissions limits set forth for Boiler 2 in the sulfur dioxide emissions – boiler 2 – NSPS and visible emissions – boiler 2 - NSPS requirements (Permit Conditions 4.4 and 4.5), and the permittee may install applicable continuous monitoring systems on each effluent or the combined effluent from Boilers 1 and 2 in accordance with 40 CFR 60.13(g). Please restore this to the original permit language.

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

Facility Comment: Permit Condition 4.27 - Boiler 1 and boiler 2 requirement (Permit Condition 4.26). Change to: Boiler 1 and Boiler 2 requirement (Permit Condition 4.26).

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

Facility Comment: Permit Condition 4.36 - Sub-bullets mis-numbered.

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

Facility Comment: Permit Conditions 5.1, 6.1, and 7.1 - The following is a narrative description of Process A regulated in this Tier I operating permit. Edit: The following is a narrative description of Process … regulated in this Tier II operating permit.

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

Facility Comment: Table 5.1 - Add to table: DKW: Animal feed materials recovery unit; DKV: Cooler. Permit Condition 5.3.1 says the Process Weight calculation applies to the units/processes in this table. The Process Weight Calculation applies to the entirety of Process A. These added stacks are a part of Process A.

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

Facility Comment: Permit Conditions 5.5; 6.5; 7.9 - Visible Emissions Monitoring. To demonstrate compliance with the particulate matter – existing equipment process weight limitations … the permittee shall conduct a **monthly** one-minute observation of each affected emissions point, or source, using EPA Method 22). Change to quarterly monitoring. Quarterly monitoring is consistent with the requirements for BAF's other plants. Operating experience shows that quarterly monitoring is adequate for identifying problems. The requested change makes this requirement consistent with the most recent Rexburg and Shelley permits.

DEQ Response: To decrease the frequency of visible emissions monitoring from monthly to quarterly would be a relaxation of the existing Tier I permit requirements. Therefore, the requested change will not be made to the permit.

Facility Comment: Table 6.1 - Add to table 6.1: DXS: Cooler; DUO: Cooler; DPY: Cooler; DPZ: Cooler; DUZ: Animal Feed materials recovery unit; DUY: Animal feed materials recovery unit; DSO: Dryer – Steam heated; DSK: Cooler. Permit Condition 6.3.1 says the Process weight calculation applies to the units/processes in this table. The Process Weight Calculation applies to the entirety of Process B. These added stacks are a part of Process B.

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

Facility Comment: Permit Condition 7.1 - This process was installed and/or modified in 1966, 1971, 1982, 1997, and 2009. Delete and replace with: Modifications and changes to Process C that are subject to PTC requirements but for which a PTC has not previously been issued are listed below:

- 1982, Installation of Reyco Slice 13 MMBtu/hr space heater
- 1973, Installation of dryer and stacks CTQ, CTR, CTS, and CTT
- Various dates, "Debottlenecking" of Dryer served by stack CIR
- Early 1980s, Installation of dryer served by stack CBB
- 1995, Replacement of process burners for the dryer serving stacks CHX, CHY, and CHZ
- 2001, Installation of dryer served by stack CNV
- 2001, Installation of dryer served by stack CNW
- 1999, Upgrade of dryer served by stacks CXX and CYY

Additional language is needed in Section 7 specifically authorizing the legacy projects that do not qualify for a PTC exemption.

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

Facility Comment: Permit Condition 7.2, Table 7.1 - Update and reformat table as shown below:

- ALT/ALQ,/ALB: Dryer – Steam heated
- ALX/ALW/ALV/ALY: Dryer – Steam heated
- AGQ/AEV/AEW: Dryer – Steam heated
- CHV/CIR: Dryer – Steam heated
- CXX/CYY: Dryer – 6.05 MMBtu/hr pre-heater, 4.4 MMBtu/hr front dryer, 6.6 MMBtu/hr rear dryer, and 1.2 MMBtu final heater, natural gas-fired
- CHX: Pre-dryer – 12.2 MMBtu/hr, natural gas fired
- CHY/CHZ: Dryer – 2.5 MMBtu, natural gas-fired
- CIS: Dryer – Steam heated
- CIT: Dryer – Steam heated
- HEB/HNL: Dryer – S team-heated with optional 14 MMBtu/hr, natural gas-fired pre-heater
- CNV: Dryer – 12 MMBtu/hr, natural gas-fired
- CNW: Dryer – 12 MMBtu/hr, natural gas-fired
- CTU: Dryer – S team heated
- CTZ: Finish dryer – 5.75 MMBtu/hr, natural gas-fired
- CBB: Dryer – 1.5 MMBtu, natural gas-fired
- CTQ/CTR/CTS/CTT: Dryer – 10.8 MMBtu, natural gas fired, and steam heated

Permit Condition 7.3.1 says the Process Weight calculation applies to the units/processes in this table. The Process Weight Calculation applies to the entirety of Process C. These added stacks are part of Process C. The table was also reformatted to match the format of Tables 5.1 and 6.1.

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

Facility Comment: Permit Condition 7.3.1 - The process weight PM limitation applies to the collection of emissions units/processes identified in Table **7.1**. Demonstrating compliance with the visible emissions requirement contained in the visible emissions monitoring (Permit Condition **7.9**). Corrected the pointers to be consistent with the pointers in Processes A & B.

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

Facility Comment: Permit Condition 7.7 - The dehydrated food products production rate for the CTZ finish dryer shall not exceed 2,800 lb/hr. Change to: **To demonstrate compliance with the PM10 and SO2 requirements of Permit Condition 7.5**, the dehydrated food products production rate for the CTZ finish dryer shall not exceed 2,800 lb/hr food products production rate for the CTZ finish dryer shall not exceed 2,800 lb/hr.

DEQ Response: Footnote 1 for Table 7.2 states "In absence of any other credible evidence, compliance is assured by complying with this permit's operating, monitoring and record keeping requirements." Therefore, the requested change will not be made to the permit.

Facility Comment: Permit Condition 7.8 - The dehydrated food products production rate for the CTZ finish dryer shall not exceed 15,698,000 lb/yr in any consecutive 12-calendar months. Change to: **To demonstrate compliance with the PM_{10} and SO_2 requirements of Permit Condition 7.5,** the dehydrated food products production rate for the CTZ finish dryer shall not exceed 15,698,000 lb/yr in any consecutive 12-calendar months.

DEQ Response: Footnote 1 for Table 7.2 states "In absence of any other credible evidence, compliance is assured by complying with this permit's operating, monitoring and record keeping requirements." Therefore, the requested change will not be made to the permit.

Facility Comment: Permit Conditions 7.10, 7.11 - Change as shown: Record dehydrated food products production for the **CTZ** finish dryer. Clarify that the requirement is applicable only to the CTZ dryer.

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

Facility Comment: Permit Conditions 8.1, Last sentence - Change to: *The only space **heater** installed*

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

Comments on the Facility Draft Statement of Basis

Facility Comment: General Comment (no specific section). There are many provisions in the permit that do not directly relate to the scope of the permit application. – see our comments on the draft permit for identification of these conditions. Please remove provisions that do not directly relate to the three stated scope elements of the permit - legacy PTC issues, Facility Emission cap, and demonstration of ambient impact compliance.

DEQ Response: Most of the requested changes have been made.

Facility Comment: Application Scope: Indicate the linkage between each various permit provisions and the scope of the permit, viz., whether the condition is related to a legacy PTC issues, the Facility Emission cap, or a demonstration of ambient impact compliance.

DEQ Response: The Application Scope section of the statement of basis will be updates as requested.

Facility Comment: TECHNICAL ANALYSIS Emissions Units and Control Devices: Add the following language ahead of Table 1: Table 1 lists emissions units for which emissions of any criteria air pollutant exceeds 10 per cent (10%) of the levels contained in the definition of "significant" in IDAPA 58.01.01.006.

DEQ Response: The requested changes will be made to the statement of basis.

Facility Comment: TECHNICAL ANALYSIS Emissions Units and Control Devices: Venturi wet scrubber system is used whenever ~~Boilers 1 and 2~~ Boiler 1 and/or Boiler 2 are combusting fuel oil.

DEQ Response: The requested changes will be made to the statement of basis.

Facility Comment: TECHNICAL ANALYSIS Emissions Units and Control Devices: Add information on stack CBB to Table 1.

DEQ Response: The requested change will be made to the statement of basis.

Facility Comment: TECHNICAL ANALYSIS Emissions Units and Control Devices: Source ID CTZ listed as having Emissions Control(s) type "None." Please change the Emissions Control(s) device for CTZ to "Low-emissions burners."

DEQ Response: The requested change will be made to the statement of basis.

Facility Comment: TECHNICAL ANALYSIS Ambient Air Quality Impact Analysis: This section currently appears to be incomplete.

DEQ Response: This Section of the statement of basis will be updated.

Facility Comment: REGULATORY ANALYSIS Permit to Construct (IDAPA 58.01.01.201): The application identifies seven space heaters (all less than 13 MMBtu/hr) as sources that potentially required a permit to construct (see Section 7 of the application). Based on potential emissions of the sources, the space heaters rated at less than 3.43 MMBtu/hr meet the exemption criteria of IDAPA 58.01.01.221.01, 223.01, and 223.02. The Reyco Slice, a 13 MMBtu/hr natural gas-fired heater does not meet the exemption criteria and BAF has requested a PTC for this emissions unit as part of the application.

Add the following paragraph: The application identifies 15 process changes that potentially required a permit to construct (see Section 7 of the application). Based on review of potential to emit for these process changes and criteria for demonstrating compliance with TAP requirements, the following process changes did not meet permit to construct exemption criteria and BAF has requested a PTC for these emissions units as part of the application: [add list of projects as identified in discussion of changes to permit].

DEQ Response: The requested change will be made to the statement of basis.

Facility Comment: REGULATORY ANALYSIS Particulate Matter (IDAPA 58.01.01.201): For equipment that commenced operation on or after October 1, 1979, the PM allowable emission rate (E) is based on one of the following ~~four~~ equations: …

DEQ Response: The requested change will be made to the statement of basis.

Facility Comment: REGULATORY ANALYSIS: Air Quality Impact Analysis. IDAPA 58.01.01.203.03.02). This section appears to be missing.

DEQ Response: Compliance with these requirements is detailed in the modeling analysis in Appendix A.

Facility Comment: REGULATORY ANALYSIS Toxic Air Pollutant Analysis (IDAPA 58.01.01.210). This section appears to be missing.

DEQ Response: A section in the statement of basis detailing the requirements of Section 210 was not required for this permitting action.

Facility Comment: REGULATORY ANALYSIS Permit Conditions Review. The content of this section should be updated to reflect our comments above regarding removal of permit conditions not related to the scope of the permit application.

DEQ Response: This section of the statement of basis was updated.

Facility Comment: REGULATORY ANALYSIS Permit Conditions Review. New Permit Condition 3.9 requires that the Permittee maintain a list of emissions units installed at the facility covered by the FEC. Add the following language to this section: Space heaters of less than 343,000 Btu/hr heat input capacity need not be listed. This exemption is provided because there are many small space heaters with trivial air quality implications. Space heaters that are less than 343,000 Btu/hr input heat rate qualify for the "Below Regulatory Concern" exemption from PTC requirements.

DEQ Response: As mentioned previously the following language will be added to the permit condition:... (except for space heaters with emissions which are "Below Regulatory Concern")...

Facility Comment: REGULATORY ANALYSIS Permit Conditions Review. Permit Conditions 3.1 to 3.35 from the current Tier I permit were placed in the Tier II permit as new Permit Conditions 4.3 to 4.37.

DEQ Response: As mentioned previously DEQ practice is to list the applicable permit unit requirements in both the Tier I and Tier II permit. Therefore, the requested change will not be made to the permit.

Facility Comment: Appendix A is missing.

DEQ Response: Appendix A contains the Ambient Air Quality Analysis. At the time the draft statement of basis and permit was sent to the facility this analysis had not been completed. Therefore, it was sent to the facility. It will be included.

The following comments were received from the facility on September 17, 2010:

Comments on the Facility Draft Permit

Facility Comment: Permit Condition 1.1 - Please add to first bullet: "Issuance of this Tier II Permit meets the requirement to obtain a PTC for these changes.

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

Facility Comment: Permit Condition 1.1 - Please add to last sentence: "Provisions of this permit that are Permit to Construct provisions are identified as such."

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

Facility Comment: Permit Condition 1.3, Table 1.1 - Process title: "Natural Gas-Fired Boilers," Please change to "Boilers." Permitted boiler fuels include fuel oil as well as natural gas.

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

Facility Comment: Permit Condition 1.3, Table 1.1 - Under Process : "Natural Gas-Fired Boilers" "Model: D-Style," please add "S/N 9925." Completes the identification of the boiler as contained in the Statement of Basis.

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

Facility Comment: Permit Condition 1.3, Table 1.1 - Under Process C, Source I.D. = CTZ, the Emission Control(s) are listed as "Low-NOx burner." Please change the Emissions Control(s) reference to read "Low-emissions burner." Alternately, list them as "Low NO_X/CO burner." The burners are designed for low emissions of both NO_X and CO.

DEQ Response: To list the burner as "Low-emissions burner" raises the question as to which emissions are lower. Therefore, the description will be changed to "Low-NO_X/CO burner" as alternatively requested.

Facility Comment: Permit Condition 3.2, Table 3.1 - Under Emissions Point for Reyco Slice – space heater" "Space Heater Stack." Please change to "Fugitive emission." This unit provides general building heat by direct firing and does not exhaust through a stack. The "Space Heater Stack" used in the modeling analysis was created to assess potential air quality impacts from the source.

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

Facility Comment: Permit Condition 3.4 - Please add a new permit condition 3.4.4: Emission factors included in Appendices A-F of this Permit may be updated, with concurrence of DEQ. To update an emission factor, BAF shall submit to DEQ the proposed revised emission factor and the basis for the revisions. Upon approval by DEQ, the updated emission factor shall replace the corresponding emissions factor in Appendices A-F. BAF is continually improving its understanding of emissions from various sources, particularly as source tests are completed from various stacks. The permit needs to provide a means of incorporating and using this information in preparing emissions estimates. We believe that the easiest way to accomplish this is to revise the table of emission factors so that the current set of emission factors is available to both facility personnel and DEQ staff.

DEQ Response: The requested permit condition language will be added to permit conditions 3.4.1 and 3.4.2.

Facility Comment: Permit Condition 3.8.2 - Please change to read: "In accordance with IDAPA 58.01.01.177, the permittee's renewal application for this permit must include the information required under Sections 176 through 181 and Subsections 177.01 through 177.03."

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

Facility Comment: Please add permit Condition 3.8.3 stating: "In accordance with IDAPA 58.01.01.177.02.d, regarding Estimates of Ambient Concentrations, for a renewal of terms and conditions establishing a FEC, it is presumed that the previous permitting analysis is satisfactory, unless the Department determines otherwise."

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

Facility Comment: Permit Section 4 - Please remove this entire section. The content of Section 4 generally repeats the provisions of BAF's PTC No. 050301. However, BAF's PTC No. 050301 is not the subject of the stated Purpose of this Tier II permit, which is to 1) address legacy permitting issues, 2) establish FEC requirements, and, 3) create requirements needed to demonstrate compliance with ambient air quality standards. Further, the language of Section 4 does not precisely repeat the language of the PTC, thus adding to possible confusion over interpretation. The permit writer has stated that "DEQ practice is to list the applicable permit unit requirements in both the Tier I and Tier II permit." We call your attention to the recently-issued Amalgamated Tier II permit No. T2-2009.0105 for its Nampa facility. This 16-page Tier II permit confined its scope to the stated purpose and did not list all the applicable permit unit requirements of the facility's 65-page Tier I permit.

DEQ Response: Section 4 of the Tier II Permit will be deleted except for a reference to Section 3 of the current Tier I permit.

Facility Comment: Permit Section 4 - As stated above and in our comments on the first draft, the language of some proposed conditions of this draft Tier II permit is different from the language in PTC No. 050301 and BAF's existing Tier I Permit No. T1-060315. BAF is concerned that modifications to the language will add to confusion over interpretation. If DEQ insists on restating the conditions of the PTC in this Tier II permit, then BAF requests that the language be copied verbatim (precisely) from the existing Tier I permit. However, as stated above, BAF's PTC No. 050301 is not the subject of the Purpose of this Tier II permit. We therefore request that Section 4 be deleted from the draft Tier II permit in its entirety.

DEQ Response: As mentioned previously, this Section of the permit has been removed and only references the current Tier I permit for this facility. Therefore, this comment is no longer applicable.

Facility Comment: Permit Condition 4.6 - Please change to read "When the exhausts from Boiler 1 and 2 are merged ahead of a single scrubber to comply with Permit Condition 4.15, the exhaust from Boiler 1 shall be subject to the same emissions limits set forth for Boiler 2 in Permit Conditions 4.4 and 4.5, and BAF may install applicable continuous monitoring systems on each effluent or the combined effluent from Boilers 1 and 2 in accordance with 40 CFR 60.13(g)." In response to BAF's comment regarding this condition in the first draft of the Tier II permit, the permit writer stated that this condition had been restored to the original permit language. However, the restoration was only partial.

DEQ Response: As mentioned previously, this Section of the permit has been removed and only references the current Tier I permit for this facility. Therefore, this comment is no longer applicable.

Facility Comment: Permit Condition 4.35 - Please move this Permit Condition to Section 3, which relates to authorized changes made in accordance with FEC permitting. This new permit condition is unnecessary, but does not impose requirements that would otherwise be excessively restrictive. While BAF has requested the removal of the entirety of Section 4 of the draft permit, this new requirement can be incorporated into the FEC portion of the permit.

DEQ Response: As mentioned previously, this Section of the permit has been removed and only references the current Tier I permit for this facility. Therefore, this comment is no longer applicable.

Facility Comment: Section 5 - Please remove this entire section. As stated in the Purpose section of this Tier II permit, the scope of the permit is to 1) address legacy permitting issues, 2) establish FEC requirements, and, 3) create requirements needed to demonstrate compliance with ambient air quality standards. The legacy PTC issues that this permit needs to address are all found in Process C, not Process A. Section 5 is not needed to either establish FEC requirements (covered in Section 3), nor to demonstrate compliance with ambient air quality standards (covered in Section 9). Thus, Process A is not required in this Tier II permit.

DEQ Response: Section 5 of the Tier II Permit will be deleted except for a reference to Section 4 of the current Tier I permit.

Facility Comment: Permit Section 5.2, Table 5.1 - Please add an explanatory note that this table includes emissions units that are not regulated sources as identified and enumerated in Table 1.1 and that the additional units are included here because their emissions are included in the determinations of process weight limitations. As noted above, BAF does not believe that Table 5.1 needs to be included in the Tier II permit. Should this table be retained, we recommend this language to address potential confusion regarding why this table includes emissions units that are not also included in Table 1.1.

DEQ Response: As mentioned previously, this Section of the permit has been removed and only references the current Tier I permit for this facility. Therefore, this comment is no longer applicable.

Facility Comment: Permit Section 6 - Please remove this entire section. As stated in the Purpose section of this Tier II permit, the scope of the permit is to 1) address legacy permitting issues, 2) establish FEC requirements, and, 3) create requirements needed to demonstrate compliance with ambient air quality standards. The legacy PTC issues that this permit needs to address are all found in Process C, not Process B. Section 6 is not needed to either establish FEC requirements (covered in Section 3), nor to demonstrate compliance with ambient air quality standards (covered in Section 9). Thus, Process B is not required in this Tier II permit.

DEQ Response: Section 6 of the Tier II Permit will be deleted except for a reference to Section 5 of the current Tier I permit.

Facility Comment: Permit Condition 6.2, Table 6.1 - Please add an explanatory note that this table includes emissions units that are not regulated sources as identified and enumerated in Table 1.1 and that the additional units are included here because their emissions are included in the determinations of process weight limitations. As noted above, BAF does not believe that Table 6.1 needs to be included in the Tier II permit. Should this table be retained, we recommend this language to address potential confusions regarding why this table includes emissions units that are not also included in Table 1.1.

DEQ Response: As mentioned previously, this Section of the permit has been removed and only references the current Tier I permit for this facility. Therefore, this comment is no longer applicable..

Facility Comment: Permit Condition 7.1 - At the end of Permit Condition 7.1 (after the list of processes for which a PTC was required, but for which a PTC has not previously been issued), please add the statement, "This Tier II permit authorizes the above-listed modifications and changes as being covered by PTCs." The draft permit does not acknowledge that BAF applied for PTC coverage for the processes listed in Permit Condition 7.1 (See Page 7-4 of BAF's Tier II permit application.). The requested addition grants the requested coverage, thus closing the loop on this issue.

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

Facility Comment: Permit Condition 7.2, Table 7.1 - Please add an explanatory note that this table includes emissions units that are not regulated sources as identified and enumerated in Table 1.1 and that the additional units are included here because their emissions are included in the determinations of process weight limitations. As noted above, BAF does not believe that Table 7.1 needs to be included in the Tier II permit. Should this table be retained, we recommend this language to address potential confusion regarding why this table includes emissions units that are not also included in Table 1.1.

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

Facility Comment: Permit Conditions 7.5 through 7.8, and Permit Conditions 7.10 and 7.11 - Please remove these conditions. These permit conditions all relate to the CTZ finish dryer, are covered by PTC No. P-2009.0042, and are not a subject of the scope of this permit as listed under the Section, Purpose.

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

Facility Comment: Permit Conditions 5.5; 6.5; 7.9 – Visible Emissions Monitoring - Please change to quarterly monitoring. In response to BAF's comment regarding this condition in the first draft of the Tier II permit, the permit writer stated "To decrease the frequency of visible emissions monitoring from monthly to quarterly would be a relaxation of the existing Tier I permit requirements. Therefore, the requested change will not be made to the permit." However, BAF's Tier I permits for its Shelley and Rexburg facilities originally required monthly monitoring and were both changed to quarterly monitoring during the Tier II permitting process. Thus, they were allowed the requested "relaxation" as requested. BAF again requests that the visible emissions monitoring frequency be changed from monthly to quarterly. This request provides consistency with BAF's Tier II permits at Shelley and Rexburg.

DEQ Response: Except for condition 7.9 these conditions have been removed. However, the Tier I permit conditions are still in effect and both of the conditions require monthly monitoring of visible emissions.

Facility Comment: Permit Condition 8.1 - Please change to read "The only space heater installed at the facility that required a PTC, but for which a PTC has not previously been issued, is the Reyco Slice space heater listed in Permit Condition 8.2." Please also add another sentence at the end of Permit Condition stating "This Tier II permit authorizes the Reyco space heater listed in Permit Condition 8.2 as being covered by a PTC. The aggregate of all other space heaters at the facility qualifies for a single Category I exemption from PTC permitting under IDAPA 58.01.01.223.05." This clarifies that the Reyco space heater was not previously covered by a PTC. This clarifies that the Reyco space heater was not previously covered by a PTC.

DEQ Response: The requested change will be made to the permit (except for the reference to a Permit Condition number).

Facility Comment: Permit Condition 9.1 - Please capitalize references to other permit condition so as to read "To ensure compliance with applicable requirements in the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01, the permittee shall implement the compliance requirements presented in Permit Condition 9.2, Exhaust Stacks Proposed For Removal, and Permit Condition 9.3, Exhaust Stacks Proposed For Increased Stack Heights. Permit Conditions 9.2 and 9.3 are necessary to ensure that PM10 and PM2.5 emissions from the facility do not cause or significantly contribute to a violation of the NAAQS. Lower-case references to other permit condition names make the permit difficult to read and understand. References to permit conditions by number and/or name (capitalized) make it easier to understand that these refer to actual permit conditions.

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

Facility Comment: Permit Condition 9.3 - Please change to read "Unless an alternative compliance method has been demonstrated by Permittee and approved by DEQ the Permittee shall increase the following exhaust stacks height at this facility to 90 feet:" Both BAF's application for a Tier II permit and the Modeling Review conducted by DEQ (Section 3.3, Page 12) indicated compliance was achieved when the named stacks were increased to a height of 90 feet.

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

Facility Comment: Permit Condition 9.4 - Please change to read "The exhaust stacks presented in Permit Conditions 9.2 and 9.3 shall be identified in a manner..." Lower-case references to other permit condition names make the permit difficult to read and understand. References to permit conditions by number and/or name (capitalized) make it easier to understand that these refer to actual permit conditions.

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

Facility Comment: Permit Condition 9.6 - Please remove this condition. The modeling analysis provided with BAF's application demonstrates compliance with the PM2.5 NAAQS under the surrogate policy. Therefore, it is not necessary to re-demonstrate compliance until such time as a change at the facility triggers an updated $PM_{2.5}$ impacts assessment in accordance with IDAPA 58.01.01.181 or IDAPA 58.01.01.200, et. seq. Our suggestion would merely ensure that modeling of emissions would occur at the same time and under the same conditions as would apply to any other similar source.

DEQ Response: The permit condition will be deleted as requested.

Facility Comment: Permit Condition 9.6 (was previously condition 9.7 since the previous permit condition 9.6 was deleted as requested by the Applicant) - Please change to read as follows: "After the exhaust stacks have been modified or removed, the permittee shall submit a final report to DEQ detailing the modifications made or the removals of the exhaust stacks and the dates that these actions occurred. If BAF has submitted an alternate compliance demonstration program that has been approved by DEQ in accordance with Permit Condition 9.1, BAF's final report shall detail compliance with the provisions of that alternate compliance plan." As stated in BAF's comment regarding Permit Condition 9.6, the modeling conducted by the facility for the permit application demonstrates compliance with the PM2.5 NAAQS under the surrogate policy. Thus, It is not necessary to re-demonstrate compliance until such time as a change at the facility triggers an updated PM2.5 impacts assessment in accordance with IDAPA 58.01.01.181 or IDAPA 58.01.01.200, et. seq. If BAF elects to propose an alternative compliance demonstration plan, it will need to model that alternate plan and verify compliance with all applicable requirements at the time the plan is submitted to DEQ for approval in accordance with Permit Condition 9.1. Once that analysis is accepted by DEQ, there is no need to conduct additional modeling when BAF submits its final report.

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

Facility Comment: Appendices A through F - Delete all references to the basis for emissions factors. The basis for emission factors used in emissions calculations is not compliance related information – removal of this information does not affect any compliance requirement of the permit, nor does it affect the enforceability of any permit term or condition.

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

Facility Comment: General Comment - Identify the following permit conditions as Operating Permit Conditions (to distinguish them from conditions that are Permit to Construct provisions): 3.3; 3.4.1; 3.4.2; 3.4.3; 3.5.1; 3.6.1;3.7.1;3.7.2; 3.8.1; 3.9.1; 4.35. If the following permit conditions are retained within this permit (though we believe they should be excluded), we request that they also be identified as Operating Permit Conditions (to distinguish them from conditions that Permit to Construct provisions): 5.3; 5.3.1; 5.4; 5.5; 6.3; 6.3.1; 6.4; 6.5; 7.3; 7.3.1; 7.4; 7.5; 7.9; 8.3; 8.4; 8.5; 9.1; 9.2; 9.3; 9.4; 9.5; 9.6; 9.7; All General Terms and Conditions. All other conditions of the Permit should be identified as PTC permits. This change is related to our comment on Condition 1.1 related to clarifying the basis for various provisions in the permit. The suggested changes will identify explicitly the basis for each permit condition.

DEQ Response: Because the final permit being issued is a PTC this comment is no longer valid as all conditions in the final permit will be "PTC conditions." In addition, the conditions in Sections 4, 5, and 6 have been removed as requested by the Applicant.

Comments on the Facility Draft Statement of Basis

Facility Comment: Facility Information – Application Scope (p. 6) - Change the language to read as follows: "The initial Tier I Operating for the Blackfoot Facility was issued on December 11, 2002. In compliance with the requirements of that permit, BAF submitted a Tier II Operating Permit Application on May 28, 2003, and DEQ issued a letter that determined this Application complete on August 8, 2003. On March 30, 2009, BAF submitted an addendum to the Tier II Permit Application that included an updated ambient impacts analysis for the facility. The ambient impacts analysis included a program of facility changes to demonstrate compliance with ambient air quality standards and also included a request for issuance of Facility Emissions Cap pursuant to IDAPA 58.01.01.177." The current language incorrectly states that the November 20, 2007 required that BAF submit a facility-wide permit application" to address compliance issues related to obtaining appropriate permit to construct review for prior projects". In fact, the 2007 permit explicitly states that BAF had already complied with the requirement to submit a complete Tier II Permit Application for "legacy" permitting projects. Given the time lapse since the first submittal, the second submittal updated the previous submittal to reflect current regulatory requirements, provided a specific program for NAAQS compliance demonstration, and included a request for a Facility Emissions Cap. The requested language provides a more complete and accurate description of the Tier II Operating Permit process for the Blackfoot Facility and is consistent with the contents of Tier I Operating Permit No. T1-060315.

DEQ Response: With a few minor clarifications the requested changes will be made to the permit.

Facility Comment: Facility Information – Application Scope (p. 6) - Please insert the following sentence ahead of the referenced language: "Issuance of this Tier II Permit meets the requirement to obtain a PTC for these changes." "This permitting action will also create additional facility operating requirements needed to demonstrate compliance with ambient air quality standards." This language, which parallels BAF comments on the Draft Permit, explicitly recognizes that the issuance of the Tier II permit meets PTC requirements.

DEQ Response: The requested change will be made to the statement of basis.

Facility Comment: Facility Information – Application Scope (p. 6) - Expand the chronology to include the following activities:

- December 11, 2002: DEQ issues initial Tier I Operating Permit for Blackfoot Facility, which includes a requirement that BAF submit a Tier II Operating Permit Application.
- May 28, 2003: BAF submitted a Tier II Operating Permit Application for the Blackfoot Facility.
- August 8, 2003: DEQ issued a completeness determination for BAF's Tier II Operating Permit Application.
- November 20, 2007: DEQ issues a renewal of the Tier I Operating Permit for the Blackfoot Facility.

The proposed description provides a more complete description of the Tier II Operating Permit process for the Blackfoot Facility and corresponds with the contents of Tier I Operating Permit T1-060315.

DEQ Response: The requested changes will be made to the statement of basis.

Facility Comment: Technical Analysis – Post Project HAP Emissions (p. 9) - "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." The existing language is not clear. The referenced HAP PTE is facility-wide PTE.

DEQ Response: The requested change will be made to the statement of basis.

Facility Comment: Technical Analysis – Ambient Air Quality Impact Analyses (p. 9) - Provide a more explicit reference to the portion of the Modeling Memo being referenced here. It is not clear what portion of the Modeling Memo is being referenced here.

DEQ Response: This is intended as a broad reference to the modeling memo to direct the reader to the modeling memo for details on the modeling analysis for the application. Therefore, the requested change will not be made to the statement of basis.

Facility Comment: Regulatory Analysis – Permit to Construct (IDAPA 58.01.01.201) (p. 10) - "This permitting action also reviews PTC requirements for emission units at the facility that were installed previously without ~~proper~~ new source review." Deleted word is unnecessary and potentially inflammatory.

DEQ Response: The requested changes will be made to the statement of basis.

Facility Comment: Regulatory Analysis – Tier II Operating Permit (IDAPA 58.01.01.401) (p. 10) - "The permit is being issued as a facility-wide Tier II Operating Permit and Permit to Construct ~~that will incorporate requirements for all emissions units at the facility~~." Section 401 does not require that a Tier II Operating Permit incorporate requirements for all emissions units at the facility. As BAF has indicated in other comments, incorporating all requirements for all emissions units in the Tier II Permit is redundant, unnecessary, and confusing because this duplicates the content of both the Tier I Operating Permit and existing Permits to Construct. The purpose for requiring a facility-wide Tier II permit application in the original (December 2002) Tier I permit was solely related to DEQ's interest in having BAF provide a facility-wide ambient air quality impacts assessment as part of the process of addressing "legacy" permitting issues. It was not intended to provide a framework for a permit that essentially duplicated the scope of the Tier I permit.

DEQ Response: The requested changes will be made to the statement of basis.

Facility Comment: Regulatory Analysis – Standards for New Sources (IDAPA 58.01.01.676) (p. 10) - Delete entire section. This section is not needed. The project that is the scope of this permit does not include the addition of any new fuel burning equipment. Thus, this requirement is not applicable to this project. Further, this section contains numerous errors and ambiguities.

DEQ Response: This Section of the statement of basis is intended to show that all applicable rules have been addressed during the permitting action. Therefore, the requested change will not be made to the statement of basis.

Facility Comment: Regulatory Analysis – NSPS Applicability (40 CFR 60) (p. 12++) - Delete entire section. This section is not needed. The project that is the scope of this permit does not include the addition of any emissions unit that is subject to 40 CFR 60. Thus, this requirement is not applicable to this project. This section also contains a reference to the requirements of 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The facility has no such stationary internal combustion engines.

DEQ Response: The requested changes will be made to the statement of basis.

Facility Comment: Regulatory Analysis – Permit Conditions Review (p. 25) - Harmonize this section with changes made in response to other comments presented by BAF. In other portions of its response to the Facility Draft Permit BAF has commented on the applicability and scope of various provisions of the Facility Draft permit. This section will need to be revised to harmonize with changes made in response to those comments.

DEQ Response: The requested changes will be made to the statement of basis.

Facility Comment: Public Review – Public Comment Opportunity - It seems contradictory to state the public review is required, then to state opportunity for public review was not provided.

DEQ Response: Public comment opportunities allow the public to request a 30-day comment period on the draft proposed permit for a project. Because Tier II permits are required to go thorough a 30-day comment period prior to issuance this section is explaining that the opportunity to request a 30-day comment period was not performed for this project. As noted this project is now being processed as a PTC and will be made available for a 30-day public comment period prior to finalizing.

Facility Comment: Facility Draft Comments in Appendix B of the previous draft permit on Permit Condition 3.6.1: "In addition, DEQ practice is to not reference other permits within the language of another permit condition because of issues that arise if and when the referenced permit is modified or changed. Therefore, the requested change will not be made to the permit." - If this is DEQ practice, then why is DEQ proposing to replicate existing permit language in the proposed Tier II permit? Does that not create even greater problems should conditions of the underlying permit be modified or changed, since at that juncture there would be permits with conflicting terms?

DEQ Response: This condition has been modified to make it clear which permit conditions are being referenced.

Facility Comment: Facility Draft Comments in Appendix B of the previous draft permit on Permit Condition 3.7.1: "The change requesting that additional language be added to the permit condition is not consistent with the requirements in IDAPA 58.01.01181.01.b. Therefore, this requested change will not be made to the permit." - A major issue that BAF has faced in its air emissions compliance activities is the lack of reliable emissions factors for its activities. In response, BAF has voluntarily undertaken and continues to conduct source emissions measurement activities that exceed what has been required of it by regulatory agencies in order to provide more accurate emissions estimates. We also note that DEQ has provided information on BAF emissions estimates to BAF's competitors that they have used to "piggyback" on work that has been voluntarily performed (and paid for) by BAF. BAF continues to advance its knowledge of facility emissions characteristics through ongoing source emissions measurement programs and related unit process engineering evaluations. BAF believes that as added information is developed that leads to more accurate emissions estimates, this information should be deployed to provide more accurate emissions inventory data. In this regard, BAF believes that it is important that the permit provide a method to update applicable emissions factors. We recognize that provision 3.7.1 might not be the appropriate portion of the permit to address this concern, and in our comments on the permit we have suggested revisions to an alternate portion of the permit to address this issue.

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

Facility Comment: Facility Draft Comments in Appendix B of the previous draft permit on Permit Condition 3.7.1 - "... in IDAPA 58.01.01181.01.b. ..." We added a period after 58.01.01. We assume this reference should be IDAPA 58.01.01.181.01.b

DEQ Response: The requested changes will be made to the statement of basis.

Facility Comment: Facility Draft Comments in Appendix B of the previous draft permit on Permit Condition 3.8.2: "The language used in this permit condition is standard language taken from previously issued FEC permits (including BAF's Shelly facility). In addition, this language is taken directly from IDAPA 58.01.01.177.02 which allows that a ambient concentration analysis is not required for a renewal unless the Department determines otherwise. Therefore, the requested change will not be made to the permit." - This response appears contradictory to BAF with respect to the terms of the permit. This response says that an "ambient concentration analysis is not required for a renewal unless the Department determines otherwise", whereas the permit requires that an updated ambient concentration be provided even though the Department has not determined that one is needed. In addition, we believe that the fact that this language might have been used in previous permits is not a rationale for not incorporating the language in this permit. If the change results in a better permit the change should be made regardless of what the precedent might be. The test for assessing changes should be whether the change results in a better permit.

DEQ Response: Because of revisions made to the draft permit it appears this comment is no longer valid. If this is not the case please let me know.

Facility Comment: Facility Draft Comments in Appendix B of the previous draft permit on Sections 4 through 8: "DEQ practice is to list the applicable permit unit requirements in both the Tier I and Tier II permit. Therefore, the requested changes will not be made to the permit." - BAF's concerns with this response are addressed in our comments elsewhere.

DEQ Response: Sections 4, 5, and 6 were removed as requested by the Applicant. Therefore, because of revisions made to the draft permit it appears this comment is no longer valid. If this is not the case please let me know.

Facility Comment: Facility Draft Comments in Appendix B of the previous draft permit on Section 4, Various Locations: "As mentioned previously DEQ practice is to list the applicable permit unit requirements in both the Tier I and Tier II permit. Therefore, the requested change will not be made to the permit." - We reiterate our comment that while incorporating provisions of existing permits into this Tier II permit, DEQ has also undertaken "cleanup" of permit language. This will result in precisely the situation both DEQ and BAF are trying to avoid – there will be two existing and in force, permits with non-synchronous provisions. This situation unnecessarily creates the specter of confusion among both regulatory agency and facility staff.

DEQ Response: Sections 4, 5, and 6 were removed as requested by the Applicant. Therefore, because of revisions made to the draft permit it appears this comment is no longer valid. If this is not the case please let me know.

Facility Comment: Facility Draft Comments in Appendix B of the previous draft permit on Permit Conditions 5.5, 6.5, and 7.9: "To decrease the frequency of visible emissions monitoring from monthly to quarterly would be a relaxation of the existing Tier I permit requirements. Therefore, the requested change will not be made to the permit." - Similar changes were made for BAF Rexburg and Shelley Facilities. It is not clear to us why these changes cannot be made for the Blackfoot Facility.

DEQ Response: Except for condition 7.9 these conditions have been removed. However, the Tier I permit conditions are still in effect and both of the conditions require monthly monitoring of visible emissions. Therefore, because of revisions made to the draft permit it appears this comment is no longer valid. If this is not the case please let me know.

APPENDIX C – PROCESSING FEE

PTC Fee Calculation

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

Company: Basic American Foods - Blackfoot
Address: 415 W. Collins Rd.
City: Blackfoot
State: ID
Zip Code: 83221
Facility Contact: John Kirkpatrick
Title: Environmental Manager
AIRS No.: 011-00012

N Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

Y Did this permit require engineering analysis? Y/N

N Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_x	0.0	0	0.0
SO_2	1.0	0	1.0
CO	2.0	0	2.0
PM10	0.0	6	-6.0
VOC	0.0	2.4	-2.4
TAPS/HAPS	0.0	0	0.0
Total:	0.0	8.4	**-5.4**
Fee Due	**$ 1,000.00**		

Comments: