

Statement of Basis

Tier I Operating Permit No. T1-2012.0066

Project ID 61605

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

Rexburg, Idaho

Facility ID 065-00008

Final

May 31, 2016

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Permit Writer

The purpose of this Statement of Basis is to set forth the legal and factual basis for the Tier I operating permit terms and conditions, including references to the applicable statutory or regulatory provisions for the terms and conditions, as required by IDAPA 58.01.01.362

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1. ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
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
MRRR	Monitoring, Recordkeeping and Reporting Requirements
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O ₂	oxygen
PC	permit condition
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers

PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTE	potential to emit
PW	process weight rate
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T1	Tier I operating permit
T2	Tier II operating permit
TAP	toxic air pollutants
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compound

2. INTRODUCTION AND APPLICABILITY

IDAPA 58.01.01.362 requires that as part of its review of the Tier I application, DEQ shall prepare a technical memorandum (i.e. statement of basis) that sets forth the legal and factual basis for the draft Tier I operating permit terms and conditions including reference to the applicable statutory provisions or the draft denial. This document provides the basis for the draft Tier I operating permit for the Rexburg Facility of Basic American Foods, a Division of Basic American, Inc.

3. FACILITY INFORMATION

3.1 Facility Description

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

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

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

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

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

Plant products are described as follows.

Dehydrated potato granules

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

Dehydrated piece food products

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

Food Processing Byproducts

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

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

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

3.2 Facility Permitting History

Underlying Permit History - Includes every underlying permit issued to this facility

The following information is the comprehensive permitting history of all underlying applicable permits issued to this Tier I facility. This 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).

October 7, 2015	P-2011.0132, Project 61459, Permit to Construct to replace an existing production line and make minor permit language changes, Permit status (A)
July 23, 2013	T1-2012.0066, Tier I renewal, Permit status (A, will become S as a result of this project)
October 5, 2012	T1-2008.0110, Tier I Administrative Amendment to incorporate PTC P-2011.0132, issued June 1, 2012 (S)
June 1, 2012	P-2011.0132, Conversion of Tier II permit T2-2008.0109 to PTC P-2011.0132 (A, but will become S upon issuance of this permit)
October 8, 2008	T2-2008.0109, Permit to include existing requirements for the facility's Kipper boiler, and to also satisfy PTC requirements for new or modified sources that potentially required a PTC, but for which a PTC was not obtained prior to construction, Permit status (S)
June 10, 2008	T1-2008.0053, Tier I Operating Permit Modification – Incorporate Tier II Operating Permit No. T2-030515, Permit status (S)
June 10, 2008	T2-030515, Facility-wide Tier Operating Permit and Permit to Construct, Permit status (S)
April 16, 2008	T1-2010.0110, Tier I Operating Permit Renewal, Permit status (S)
December 11, 2002	Initial Tier I Operating Permit No. 065-00008 issued, Permit status (S)
May 8, 1984	PTC Letter was amended to clarify coal/wood input limits, Permit status (S)
April 30, 1981	PTC Letter was amended to revise test dates, Permit status (S)
July 30, 1980	PTC Letter (no number assigned) for the Kipper & Sons boiler issued, Permit status (S)

4. APPLICATION SCOPE AND APPLICATION CHRONOLOGY

4.1 Application Scope

The scope of the permit revision is to include the requirements of P-2011.0132, project 61459, which was issued in accordance with the requirements of IDAPA 58.01.01.209.05.c. Therefore, this project is an Administrative Amendment of the existing Tier I permit. No other changes were requested.

4.2 Application Chronology

- February 11, 2015 The Permittee requested that with the final issuance of Permit to Construct P-2011.0132, project 61459, that a Administrative Amendment of the Tier I permit be performed. This permit was issued October 7, 2015.
- May 31, 2016 The permit was finalized and sent to the facility.

5. EMISSIONS UNITS, PROCESS DESCRIPTION(S), AND EMISSIONS INVENTORY

This section lists the emissions units, describes the production or manufacturing processes, and provides the emissions inventory for this facility. The information presented was provided by the applicant in its permit application. Also listed in this section are the insignificant activities based on size or production rate.

5.1 Process No. 1 - PROCESS DESCRIPTION

Table 5.1 lists the emissions units and control devices associated with the Kipper & Sons Boiler.

Table 5.1 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emissions Unit ID No.	Emissions Unit Description	Control Device (if applicable)	Emission Point ID No.
Boilers			
Kipper & Sons Boiler	Manufacturer: Kipper & Sons Model: N/A S/N: 1300 Heat input rating: 90.0 MMBtu/hr Maximum steam production rate: 65,000 lb/hr Fuels: Coal (39% by weight) and wood Date installed: 1981	Multiclone, Wet Scrubber	

The Kipper boiler is a wood and coal-fired boiler with an original steam production rating of 60,000 pounds per hour. The boiler can burn up to 39% coal on a fuel weight basis (i.e. 50% of the heating value). The Kipper boiler was installed in 1981, and an economizer was added in 2001, increasing the maximum steam production rate to 65,000 lb/hr due to increased boiler efficiency. Emission controls on the Kipper boiler include a Zurn multiclone dust collector and a Riley Ventri-Rod[®] scrubber.

5.2 Process No. 2 - PROCESS DESCRIPTION

Table 5.2 lists the emissions units and control devices associated with Boiler 1 and Boiler 2.

Table 5.2 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emissions Unit ID No.	Emissions Unit Description	Control Device (if applicable)	Emission Point ID No.
Boilers			
Boiler 1	Manufacturer: Erie City Model: Not given on Boiler Name Plate S/N: 96047 Heat input rating: 52 MMBtu/hr (Not given on Boiler Name Plate) Maximum steam production rate: 40,000 lb/hr Fuels: Natural gas only Date installed: Prior to 1965	None	
Boiler 2	Manufacturer: Murray Model: MCF3-43 S/N: 10509 Heat input rating: 49.9 MMBtu/hr Maximum steam production rate: 40,000 lb/hr Fuels: Natural gas only Date installed: 2010	None	

Boilers 1 was manufactured by Erie City and Boiler 2 was manufactured by Murray, both are natural gas-fired, and have rated heat input capacities of 52 MMBtu/hr and 49.9 MMBtu/hr, respectively. Boiler 1 was installed prior to 1965 and Boiler 2 was installed in 2010.

5.3 Process No. 3 - PROCESS DESCRIPTION

Table 5.3 lists the emissions units and control devices associated with the Coolers, Dryers, and the Material Recovery Unit.

Table 5.3 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emissions Unit ID No.	Emissions Unit Description	Control Device (if applicable)	Emission Point ID No.
Process A			
7020	Cooler/Dryer 7020 (Cooler vent)	None	
7101	Cooler/Dryer 7101 (Dryer, 6.5 MMBtu/hr, natural gas-fired)	None	
7102	Cooler/Dryer 7102 (Dryer, 6.5 MMBtu/hr, natural gas-fired)	None	
7019	Cooler/Dryer 7019 (Dryer, 6.6 MMBtu/hr, steam and natural gas)	None	
7001	Cooler/Dryer 7001 (Dryer, steam-heated)	None	
7027	Cooler/Dryer 7027 (Cooler)	None	
7006	Material Recovery Unit 7006	None	

The BAF Rexburg facility produces a variety of dehydrated food products for external customers and for internal use. Products include potato granules, formulated dehydrated food products, dehydrated whole and piece food products, and animal feed. Raw materials into the process are cooked potatoes, cooked foods, dehydrated foods, and additives, including sulfites. The processes addressed by this section are listed in Table 5 and include coolers, dryers, dehydration lines, and material transfer systems. Emissions of PM from each of these sources are uncontrolled. Material Recovery Units (MRUs), in the form of cyclones and fabric filters, are integral process equipment used to separate the pneumatically conveyed product from the air stream. Drying heat is provided by both natural gas combustion and steam produced by the plant boilers. Process A was constructed in the early 1960's.

5.4 Process No. 3 - PROCESS DESCRIPTION

Table 5.4 lists the emissions units and control devices associated with the Drying Process and Material Transfer Systems.

Table 5.4 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

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

The BAF Rexburg facility produces a variety of dehydrated food products for external customers and for internal use. Products include potato granules, formulated dehydrated food products, dehydrated whole and piece food products, and animal feed. Raw materials into the process are cooked potatoes, cooked foods, dehydrated foods, and additives, including sulfites. The processes addressed by this section are listed in Table 7 and include coolers, dryers, dehydration lines, and material transfer systems. Emissions of PM from each of these sources are uncontrolled. Material Recovery Units (MRUs), in the form of cyclones and fabric filters, are integral process equipment used to separate the pneumatically conveyed product from the air stream. Drying heat is provided by both natural gas combustion and steam produced by the plant boilers.

5.5 Process No. 3 - PROCESS DESCRIPTION

Table 5.5 lists the emissions units and control devices associated with the Plant Space Heaters.

Table 5.5 EMISSIONS UNITS, CONTROL DEVICE, AND DISCHARGE POINT INFORMATION

Emissions Unit ID No.	Emissions Unit Description	Control Device (if applicable)	Emission Point ID No.
N/A	Plant Space Heaters	None	

The BAF Rexburg facility has numerous space heaters ranging in size from less than 100,000 Btu/hr to 8.8 MMBtu/hr, with a total combustion capacity of 30.8 MMBtu/hr. Most of the units provide direct heating; i.e., the combustion air from the unit is discharged directly into the room to provide heating.

5.6 Emissions Inventory

Table 5.6 summarizes the emissions inventory for this major facility (taken from the most recent permitting project, P-2011.0132, Project 61459, issued October 7, 2015). All values are expressed in units of tons-per-year and represent the facility's potential to emit. Potential to emit is defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hour of operation or on the type or amount of material combusted, stored or processed shall be treated as part of its design if the limitation or the effect it would have on emission is state or federally enforceable.

Table 5.6 EMISSIONS INVENTORY - POTENTIAL TO EMIT (T/yr)

Source Description	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC	HAP	CO _{2e}
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Kipper & Sons Boiler	71.20	214.00	110.70	224.88	10.97	0	76,869
Boiler 1	1.70	0.54	22.33	18.76	1.23	0	27,331
Boiler 2	1.63	0.51	21.43	18.00	1.18	0	26,227
Cooler/Dryer 7020	1.82	0	0	0	0	0	0
Cooler/Dryer 7101	9.47	0.51	1.42	7.40	0.15	0	3,416
Cooler/Dryer 7102	9.47	0.51	1.42	7.40	0.15	0	3,416
Cooler/Dryer 7019	14.83	0.96	1.45	7.52	0.16	0	3,469
Cooler/Dryer 7001	1.03	0.11	0	0	0	0	0
Cooler/Dryer 7027	0.18	0	0	0	0	0	0
Material Recovery Unit 7006	0.54	0	0	0	0	0	0
Material Recovery Unit 5034	0.07	0	0	0	0	0	0
Cooler/Dryer 5037	5.66	8.19	0	0	0	0	0
Cooler/Dryer 4000	7.53	1.14	0	0	0	0	0
Cooler/Dryer 228	4.80	0.84	2.12	11.00	0.23	0	5,077
Cooler/Dryer 234	1.37	0.28	1.41	7.33	0.15	0	3,385
Cooler/Dryer 638	4.80	0.74	0	0	0	0	0
Cooler/Dryer 613/614	3.74	0.56	0	0	0	0	0
Cooler/Dryer 615/616	1.05	0.16	0	0	0	0	0
Material Recovery Unit 707	0.01	0	0	0	0	0	0
Material Recovery Unit 725	0.21	0	0	0	0	0	0
Material Recovery Unit 8	0.21	0	0	0	0	0	0
Material Recovery Unit 5001	1.07	0	0	0	0	0	0
Material Recovery Unit 5000	0.21	0	0	0	0	0	0
Material Recovery Unit 432	0.21	0	0	0	0	0	0
Material Recovery Unit 322	0.00	0	0	0	0	0	0
Material Recovery Unit 572	0.25	0	0	0	0	0	0
Vegetable Dryer M33	1.34	0.20	0.34	0.63	0.64	0	
Vegetable Dryer M44	0.83	0.12	0.35	0.64	0.65	0	
Vegetable Dryer M56	0.36	0.06	0.20	0.37	0.38	0	
Vegetable Dryer M62	0.07	0.04	0.20	0.37	0.38	0	
Vegetable Dryer M86	0.02	0.03	0	0	0	0	0
Heaters	0.50	0.16	3.37	17.54	0.36	0	16,188
Total Emissions	146.18	229.66	166.74	249.00	16.63	0.070	99,000

6. REGULATORY REVIEW

6.1 Administrative Amendment

This permit is for an Administrative Amendment in accordance with IDAPA 58.01.01.381 to include the requirements of P-2011.0132, project 61459, which was issued in accordance with the requirements of IDAPA 58.01.01.209.05.c. Therefore, this project is an Administrative Amendment of the existing Tier I permit. The amendment date was added to the front page. No other changes have been made to the permit.

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

Post project facility-wide emissions from this facility have a potential to emit greater than 100 tons per year for PM₁₀/PM_{2.5}, SO₂, 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.

6.3 PSD Classification (40 CFR 52.21)

40 CFR 52.21

Prevention of Significant Deterioration of Air Quality

The facility is not classified as an existing major stationary source, because the estimated emissions of PM₁₀/PM_{2.5}, SO₂, NO_x, and CO do not have the potential to exceed major stationary source thresholds and the facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a). The facility is not a major source for CO₂e because it is an existing source that has not exceeded the GHG major source threshold of 100,000 tpy, nor has it made a change that would increase GHG emissions by 75,000 tpy.

6.4 NSPS Applicability (40 CFR 60)

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

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

The requirements of Subpart Dc were addressed in the preparation of Permit to Construct No. P-2011.0132, project 61459, issued October 7, 2015. Subpart Dc requirements are incorporated into this Tier I operating permit in Permit Conditions 5.4, 5.5, and 5.6.

6.5 NESHAP Applicability (40 CFR 61)

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

6.6 MACT Applicability (40 CFR 63)

Because the facility has one boiler that is dual-fuel fired the following NESHAP requirement applies to this facility:

- 40 CFR 63, Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

The requirements of Subpart JJJJJ were addressed in the preparation of Tier I permit No. T1-2012.0066, project 61126, issued July 18, 2013. Subpart JJJJJ requirements are incorporated into this Tier I operating permit in Permit Conditions 4.10, 4.11, 4.12, 4.13, 4.14, 4.23, 4.24, 4.29, 4.30, 4.31, and 4.32.

6.7 CAM Applicability (40 CFR 64)

CAM requirements were addressed in the preparation of Tier II Operating Permit and Permit to Construct No. T2-030515, issued June 5, 2008. CAM requirements are incorporated into this PTC in Permit Conditions 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, and 4.28 and Table 4.3.

6.8 Acid Rain Permit (40 CFR 72-75)

The Basic American Foods Rexburg source is not an affected source subject to the Acid Rain Permit program in 40 CFR 72-75.

7. PUBLIC COMMENT

Public notice is not required for this Administrative Amendment in accordance with IDAPA 58.01.01 381.01.e.

8. EPA REVIEW OF PROPOSED PERMIT

EPA review is not required for this Administrative Amendment in accordance with IDAPA 58.01.01.381.02.c. A copy of the revised permit is being submitted to EPA Region 10.