

Statement of Basis

**Permit to Construct No. P-2018.0011
Project ID 62006**

**The Amalgamated Sugar Company LLC - Nampa
Nampa, Idaho**

Facility ID 027-00010

Final

**May 24, 2018
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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
B&W	Babcock & Wilcox
Btu	British thermal units
CAA	Clean Air Act
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	CO ₂ equivalent emissions
CSB	concentrated separator byproducts
DEQ	Department of Environmental Quality
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
GACT	Generally Available Control Technology
GHG	greenhouse gases
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hr/yr	hours per consecutive 12 calendar month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
Mscf	thousand standard cubic feet
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O ₂	oxygen
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
POM	polycyclic organic matter
ppm	parts per million
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan

SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TASCO	The Amalgamated Sugar Company LLC
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

The Amalgamated Sugar Company, LLC (TASCO – Nampa) operates a beet sugar manufacturing plant that processes sugar beets into refined sugar, which is located in Nampa, Idaho. TASCO Nampa facility produces granulated sugar, dried pulp, molasses, betaine, and concentrated separator byproduct (CSB). Sugar beet processing operations consist of several steps, including diffusion, juice purification, evaporation, crystallization, molasses sugar recovery, and dried pulp manufacturing.

There are three modes of operation at the Nampa facility. During the beet campaign, the entire plant is operated at full capacity (both beet end and sugar end equipment) in an effort to process beets as quickly as possible to minimize sugar losses which occur as beets deteriorate in storage piles. Following the beet campaign, operations continue with either the juice run or a separator only run. During the juice run, the sugar end equipment is operated to process thick juice from storage or juice transferred from other facilities. The separator system is used to desugarize molasses using a chromatographic separator. The separator is operated nearly year round during beet campaign and juice run and in a third mode referred to as separator only operation. During the juice run and separator only runs, a significant portion of the facility is not operated.

Beet End Processes - Mechanically harvested sugar beets are delivered to remote piling grounds near the point of harvest. At the piling grounds, the beets are partially cleaned using beet pilers that remove loose dirt by passing the beets over rollers. The pilers then stack the beets onto storage piles. Beets are shipped from off-site storage piling grounds to the facility using trucks or rail cars. Beets are dumped by rail cars or trucks into wet hoppers feeding one of two flumes. The flumes use water to transport and clean the beets. The flumes transport the beets to the beet feeder, which regulates the flow of beets into the process. From the feeder, the flumes carry the beets through several cleaning devices that include rock catchers, sand separators, water sprays and weed catchers. After cleaning, the beets are separated from the water and are transported by a chain and bucket elevator to the processing operations. The sugar beet processing operations comprise several steps including slicing, diffusion, juice purification, evaporation, crystallization, dried pulp production, and sugar recovery from molasses.

Prior to the diffusion process, the washed beets are sliced into long thin strips called cossettes. The cossettes are conveyed to two continuous vertical diffusers, in which hot water is used to extract sucrose from the cossettes. Within the diffuser the cossettes are conveyed upward as hot water is introduced into the top of the diffuser. The hot water flows countercurrent to the cossettes. The temperature within the diffusion process is typically maintained between 50°C and 80°C (122°F and 176°F). This temperature is dependent on several factors, including the denaturation temperature of the cossettes, the thermal behavior of the beet cell wall, potential enzymatic reactions, bacterial activity, and press-ability of the beet pulp. Disinfectants, such as ammonium bisulfite is sometimes added to the diffuser to control bacterial growth. The sugar enriched water that flows from the outlet of the diffuser is called raw juice and contains between 13 and 18 percent sugar. This raw juice proceeds to the juice purification operations. The processed cossettes, or pulp, from the diffuser is pressed to remove water and then is conveyed to the dried pulp production operations.

In the juice purification stage, non-sucrose impurities in the raw juice are removed so that the pure sucrose can be crystallized. First, the juice passes through screens to remove any small cossette particles. The mixture is heated to 80°C to 85°C (176°F to 185°F) and proceeds to liming tanks, where milk of lime [Ca(OH)₂] is added to the mixture to react, absorb or adhere to impurities. The juice is then sent to the first carbonation tanks where carbon dioxide (CO₂) gas is bubbled through the mixture to precipitate the lime and impurities from the juice as insoluble calcium carbonate. Lime kilns are used to produce the lime and CO₂ used in the juice purification process by calcining a mixture of limerock and coal. The lime is converted to milk of lime in lime slakers.

The small insoluble calcium carbonate crystals (produced during carbonation) settle out in a clarifier after which the juice is again treated with CO₂ (in the second set of carbonation tanks) to remove the remaining lime. The pH of the juice is lowered during this second carbonation, causing large, easily filterable, calcium carbonate crystals to form. After filtration, the juice is softened in an ion exchange process. Then, a small amount of SO₂ is added to the juice to inhibit reactions that lead to darkening of the juice. Following the addition of SO₂, the juice (known as thin juice) proceeds to the evaporators.

The evaporation process, which increases the sucrose concentration in the juice by removing water, is performed in a series of multiple effect evaporators. Steam produced by onsite boilers is used to heat the first evaporator, and the steam vapor from the water evaporated in the first evaporator is used to heat the second evaporator. This transfer of heat continues through the five effect evaporators, and as the temperature decreases from evaporator to evaporator, the pressure inside each evaporator is also decreased, allowing the juice to boil at the lower temperatures provided in each subsequent evaporator. Some steam vapor is released from the first four evaporators, and this steam vapor is used as a heat source for various process heaters throughout the plant. After evaporation, the percentage of sucrose in the "thick juice" is approximately 60 percent. The "thick juice" is combined with crystalline sugars, produced in an ancillary process, and dissolved in the high melter. This mixture is then filtered, yielding a clear liquid known as standard liquor, which proceeds to the crystallization operation.

Wet pulp from the diffusion process is another product of the beet end process. Some of the wet pulp is sold as animal feed directly. However, most of the wet pulp is pressed to reduce the moisture content from about 90 percent to about 75 percent. The water removed by the pulp presses is collected and used as diffusion water. After pressing, the pulp may be sold as pressed pulp animal feed or sent to the dryer. The pressed pulp is then dried to approximately 10% residue moisture in a state-of-the-art steam dryer. The steam dryer uses high pressure (400 psig) and low pressure (200 psig) steam from the facility boilers as the energy source. Molasses or molasses byproduct is added to the dried pulp and the resulting product is typically pelletized and sold as animal feed. The remainder of the dried pulp is sold in an unpelletized form called "shreds."

Sugar End Processes - Sugar end processing involves the conversion of thick juice into refined granulated sugar. Sugar is crystallized by low temperature (relative to the boiling temperature at atmospheric pressure) boiling in vacuum pans until it becomes super-saturated. To begin crystal formation, the liquor is "seeded" with finely milled sugar. The seed crystals are carefully grown through control of the vacuum, temperature, feed liquor additions and steam. When the crystals reach the desired size, the mixture of liquor and crystals, known as massecuite or fillmass, is discharged to the mixer. From the mixer, the massecuite is poured into high-speed centrifugals, in which the liquid is centrifuged into the outer shell, and the crystals are left in the inner centrifugal basket. The sugar crystals in the centrifugal are washed with pure hot water and conveyed to the granulator, which is a rotary drum dryer. The sugar is conveyed to the cooler. After cooling, the sugar is stored in large silos for future packaging and bulk shipments.

The liquid that was separated from the sugar crystals in the centrifugals is called syrup. This syrup serves as feed liquor for the "second boiling" and is introduced into a second set of vacuum pans. The crystallization/centrifugation process is repeated once again, resulting in the production of molasses. The sugar crystals from the second and third boilings are recycled to the production process through remelting in the high melter with thick juice to produce standard liquor.

The molasses produced in the third boiling step can be used as an additive to dried pulp. This molasses can also be further desugared using the separator process. The products of the separator process are "extract" (the high sugar fraction) and "CSB-concentrated separator by-product (the low sugar fraction)" and betaine. The extract, after being concentrated using multiple effect evaporation, can be stored in tanks or immediately processed in the sugar end, like thick juice. The CSB is also concentrated using multiple effect evaporation and is used as livestock feed in either a liquid form or added to pulp. The betaine is sold as a liquid product that is used in the animal feed industry as an additive.

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).

March 19, 1981	13-0400-0010, Air pollution source permit issued for operation of the Riley boiler, one B&W boiler, and three pulp dryers, Permit status (S)
January 1, 1984	0400-0010, Air pollution source permit issued for operation of the pulp dryers, Permit status (S)
September 30, 2002	027-00010, Facility-wide Tier II operating permit, Permit status (S)
December 12, 2002	T1-050020, Initial Tier I operating permit, Permit status (S)
January 12, 2004	P-030062, Initial PTC for the installation of a thick juice storage tank, Permit status (A)
March 8, 2006	T2-050021, Modified Tier II to remove the operating and monitoring requirements for the PM10 high volume sampler and incorporation of the correct process weight limitation for equipment used to dehydrate sugar beet pulp, Permit status (A)
May 23, 2006	T1-050020, Modified T1 to remove the operating and monitoring requirements for the PM10 high volume sampler and incorporation of the correct process weight limitation for equipment used to dehydrate sugar beet pulp, Permit status (A)
September 7, 2010	T2-2009.0105, Initial Tier II best available retrofit technologies (BART) permit, Permit status (S)
December 23, 2011	T2-2009.0105, Revised Tier II BART permit, Permit status (S)
September 19, 2014	T2-2009.0105, Typographical correction to revised Tier II BART permit, Permit status (S)
January 9, 2017	P-2015.0060, Boiler conversion project to natural gas for the B&W boilers, Permit status (A)
March 9, 2017	T2-2016.0073, Renewed Tier II BART permit, Permit status (A)

Application Scope

This permit to construct (PTC) is a conversion of the facility's expired Tier II operating permit to a PTC.

Application Chronology

January 29, 2018	DEQ received an application.
February 8, 2018	DEQ received an application fee.
March 7, 2018	DEQ determined that the application was complete.
April 11, 2018	DEQ made available the draft permit and statement of basis for peer and regional office review.
April 18, 2018	DEQ made available the draft permit and statement of basis for applicant review.
May 17, 2018	DEQ received the permit processing fee.
May 24, 2018	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Sources	Control Equipment	Installation Date
<u>B&W Boiler #1 (S-B1):</u> Operational Capacity: 105,000 lb/hr steam Heat Input Rating: 126 MMBtu/hr Fuel Consumption: 0.120 MMscf/hr Fuel: Natural gas	None	1942
<u>B&W Boiler #2 (S-B2):</u> Operational Capacity: 105,000 lb/hr steam Heat Input Rating: 126 MMBtu/hr Fuel Consumption: 0.120 MMscf/hr Fuel: Natural gas	None	1942
<u>Riley Boiler (S-B3):</u> Operational Capacity: 250,000 lb/hr steam Heat Input Rating: 358 MMBtu/hr Fuel Consumption: 0.308 MMscf/hr (gas) 13.2 T/hr (coal) Fuel: Coal and/or natural gas	Baghouse (A-B3)	1968
<u>Union Boiler (S-B4):</u> Operational Capacity: 60,000 lb/hr steam Heat Input Rating: 72 MMBtu/hr Fuel Consumption: 0.053 MMscf/hr Fuel: Natural gas	None	1957
<u>Pellet Mill Cooler Nos. 1&5 (S-D4, S-D8):</u> Manufacture/Model: California Pellet Mill PW input rate: 4.4 T/hr	Pellet Cooler Baghouse (A-D9) Common to all pellet coolers	1958-1972
<u>Pellet Mill Cooler Nos. 2 - 4 (S-D5, S-D6, & S-D7):</u> Manufacture/Model: California Pellet Mill PW input rate: 8.8 T/hr		1958-1972
<u>Pellet Mill Cooler No. 6 (S-D9):</u> Manufacture/Model: California Pellet Mill PW input rate: 8.8 T/hr		2006
<u>Lime Kiln (S-K1):</u> Manufacturer: Belgium Lime Kiln Maximum Capacity: 238 T/day lime rock Fuel: anthracite coal or coke	60% two scrubbers and two carbonation systems in series (A-K1A, A-K1B) 40% one shared baghouse (AK1/2)	1942
<u>Lime Kiln (S-K2):</u> Manufacturer: Belgium Lime Kiln Maximum Capacity: 277 T/day lime rock Fuel: anthracite coal or coke	60% two scrubbers and two carbonation systems in series (A-K1A, A-K1B) 40% one shared baghouse (AK1/2)	1968
<u>Lime Kiln Building (S-K3)</u>	Baghouse (A-K3)	Unknown
<u>A&B Process Slakers (S-K4):</u> Operational Capacity: 257 T/day CaO	Wet scrubber (A-K4)	1942-1968
<u>Drying Granulator (S-W1):</u> Manufacturer: TASCO Operational Capacity: 46 T/hr sugar	Wet scrubber (A-W1)	1987
<u>Cooling Granulator No. 1 (S-W2):</u> Manufacturer: Hersey Operational Capacity: 27.5 T/hr sugar	Baghouse (A-W2)	1944
<u>Cooling Granulator No. 2 (S-W3):</u> Manufacturer: Great Western Sugar Operational Capacity: 27.5 T/hr sugar	Baghouse (A-W3)	1981
<u>Process No. 2 Sugar Handling (S-W4)</u>	Baghouse (A-W4)	1965
<u>Specialties Handling (S-W6)</u>	Baghouse (A-W6)	1965
<u>Packaging Line Handling (S-W7)</u>	Baghouse (A-W7)	1982

This permitting action is not commencement of construction of a new stationary source or a physical or operational change resulting in an increase of emissions or the emission of a pollutant not previously emitted. Because neither of these events is occurring, NSR is not triggered.

This permitting action is the conversion of an existing expired T2 operating permit to a stand-alone PTC. Air pollutant emissions from this facility do not increase as a result of this action, therefore, a revised emissions inventory (EI) was not developed and a technical analysis was not conducted. Included for informational purposes is the current Potential to Emit (PTE) for all emission units at the facility as well as a HAPs emissions summary from P-2015.0060 issued January 9, 2017.

Emissions Inventories

Table 2 POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC	CO ₂ e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources						
B&W Boiler #1	12.0	0.3	154.5	46.0	3.0	67126
B&W Boiler #2	12.0	0.3	154.5	46.0	3.0	67126
Riley Boiler	51.3	1600.3	611.6	129.9	8.7	275726
Union Boiler	6.8	0.2	31.5	28.9	1.7	38410
Pellet Cooler Baghouse	3.50	0.00	0.00	0.00	0.00	
Lime Kiln A	1.50	0.56	10.52	928.7	0.74	7918
Lime Kiln B	1.75	0.65	12.22	1078.2	0.86	9163
Lime Kiln Material Handling	3.45	0.00	0.00	0.00	0.00	
A & B Process Slakers	6.10	0.00	0.00	0.00	0.00	
Drying Granulator	5.00	0.00	0.00	0.00	0.00	
#1 Cooling Granulator	1.30	0.00	0.00	0.00	0.00	
#2 Cooling Granulator	1.30	0.00	0.00	0.00	0.00	
Sugar Handling (Process)	1.20	0.00	0.00	0.00	0.00	
Sugar Handling (Specialties)	0.60	0.00	0.00	0.00	0.00	
Sugar Handling (Pack Line)	0.90	0.00	0.00	0.00	0.00	
Main Mill	0.00	0.00	0.00	0.00	59.2	
A Side Sulfur Stove	0.00	7.10	0.00	0.00	0.00	
B Side Sulfur Stove	0.00	7.10	0.00	0.00	0.00	
Total, Point Sources	108.7	1616.6	974.84	2257.7	77.3	465,559
Fugitive Sources						
Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC	CO ₂ e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Coal Unloading (Railcar) @ Dryer	0.00	0.00	0.00	0.00	0.00	0.00
Pulp & Pellet Storage and Loadout	0.015	0.00	0.00	0.00	0.00	0.00
Coal Unloading (Railcar)	0.003	0.00	0.00	0.00	0.00	0.00
Coal Storage/Loading	1.79	0.00	0.00	0.00	0.00	0.00
Beet Hauling	1.21	0.00	0.00	0.00	0.00	0.00
Vehicle Traffic on Unpaved Roads	0.49	0.00	0.00	0.00	0.00	0.00
Lime Rock Handling	0.68	0.00	0.00	0.00	0.00	0.00
Coke Handling	0.20	0.00	0.00	0.00	0.00	0.00
Total, Fugitive Sources	4.39	0.00	0.00	0.00	0.00	0.00

Table 3 POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS

Hazardous Air Pollutants	PTE (T/yr)
Acetaldehyde	2.50
Acrolein	0.07
Formaldehyde	0.16
Methanol	46.63
Arsenic	0.03
Benzene	0.07
Beryllium	0.00
Cadmium	0.05
Chromium	0.02
Cyanide	0.19
Hydrochloric Acid	1.01
Hydrogen Fluoride	3.80
Lead	0.03
Manganese	0.04
Mercury	0.004
Nickel	0.02
Selenium	0.10
Toluene	0.02
Xylenes	0.00
PAH	0.20
Total	54.96

Ambient Air Quality Impact Analyses

This permitting action does not increase the impact to ambient air quality because there is no increase of any regulated air pollutant; therefore, an ambient air quality impact analysis was not required for this permitting action.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

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

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

- A = Use when any one HAP has actual or potential emissions ≥ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions ≥ 25 T/yr.
- SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits ≥ 8 T/yr of a single HAP or ≥ 20 T/yr of THAP.
- SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.
- B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold
- UNK = Class is unknown

For All Other Pollutants:

- A = Actual or potential emissions of a pollutant are ≥ 100 T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are ≥ 80 T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.
- B = Actual and potential emissions are < 100 T/yr without permit restrictions.
- UNK = Class is unknown.

Table 4 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	115.6	100	A
PM ₁₀	113.0	100	A
PM _{2.5}	113.0	100	A
SO ₂	1616.6	100	A
NO _x	974.9	100	A
CO	2257.7	100	A
VOC	77.3	100	B
HAP (single)	46.6	10	A
HAP (total)	55.0	25	A

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201Permit to Construct Required

The permittee has requested that a PTC be issued to the facility instead of renewing its expired T2 operating permit. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401Tier II Operating Permit

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

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

IDAPA 58.01.01.301Requirement to Obtain Tier I Operating Permit

TASCO – Nampa is classified as a major facility as defined in IDAPA 58.01.01.008.10:

- The facility emits or has the potential to emit a regulated air pollutant in an amount greater than or equal to 100 T/yr (and greater than or equal to 250 T/yr);
- The facility emits or has the potential to emit a single regulated HAP in excess of 10 T/yr;
- The facility emits or has the potential to emit a combination of regulated HAP in excess of 25 T/yr.

TASCO-Nampa has a fossil-fuel boiler (or combination thereof) of more than 250 MMBtu/hr heat input; therefore the boiler house (which includes the No. 1 and No. 2 B&W Boilers, Riley Boiler, and Union Boiler) was classified as a designated facility as defined in IDAPA 58.01.01.006.30 and 40 CFR 52.21(b)(1)(i)(a), and fugitive emissions were included when determining the major facility classification in accordance with IDAPA 58.01.01.008.10.c.i.

The applicable requirements contained in this PTC will be incorporated in the Tier I operating permit.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

Because the TASC0-Nampa boiler house steam plant (which includes the No.1 and No. 2 B&W Boilers, Riley Boiler, and Union Boiler) has a fossil fuel boiler (or combination thereof) of more than 250 MMBtu/hr heat input, the boiler house was classified as a designated facility as defined in IDAPA 58.01.01.006.30 and in 40 CFR 52.21(b)(1)(i)(a), and fugitive emissions were included when determining the major facility classification in accordance with IDAPA 58.01.01.008.10.c.i.

The boiler house and the facility are classified as an existing major stationary source as defined in 40 CFR 52.21(b), because the boiler house emits and the facility emits or has the potential to emit criteria pollutants in an amount greater than 100 T/yr (and greater than 250 T/yr).

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements in 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

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

MACT/GACT Applicability (40 CFR 63)

The facility boilers (No. 1 and No. 2 B&W Boilers, Riley Boiler, and Union Boiler) are subject to the requirements of 40 CFR 63 Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (“Boiler MACT”), because they are industrial boilers located at a major source of HAP. TASC0-Nampa is classified as a major source of HAP; refer to the Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70) section for additional information concerning facility classification.

A complete analysis of NESHAP Subpart DDDDD will be included and incorporated into the Tier I operating permit.

Permit Conditions Review

This section describes those permit conditions from T2-050021, issued March 8, 2006, that have been added, revised, modified or deleted as a result of this permitting action. All permit conditions from the expired T2 permit have been incorporated into this PTC with the exception of Sections 5 and 9 - 11 which are explained below. Some sections have been renumbered.

Revised Permit Condition 2.2

The facility requested to revise some language to clarify that atomizer sprays don’t operate during periods of freezing weather. The facility also requested to remove the requirement that operation of fugitive sprays on rolling stock is no longer necessary and that the berms and trees at the east end of the property are stable and mature and no longer require inspection. These last two requirements were removed because the facility has been in compliance with fugitive dust requirements and these areas are still covered under visible emissions and fugitive dust requirements in the permit.

Deleted Permit Conditions 2.5 – 2.5.5

The ambient monitoring requirements have been removed from the permit as all requirements of permit condition 13.8 have been satisfied.

Deleted Permit Condition 2.6

This permit condition is listed in the General Provisions as permit conditions 9.7 – 9.9. The address for performance testing correspondence will remain in the permit.

Deleted Permit Condition 2.10

The rotary drum pulp dryers have been permanently shut down and are no longer operational.

Revised Permit Condition 2.11.1 and 2.11.2

The permit conditions were modified to remove the B&W boilers as they are fired solely on natural gas.

Moved Permit Conditions 2.11.1 through 2.13.3

These performance testing permit conditions as well as the testing schedule were moved to each individual equipment section in the permit. The results of the initial performance tests were evaluated and DEQ's guidance was considered when developing the testing schedule regime for each piece of equipment. The frequency of recurring testing will be evaluated during each Tier I renewal term.

Deleted Permit Conditions 2.12.1 through 2.13.2

These permit conditions were removed as the Union boiler is a natural gas boiler, the process slakers initial performance tests were substantially below the emission limits, and drying granulator, cooling granulator, and sugar handling systems are considered inherent process equipment as seen below.

Deleted Permit Conditions 2.14.1 and 2.14.2

The South dryer has been permanently shut down and is no longer operational.

Deleted Permit Condition 2.16

This permit condition was deleted as it is repeated verbatim as General Provision 9.10.

Deleted Permit Condition 2.18

This permit condition was deleted as it is repeated verbatim as General Provision 9.3.

Added Permit Condition 2.21

This permit condition was added to include the requirements of 40 CFR 63, Subparts A and DDDDD (Boiler MACT).

Revised Permit Condition 2.22

The permit condition was revised to include only the address for reporting. The remainder of the old permit condition is repeated as General Provision 9.12.

Added Permit Condition 2.23

This permit condition was added to note that if there is a conflict between a permit condition and a federal requirement that any document incorporated by reference shall govern.

The B&W boilers have been limited to firing with natural gas fuel only by P-2015.0060 issued January 9, 2017. Therefore, all of the natural gas fuel only boilers (B&W boiler and Union boiler) have been combined in Section 3 and the Riley boiler is in Section 4.

Tables 3.1 and 3.2 have been revised to remove the Riley boiler and include the Union boiler.

Revised Permit Conditions 3.4, 3.5, 3.6 and 3.8

These permit conditions have been revised to remove the Riley boiler and include the Union boiler. All references to coal as a fuel have been removed and revised for natural gas only. Permit condition 3.5 has been revised to include specific throughput limits for the B&W boilers and the Union boiler based on source testing conducted on 1/13/04. The throughput limits are established at 120% of the average feed rates.

Section 4 and all associated permit conditions have been revised to include only the Riley boiler.

Revised Permit Condition 4.6

Permit condition 4.6 has been revised to include specific throughput limits for the Riley boiler based on source testing conducted on 1/13/04. The throughput limits are established at 120% of the average feed rates.

Section 5 has been removed as all coal fired pulp dryers have been permanently shut down.

Revised Permit Conditions 5.1, 5.2, and 5.3

These permit conditions have been revised to include Pellet Cooler No. 6 (installed in 2006). The pellet mill cooler annual emission limit has been adjusted to accurately reflect the source testing that was completed after the 2002 Tier II permit issuance. It is important to note that the emission limit is changed based on a more accurate emission factor developed through source testing and not a change in operations. There has not been an increase in throughput or a modification to the source.

Added Permit Condition 5.5

This permit condition was added to include an opacity limit for the pellet mill cooler stack.

Revised Permit Condition 5.6

Permit condition 5.6 has been revised to include specific throughput limits for the pellet coolers based on source testing conducted on 12/3/03. The throughput limits are established at 120% of the average feed rates.

Revised Permit Condition 6.1 and 6.2

The process and control descriptions were updated by the facility and incorporated into the permit.

Revised Permit Condition 6.3

The Lime Kilns emission limits have been adjusted to accurately reflect the source testing that was completed after the 2002 Tier II permit issuance. It is important to note that the emission limits are changed based on a more accurate emission factor developed through source testing and not a change in operations. There has not been an increase in throughput or a modification to the source.

Added Permit Condition 6.5

This permit condition was added to include an opacity limit for the lime kiln stack.

Added Permit Condition 7.5

This permit condition was added to include an opacity limit for the process slakers.

Revised Permit Condition 7.6

Permit condition 7.6 has been revised to include specific throughput limits for the process slakers based on source testing conducted on 12/24/06. The throughput limits are established at 120% of the average feed rates.

Deleted Permit Conditions 9.1 – 9.8, 10.1 – 10.9, and 11.1 – 11.9

Because information was provided supporting that these emissions units are inherent process equipment and have potential emissions less than or equal to the significant emission rate (as defined in IDAPA 58.01.01.006), and actual emissions less than or equal to 10% of the significant emission rate and no more than one ton per year of any HAP, permit conditions for the Drying Granulator, Cooling Granulators, and the Sugar Handling System were removed from the current permit. See Appendix A for emissions. These emission sources will be identified in the Insignificant Emissions Units Based on Size or Production Rate section of the Tier I operating permit, in accordance with IDAPA 58.01.01.317.01.b.i.30.

Revised Permit Condition 8.1

This permit condition was revised to include the ability of the lime kilns to fire coke or anthracite coal.

Revised Permit Condition 8.3

The lime kiln material handling emission limits have been adjusted to accurately reflect the source testing that was completed after the 2002 Tier II permit issuance. It is important to note that the emission limits are changed based on a more accurate emission factor developed through source testing and not a change in operations. There has not been an increase in throughput or a modification to the source.

Added Permit Condition 8.5

This permit condition was added to include an opacity limit for the lime kiln building.

Deleted Sections 13 through 15

All requirements of the compliance schedule in Section 13 have been completed. A summary of emission rates in Section 14 is unnecessary. The equipment listed in Section 15 is incorporated into the Tier I operating permit and does not have specific requirements in this PTC.

PUBLIC REVIEW

Public Comment Opportunity

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

APPENDIX A – EMISSIONS INVENTORIES

SUMMARY OF FACILITY-WIDE PROJECTED EMISSIONS
Nampa Facility

Emissions Unit	PM ^a	SO ₂	NO _x	CO	VOC	CO ₂	CH ₄	N ₂ O	CO ₂ e
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources									
B&W Boiler No. 1	12.0	0.3	154.5	46	3	67146	1.3	0.13	67126
B&W Boiler No. 2	12.0	0.3	154.5	46	3	67146	1.3	0.13	67216
Riley Boiler	51.3	1600	611.6	129.9	8.7	273762	28.6	4.1	275726
Union Boiler	6.8	0.2	31.5	28.9	1.7	38369	0.74	0.074	38410
South Pulp Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Center Pulp Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
North Pulp Dryer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pellet Cooler Baghouse	3.5								
Lime Kiln A	1.5	0.56	10.52	928.7	0.74	7858	0.88	0.13	7918
Lime Kiln B	1.75	0.65	12.22	1078.2	0.86	9093	1.0	0.15	9163
Lime Kiln Material Handling	3.45								
A & B Process Slakers	6.10								
Drying Granulator	5.00								
#1 Cooling Granulator	1.30								
#2 Cooling Granulator	1.30								
Sugar Handling(Process)	1.20								
Sugar Handling(Specialties)	0.60								
Sugar Handling(Packaging Line)	0.90								
Main Mill					59.2				
Sulfur Stoves		14.2							
Fugitives									
Coal Unloading Railcar @Dryer	0								
Pulp&PelletStorage and Loadout	0.0147								
Coal Unloading (Railcar)	0.0031								
Coal Storage/Loading	1.79								
Beet Hauling	1.21								
Vehicle Traffic Unpaved Roads	0.49								
Lime Rock Handling	0.68								
Coke Handling	0.2								
Totals	113.1	1616.2	974.84	2257.7	77.2	463374	33.82	4.714	465559

Projected HAPs
Emissions Summary
Nampa Facility

HAP Pollutants	PTE (t/y)
Acetaldehyde	2.50
Acrolein	0.07
Formaldehyde	0.16
Methanol	46.63
Arsenic	0.03
Benzene	0.07
Beryllium	0.00
Cadmium	0.05
Chromium	0.02
Cyanide	0.19
Hydrochloric Acid	1.01
Hydrogen Fluoride	3.80
Lead	0.03
Manganese	0.04
Mercury	0.00
Nickel	0.02
Selenium	0.10
Toluene	0.02
Xylenes	0.00
PAH and other HAPs	0.20
Total	54.96

SUMMARY OF CRITERIA POLLUTANT EMISSIONS - Future Emissions (All Boilers at PTE, Riley Coal Beet Campaign, Juice Run 75% Coal, 25%)
 Nampa Facility - Annual Emissions

Table I

Beet run
 Juice Run
 Sep. Only

160 days
 205 days
 11 days

Source	ID	PM			PM10			SO2			CO			NOx			VOC		
		max lbs/hr	avg lbs/h	year tns/yr															
B&W Boiler No. 1	S-B1	2.7	2.7	12.0	2.7	2.7	12.0	0.1	0.1	0.3	10.5	10.5	46.0	35.3	35.3	154.5	0.7	0.7	3.0
B&W Boiler No. 2	S-B2	2.7	2.7	12.0	2.7	2.7	12.0	0.1	0.1	0.3	10.5	10.5	46.0	35.3	35.3	154.5	0.7	0.7	3.0
Riley Boiler	S-B3	14.3	13.3	58.3	12.4	11.7	51.3	425.0	365.4	1600.3	30.0	29.6	129.9	147.0	139.6	611.6	2.0	2.0	8.7
Union Boiler	S-B4	1.6	1.6	6.8	1.6	1.6	6.8	0.04	0.04	0.2	6.6	6.6	28.9	7.2	7.2	31.5	0.4	0.4	1.7
South Pulp Dryer	S-D1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Center Pulp Dryer	S-D2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
North Pulp Dryer	S-D3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pellet Cooler Baghouse	S-D9	0.80	0.80	3.50	0.80	0.80	3.50												
Lime Kin A	S-K1	0.89	0.34	1.50	0.891	0.343	1.50	0.32	0.13	0.56	550.4	212.0	928.7	6.24	2.40	10.52	0.419	0.169	0.739
Lime Kin B	S-K2	1.04	0.40	1.75	1.035	0.398	1.75	0.40	0.15	0.65	639.4	246.2	1078.2	7.25	2.79	12.22	0.524	0.195	0.855
Lime Kin Material Handling	S-K3	2.04	0.79	3.45	2.04	0.79	3.45												
A & B Process Slakers	S-K4	1.40	1.39	6.10	1.40	1.39	6.10												
Drying Granulator	S-W1	1.10	1.14	5.00	1.10	1.14	5.00												
#1 Cooling Granulator	S-W2	0.30	0.30	1.30	0.30	0.30	1.30												
#2 Cooling Granulator	S-W3	0.30	0.30	1.30	0.30	0.30	1.30												
Sugar Handling(Process)	S-W4	0.30	0.27	1.20	0.30	0.27	1.20												
Sugar Handling(Specialties)	S-W6	0.10	0.14	0.60	0.10	0.14	0.60												
Sugar Handling(Pack Line)	S-W7	0.20	0.21	0.90	0.20	0.21	0.90												
Main Mill	S-O1																44.0	13.5	59.2
A Side Sulfur Stove	S-O2							2.1	1.6	7.1									
B Side Sulfur Stove	S-O3							2.1	1.6	7.1									
Coal Unloading (Railcar)@Dryer	FD9						0.00E+00			0.00E+00									
Pulp&Pellet Storage and Loadout	FD10						3.36E-03			1.47E-02									
Coal Unloading (Railcar)	FO4						7.56E-04			3.31E-03									
Coal Storage/Loading	FO5O6						0.41			1.79									
Beet Hauling	FO7						0.28			1.21									
Vehicle Traffic on Unpaved Roads	FO8						0.11			0.49									
Lime Rock Handling	FO9						0.15			0.68									
Coke Handling	FO10						0.05			0.20									
TOTAL	TOTAL	29.7	26.4	115.6	27.9	25.8	113.0	430.2	369.1	1616.6	1247.4	515.5	2257.7	238.2	222.6	974.9	48.7	17.6	77.3

30 days per year.

4.39

HAP Projected Emissions Nampa Facility

1/13/2015

Individual Emissions - Projected

Hazardous Air Pollutant (HAP)	B & W Boiler		Riley Boiler		Union	Coal Fired Pulp	Kilns	Main Mill	Constituent Totals (tons / year)
	Coal (tons / year)	Nat. Gas (tons / year)	Coal (tons / year)	Nat. Gas (tons / year)	Nat. Gas (tons / year)	Dryers (tons / year)	(tons / year)	(tons / year)	
Acetaldehyde	0.00	0.00	0.03	0.00	0.00	0.00	0.00	2.47	2.50
Acrolein	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.06	0.07
Formaldehyde	0.00	0.0863	0.0129	1.59E-02	2.46E-02	0.00	0.00	0.02	0.16
Methanol								46.63	46.63
Arsenic	0.00	0.00	0.02	0.00	6.57E-05	0.00	8.5E-03		0.03
Benzene	0.00	0.00	0.07	0.00	6.90E-04	0.00	0.00		0.07
Beryllium	0.00	0.00	0.00	0.00	3.94E-06	0.00	4.4E-04		0.00
Cadmium	0.00	0.00	0.00	0.00	3.61E-04	0.00	4.3E-02		0.05
Chromium	0.00	0.00	0.01	0.00	4.60E-04	0.00	5.4E-03		0.02
Cyanide	0.00		0.13			0.00	5.2E-02		0.19
Hydrochloric Acid	0.00		1.01			0.00	0.00		1.01
Hydrogen Fluoride	0.00		3.80			0.00	0.00		3.80
Lead	0.00	0.00	0.02	0.00	1.64E-04	0.00	8.7E-03		0.03
Manganese	0.00	0.00	0.03	0.00	1.25E-04	0.00	1.0E-02		0.04
Mercury	0.00	0.00	0.00	0.00	8.54E-05	0.00	1.0E-03		0.0035
Nickel	0.00	0.00	0.02	0.00	6.90E-04	0.00	5.8E-03		0.02
Selenium	0.00	0.00	0.07	0.00	7.88E-06	0.00	2.7E-02		0.10
Toluene	0.00	0.00	0.01	0.00	1.12E-03	0.00	0.00		0.02
Xylenes	0.00		0.00			0.00	0.00		0.00
PAH and other HAPs	0.00	0.00	0.20	0.00	2.90E-05	0.00	0.00		0.20
	0.00	0.10	5.46	0.02	0.03	0.00	0.16	49.18	

Grand Total 54.96

1. PAH and Other HAP emission factors are listed in the Fuel E_Factors sheet and include the following

2,4-Dinitrotoluene, 2-Chloroacetophenone, Acetophenone, Antimony Compounds, Benzyl chloride, Bis(2-ethylhexyl)phthalate (DEHP), Bromoform, Carbon disulfide, Chlorobenzene, Chloroform, Cobalt Compounds, Cumene, Dimethyl sulfate, Ethyl benzene, Ethyl chloride (Chloroethane), Ethylene dibromide (Dibromoethane), Ethylene dichloride (1,2-Dichloroethane), Hexane, Isophorone, Methyl bromide (Bromomethane), Methyl chloride (Chloromethane), Methyl chloroform (1,1,1-Trichloroethane), Methyl hydrazine, Methyl Methacrylate, Methyl tert butyl ether, Methylene chloride (Dichloromethane), Phenol, Propionaldehyde, Styrene, Tetrachloroethylene

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on May 16, 2018:

Facility Comment: Permit Condition 2.2 – TASCO requests that the specific provisions identified in the four bullets be removed from permit condition 2.2. These provisions will be incorporated into a facility's fugitive management plan and do not need to be included in the permit.

DEQ Response: The original Tier II included these requirements for the fugitive dust management plan and are included in the PTC for both permittee awareness and compliance ease. These requirements will remain in the PTC.

Facility Comment: Permit Condition 2.9 – The PTC proposes a retesting schedule for the Riley boiler, the Pellet Mill Baghouse, the Lime Kiln Baghouse and the Lime Kiln Material Handling baghouse if performance testing results are above 75% of the permit standard. The Tier II permit only required this schedule for the pulp dryers and the B&W and Riley boilers, but not the other minor sources. Consistent with the Tier II permit, TASCO requests that the performance test schedule be revised to only apply to the Riley boiler. Additionally, the retest schedule proposed for the Riley boiler may conflict with the requirements of the MACT rule that states that the boiler will be tested annually when firing with coal. TASCO requests that the periodic performance testing be addressed when the PTC is combined with the Tier I permit at a later date.

TASCO requests that the performance test schedule be revised to occur at any time after the issuance of the permit but no later than December 31, 2019. TASCO is concerned that depending upon when the permit is finally issued, there may not be enough time to schedule and conduct the required testing during the next campaign. Extending the deadline will provide needed flexibility.

DEQ Response: DEQ concurs that the retesting schedule in the original Tier II was intended for the pulp dryers, B&W boilers, and the Riley boiler. The testing schedule has been revised in the PTC to reflect a one-time test for the Pellet Mill Baghouse, the Lime Kiln Baghouse, and the Lime Kiln Material Handling baghouse by December 31, 2019. The Riley boiler testing schedule for PM₁₀ has been revised to conduct the test within 18 months of the commencement of firing coal. The requirement for testing PM in the Riley boiler has been removed as it is already covered by Boiler MACT requirements when firing coal.

Facility Comment: Permit Condition 5.10 – The pellet mill cooler baghouse when tested in January 2004 demonstrated PM₁₀ emission results well under the standard of 0.8 lbs/hour. TASCO requests that additional performance testing for this minor source be removed from the permit.

DEQ Response: The last performance test conducted on the pellet mill cooler baghouse in 2004 was measured at 0.6 lb/hr which was 75% of the standard of 0.8 lb/hr. Another pellet mill cooler was added in 2006. Because the pellet mill cooler baghouse has a combined emission limit for all six pellet mill coolers, DEQ finds it is appropriate to require another performance test to demonstrate compliance with the combined emission limit for all six pellet mill coolers.

Facility Comment: Permit Conditions 9.5 and 9.6 – TASCO has no intention of initiating construction activities during the permit period. The notification provisions of these permit conditions are unnecessary and do not need to be included in the final PTC.

DEQ Response: Permit Conditions 9.5 and 9.6 are General Provisions that are included in every PTC issued by DEQ and therefore will remain in the PTC.

APPENDIX C – PROCESSING FEE

PTC Processing Fee Calculation Worksheet

Instructions:

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

Company: The Amalgamated Sugar Company
Address: 138 W. Karcher Rd.
City: Nampa
State: ID
Zip Code: 83687
Facility Contact: Eric Erickson
Title: Plant Manager
AIRS No.: 027-00010

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	0.0	0	0.0
CO	0.0	0	0.0
PM10	0.0	0	0.0
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 1,000.00		

Comments:

