Statement of Basis

Permit to Construct No. P-2015.0060
Project ID 61639

The Amalgamated Sugar Company LLC
Nampa, Idaho

Facility ID 027-00010

Final

January 9, 2017
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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
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
DEQ	Department of Environmental Quality
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hp	horsepower
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
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O_2	oxygen
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
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RICE	reciprocating internal combustion engines
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
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
TASCO	The Amalgamated Sugar Company LLC
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
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd^3	cubic yards
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

The Amalgamated Sugar Company, LLC (TASCO – Nampa) operates an existing 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 (l22°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 (CO_2) 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 CO_2 used in the juice purification process. 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 CO_2 (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 SO_2 is added to the juice to inhibit reactions that lead to darkening of the juice. Following the addition of SO_2, 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 desugarized 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 PM_{10} 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 PM_{10} 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 (A)

Project Scope

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

The applicant has proposed a boiler conversion project to:

- Restrict the No. 1 and No. 2 B&W Boilers to utilize only natural gas and eliminate coal as a fuel source.
- Addressing historical modifications and the required compliance review of historical equipment changes as required by the compliance schedule, Permit Conditions 14.12 - 14.19 of Tier I Operating Permit T1-050020.

Historical Modification Project Chronology

The following chronological summary of historical projects is based on an evaluation of information previously prepared by the applicant.

1980	A second tower diffuser ("A" side) was installed to replace a chain diffuser system. Improved energy efficiency allowed for increased beet processing.
1981	A second cooling granulator (#2 cooling granulator) was installed to improve sugar quality. A dust box was also installed to remove sugar dust.
1982, 1988, 1989	Three juice storage tanks were installed. Each tank provided storage capacity not previously available, and allowed for increased utilization of the boilers.
1985, 1989, 1990	Three large presses were installed to produce more pressed pulp with lower moisture content. The capacity of the dryers remained unchanged.

1987	A larger drying granulator and dust box were installed to replace the existing smaller units. This increased sugar throughput and the capacity of the sugar end equipment.
1991	A low raw pan was installed to improve sugar end production efficiencies.
1991	The "A" side 2nd carbonation tank and gas distributors were replaced. The system improved gassing height and CO_2 distribution for carbonation.
1994	A Chromatographic Separator (CS) for desugarizing molasses was installed to replace the Quentin ion exchange process. The process required no increased steam consumption from existing boilers but emissions increased due to longer operation of the separator equipment and sugar end operation.
1994	A third white pan was installed that resulted in an increase in sugar production capacity. Increased steam utilization may have occurred.
1996	Betaine concentration project reconfigured the thin juice evaporator train to concentrate betaine. The ability to recover betaine resulted from the installation of the CS.
1998	The electrical service for the facility was paralleled with Idaho Power to provide a more stable supply of energy.
1998	Improved energy and steam savings were realized by 1) replacing and relocating plate and frame heat exchangers to heat soft water during juice run, 2) modifying the Union boiler piping to be able to base load the Riley boiler, and 3) installing turbine/generator protection relays and communication package with Idaho Power.
2000	A new 1A falling film evaporator was installed to reduce steam consumption. The project did not increase the capacity of the evaporation system.
2000	The existing juice purification system was replaced with a more efficient DDS juice purification system. The project did not increase the capacity of the juice purification system.
2003	A pellet cooler baghouse was installed to replace the cyclones used for controlling emissions from the pellet coolers. The baghouse was specified in the Tier II Operating Permit.
2004	The #10 Thick Juice Tank was installed to accommodate an extraordinary large crop for the 2003-2004 beet campaign. In order to accommodate the extra juice, an additional thick juice tank was needed. A PTC application was prepared and a PTC was issued on January 12, 2004. In 2006 IDEQ concurred that transfer and storage of thick juice from offsite sources (Mini Cassia and Twin Falls facilities) is not limited.
2004, 2006	The Betaine Crystallization project allowed for the production of crystalline betaine. IDEQ concurred with TASCO that a PTC was not required for this project. In 2006, additional equipment was added to improve product recovery.
2007	The facility completed construction and began full operation of a steam pulp dryer. The steam dryer significantly reduced emissions by eliminating three direct coal-fired, rotary drum dryers. This state-of-the-art dryer was a significant environmental improvement for the Nampa facility and is part of IDEQ's Northern Ada County PM_{10} Maintenance Plan. TASCO previously received IDEQ's concurrence stating that a PTC was not required for this emissions reduction project. Steam for the dryer is provided by existing boilers.

2008	In order to improve the performance of the molasses separator, the separator was converted to a coupled loop operating mode. Based on a steam balance assessment for this reconfiguration, energy usage was projected to remain the same or decrease for this operating mode.
2012	A seventh white sugar centrifugal was installed as a spare to replace the production of the other six centrifugals as they are individually removed from service for repairs or maintenance. All seven white centrifugals can be operated as needed.
2010-2012	Separator and sugar end efficiency improvements were completed over a two year period beginning in 2010. These projects were designed so that steam consumption rates and air emissions would not increase during all modes of operation. A PTC exemption evaluation was previously submitted and discussed with IDEQ for these projects.
2005, 2008, 2012	Automated packaging (2005), powdered sugar packaging (2008), retail packaging (2012).
2013-2015	Byproduct tanks were installed for storage of concentrated separator byproduct (CSB) which is principally sold as an animal feed byproduct. The primary purpose of these tanks was to provide long-term storage of the animal feed byproduct for sales throughout the year. In 2015, two tanks were replaced with one tank to maximize sales.
2003-2015	To ensure energy efficient facility operations, evaporator heat exchangers (calandrias) have been routinely replaced or upgraded. These projects include: 1) Replace calandria in Evaporator 4A-2 (2003); 2) Replace calandria in Evaporator 4B (2004); 3) Replace calandria in Evaporator 5A (2006); 4) Evaporator 5B upgrade; 5) Replace calandria in #3 White Pan (2014) and 6) Replace calandria in #2 White Pan (2015). Heat exchanger replacements or upgrades allow for more efficient use of boiler steam.
2012, 2013, 2015	Process heater energy efficiency projects from 2012 thru 2015 were as follows: 1) Replacement of A-side Press Water Heater (2012); Replacement of A-side Circulation Juice Heater (2013) and; 3) Replacement of B-side Circulation Juice Heater (2015).
2010, 2013, 2014, 2015	This project consisted of five phases to replace and modernize the boiler control systems. Previous combustion and burner management systems were replaced with new equipment. Improved controls are expected to improve combustion and energy efficiencies.

The historic equipment review initiated by DEQ in 2002 is resolved by issuance of this PTC. Tier I Operating Permit T1-050020, issued on December 12, 2002 and modified on May 23, 2006 included a compliance schedule to address permitting issues raised by equipment that was installed historically at TASCO-Nampa. TASCO satisfied the compliance schedule and no further information, review, or enforcement is required by DEQ to resolve the historic equipment changes. The proposed boiler emission reductions accomplished by this PTC address DEQ's conclusions with respect to increased utilization of the boilers resulting from historic equipment changes. The conditions of this PTC, therefore, fulfill the compliance schedule and DEQ's historic equipment review. The Tier I operating permit renewal can be issued without Section 14 (compliance schedule).

Boiler Conversion Project Chronology

December 21, 2015	DEQ received an application and an application fee.
January 20, 2016	DEQ determined that the application was incomplete.
February 19, 2016	DEQ received supplemental information from the applicant.

March 18, 2016	DEQ determined that the application was complete.
April 29, 2016	DEQ made available the draft permit and statement of basis for peer and regional office review.
May 6, 2016	DEQ made available the draft permit and statement of basis for applicant review.
September 27 – October 27, 2016	DEQ provided a public comment period on the proposed action.
November 9, 2016	DEQ provided the proposed permit and statement of basis for EPA review.
November 23, 2016	DEQ received the permit processing fee.
January 9, 2017	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source Description		Control Equipment	Installation Date
B&W Boiler #1 (S–B1) Operational capacity: Heat input: Fuel consumption: Fuel:	 105,000 lb/hr steam 126 MMBtu/hr 0.120 MMscf/hr natural gas	None	1942
B&W Boiler #2 (S–B2) Operational capacity: Heat input: Fuel Consumption: Fuel:	 105,000 lb/hr steam 126 MMBtu/hr 0.120 MMscf/hr natural gas	None	1942
Riley Boiler (S–B3) Operational capacity: Heat input: Fuel consumption: Fuels:	 250,000 lb/hr steam 358 MMBtu/hr 13.2 T/hr (coal) 0.308 MMscf/hr (gas) coal and/or natural gas	Baghouse (A-B3)	1968
Union Boiler (S–B4) Operational capacity: Heat input: Fuel consumption: Fuel:	 60,000 lb/hr steam 72 MMBtu/hr 0.053 MMscf/hr natural gas	None	1957
Pellet Cooler Nos. 1 & 5 (S–D4, S-D8) Manufacturer/Model: PW input rate:	 California Pellet Mill 4.4 T/hr	Pellet Cooler Baghouse (A-D9) Common to all pellet coolers	1958 - 1972
Pellet Cooler No. 2-4 (S–D5, S-D6 & S-D7) Manufacturer/Model: PW input rate:	 California Pellet Mill 8.8 T/hr		1958 -1972
Pellet Cooler No. 6 (S–D9) Manufacturer/Model: PW input rate:	 California Pellet Mill 8.8 T/hr		2006
Lime Kiln (S–K1) Manufacturer: Maximum capacity: Fuel:	 Belgium Lime Kiln 238 T/day lime rock anthracite coal or coke	60% two scrubbers and two carbonation systems in series (A-K1A, A-K1B) 40% one shared baghouse (AK1/2)	1942

Lime Kiln (S–K2) 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
Lime Kiln Building (S-K3)	Baghouse (A-K3)	Unknown
A&B Process Slakers (S-K4) Operational Capacity: 257 T/day CaO	Wet Scrubber (A-K4)	1942-1968
Drying Granulator (S-W1) Manufacturer: TASCO Operational capacity: 46 T/hr sugar	Wet Scrubber (A-W1)	1987
Cooling Granulator No. 1 (S–W2) Manufacturer: Hersey Operational capacity: 27.5 T/hr sugar	Baghouse (A–W2) (installed 1981)	1944
Cooling Granulator No. 2 (S–W3) Manufacturer/Model: Great Western Sugar Operational capacity: 27.5 T/hr sugar	Baghouse (A–W3)	1981
Process No. 2 Sugar Handling (S–W4)	Baghouse (A–W4)	1965
Sugar Remelt Handling (S-W5)		Not in service
Specialties Handling (S-W6)	Baghouse (A-W6)	1965
Packaging Line Handling (S–W7)	Baghouse (A–W7)	1982

Emissions Evaluation

Emission inventories provided in the application included emissions of state-regulated toxic air pollutants (TAP), and federally-regulated criteria pollutants, hazardous air pollutants (HAP), and greenhouse gases (GHG). The following comparisons were provided: 1) Emissions from the B&W boilers firing coal and natural gas (project emissions); 2) Facility wide baseline emissions for 2006/2007 vs. projected emissions; and 3) Facility wide baseline emissions for 1979/1980 vs. projected emissions. Summaries of these emission inventories are provided below and in Appendix A.

NSR Applicability for Boiler Conversion Project

As summarized in Table 2, upon completion of the boiler conversion project to permanently disable the coal feed system for the B&W boilers, no apparent increase in federally-regulated air pollutants is expected, with the exception of volatile organic compounds (VOC) and carbon monoxide (CO). The emission increase of VOC and CO is not expected to exceed the significance threshold; therefore, the boiler conversion project would not be applicable to PSD program requirements. The permittee has elected to use 2006-2007 for the baseline years (Table 3); coal was the primary boiler fuel source over this timeframe, accounting for 94% of overall fuel usage. In addition, baseline emissions were based on the operation of three coal-fired pulp dryers. Refer to the PSD Classification (40 CFR 52.21) section for additional information. The permittee has also reported estimated PAE is equivalent to the potential emissions (PTE) for the facility.

Table 2 BOILER CONVERSION PROJECT EMISSION CHANGES – NSR APPLICABILITY

Description	CO [(b)] T/yr	NO_x [(b)] T/yr	SO_2 [(b)] T/yr	PM [(a)(b)] T/yr	VOC [(b)] T/yr	CO_2e [(c)] T/yr
Baseline Actual Emissions [(d)]	2241.0	1963.0	2374.4	171.1	73.1	418,807
Projected Actual Emissions [(d)]	2257.7	974.9	1616.6	115.6	77.3	463,372
Emission Increases [(e)]	16.7	-988.1	-757.8	-55.5	4.2	44,565
Significance Thresholds [(e)]	*100*	*40*	*40*	*15*	*40*	*75,000*

a) PM, PM_{10}, and $PM_{2.5}$ emissions were estimated to be equivalent; significance threshold listed is for $PM_{2.5}$, the most stringent threshold when applying assumption.
b) Regulated NSR Pollutant as defined in 40 CFR 52.21(b)(50).
c) Tons of CO_2 equivalent emissions as defined in 40 CFR 52.21(b)(49).
d) Baseline and Projected Actual Emissions estimates include all emissions units at the facility ("facility-wide"). Baseline actual emissions used were average of actual emissions during the campaign years 2006-2007.
e) Net emission increase and significant net emission increase thresholds as determined in accordance with 40 CFR 52.21(b)(40), 40 CFR 52.21(b)(23), and 40 CFR 52.21(b)(3)(i).

The boiler conversion project is therefore not expected to result in a PSD significant net emission increase. Baseline Actual Emissions (BAE) and Projected Actual Emissions (PAE) were determined using New Source Review (NSR) Prevention of Significant Deterioration (PSD) procedures and definitions set forth in 40 CFR 52.21(a)(2)(iv)(*c*) and 40 CFR 52.21(b).

Toxic Air Pollutant Emissions Changes for the Boiler Conversion Project

Upon completion of the boiler conversion project, no apparent increase in state-regulated toxic air pollutants (TAP) is expected. The applicant has demonstrated preconstruction compliance with TAP standards in accordance with IDAPA 58.01.01.210.

Historical Lookback Facility-Wide Emissions Evaluation (1979-80-vs.-Projected Actual)

A comparison of historical and projected facility-wide emissions was undertaken in an effort to redress historical modifications (including PSD modifications) that occurred at the TASCO-Nampa facility within the timeframe from 1979-80 until approximately 2007. Refer to the Project Chronology section for a summary of these historical modifications.

Up to six unpermitted equipment changes at the TASCO-Nampa facility within this timeframe resulted in both a change in the method of operation of emissions units, and in probable net emissions increases. Collectively, these equipment changes:

- included the addition of juice storage tanks, drying and cooling granulators, generators, and replacement of diffusors
- resulted in corresponding net emission increases, with at least one (or more) such emission increases exceeding the PSD NSR regulated pollutant applicability thresholds
- would have been subject to requirements and review under the PSD program

As provided in Table 3, when comparing 1979-1980 baseline emissions to the projected-actual emissions following the facility's commitment to fire natural gas only in the No.1 and No.2 B&W boilers, overall facility-wide emissions are expected to return to pre-1979 emissions levels, with the exception of VOC and CO emissions.

Table 3 HISTORICAL LOOKBACK FACILITY-WIDE EMISSIONS COMPARISON

Description	CO [(a)] T/yr	NO_x [(a)] T/yr	SO_2 [(a)] T/yr	PM/PM_{10} [(a)] T/yr	VOC [(a)] T/yr
1979-1980 Baseline Actual Emissions [(b)]	1913.8	1606.9	1638.1	159.4	50.1
Projected Actual Emissions [(c)]	2257.7	974.9	1616.6	115.6	77.3
Emission Changes [(d)]	343.9	-632	-21.5	-43.8	27.2
Significance Thresholds [(e)]	*100*	*40*	*40*	*15*	*40*

a) Regulated NSR Pollutant as defined in 40 CFR 52.21(b)(50).
b) Average of actual emissions over 1979-1980 for purposes of the historical lookback review, with steam from coal combustion 99.7% by weight.
c) Projected actual emissions estimates include all emissions units at the facility ("facility-wide"), with steam from natural gas combustion 100% by weight.
d) Emissions comparing projected actual emissions to 1979-1980 baseline emissions.
e) Net emission increase and significant net emission increase thresholds as determined in accordance with 40 CFR 52.21(b)(40), 40 CFR 52.21(b)(23), and 40 CFR 52.21(b)(3)(i), except as noted to address the historical lookback timeframe.

Although not addressing surplus/excess emissions that occurred *during* the relevant lookback timeframe (1979 through 2007), by incorporating federally-enforceable emission limits in the permit pursuant to PSD program requirements, emissions at the beginning and at the end of the relevant timeframe are made comparable. A summary of these emission limits is provided in Table 4; refer to the Permit Conditions Review section for further discussion of these limits. Projected CO emissions as provided in Table 3 are well below annual emissions limits in the Tier I and Tier II operating permits.

Table 4 FEDERALLY-ENFORCEABLE PERMIT CONDITIONS REQUIRED PURSUANT TO 40 CFR 52.21

Permit(s)	Condition(s)	Limit Description
P-2015.0060 PROJ 61639	2.1	Conversion of B&W boilers to natural gas firing only
P-2015.0060 PROJ 61639	2.5	No benefit of emission decreases in NSR applicability or netting (upon completion of boiler conversion to gas firing under condition 2.1)

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

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

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For THAPs (Total Hazardous Air Pollutants) Only:

A = Use when any one HAP has actual or potential emissions ≥ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions ≥ 25 T/yr.

SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits ≥ 8 T/yr of a single HAP or ≥ 20 T/yr of THAP.

SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.

B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold

UNK = Class is unknown

For All Other Pollutants:

A = Actual or potential emissions of a pollutant are ≥ 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are ≥ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.

B = Actual and potential emissions are < 100 T/yr without permit restrictions.

UNK = Class is unknown.

Table 5 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	115.6	**100**	A
$PM_{10}/PM_{2.5}$	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 58.01.01.201 .... Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the modified emissions source project to fire natural gas only in the No. 1 and No. 2 B&W boilers. 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. This PTC was processed in accordance with IDAPA 58.01.01.209.05.c, and the applicable requirements contained in this PTC will be incorporated into the Tier I operating permit as an administrative amendment.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 .... Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested[1]. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

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

IDAPA 58.01.01.301 .... Requirement to Obtain Tier I Operating Permit

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, and when determining project net emissions increases in accordance with IDAPA 58.01.01.007 and 40 CFR 52.21(b)(48)(ii).

This PTC was processed in accordance with IDAPA 58.01.01.209.05.c, and the applicable requirements contained in this PTC will be incorporated in the Tier I operating permit.

Refer to Appendix A for a summary of the regulated air pollutant emission estimates provided in the application.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 .... Prevention of Significant Deterioration of Air Quality

Because the TASCO-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, and when determining project net emissions increases in accordance with IDAPA 58.01.01.007 and 40 CFR 52.21(b)(48)(ii).

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1 As discussed in the permit application, IDEQ previously issued facility wide Tier II operating permits in support of the Ada County PM_{10} Maintenance Plan and a Tier II permit for the Riley boiler BART determination that addressed emissions from the boilers when combusting coal. Compliance with this proposed PTC will demonstrate compliance with those existing Tier II permits.

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).

Although this section specifically addresses PSD applicability with regard to the boiler conversion project, a strict PSD regulatory applicability analysis was not used to address past PSD modifications, and was not examined here because the historical lookback analysis was conducted within a compliance/enforcement regulatory framework (Table 4) . Refer to the Emission Inventories section and Appendix A for a summary of regulated air pollutant emissions.

IDAPA 58.01.01.205 ....PERMIT REQUIREMENTS FOR NEW MAJOR FACILITIES OR MAJOR MODIFICATIONS IN ATTAINMENT OR UNCLASSIFIABLE AREAS.

40 CFR 52.21 ....Prevention of significant deterioration of air quality.

40 CFR 52.21(a)(2)...Applicability procedures.

In accordance with §52.21(a)(2)(i), Prevention of Significant Deterioration (PSD) requirements apply to the construction of any new major stationary source or any project at an existing major stationary source in an area designated as attainment or unclassifiable.

This permit revision request was proposed for an existing major stationary source in an area designated as attainment or unclassifiable (refer to the Attainment Designation (40 CFR 81.313) section for additional information).

In accordance with §52.21(a)(2)(ii), the requirements of §52.21(j) through (r) apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as otherwise provided.

The boiler conversion project was not considered a major modification as defined in §52.21(b)(2)(i), because it was not predicted to result in a significant net emissions increase as determined in accordance with §52.21(b)(40). The net VOC and CO emissions increase resulting from this permitting action was predicted to be less than the significance level as defined in §52.21(b)(23)(i) and as provided above in Table 3.

Except as provided below, §52.21(j) through (r)(5) were not determined to be applicable to this project. Additional information concerning this determination is provided in the paragraphs below regarding the emissions increase and net emissions increase calculations.

Emission increases

In accordance with §52.21(a)(2)(iv)(a), except as otherwise provided, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as defined in §52.21(b)(40)), and a significant net emissions increase (as defined in §52.21(b)(3) and (b)(23)).

As provided in Table 3, the boiler conversion project was not predicted to cause a significant emissions increase or a significant net emissions increase.

In accordance with §52.21(a)(2)(iv)(b), the procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to §52.21(a)(2)(iv)(c) through (f). For these calculations, fugitive emissions (to the extent quantifiable) are included only if the emissions unit is part of one of the source categories listed in paragraph §52.21(b)(1)(iii) or if the emission unit is located at a major stationary source that belongs to one of the listed source categories. Fugitive emissions are not included for those emissions units located at a facility whose primary activity is not represented by one of the source categories listed in paragraph §52.21(b)(1)(iii) and that are not, by themselves, part of a listed source category. The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (i.e., the second step of the process) is contained in the definition in §52.21(b)(3). Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.

The boiler emissions units are part of a listed source category in §52.21(b)(1)(iii), and fugitive emissions were included in the emissions increase estimates. In accordance with §52.21(a)(2)(iv)(*c*), the actual-to-projected actual test was used for the project because it involves existing emissions units. A significant emissions increase of a regulated NSR pollutant is not expected. The sum of the difference between projected actual emissions (as defined in §52.21(b)(41) and baseline actual emissions (as defined in §52.21(b)(48) for this permitting action did not equal or exceed pollutant significance thresholds as defined in §52.21(b)(23) and as provided in Table 3.

TASCO-Nampa has elected to use actual production data from the 24-month period that includes the 2006-2007 beet processing campaign for the purposes of determining baseline actual emissions of all regulated NSR pollutants.

Reasonable Possibility Standard

In accordance with §52.21(r)(6), except as otherwise provided in paragraph (r)(6)(vi)(b) of this section, the provisions of this paragraph (r)(6) apply with respect to any regulated NSR pollutant emitted from projects at existing emissions units at a major stationary source (other than projects at a source with a PAL) in circumstances where there is a reasonable possibility, within the meaning of paragraph (r)(6)(vi) of this section, that a project that is not a part of a major modification may result in a significant emissions increase of such pollutant, and the owner or operator elects to use the method specified in paragraphs (b)(41)(ii)(a) through (c) of this section for calculating projected actual emissions.

A "reasonable possibility" under paragraph (r)(6)of this section occurs when the owner or operator calculates the project to result in either: (a) A projected actual emissions increase of at least 50 percent of the amount that is a "significant emissions increase," as defined under paragraph (b)(40) of this section (without reference to the amount that is a significant emission increase), for the regulated NSR pollutant; or (b) A projected actual emissions increase that, added to the amount of emissions excluded under paragraph (b)(41)(ii)(c) of this section, sums to at least 50 percent of the amount that is a "significant emissions increase" as defined under paragraph (b)(40) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant. For a project for which a reasonable possibility occurs only within the meaning of paragraph (r)(6)(vi)(b) of this section, and not also within the meaning of paragraph (r)(6)(vi)(a) of this section, then provisions (r)(6)(ii) and (v) do not apply to the project.

Because NSR pollutant emission increases were not estimated to exceed applicable significance thresholds as shown in Table 3, and because the projected actual emissions are not estimated to increase at least 50 percent of the amount that is a significant emissions increase, a "reasonable possibility" of exceeding significant thresholds is not anticipated.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements 40 CFR Part 60 with regards to the boiler conversion project.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61 with regards to the boiler conversion project.

MACT 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. TASCO-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.

The applicability analysis provided below addresses the No. 1 and No.2 B&W Boilers that comprise the boiler conversion project. The requirements for the Riley and Union Boilers are not addressed in this PTC.

40 CFR 63, Subpart DDDDD ....National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

§ 63.7480 What is the purpose of this subpart?

In accordance with §63.7480, this subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.

§ 63.7485 Am I subject to this subpart?

In accordance with §63.7485, you are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in §63.7575.

Because the permittee owns and operates industrial boilers at a major source of HAP and which are not specified under §63.7491, the requirements of this subpart are applicable.

§ 63.7490 What is the affected source of this subpart?

(a) This subpart applies to new, reconstructed, and existing affected sources as described in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in §63.7575.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater, as defined in §63.7575, located at a major source.

(b) A boiler or process heater is new if you commence construction of the boiler or process heater after June 4, 2010, and you meet the applicability criteria at the time you commence construction.

(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in §63.2, you commence reconstruction after June 4, 2010, and you meet the applicability criteria at the time you commence reconstruction.

(d) A boiler or process heater is existing if it is not new or reconstructed.

(e) An existing electric utility steam generating unit (EGU) that meets the applicability requirements of this subpart after the effective date of this final rule due to a change (e.g., fuel switch) is considered to be an existing source under this subpart.

The permittee owns and operates existing industrial boilers.

§ 63.7491 Are any boilers or process heaters not subject to this subpart?

The types of boilers and process heaters listed in paragraphs (a) through (n) of this section are not subject to this subpart.

(a) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part or a natural gas-fired EGU as defined in subpart UUUUU of this part firing at least 85 percent natural gas on an annual heat input basis.

(b) A recovery boiler or furnace covered by subpart MM of this part.

(c) A boiler or process heater that is used specifically for research and development, including test steam boilers used to provide steam for testing the propulsion systems on military vessels. This does not include units that provide heat or steam to a process at a research and development facility.

(d) A hot water heater as defined in this subpart.

(e) A refining kettle covered by subpart X of this part.

(f) An ethylene cracking furnace covered by subpart YY of this part.

(g) Blast furnace stoves as described in EPA-453/R-01-005 (incorporated by reference, see §63.14).

(h) Any boiler or process heater that is part of the affected source subject to another subpart of this part, such as boilers and process heaters used as control devices to comply with subparts JJJ, OOO, PPP, and U of this part.

(i) Any boiler or process heater that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler or process heater is provided by regulated gas streams that are subject to another standard.

(j) Temporary boilers and process heaters as defined in this subpart.

(k) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.

(l) Any boiler or process heater specifically listed as an affected source in any standard(s) established under section 129 of the Clean Air Act.

(m) A unit that burns hazardous waste covered by Subpart EEE of this part. A unit that is exempt from Subpart EEE as specified in §63.1200(b) is not covered by Subpart EEE.

(n) Residential boilers as defined in this subpart.

Because the permittee owns and operates industrial boilers at a major source of HAP and which are not specified under §63.7491, the requirements of this subpart are applicable.

§ 63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by April 1, 2013, or upon startup of your boiler or process heater, whichever is later.

(b) If you have an existing boiler or process heater, you must comply with this subpart no later than January 31, 2016, except as provided in §63.6(i).

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.

> *(1) Any new or reconstructed boiler or process heater at the existing source must be in compliance with this subpart upon startup.*
>
> *(2) Any existing boiler or process heater at the existing source must be in compliance with this subpart within 3 years after the source becomes a major source.*

(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.

(e) If you own or operate an industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for the exemption in §63.7491(l) for commercial and industrial solid waste incineration units covered by part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart and are no longer subject to part 60, subparts CCCC or DDDD beginning on the effective date of the switch as identified under the provisions of §60.2145(a)(2) and (3) or §60.2710(a)(2) and (3).

(f) If you own or operate an existing EGU that becomes subject to this subpart after January 31, 2016, you must be in compliance with the applicable existing source provisions of this subpart on the effective date such unit becomes subject to this subpart.

(g) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for a exemption in §63.7491(i) that becomes subject to this subpart after January 31, 2013, you must be in compliance with the applicable existing source provisions of this subpart within 3 years after such unit becomes subject to this subpart.

(h) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory after the compliance date of this subpart, you must be in compliance with the applicable existing source provisions of this subpart on the effective date of the fuel switch or physical change.

(i) If you own or operate a new industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory, you must be in compliance with the applicable new source provisions of this subpart on the effective date of the fuel switch or physical change.

In accordance with §63.7491(b), because the boilers are existing boilers, the compliance deadline is January 31, 2016 (unless an extension is pursued in accordance with §63.6(i)).

§ 63.7499 What are the subcategories of boilers and process heaters?

The subcategories of boilers and process heaters, as defined in §63.7575 are:

(a) Pulverized coal/solid fossil fuel units.

(b) Stokers designed to burn coal/solid fossil fuel.

(c) Fluidized bed units designed to burn coal/solid fossil fuel.

(d) Stokers/sloped grate/other units designed to burn kiln dried biomass/bio-based solid.

(e) Fluidized bed units designed to burn biomass/bio-based solid.

(f) Suspension burners designed to burn biomass/bio-based solid.

(g) Fuel cells designed to burn biomass/bio-based solid.

(h) Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid.

(i) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solid.

(j) Dutch ovens/pile burners designed to burn biomass/bio-based solid.

(k) Units designed to burn liquid fuel that are non-continental units.

(l) Units designed to burn gas 1 fuels.

(m) Units designed to burn gas 2 (other) gases.

(n) Metal process furnaces.

(o) Limited-use boilers and process heaters.

(p) Units designed to burn solid fuel.

(q) Units designed to burn liquid fuel.

(r) Units designed to burn coal/solid fossil fuel.

(s) Fluidized bed units with an integrated fluidized bed heat exchanger designed to burn coal/solid fossil fuel.

(t) Units designed to burn heavy liquid fuel.

(u) Units designed to burn light liquid fuel.

In accordance with §63.7499(l), subsequent to the project the B&W boilers are existing boilers designed to burn Class 1 fuels (natural gas).

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

Permit Conditions Review

This section describes the permit conditions for this initial permit.

Permit Condition 2.1 limits both B&W Boilers to combust natural gas only.

Permit Condition 2.2 incorporates the federally applicable requirements from NESHAP Subpart DDDDD. The Tier I permit will include a complete breakdown of applicable requirements regarding Subpart DDDDD.

Permit Condition 2.3 forbids the use of emission decreases from the boiler conversion project in netting calculations under the PSD regulatory program. Because facility-wide emission reductions resulting from the conversion of facility boilers to natural gas firing only have been used in this permitting action Addressing historical modifications, these reductions cannot otherwise be used to offset emissions in future permitting projects (40 CFR 52.21.b(3)(iii)(a)). Emission reductions represent a "compliance netting" of past excess/surplus emissions that were not explicitly permitted in prior permitting actions. Refer to the analysis and discussion of historical lookback facility-wide emissions in the Emission Inventories section for additional information concerning this permit condition.

Permit Condition 2.4 provides for the incorporation of any NSPS or NESHAP standards into the permit.

Permit Condition 3.1 requires that the permittee comply with all of the permit terms and conditions pursuant to Idaho Code §39-101.

Permit Condition 3.2 requires that the permittee maintain and operate all treatment and control facilities at the facility in accordance with IDAPA 58.01.01.211.

Permit Condition 3.3 specifies that no permit condition is intended to relieve or exempt the permittee from compliance with applicable state and federal requirements, in accordance with IDAPA 58.01.01.212.01.

Permit Condition 3.4 requires that the permittee allow DEQ inspection and entry pursuant to Idaho Code §39-108.

Permit Condition 3.5 specifies that the permit expires if construction has not begun within two years of permit issuance or if construction has been suspended for a year in accordance with IDAPA 58.01.01.211.02.

Permit Condition 3.6 requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.03.

Permit Condition 3.7 requires that the permittee notify DEQ at least 15 days prior to any performance test to provide DEQ the option to have an observer present, in accordance with IDAPA 58.01.01.157.03.

Permit Condition 3.8 requires that any performance testing be conducted in accordance with the procedures of IDAPA 58.01.01.157, and encourages the permittee to submit a protocol to DEQ for approval prior to testing.

Permit Condition 3.9 requires that the permittee report any performance test results to DEQ within 30 days of completion, in accordance with IDAPA 58.01.01.157.04-05.

Permit Condition 3.10 requires that the permittee maintain sufficient records to ensure compliance with permit conditions, in accordance with IDAPA 58.01.01.211.

Permit Condition 3.11 requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130-136.

Permit Condition 3.12 requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123.

Permit Condition 3.13 requires that no person make false statements, representations, or certifications, in accordance with IDAPA 58.01.01.125.

Permit Condition 3.14 requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126.

Permit Condition 3.15 specifies that this permit to construct is transferable, in accordance with the procedures of IDAPA 58.01.01.209.06.

Permit Condition 3.16 specifies that permit conditions are severable, in accordance with IDAPA 58.01.01.211.

PUBLIC REVIEW

Public Comment Period

As required by IDAPA 58.01.01.364, a public comment and affected states review period was made available to the public from September 27 to October 27, 2016. During this time, comments were submitted in response to DEQ's proposed action. A response to public comments document has been crafted by DEQ based on comments submitted during the public comment period. That document is part of the final permit package for this permitting action.

DEQ provided the proposed permit to EPA Region10 for its review and comment on November 9, 2016 via e-mail.

APPENDIX A – EMISSIONS INVENTORIES

No. 1 & No. 2 B&W Boilers Natural Gas Firing Only Project
Nampa Facility

PROJECTED ACTUAL EMISSIONS *or* PTE FOR PROJECTED ACTUAL EMISSIONS

Emissions Unit	PM[a]	SO_2	NO_x	CO	VOC	LEAD	SULFURIC ACID
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources							
B&W Boilers - Natural Gas Firing	12.5	0.66	348	27.6	6.07	5.09E-04	0
Total Projected Actual Emissions	12.5	0.66	348	27.6	6.07		

BASELINE ACTUAL EMISSIONS

Emissions Unit	PM[a]	SO_2	NO_x	CO	VOC	LEAD	SULFURIC ACID
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources							
No. 1 B&W Boiler - Coal Firing	9.1	339.2	209	28	0.82	5.60E-03	4.55
No. 1 B&W Boiler - Coal Firing	10.3	382.9	236	31	0.93	5.60E-03	4.55
Total Baseline Actual Emissions	19.4	722.1	445	59	1.75	0.0112	9.1

COMPARISON OF THE PROJECT EMISSIONS INCREASE TO THE SIGNIFICANT EMISSIONS RATE THRESHOLDS

Emissions Unit	PM[a]	SO_2	NO_x	CO	VOC	LEAD	SULFURIC ACID
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Project Emissions Increase	-6.9	-721.44	-97	-31.4	4.32	-1.07E-02	-9.1
PSD Significance Emission Rate (SER) *See 40 CFR 52.21(b)(23)*	15	40	40	100	40	0.6	7
Does the Project Emissions Increase Exceed the Significant Emissions Rate Threshold?	No	No	No	No	No	No	No

[a] PM, PM10, PM2.5

PROJECTED ACTUAL EMISSIONS *or* PTE FOR PROJECTED ACTUAL EMISSIONS

Emissions Unit	CO_2	CH_4	N_20	CO_2e
	T/yr	T/yr	T/yr	T/yr
Point Sources				
B&W Boiler - Natural Gas Firing	133371	2.6	0.26	133512
Total Projected Actual Emissions	133371	2.6	0.26	133512

BASELINE ACTUAL EMISSIONS

Emissions Unit	CO_2	CH_4	N_20	CO_2e
	T/yr	T/yr	T/yr	T/yr
Point Sources				
No. 1 B&W Boiler - Coal Firing	50953	5.7	0.83	51342
No. 1 B&W Boiler - Coal Firing	57685	6.4	0.94	58124
Total Baseline Actual Emissions	108638	12.1	1.77	109466

COMPARISON OF THE PROJECT EMISSIONS INCREASE TO THE SIGNIFICANT EMISSIONS RATE THRESHOLDS

Emissions Unit	CO_2	CH_4	N_20	CO_2e
	T/yr	T/yr	T/yr	T/yr
Project Emissions Increase	24733	-9.5	-1.51	24046
PSD Significance Emission Rate (SER) *See 40 CFR 52.21(b)(23)*	NA	NA	NA	75000
Does the Project Emissions Increase Exceed the Significant Emissions Rate Threshold?	NA	NA	NA	No

[a] PM, PM10, PM2.5

PRE- AND POST PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY
POTENTIAL TO EMIT
No. 1 & No. 2 B & W Boilers Natural Gas Only Project
Nampa Facility

Non-Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project [a] 24-hour Average Emissions Rates for Units at the Facility (lb/h)	Post-Project [b] 24-hour Average Emissions Rates for Units at the Facility (lb/h)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/h)	Non-Carcinogenic Screening Emission Level (lb/h)	Exceeds Screening Level? (Y/N)
Acetophenone	2.08E-04		-2.08E-04	none	NO
Acrolein	4.02E-03		-4.02E-03	1.70E-02	NO
Antimony	2.50E-04		-2.50E-04	3.30E-02	NO
Barium	5.34E-01	1.18E-03	-5.33E-01	3.30E-02	NO
Benzyl Chloride	9.71E-03		-9.71E-03	none	NO
Carbon Disulfide	1.80E-03		-1.80E-03	2.00E+00	NO
2-chloroacetophenone	9.71E-05		-9.71E-05	2.10E-02	NO
Chlorobenzene	3.05E-04		-3.05E-04	2.33E+01	NO
Chromium (total)	3.99E-03	3.77E-04	-3.61E-03	3.30E-02	NO
Cobalt	1.41E-03	2.26E-05	-1.39E-03	3.30E-03	NO
Cumene	7.36E-05		-7.36E-05	1.63E+01	NO
Cyanide	3.47E-02		-3.47E-02	3.33E-01	NO
Dichlorobenzene	3.23E-04	3.23E-04	0.00E+00	3.00E+01	NO
2,4-Dinitrotoluene	3.89E-06		-3.89E-06	none	NO
Dimethyl Sulfate	6.66E-04		-6.66E-04	none	NO
Ethyl Benzene	1.30E-03		-1.30E-03	2.90E+01	NO
Ethyl Chloride	5.83E-04		-5.83E-04	1.76E+02	NO
Ehtylene Dichloride	5.55E-04		-5.55E-04	2.67E+00	NO
Fluorides, as F	8.33E-02		-8.33E-02	1.67E-01	NO
Hexane	4.86E-01	4.85E-01	-9.30E-04	1.20E+01	NO
Hydrogen Chloride	2.60E-01		-2.60E-01	5.00E-02	NO
Hydrogen Fluoride	9.77E-01		-9.77E-01	none	NO
Isophorone	8.05E-03		-8.05E-03	1.87E+00	NO
Lead	5.96E-03	1.35E-04	-5.83E-03	none	NO
Magnesium	1.53E-01		-1.53E-01	6.67E-01	NO
Manganese	6.90E-03	1.02E-04	-6.80E-03	3.33E-01	NO
Mercury	1.22E-03	7.00E-05	-1.15E-03	none	NO
Methyl Bromide	2.22E-03		-2.22E-03	1.27E+00	NO
Methyl Chloride	7.36E-03		-7.36E-03	6.87E+00	NO
Methyl Ethyl Ketone	5.41E-03		-5.41E-03	3.93E+01	NO
Methyl Methacylate	2.78E-04		-2.78E-04	2.73E+01	NO
Methyl Tert Butyl Ether	4.86E-04		-4.86E-04	none	NO
Napthalene	0.00E+00		0.00E+00	3.33E+00	NO
Pentane	7.00E-01	7.00E-01	0.00E+00	1.18E+02	NO
Phenol	2.22E-04		-2.22E-04	1.27E+00	NO
Propionaldehyde	5.27E-03		-5.27E-03	2.87E-02	NO
Selenium	1.80E-02	6.46E-06	-1.80E-02	1.30E-02	NO
Styrene	3.47E-04		-3.47E-04	6.67E+00	NO
Sulfuric Acid	4.77E+00		-4.77E+00		NO
Toluene	4.25E-03	9.15E-04	-3.33E-03	2.50E+01	NO
Xylene (total)	5.13E-04		-5.13E-04	2.90E+01	NO
Vinyl Acetate	1.05E-04		-1.05E-04	none	NO

[a] Coal Fired

[b] Natural Gas Fired

PRE- AND POST PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY
POTENTIAL TO EMIT

Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project [a] 24-hour Average Emissions Rates for Units at the Facility (lb/h)	Post-Project [b] 24-hour Average Emissions Rates for Units at the Facility (lb/h)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/h)	Carcinogenic Screening Emission Level (lb/h)	Exceeds Screening Level? (Y/N)
Acetaldehyde	7.91E-03		-7.91E-03	3.00E-03	NO
Arsenic Compounds	5.74E-03	5.38E-05	-5.69E-03	1.50E-06	NO
Benzene	1.86E-02	5.65E-04	-1.80E-02	8.00E-04	NO
Beryllium Compounds	2.95E-04	3.23E-06	-2.91E-04	2.80E-05	NO
Bis (2-ethylhexyl) phthalate	1.01E-03		-1.01E-03	2.80E-02	NO
Cadmium Compounds	1.00E-03	2.96E-04	-7.08E-04	3.70E-06	NO
Chloroform	8.19E-04		-8.19E-04	2.80E-04	NO
Chromium 6+ Compounds	1.47E-03	3.77E-04	-1.10E-03	5.60E-07	NO
Ethylene Dibromide	1.67E-05		-1.67E-05	3.00E-05	NO
Formaldehyde	2.35E-02	2.02E-02	-3.33E-03	5.10E-04	NO
Methyl Hydrazine	2.36E-03		-2.36E-03	2.20E-05	NO
Methylene Chloride	4.02E-03		-4.02E-03	1.60E-03	NO
Nickel	4.45E-03	5.65E-04	-3.89E-03	2.70E-05	NO.
PAHs	2.89E-04		-2.89E-04	9.10E-05	NO
POM	2.24E-05	2.24E-05	0.00E+00	9.10E-05	NO
Tetrachloroethylene	5.97E-04		-5.97E-04	1.30E-02	NO
1,1,1 - Trichloroethane	2.78E-04		-2.78E-04	4.20E-04	NO

[a] Coal Fired

[b] Natural Gas Fired

SUMMARY OF FACILITY-WIDE PROJECTED EMISSIONS
Nampa Facility

Emissions Unit	PM[a]	SO_2	NO_x	CO	VOC	CO_2	CH_4	N_2O	CO_2e
	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

B&W Boiler Natural Gas Conversion Project
2006-2007 Baseline Emissions vs Future Projected Emissions
The Amalgamated Sugar Co. LLC
Nampa Facility

Stack & ID	PM[a]		NOx		SO2		CO		VOC	
	(lbs/h)	(tons/y)	(lbs/h)	(tons/y)	(lbs/h)	(tons/y)	(lbs/h)	(tons/y)	(lbs/h)	(tons/y)
No. 1 B&W Boiler - Baseline	6.5	9.1	155	209	189	339	18.6	27.8	1.13	0.82
No. 2 B&W Boiler - Baseline	6.5	10.3	155	236	189	383	18.6	31.5	1.13	0.93
No. 1 & 2 B&W Boilers -Future	2.9	12.5	79.4	348	0.15	0.66	6.3	27.6	1.39	6.07
Net Change	-10.1	-6.9	-231	-97.6	-378	-721	-30.9	-31.7	-0.9	4.3

[a] PM, PM10 and PM2.5

B&W Boiler Natural Gas Conversion Project
2006-2007 Baseline Emissions vs Future Projected Emissions
GHG Net Emissions Summary
Nampa Facility

Source	CO_2 (tons/y)	CH_4 (tons/y)	N_2O (tons/y)	CO_2e (tons/y)
No. 1 B&W Boiler - Baseline	50953	5.7	0.8	51342
No. 2 B&W Boiler - Baseline	57685	6.4	0.9	58124
No. 1 & No. 2 B&W Boilers - Future	133371	3	0.3	133512
Net Change	24733	-9	-2	24046

B&W Boiler Natural Gas Conversion Project
GHG Emissions Estimates
2006-2007 Baseline Emissions (Coal)
The Amalgamated Sugar Co. LLC
Nampa Facility

Source Name	Source ID	Annual	Units	Parameter	Factor	Emissions Units	Reference	Annual Emissions (tons/y)
No. 1 B&W Boiler Coal	S-B1	376882	klbs steam - coal	CO_2	267	lbs/klb steam	40CFR98 Subpart C Table C-1	50314
		376882	klbs steam - coal	CH_4	0.03	lbs/klb steam	40CFR98 Subpart C Table C-2	5.7
		376882	klbs steam - coal	N_2O	0.0044	lbs/klb steam	40CFR98 Subpart C Table C-2	0.8
							Total	50320
No. 1 B&W Boiler - Natural Gas	S-B1	8,817	klbs steam - gas	CO_2	145	lbs/klb steam	40CFR98 Subpart C Table C-1	639
		8,817	klbs steam - gas	CH_4	0.0028	lbs/klb steam	40CFR98 Subpart C Table C-2	0.01
		8,817	klbs steam - gas	N_2O	0.00028	lbs/klb steam	40CFR98 Subpart C Table C-2	0.001
							Total	639

Source Name	Source ID	Annual	Units	Parameter	Factor	Emissions Units	Reference	Annual Emissions (tons/y)
No. 2 B&W Boiler Coal	S-B2	425405	klbs steam - coal	CO_2	267	lbs/klb steam	40CFR98 Subpart C Table C-1	56792
		425405	klbs steam - coal	CH_4	0.03	lbs/klb steam	40CFR98 Subpart C Table C-2	6.4
		425405	klbs steam - coal	N_2O	0.0044	lbs/klb steam	40CFR98 Subpart C Table C-2	0.9
							Total	56799
No. 2 B&W Boiler Natural Gas	S-B2	12,320	klbs steam - gas	CO_2	145	lbs/klb steam	40CFR98 Subpart C Table C-1	893
		12,320	klbs steam - gas	CH_4	0.0028	lbs/klb steam	40CFR98 Subpart C Table C-2	0.02
		12,320	klbs steam - gas	N_2O	0.00028	lbs/klb steam	40CFR98 Subpart C Table C-2	0.002
							Total	893

B&W Boiler Natural Gas Conversion Project
GHG Emissions Estimates
Future Projected Emissions (Natural Gas)
The Amalgamated Sugar Co. LLC
Nampa Facility

Source Name	Source ID	Annual	Units	Parameter	Factor	Emissions Units	Reference	Annual Emissions (tons/y)
B&W No. 1 Boiler - Natural Gas	S-B1	919,800	klbs steam - gas	CO_2	145	lbs/klb steam	40CFR98 Subpart C Table C-1	66686
		919,800	klbs steam - gas	CH_4	0.0028	lbs/klb steam	40CFR98 Subpart C Table C-2	1.3
		919,800	klbs steam - gas	N_2O	0.00028	lbs/klb steam	40CFR98 Subpart C Table C-2	0.13
							Total	66687
B&W No.2 Boiler - Natural Gas	S-B2	919,800	klbs steam - gas	CO_2	145	lbs/klb steam	40CFR98 Subpart C Table C-1	66686
		919,800	klbs steam - gas	CH_4	0.0028	lbs/klb steam	40CFR98 Subpart C Table C-2	1.3
		919,800	klbs steam - gas	N_2O	0.00028	lbs/klb steam	40CFR98 Subpart C Table C-2	0.13
							Total	66687

No. 1 & No. 2 B&W Boilers Natural Gas Only Project
HAPs & TAPs Emissions Estimates
Nampa Facility

	B&W Boiler - Baseline							B&W Boiler - Projected						Total						
	Coal			Natural Gas				Coal			Natural Gas									
	EF	Annual Emissions	Hourly Emissions	EF	Annual Emissions	Hourly Emissions	Total Hourly Emissions	EF	Annual Emissions	Hourly Emissions	EF	Annual Emissions	Hourly Emissions	Total Hourly Emissions	Net Change Hourly Emissions	TAPs Screening Level	Exceeds Screening Level?	AAC	Modeled[3] Conc	Exceeds AAC or AACC?
Non Carcinogens	lbs/klb	lbs/y	lbs/h	lbs/klb	lbs/y	lbs/h		lbs/klb	lbs/y	lbs/h	lbs/klb	lbs/y	lbs/h			(lb/h)		(mg/m3)		
Acetophenone	9.91E-07	7.95E-01	2.1E-04				2.1E-04	9.91E-07	0.00E+00	0.0E+00				0.00E+00	-2.08E-04	none	No	none		
Acrolein	1.92E-05	1.54E+01	4.0E-03				4.0E-03	1.92E-05	0.00E+00	0.0E+00				0.00E+00	-4.02E-03	0.017	No	0.0125		
Antimony	1.19E-06	9.54E-01	2.5E-04				2.5E-04	1.19E-06	0.00E+00	0.0E+00				0.00E+00	-2.50E-04	0.033	No	0.025		
Barium	2.54E-03		5.3E-01	5.64E-06	1.19E-01	1.18E-03	5.3E-01	2.54E-03			5.64E-06	1.04E+01	1.18E-03	1.18E-03	-5.33E-01	0.033	No	0.025		
Benzyl Chloride	4.63E-05	3.71E+01	9.7E-03				9.7E-03	4.63E-05	0.00E+00	0.0E+00				0.00E+00	-9.71E-03	none	No	none		
Carbon Disulfide	8.59E-06	6.89E+00	1.8E-03				1.8E-03	8.59E-06	0.00E+00	0.0E+00				0.00E+00	-1.80E-03	2	No	1.5		
2-Chloroacetophenone	4.63E-07	3.71E-01	9.7E-05				9.7E-05	4.63E-07	0.00E+00	0.0E+00				0.00E+00	-9.71E-05	0.021	No	0.016		
Chlorobenzene	1.45E-06	1.17E+00	3.1E-04				3.1E-04	1.45E-06	0.00E+00	0.0E+00				0.00E+00	-3.05E-04	23.3	No	17.5		
Chromium (total)	1.72E-05	1.38E+01	3.6E-03	1.79E-06	3.79E-02	3.77E-04	4.0E-03	1.72E-05	0.00E+00	0.0E+00	1.79E-06	3.30E+00	3.77E-04	3.77E-04	-3.61E-03	0.033	No	0.025		
Cobalt	6.61E-06	5.30E+00	1.4E-03	1.08E-07	2.28E-03	2.26E-05	1.4E-03	6.61E-06	0.00E+00	0.0E+00	1.08E-07	1.98E-01	2.26E-05	2.26E-05	-1.39E-03	0.0033	No	0.0025		
Cumene	3.50E-07	2.81E-01	7.4E-05				7.4E-05	3.50E-07	0.00E+00	0.0E+00				0.00E+00	-7.36E-05	1.63E+01	No	12.25		
Cyanide	1.65E-04	1.33E+02	3.5E-02				3.5E-02	1.65E-04	0.00E+00	0.0E+00				0.00E+00	-3.47E-02	3.33E-01	No	0.25		
Dichlorobenzene	0.00E+00		0.0E+00	1.54E-06	3.25E-02	3.23E-04	3.2E-04	0.00E+00			1.54E-06	2.83E+00	3.23E-04	3.23E-04	0.00E+00	3.00E+01	No	15		
2,4-Dinitrotoluene	1.85E-08	1.48E-02	3.9E-06				3.9E-06	1.85E-08	0.00E+00	0.0E+00				0.00E+00	-3.89E-06	none	No	none		
Dimethyl Sulfate	3.17E-06	2.54E+00	6.7E-04				6.7E-04	3.17E-06	0.00E+00	0.0E+00				0.00E+00	-6.66E-04	none	No	none		
Ethyl Benzene	6.21E-06	4.98E+00	1.3E-03				1.3E-03	6.21E-06	0.00E+00	0.0E+00				0.00E+00	-1.30E-03	29	No	21.75		
Ethyl Chloride	2.78E-06	2.23E+00	5.8E-04				5.8E-04	2.78E-06	0.00E+00	0.0E+00				0.00E+00	-5.83E-04	176	No	132		
Ehtylene Dichloride	2.64E-06	2.12E+00	5.6E-04				5.6E-04	2.64E-06	0.00E+00	0.0E+00				0.00E+00	-5.55E-04	2.667	No	2		
Fluorides, as F	3.97E-04	3.18E+02	8.3E-02				8.3E-02	3.97E-04	0.00E+00	0.0E+00				0.00E+00	-8.33E-02	0.167	No	0.125		
Hexane	4.43E-06	3.55E+00	9.3E-04	2.31E-03	4.88E+01	4.85E-01	4.9E-01	4.43E-06	0.00E+00	0.0E+00	2.31E-03	4.25E+03	4.85E-01	4.85E-01	-9.30E-04	12	No	9		
Hydrogen Chloride	1.24E-03	9.91E+02	2.6E-01				2.6E-01	1.24E-03	0.00E+00	0.0E+00				0.00E+00	-2.60E-01	0.05	No	0.375		
Hydrogen Fluoride	4.65E-03		9.8E-01				9.8E-01	4.65E-03		0.0E+00				0.00E+00	-9.77E-01	none		none		
Isophorone	3.83E-05	3.08E+01	8.0E-03				8.0E-03	3.83E-05	0.00E+00	0.0E+00				0.00E+00	-8.05E-03	1.867	No	1.4		
Lead	2.78E-05	2.23E+01	5.8E-03	6.41E-07	1.35E-02	1.35E-04	6.0E-03	2.78E-05	0.00E+00	0.0E+00	6.41E-07	1.18E+00	1.35E-04	1.35E-04	-5.83E-03	none	No	none		
Magnesium	7.27E-04	5.83E+02	1.5E-01				1.5E-01	7.27E-04	0.00E+00	0.0E+00				0.00E+00	-1.53E-01	0.667	No	0.5		
Manganese	3.24E-05	2.60E+01	6.8E-03	4.87E-07	1.03E-02	1.02E-04	6.9E-03	3.24E-05	0.00E+00	0.0E+00	4.87E-07	8.96E-01	1.02E-04	1.02E-04	-6.80E-03	0.333	No	0.25		
Mercury	5.49E-06	4.40E+00	1.2E-03	3.33E-07	7.05E-03	7.00E-05	1.2E-03	5.49E-06	0.00E+00	0.0E+00	3.33E-07	6.13E-01	7.00E-05	7.00E-05	-1.15E-03	none	No	none		
Methyl Bromide	1.06E-05	8.48E+00	2.2E-03				2.2E-03	1.06E-05	0.00E+00	0.0E+00				0.00E+00	-2.22E-03	1.27	No	0.95		
Methyl Chloride	3.50E-05	2.81E+01	7.4E-03				7.4E-03	3.50E-05	0.00E+00	0.0E+00				0.00E+00	-7.36E-03	6.867	No	5.15		
Methyl Ethyl Ketone	2.58E-05	2.07E+01	5.4E-03				5.4E-03	2.58E-05	0.00E+00	0.0E+00				0.00E+00	-5.41E-03	39.3	No	29.5		
Methyl Methacylate	1.32E-06	1.06E+00	2.8E-04				2.8E-04	1.32E-06	0.00E+00	0.0E+00				0.00E+00	-2.78E-04	27.3	No	20.5		
Methyl Tert Butyl Ether	2.31E-06	1.86E+00	4.9E-04				4.9E-04	2.31E-06	0.00E+00	0.0E+00				0.00E+00	-4.86E-04	none	No	none		
Napthalene	0.00E+00	0.00E+00	0.0E+00				0.0E+00	0.00E+00	0.00E+00	0.0E+00				0.00E+00	0.00E+00	3.33	No	2.5		
Pentane	0.00E+00		0.0E+00	3.33E-03	7.05E+01	7.00E-01	7.0E-01	0.00E+00			3.33E-03	6.13E+03	7.00E-01	7.00E-01	0.00E+00	118	No	88.5		
Phenol	1.06E-06	8.48E-01	2.2E-04				2.2E-04	1.06E-06	0.00E+00	0.0E+00				0.00E+00	-2.22E-04	1.27	No	0.95		
Propionaldehyde	2.51E-05	2.01E+01	5.3E-03				5.3E-03	2.51E-05	0.00E+00	0.0E+00				0.00E+00	-5.27E-03	0.0287	No	0.0215		
Selenium	8.59E-05	6.89E+01	1.8E-02	3.08E-08	6.50E-04	6.46E-06	1.8E-02	8.59E-05	0.00E+00	0.0E+00	3.08E-08	5.66E-02	6.46E-06	6.46E-06	-1.80E-02	0.013	No	0.01		
Styrene	1.65E-06	1.33E+00	3.5E-04				3.5E-04	1.65E-06	0.00E+00	0.0E+00				0.00E+00	-3.47E-04	6.67E+00	No	1		
Sulfuric Acid	2.27E-02	1.82E+04	4.8E+00				4.8E+00	2.27E-02	0.00E+00	0.0E+00				0.00E+00	-4.77E+00		No			
Toluene	1.59E-05	1.27E+01	3.3E-03	4.36E-06	9.21E-02	9.15E-04	4.2E-03	1.59E-05	0.00E+00	0.0E+00	4.36E-06	8.02E+00	9.15E-04	9.15E-04	-3.33E-03	25	No	18.75		
Xylene (total)	2.45E-06	1.96E+00	5.1E-04				5.1E-04	2.45E-06	0.00E+00	0.0E+00				0.00E+00	-5.13E-04	29	No	21.75		
Vinyl Acetate	5.02E-07	4.03E-01	1.1E-04				1.1E-04	5.02E-07	0.00E+00	0.0E+00				0.00E+00	-1.05E-04	none	No	none		
Compounds - Carcinogens																		AACC (ug/m³)		
Acetaldehyde	3.77E-05	3.02E+01	7.9E-03				7.9E-03	3.77E-05	0.00E+00	0.0E+00				0.00E+00	-7.91E-03	3.00E-03	No	4.50E-01		
Arsenic Compounds	2.71E-05	2.17E+01	5.7E-03	2.56E-07	5.42E-03	5.38E-05	5.7E-03	2.71E-05	0.00E+00	0.0E+00	2.56E-07	4.72E-01	5.38E-05	5.38E-05	-5.69E-03	1.50E-06	No	2.30E-04		
Benzene	8.59E-05	6.89E+01	1.8E-02	2.69E-06	5.69E-02	5.65E-04	1.9E-02	8.59E-05	0.00E+00	0.0E+00	2.69E-06	4.95E+00	5.65E-04	5.65E-04	-1.80E-02	8.00E-04	No	1.20E-01		
Beryllium Compounds	1.39E-06	1.11E+00	2.9E-04	1.54E-08	3.25E-04	3.23E-06	2.9E-04	1.39E-06	0.00E+00	0.0E+00	1.54E-08	2.83E-02	3.23E-06	3.23E-06	-2.91E-04	2.80E-05	No	4.20E-03		
Bis (2-ethylhexyl) phthalate	4.82E-06	3.87E+00	1.0E-03				1.0E-03	4.82E-06	0.00E+00	0.0E+00				0.00E+00	-1.01E-03	2.80E-02	No	4.20E+00		
Cadmium Compounds	3.37E-06	2.70E+00	7.1E-04	1.41E-06	2.98E-02	2.96E-04	1.0E-03	3.37E-06	0.00E+00	0.0E+00	1.41E-06	2.59E+00	2.96E-04	2.96E-04	-7.08E-04	3.70E-06	No	5.60E-04		
Chloroform	3.90E-06	3.13E+00	8.2E-04				8.2E-04	3.90E-06	0.00E+00	0.0E+00				0.00E+00	-8.19E-04	2.80E-04	No	4.30E-02		
Chromium 6+ Compounds	5.22E-06	4.19E+00	1.1E-03	1.79E-06	3.79E-02	3.77E-04	1.5E-03	5.22E-06	0.00E+00	0.0E+00	1.79E-06	3.30E+00	3.77E-04	3.77E-04	-1.10E-03	5.60E-07	No	8.30E-05		
Ethylene Dibromide	7.93E-08	6.36E-02	1.7E-05				1.7E-05	7.93E-08	0.00E+00	0.0E+00				0.00E+00	-1.67E-05	3.00E-05	No	4.50E-03		
Formaldehyde	1.59E-05	1.27E+01	3.3E-03	9.62E-05	2.03E+00	2.02E-02	2.4E-02	1.59E-05	0.00E+00	0.0E+00	9.62E-05	1.77E+02	2.02E-02	2.02E-02	-3.33E-03	5.10E-04	No	7.70E-02		
Methyl Hydrazine	1.12E-05	9.01E+00	2.4E-03				2.4E-03	1.12E-05	0.00E+00	0.0E+00				0.00E+00	-2.36E-03	2.20E-05	No	3.20E-03		
Methylene Chloride	1.92E-05	1.54E+01	4.0E-03				4.0E-03	1.92E-05	0.00E+00	0.0E+00				0.00E+00	-4.02E-03	1.60E-03	No	2.40E-01		
Nickel	1.85E-05	1.48E+01	3.9E-03	2.69E-06	5.69E-02	5.65E-04	4.5E-03	1.85E-05	0.00E+00	0.0E+00	2.69E-06	4.95E+00	5.65E-04	5.65E-04	-3.89E-03	2.70E-05	No	4.20E-03		
PAHs	1.37E-06	1.10E+00	2.9E-04				2.9E-04	1.37E-06	0.00E+00	0.0E+00				0.00E+00	-2.89E-04	9.10E-05	No	1.40E-02		
POM				1.07E-07	2.25E-03	2.24E-05	2.2E-05				1.07E-07	1.96E-01	2.24E-05	2.24E-05	0.00E+00	9.10E-05	No			
Tetrachloroethylene	2.84E-06	2.28E+00	6.0E-04				6.0E-04	2.84E-06	0.00E+00	0.0E+00				0.00E+00	-5.97E-04	1.30E-02	No			
1,1,1 - Trichloroethane	1.32E-06	1.06E+00	2.8E-04				2.8E-04	1.32E-06	0.00E+00	0.0E+00				0.00E+00	-2.78E-04	4.20E-04	No			

AAC : Acceptable Ambient Concentrations for non-carcinogens (IDAPA 58.01.01.585)
AACC : Acceptable Ambient Concentrations for Carcinogens (IDAPA 58.01.01.586)

2006/2007 Baseline

Source	Material	Units	Max Hourly	Annual
B&W Boiler - Coal	Steam	klbs	210	802,287
B&W Boiler - Nat. Gas	Steam	klbs	210	21,137

Projected

Source	Material	Units	Max Hourly	Annual
B&W Boiler - Coal	Steam	klbs	0	0
B&W Boiler(Gas)	Steam	klbs	210	1,839,600

B&W Boiler
Estimated TAP's Emissions Factors
Coal Combustion (lbs per klb steam)
Nampa Facility

Non Carcinogens	Type	Reference	Type	Uncontrolled EF (lbs/ton coal)	Controlled EF (lbs/klbs steam)
Acetophenone	HAP	a	VOC	1.50E-05	9.91E-07
Acrolein	HAP/TAP	a	VOC	2.90E-04	1.92E-05
Antimony	TAP	b	Trace Metal	1.80E-05	1.19E-06
Barium	TAP	c	Trace Metal	3.84E-02	2.54E-03
Benzyl Chloride	HAP	a	VOC	7.00E-04	4.63E-05
Carbon Disulfide	HAP/TAP	a	VOC	1.30E-04	8.59E-06
2-Chloroacetophenone	HAP/TAP	a	VOC	7.00E-06	4.63E-07
Chlorobenzene	HAP/TAP	a	VOC	2.20E-05	1.45E-06
Chromium (total)	HAP/TAP	b	Trace Metal	2.60E-04	1.72E-05
Cobalt	HAP/TAP	b	Trace Metal	1.00E-04	6.61E-06
Cumene	HAP/TAP	b	Trace Metal	5.30E-06	3.50E-07
Cyanide	HAP/TAP			2.50E-03	1.65E-04
2,4-Dinitrotoluene	HAP	a	VOC	2.80E-07	1.85E-08
Dimethyl Sulfate	HAP	a	VOC	4.80E-05	3.17E-06
Ethyl Benzene	HAP/TAP	a	VOC	9.40E-05	6.21E-06
Ethyl Chloride	HAP/TAP	a	VOC	4.20E-05	2.78E-06
Ethylene Dichloride	HAP/TAP	a	VOC	4.00E-05	2.64E-06
Flourides, as F	TAP	d		6.00E-03	3.97E-04
Hexane	HAP/TAP	a	VOC	6.70E-05	4.43E-06
Hydrogen Chloride	HAP/TAP	d		1.87E-02	1.24E-03
Hydrogen Fluoride	HAP	d		7.04E-02	4.65E-03
Isophorone	HAP/TAP	a	VOC	5.80E-04	3.83E-05
Lead	HAP	b	Trace Metal	4.20E-04	2.78E-05
Magnesium	NA	b	Trace Metal	1.10E-02	7.27E-04
Manganese	HAP/TAP	b	Trace Metal	4.90E-04	3.24E-05
Mercury	HAP	b	Trace Metal	8.30E-05	5.49E-06
Methyl Bromide	HAP/TAP	a	VOC	1.60E-04	1.06E-05
Methyl Chloride	HAP/TAP	a	VOC	5.30E-04	3.50E-05
Methyl Ethyl Ketone	HAP/TAP	a	VOC	3.90E-04	2.58E-05
Methyl Methacylate	HAP/TAP	a	VOC	2.00E-05	1.32E-06
Methyl Tert Butyl Ether	HAP	a	VOC	3.50E-05	2.31E-06
Napthalene is included in the PAH factors.					
Phenol	HAP/TAP	a	VOC	1.60E-05	1.06E-06
Propionaldehyde	HAP/TAP	a	VOC	3.80E-04	2.51E-05
Selenium	HAP/TAP	b	Trace Metal	1.30E-03	8.59E-05
Styrene	HAP/TAP	a	VOC	2.50E-05	1.65E-06
Sulfuric Acid	TAP	e		3.44E-01	2.27E-02
Toluene	HAP/TAP	a	VOC	2.40E-04	1.59E-05
Xylene (total)	HAP	a	VOC	3.70E-05	2.45E-06
Vinyl Acetate	HAP/TAP	a	VOC	7.60E-06	5.02E-07
Compounds - Carcinogens					
Acetaldehyde	HAP/TAP	a	VOC	5.70E-04	3.77E-05
Arsenic Compounds	HAP/TAP	b	Trace Metal	4.10E-04	2.71E-05
Benzene	HAP/TAP	a	VOC	1.30E-03	8.59E-05
Beryllium Compounds	HAP/TAP	b	Trace Metal	2.10E-05	1.39E-06
Bis(2-ethylhexyl)phthalate	HAP/TAP	a	VOC	7.30E-05	4.82E-06
Cadmium Compounds	HAP/TAP	b	Trace Metal	5.10E-05	3.37E-06
Chloroform	HAP/TAP	a	VOC	5.90E-05	3.90E-06
Chromium 6+ compounds	HAP/TAP	b	Trace Metal	7.90E-05	5.22E-06
Ethylene Dibromide	HAP	a	VOC	1.20E-06	7.93E-08
Formaldehyde	HAP/TAP	a	VOC	2.40E-04	1.59E-05
Methyl Hydrazine	HAP/TAP	a	VOC	1.70E-04	1.12E-05
Methylene Chloride	HAP/TAP	a	VOC	2.90E-04	1.92E-05
Nickel	HAP/TAP	b	Trace Metal	2.80E-04	1.85E-05
PAHs	TAP	f	VOC	2.08E-05	1.37E-06
POMs in coal do not have an AP 42 factor. They are represented by PAHs					
Tetrachloroethylene	HAP/TAP	a	VOC	4.30E-05	2.84E-06
1,1,1 - Trichloroethane	HAP/TAP	a	VOC	2.00E-05	1.32E-06
				Total (Coal) EF	3.31E-02

a. AP-42, Table 1.1-14 Emissions Factors for Various Organic Compounds from Controlled Combustion
b. AP-42, Table 1.1-18 Emissions Factors for Trace Metals from Controlled Combustion
c Mass balance, USGS data and 80% emissions control.
d. Title V Permit Application & USGS Data
e. Eng. Stack Test
f. AP-42, Table 1.1-13 Emissions Factors for Polynuclear Aromatic Hydrocarbons (PAH)

Boiler
Estimated TAP's Emissions Factors
Natural Gas Combustion (lbs per klb steam)
Nampa Facility

Non Carcinogens	Type	Reference	Type	EF (lbs/MMcuft)	EF (lbs/klbs steam)
Barium	TAP	a	Trace Metal	4.40E-03	5.64E-06
Chromium (total)	HAP/TAP	a	Trace Metal	1.40E-03	1.79E-06
Cobalt	HAP/TAP	a	Trace Metal	8.40E-05	1.08E-07
Dichlorobenzene	TAP	b	VOC	1.20E-03	1.54E-06
Hexane	HAP/TAP	b	VOC	1.80E+00	2.31E-03
Lead	HAP	c	Trace Metal	5.00E-04	6.41E-07
Manganese	HAP/TAP	a	Trace Metal	3.80E-04	4.87E-07
Mercury	HAP	a	Trace Metal	2.60E-04	3.33E-07
Naphthalene	HAP/TAP	b	VOC	6.10E-04	7.82E-07
Pentane	TAP	b	VOC	2.60E+00	3.33E-03
Selenium	HAP/TAP	a	Trace Metal	2.40E-05	3.08E-08
Toluene	HAP/TAP	b	VOC	3.40E-03	4.36E-06
Compounds - Carcinogens					
Arsenic Compounds	HAP/TAP	a	Trace Metal	2.00E-04	2.56E-07
Benzene	HAP/TAP	b	VOC	2.10E-03	2.69E-06
Beryllium Compounds	HAP/TAP	a	Trace Metal	1.20E-05	1.54E-08
Cadmium Compounds	HAP/TAP	a	Trace Metal	1.10E-03	1.41E-06
Chromium 6+ compounds	HAP/TAP	a	Trace Metal	1.40E-03	1.79E-06
Formaldehyde	HAP/TAP	b	VOC	7.50E-02	9.62E-05
Nickel	HAP/TAP	a	Trace Metal	2.10E-03	2.69E-06
PAHs are not listed in AP42 for natural gas,					
POM	TAP	b	VOC	8.32E-05	1.07E-07
				Total (Natural Gas) EF	5.76E-03

a. AP-42, Table 1.4-4 Emissions Factors for Metals from Natural Gas Combustion
b. AP-42, Table 1.4-3 Emissions Factors for Speciated Organic Compounds from Natural Gas
b. AP-42, Table 1.4-2 Emissions Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion

SUMMARY OF CRITERIA POLLUTANT EMISSIONS
Nampa Facility - 2006/2007

Table I

		PM			PM10			SO2			CO			NOx			VOC		
Source	ID	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr
B&W Boiler No. 1	S-B1	5.0	2.1	9.2	5.0	2.1	9.2	189.0	77.4	339.2	15.4	6.4	28.1	115.5	47.7	208.8	0.4	0.2	0.8
B&W Boiler No. 2	S-B2	5.0	2.4	10.4	5.0	2.4	10.4	189.0	87.4	382.9	15.4	7.3	31.9	115.5	53.9	236.0	0.4	0.2	0.9
Riley Boiler	S-B3	14.3	10.7	46.8	12.4	9.3	40.8	500.0	371.6	1627.4	0.6	0.8	3.5	382.5	296.7	1299.7	2.0	1.5	6.5
Union Boiler	S-B4	1.6	0.3	1.4	1.6	0.3	1.4	0.04	0.01	0.0	6.6	1.3	5.8	7.2	1.4	6.3	0.4	0.1	0.4
South Pulp Dryer	S-D1	29.7	7.4	32.2	29.7	7.4	32.2	7.2	1.8	7.8	281.2	69.6	305.0	75.7	18.7	82.1	1.7	0.4	1.9
Center Pulp Dryer	S-D2	27.8	6.9	30.1	27.8	6.9	30.1	7.2	1.8	7.8	281.2	69.6	305.0	75.7	18.7	82.1	1.7	0.4	1.9
North Pulp Dryer	S-D3	24.4	4.0	17.4	24.4	4.0	17.4	4.2	0.7	3.0	164.4	26.8	117.4	44.2	7.2	31.6	1.0	0.2	0.7
Pellet Cooler Baghouse	S-D9	0.80	0.80	3.50	0.80	0.80	3.50												
Lime Kiln A	S-K1	0.89	0.24	1.04	0.891	0.237	1.04	0.34	0.09	0.41	549.5	145.9	638.9	6.24	1.66	7.25	0.489	0.137	0.598
Lime Kiln B	S-K2	1.04	0.30	1.31	1.035	0.298	1.31	0.39	0.12	0.52	638.3	183.9	805.4	7.25	2.09	9.14	0.565	0.173	0.760
Lime Kiln Material Handling	S-K3	1.10	0.33	1.46	1.10	0.33	1.46												
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																49.9	13.4	58.6
A Side Sulfur Stove	S-O2							2.1	0.6	2.7									
B Side Sulfur Stove	S-O3							2.1	0.6	2.7									
Coal Unloading (Railcar)@Dryer	FD9					0.00E+00	0.00E+00												
Pulp&Pellet Storage and Loadout	FD10					3.36E-03	1.47E-02												
C[illegible]nloading (Railcar)	FO4					7.56E-04	3.31E-03												
Co[illegible] 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	115.3	39.1	171.1	113.4	38.7	169.5	901.6	542.1	2374.4	1952.5	511.7	2241.0	829.8	448.2	1963.0	58.7	16.7	73.1

SUMMARY OF CRITERIA POLLUTANT EMISSIONS - Avg 1979/1980 Emissions
Nampa Facility - Annual Emissions

Table I

Source	ID	PM max lbs/hr	PM avg lbs/h	PM year tns/yr	PM10 max lbs/hr	PM10 avg lbs/h	PM10 year tns/yr
B&W Boiler No. 1	S-B1	5.0	1.4	5.9	5.0	1.4	5.9
B&W Boiler No. 2	S-B2	5.0	1.4	5.9	5.0	1.4	5.9
Riley Boiler	S-B3	14.3	8.1	35.3	12.4	7.1	30.9
Union Boiler	S-B4	1.6	0.0	0.0	1.6	0.0	0.0
South Pulp Dryer	S-D1	40.3	8.2	36.0	40.3	8.2	36.0
Center Pulp Dryer	S-D2	37.7	7.7	33.6	37.7	7.7	33.6
North Pulp Dryer	S-D3	21.8	4.4	19.5	21.8	4.4	19.5
Pellet Cooler Baghouse	S-D9	0.80	0.80	3.50	0.80	0.80	3.50
Lime Kiln A	S-K1	0.89	0.18	0.79	0.891	0.181	0.79
Lime Kiln B	S-K2	1.04	0.21	0.92	1.035	0.210	0.92
Lime Kiln Material Handling	S-K3	1.74	0.36	1.56	1.74	0.36	1.56
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						
Side Sulfur Stove	S-O2						
Side Sulfur Stove	S-O3						
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	133.8	36.4	159.4	132.0	36.4	159.4

Source	ID	SO2 max lbs/hr	SO2 avg lbs/h	SO2 year tns/yr	CO max lbs/hr	CO avg lbs/h	CO year tns/yr	NOx max lbs/hr	NOx avg lbs/h	NOx year tns/yr	VOC max lbs/hr	VOC avg lbs/h	VOC year tns/yr
B&W Boiler No. 1	S-B1	189.0	48.5	212.3	15.4	4.2	18.4	115.5	30.4	133.2	0.4	0.1	0.6
B&W Boiler No. 2	S-B2	189.0	48.5	212.3	15.4	4.2	18.4	115.5	30.4	133.2	0.4	0.1	0.6
Riley Boiler	S-B3	500.0	270.4	1184.2	0.6	1.7	7.5	382.5	253.4	1109.9	2.0	1.2	5.1
Union Boiler	S-B4	0.04	0.00	0.0	6.6	0.0	0.0	7.2	0.0	0.0	0.4	0.0	0.0
South Pulp Dryer	S-D1	9.8	2.0	8.7	381.6	77.8	340.6	102.7	20.9	91.7	2.3	0.5	2.1
Center Pulp Dryer	S-D2	9.8	2.0	8.7	381.6	77.8	340.6	102.7	20.9	91.7	2.3	0.5	2.1
North Pulp Dryer	S-D3	3.8	0.8	3.4	146.8	30.0	131.3	39.5	8.1	35.3	0.9	0.2	0.8
Pellet Cooler Baghouse	S-D9												
Lime Kiln A	S-K1	0.34	0.06	0.28	550.4	111.8	489.7	6.24	1.27	5.55	0.489	0.093	0.409
Lime Kiln B	S-K2	0.39	0.08	0.34	639.4	129.5	567.4	7.25	1.47	6.43	0.565	0.113	0.496
Lime Kiln Material Handling	S-K3												
A & B Process Slakers	S-K4												
Drying Granulator	S-W1												
#1 Cooling Granulator	S-W2												
#2 Cooling Granulator	S-W3												
Sugar Handling(Process)	S-W4												
Sugar Handling(Specialties)	S-W6												
Sugar Handling(Pack Line)	S-W7												
Main Mill	S-O1										30.2	27.1	38.0
Side Sulfur Stove	S-O2	2.1	1.3	3.9									
Side Sulfur Stove	S-O3	2.1	1.3	3.9									
Coal Unloading (Railcar)@Dryer	FD9												
Pulp&Pellet Storage and Loadout	FD10												
Coal Unloading (Railcar)	FO4												
Coal Storage/Loading	FO5O6												
Beet Hauling	FO7												
Vehicle Traffic on Unpaved Roads	FO8												
Lime Rock Handling	FO9												
Coke Handling	FO10												
TOTAL	TOTAL	906.3	374.8	1638.1	2137.7	436.9	1913.8	879.1	366.9	1606.9	40.1	29.9	50.1

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	160 days
Juice Run	205 days
Sep. Only	11 days

		PM			PM10			SO2			CO			NOx			VOC		
Source	ID	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr	max lbs/hr	avg lbs/h	year tns/yr	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 Kiln 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 Kiln 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 Kiln 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												
C[illegible]nloading (Railcar)	FO4					7.56E-04	3.31E-03												
C[illegible]torage/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

2006-2007 Average vs Future

GHG Baseline Emissions Summary
Nampa Facility

Source	CO2 (tons/y)	CH4 (tons/y)	N2O (tons/y)	CO2e (tons/y)
Total - Boilers	334920	37	5.4	337435
Total - Pulp Dryers	67904	5.2	0.8	68262
Total - Lime Kilns	13015	1	0.2	13110
Total	415839	43	6.3	418807

Future Emissions Summary
Nampa Facility

Source	CO2 (tons/y)	CH4 (tons/y)	N2O (tons/y)	CO2e (tons/y)
Total - Boilers	446421	32.0	4.5	446421
Total - Pulp Dryers	0	0	0.0	0
Total - Lime Kilns	16951	1.9	0.3	16951
Total	463372	34	4.8	463372

GHG Net Emissions Summary
Nampa Facility

Source	CO2 (tons/y)	CH4 (tons/y)	N2O (tons/y)	CO2e (tons/y)
Total - Boilers	111501	-5	-0.8	108986
Total - Pulp Dryers	-67904	-5.2	-0.8	-68262
Total - Lime Kilns	3935	1	0.1	3840
Total	47533	-9	-1.5	44565

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

HAP Projected Emissions Nampa Facility

Individual Emissions - Projected

Hazardous Air Pollutant (HAP)	B & W Boiler Coal (tons / year)	B & W Boiler Nat. Gas (tons / year)	Riley Boiler Coal (tons / year)	Riley Boiler Nat. Gas (tons / year)	Union Nat. Gas (tons / year)	Coal Fired Pulp Dryers (tons / year)	Kilns (tons / year)	Main Mill (tons / year)	Constituent Totals (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 Methacylate, 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 August 31, 2016:

Facility Comment: Pg. 4, Table 1.1 Regulated Sources of PTC – For clarification purposes, recommend separating the description for B&W 1 and B&W 2 boilers.

DEQ Response: The requested change has been made.

Facility Comment: Pg. 5, Condition 2.2 and 2.3 of PTC – As discussed in TASCO's August 25, 2016 letter to the Department, the coal delivery systems have already been decommissioned and removed. Therefore, these conditions are unnecessary.

DEQ Response: The permit conditions regarding the coal delivery system and notification were included in the draft PTC provided to TASCO-Nampa on May 6, 2016. Because the coal delivery systems have since been decommissioned and removed and DEQ has been notified in a letter dated August 25, 2016 [TRIM record 2016AAI2326], permit conditions 2.2 and 2.3 in the draft PTC have been removed.

Facility Comment: Pg. 5, Condition 2.5 of PTC – Additional clarifying language is proposed.

DEQ Response: The requested change has been made.

Facility Comment: Pg. 7, Historical Equipment Changes and Modifications of SOB – As shown in the attached redlined document, TASCO proposes to delete a majoring of this section. The 2006/2007 vs. a 1979/1980 NSR baseline comparison does not appear to be covered in 40 CFR 52.21. Appropriate emissions comparisons are discussed in the Emission Inventory Section of the draft SOB (baseline vs. projected emissions).

DEQ Response: DEQ agrees that the 1979/1980 comparison to 2007 emissions is redundant as the emission comparisons for the boiler conversion project and the historical lookback compare essentially the same data. The requested deletion has been made.

Facility Comment: Pg. 11, Emissions Units and Control Equipment of SOB – For clarification purposes, recommend separating the description for B&W 1 and B&W 2 boilers.

DEQ Response: The requested change has been made.

Facility Comment: Appendix A of SOB – Recommend adding subsections to Appendix A consistent with the PTC application.

DEQ Response: Appendix A contains emissions worksheets submitted by the Applicant and verified by DEQ. Subsections are not necessary as the worksheets are clearly defined.

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:	**Amalgamated Sugar (TASCO - Nampa)**
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	988.1	-988.1
SO_2	0.0	757.8	-757.8
CO	16.7	0	16.7
PM10	0.0	55.5	-55.5
VOC	4.2	0	4.2
TAPS/HAPS	0.0	0	0.0
Total:	0.0	1801.4	**-1780.5**
Fee Due	**$ 1,000.00**		

Comments: