

# **Statement of Basis**

**Tier I Operating Permit No. T1-2019.0020**

**Project ID 62215**

**The Amalgamated Sugar Company LLC - Paul**

**Paul, Idaho**

**Facility ID 067-00001**

**Final**

**April 30, 2020**

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

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## 1. ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

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

PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTE	potential to emit
PW	process weight rate
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	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
T1	Tier I operating permit
T2	Tier II operating permit
TAP	toxic air pollutants
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compound

## 2. INTRODUCTION AND APPLICABILITY

The Amalgamated Sugar Company LLC – Paul (TASCO) is a manufacturer of refined granulated sugar, and is located at 50 South 500 West in Paul, Idaho. The facility is classified as a major facility, as defined by IDAPA 58.01.01.008.10.c, because it emits or has the potential to emit SO<sub>2</sub>, NO<sub>x</sub>, CO, PM<sub>10</sub>, PM, and VOC above the major source threshold of 100 tons-per-year and has the potential to emit over 100,000 tons-per-year CO<sub>2</sub> equivalent of greenhouse gas pollutants. The facility is also classified as a major facility, as defined by Subsection 008.10.a, because it emits or has the potential to emit HAP above the major source thresholds of 10 tons-per-year for any single HAP and/or 25 tons-per-year for any combination of HAP.

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

The format of this Statement of Basis follows that of the permit. TASCO's Tier I operating permit is organized into sections. They are as follows:

## **Section 1 – Acronyms, Units, and Chemical Nomenclature**

The acronyms, units, and chemical nomenclature used in the permit are defined in this section.

## **Section 2 - Tier I Operating Permit Scope**

The scope describes this permitting action.

## **Section 3 - Facility-wide Conditions**

The Facility-wide Conditions section contains the applicable requirements (permit conditions) that apply facility-wide. Where required, monitoring, recordkeeping and reporting requirements (MRRR) sufficient to assure compliance with a permit condition follows the permit condition.

## **Sections 4 through 7 – B&W, Rentech, and Nebraska Boilers, Pulp Dryers, Pellet Coolers, Lime Kiln System**

The emissions unit-specific sections of the permit contain the applicable requirements that specifically apply to each regulated emissions unit. Some requirements that apply to an emissions unit (e.g. opacity limits) may be contained in the Facility-wide Conditions Section. As with the facility-wide conditions, monitoring, recordkeeping and reporting requirements (MRRR) sufficient to assure compliance with an applicable requirement follows the applicable requirement.

## **Section 8 – 40 CFR 64 – Compliance Assurance Monitoring**

The purpose of this section of the permit is to include all of the applicable requirements of 40 CFR 64, “Compliance Assurance Monitoring” (CAM). CAM requires selecting compliance indicators that when operated within specified ranges provide a reasonable assurance of compliance. CAM also requires monitoring, record keeping, and reporting requirements.

## **Sections 9 and 10 - Non-applicable Requirements and Insignificant Activities**

This section lists those requirements that the applicant has requested as non-applicable, and DEQ proposes to grant a permit shield in accordance with IDAPA 58.01.01.325.

This section contains a list of units or activities that are insignificant on the basis of size or production rate. Units and activities listed in this section must be listed in the permit application. The regulatory citation for units and activities that are insignificant on the basis of size or production rate is IDAPA 58.01.01.317.01.b.

## **Section 11 - General Provisions**

The final section of the permit contains standard terms and conditions that apply to all major facilities subject to IDAPA 58.01.01.300. This section is the same for all Tier I facilities. The General Provisions have been reviewed by EPA and contain all terms and conditions required by IDAPA 58.01.01 et al as well as requirements from other air quality laws, rules and regulations. Each general provision has been paraphrased so it is more easily understood by the general public; however, there is no intent to alter the effect of the requirement. Should there be a discrepancy between a paraphrased general provision in this statement of basis and a rule or permit, the rule or permit shall govern.

## **3. FACILITY INFORMATION**

### **3.1 Facility Description**

The Amalgamated Sugar Company LLC – Paul (TASCO) operates an existing beet sugar manufacturing plant that processes sugarbeets into refined sugar, which is located in Paul, Idaho. The facility is also known as the Mini-Cassia Facility. Sugar beet processing operations consist of beet end processing and sugar end processing.

Beet End Processes - Mechanically harvested sugar beets are delivered to 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. Beets are dumped by trucks into hoppers, screened, and conveyed to the beet washers. After cleaning, the beets are separated from the water and are conveyed to the sugar beet processing operations. The operations comprise several steps including slicing, diffusion, juice purification, evaporation, and beet pulp processing.

Prior to the diffusion process, the cleaned and 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 temperature within the diffusion process is typically maintained between 50°C and 80°C (122°F and 176°F). This temperature is dependent on several factors, including the denaturation temperature of the cossettes, the thermal behavior of the beet cell wall, potential enzymatic reactions, bacterial activity, and press-ability of the beet pulp. Disinfectants, such as ammonium bisulfite is sometimes added to the diffuser to control bacterial growth. The sugar enriched water that flows from the outlet of the diffuser is called raw juice and contains between 13 and 18 percent sugar. This raw juice proceeds to the juice purification operations. The processed cossettes, or beet pulp, from the diffuser is pressed to remove water and then is conveyed to the dried pulp production operations. The pressed beet pulp is either conveyed to the dried pulp production operations or sold as livestock feed.

In the juice purification stage, non-sucrose impurities in the raw juice are removed so that the pure sucrose can be crystallized. After the diffuser, the raw juice is then heated between 60°C and 70°C (140°F to 158°F) and proceeds to liming tanks, where milk of lime [Ca(OH)<sub>2</sub>] 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<sub>2</sub>) gas is bubbled through the mixture to precipitate the lime and impurities from the juice as insoluble calcium carbonate. A lime kiln calcines lime rock into quick lime and CO<sub>2</sub> used in the juice purification process. Quick lime is hydrated into milk of lime in the 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<sub>2</sub> (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 sulfur dioxide (SO<sub>2</sub>) is added to the juice to inhibit reactions that lead to darkening of the juice. Following the addition of SO<sub>2</sub>, 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 six 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 juice (known as thick juice) is approximately 60 percent. Thick juice can be sent to the sugar end process and/or to storage tanks.

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 is either sold as pressed pulp animal feed or sent to the dryers. Before entering the dryer, molasses or a molasses byproduct is added to the pressed pulp. The pressed pulp is then dried by hot air in a horizontal rotating drum known as a pulp dryer. The pulp dryer can be fired by natural gas, coal, or a combination of both. The resulting product is typically pelletized and is sold as animal feed. The remainder of the dried pulp is sold in an unpelletized form called shreds.

Sugar end processing consists of converting thick juice into refined granulated sugar. 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. 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 standard 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 are sent to the granulator, which is a rotary drum dryer, and then 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 in the production of animal feed. This molasses can also be further desugarized using a separator process. However, since the Mini-Cassia factory does not have a separator, molasses is shipped to other factories for separation.

### 3.2 Facility Permitting History

#### Tier I Operating Permit History - Previous 5-year permit term October 15, 2014 to present

The following information is the permitting history of this Tier I facility during the previous five-year permit term which was from October 15, 2014 to present. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

February 23, 2018 T1-2017.0057, Administrative amendment to incorporate PTC P-2017.0012, Permit status (A)

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

The following information is the comprehensive permitting history of all underlying applicable permits issued to this Tier I facility. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

March 19, 1981	13-1020-0001-00, Air pollution source permit which established requirements for the boilers, Permit status (S)
January 1, 1984	1020-0001, Permit revision which established requirements for the pulp dryers, Permit status (S)
September 23, 2002	P-020407, PTC modification to add No. 6 evaporator and establish throughput limits, Permit status (S)
December 12, 2002	T1-9503-039-1, Initial T1 operating permit, Permit status (S)
February 3, 2005	P-050401, Revised PTC to replace the sugar production limit with a steady production limit, Permit status (S)
July 27, 2005	P-050406, Initial PTC for the Nebraska boiler (backup), Permit status (S)
September 23, 2005	T1-030416, Renewal and administrative amendment T1 to incorporate compliance schedule and revisions resulting from an appeal, Permit status (S)

November 17, 2005	P-050424, Initial PTC to add temporary emergency generator, Permit status (T) (terminated)
December 15, 2005	P-050421, Revised PTC to increase daily throughput limit, Permit status (S)
June 14, 2006	P-060404, Revised PTC to increase annual throughput limit, Permit status (S)
May 16, 2007	P-2007.0023, Revised PTC to temporarily increase steam production in 2006, Permit status (S)
September 22, 2010	P-2010.0043, Initial PTC to replace lime kiln system, Permit status (S)
March 8, 2011	P-2011.0040, Revised PTC to revise campaign year definition, Permit status (S)
June 1, 2012	P-2010.0043, Revised PTC to revise slaker control equipment, Permit status (S)
June 11, 2012	P-2011.0040, Revised PTC to increase annual throughput and steaming rate limits, Permit status (S)
March 18, 2014	P-2010.0043, Revised PTC to remove slaker control equipment, Permit status (A)
August 13, 2014	P-2011.0040, Revised PTC to convert boilers to natural gas firing only and to establish limits to resolve a historic equipment review required by T1-030416 compliance schedule, Permit status (S)
October 15, 2014	T1-050414, Renewal T1 to incorporate CAM and PTC revisions, Permit status (A)
June 8, 2017	P-2011.0040, Revised PTC to increase the beet slice throughput limits, Permit status (S)
November 20, 2017	P-2017.0012, PTC to replace P-050406 and P-2011.0040 to take the Nebraska boiler from backup operation to full-time operation, Permit status (S)
October 18, 2018	P-2017.0012, Modified PTC to replace the Erie City boiler with a Rentech boiler and increase the annual boiler therm limit, Permit status (A, but will become S with the issuance of P-2017.0012 being co-processed in accordance with IDAPA 58.01.01.209.05.b).

## **4. APPLICATION SCOPE AND APPLICATION CHRONOLOGY**

### **4.1 Application Scope**

This permit is the renewal of the facility's currently effective Tier I operating permit. This permit also includes the incorporation of the provisions of PTC No. P-2017.0012 for the Rentech boiler installation and is currently being co-processed in accordance with IDAPA 58.01.01.209.05.b).

### **4.2 Application Chronology**

April 5, 2019	DEQ received an application.
June 5, 2019	DEQ determined that the application was complete.
January 17, 2020	DEQ made available the draft permit and statement of basis for peer and regional office review.
January 27, 2020	DEQ made available the draft permit and statement of basis for applicant review.
March 9 – April 8, 2020	DEQ provided a public comment period on the proposed action.

April 14, 2020

DEQ provided the proposed permit and statement of basis for EPA review.

April 30, 2020

DEQ issued the final permit and statement of basis.

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

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

### 5.1 Process No. 1 – B&W, Rentech, and Nebraska Boilers

Table 5.1 lists the emissions units and control devices associated with the B&W, Rentech, and Nebraska boilers.

Table 5.1 EMISSIONS UNITS AND CONTROL DEVICE

Emissions Unit ID No.	Emissions Unit Description	Control Device (if applicable)
SB-1	<u>B&amp;W Boiler</u> Operational Capacity: 175,000 lb/hr steam Fuel: natural gas	Low NO <sub>x</sub> burners
SB-2	<u>Nebraska Boiler</u> Operational Capacity: 200,000 lb/hr steam Fuel: natural gas	Low NO <sub>x</sub> burners
SB-4	<u>Rentech Boiler</u> Operational Capacity: 300,000 lb/hr steam Fuel: natural gas	Low NO <sub>x</sub> burners

The facility boiler house steam plant which include the B&W boiler, Nebraska boiler (used for backup only), and Rentech boiler, provide steam to the facility.

### 5.2 Process No. 2 – Pulp Dryers

Table 5.2 lists the emissions units and control devices associated with the pulp dryers.

Table 5.2 EMISSIONS UNITS AND CONTROL DEVICE

Emissions Unit ID No.	Emissions Unit Description	Control Device (if applicable)
S-D1	<u>South Pulp Dryer</u> Maximum Capacity: 48.5 T/hr Fuel: Coal and/or natural gas	Two cyclones (A-D1A) and two spray-impingement scrubbers (A-D1B)
S-D2	<u>North Pulp Dryer</u> Maximum Capacity: 56.9 T/hr Fuel: Coal and/or natural gas	Two cyclones (A-D2A) and two spray-impingement scrubbers (A-D2B)

The direct-fired pulp dryers are used to dry pressed beet pulp. The dryers are primarily coal-fired, but can also be fired by natural gas. Exhaust gases from each dryer are split into two streams. Each stream is split and passes through two cyclones that operate in parallel. Exhaust from the cyclones is combined and then split between two spray impingement-type scrubbers that also operate in parallel.

### 5.3 Process No. 3 – Pellet Coolers

Table 5.3 lists the emissions units and control devices associated with the pellet coolers.

**Table 5.3 EMISSIONS UNITS AND CONTROL DEVICE**

Emissions Unit ID No.	Emissions Unit Description	Control Device (if applicable)
S-D3	<u>Pellet Cooler No. 1</u> Maximum Capacity: 7.5 T/hr	Cyclone (A-D3)
S-D4	<u>Pellet Cooler No. 2</u> Maximum Capacity: 7.5 T/hr	Cyclone (A-D4/5)
S-D5	<u>Pellet Cooler No. 3</u> Maximum Capacity: 7.5 T/hr	

The pellet coolers aid in the pulp drying process. The emissions are controlled by cyclones.

#### 5.4 Process No. 4 – Lime Kiln System

Table 5.34 lists the emissions units and control devices associated with the lime kiln system.

**Table 5.4 EMISSIONS UNITS AND CONTROL DEVICE**

Emissions Unit ID No.	Emissions Unit Description	Control Device (if applicable)
S-K1	<u>Lime Kiln</u> Maximum Capacity: 770 T/day Fuel: Coal and/or coke	Gas Washer First Carbonation Tank (A-K1) Second Carbonation Tank (A-K2)

The lime kiln produces calcium oxide (CaO) and concentrated carbon dioxide (CO<sub>2</sub>) gas for juice purification. The CaO from the kiln is transferred to Slaker No. 1 (S-K2) to produce milk of lime. The CO<sub>2</sub> gas from the kiln passes through a two-stage high efficiency scrubbing system (A-K1). The gas washer scrubs and cools the exhaust gas prior to the compressors. The compressors convey the CO<sub>2</sub> gas to the first and second carbonation tanks in parallel. The gas is bubbled through the juice from the bottom of the carbonation tanks.

#### 5.5 Insignificant Emissions Units Based on Size or Production Rate

This section contains a list of units or activities that are insignificant on the basis of size or production rate. Units and activities listed in this section must be listed in the permit application. Table 5.5 lists the units and activities which have been determined to be insignificant on the basis of size or production rate. The regulatory authority for emissions units and activities that are insignificant on the basis of size or production rate is IDAPA 58.01.01.317.01.b.

**Table 5.5 INSIGNIFICANT EMISSION UNITS AND REGULATORY AUTHORITY/JUSTIFICATION**

Emissions Unit / Activity	Regulatory Authority / Justification
Lime rock handling and coke and/or anthracite coal handling	IDAPA 58.01.01.317.01(b)(i)5
Slakers #1, #2, #3, and #4	IDAPA 58.01.01.317.01 (b)(i)30
Heater Boilout Mix Tank (Muriatic Acid), Vent	IDAPA 58.01.01.317.01 (b)(i)19
Heater Boilout Mix Tank, Open Manway	IDAPA 58.01.01.317.01 (b)(i)19
Muriatic Acid Tank Vent	IDAPA 58.01.01.317.01 (b)(i)19
Vacuum Drum Filters Muriatic Acid Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
Heater Boilout Mix Tank (Caustic), Vent	IDAPA 58.01.01.317.01 (b)(i)19
Heater Boilout Mix Tank (Caustic), Vent	IDAPA 58.01.01.317.01 (b)(i)19
Aluminum Bisulphate Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
Caustic Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
Caustic Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19

Emissions Unit / Activity	Regulatory Authority / Justification
Caustic Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
Busan 1007 Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
Busan 1007 Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
BCC-315 Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
BCC-315 Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
BCC-315 Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
Sulfuric Acid Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
Brine Tank, Vent	IDAPA 58.01.01.317.01 (b)(i)19
South Boiler, Stack	IDAPA 58.01.01.317.01 (b)(i)5
North Boiler, Stack	IDAPA 58.01.01.317.01 (b)(i)5
Brei Dust Fan, Exhaust	IDAPA 58.01.01.317.01 (b)(i)30
Space Heater, Exhaust	IDAPA 58.01.01.317.01 (b)(i)18
Granulator System	IDAPA 58.01.01.317.01 (b)(i)30
Cooling Granulator No. 1	IDAPA 58.01.01.317.01 (b)(i)30
Cooling Granulator No. 2	IDAPA 58.01.01.317.01 (b)(i)30
Process Sugar Handling System	IDAPA 58.01.01.317.01 (b)(i)30
Bulk Loadout Sugar Handling System	IDAPA 58.01.01.317.01 (b)(i)30
Propane lances for heating rail cars	IDAPA 58.01.01.317.01 (b)(i)5
Lime rock and coke handling from rail cars and storage piles into lime kiln building	IDAPA 58.01.01.317.01 (b)(i)30
Sugar silos #1, #2, and #3	IDAPA 58.01.01.317.01 (b)(i)30
Coke and anthracite unloading and storage pile	IDAPA 58.01.01.317.01 (b)(i)30
Lime rock unloading and storage pile	IDAPA 58.01.01.317.01 (b)(i)30

## 5.6 Non-applicable Requirements for Which a Permit Shield is Requested

This section of the permit lists the regulations for which the facility has requested, and DEQ proposes to grant, a permit shield pursuant to IDAPA 58.01.01.325. The findings on which this shield is based are presented below:

- Requirements for Which a Permit Shield Will Be Granted

As discussed in the technical basis memorandum for the initial Tier I operating permit (T1-9503-039-1 issued December 4, 2002), it was determined that the Pulp Dryers and the Lime Kiln were not fuel-burning equipment in accordance with the definition in IDAPA 58.01.01.006. Available information does not support revisiting this determination at this time.

As discussed in the technical basis memorandum for the initial Tier I operating permit, it was determined that the B&W boiler and Erie City boiler (replaced by the Rentech boiler) were installed or modified before August 17, 1971, and that NSPS Subpart D was not applicable to these emissions units. Available information does not support revisiting this determination at this time.

## 5.7 Emissions Inventory

Table 5. summarizes the emissions inventory for this major facility. All values are expressed in units of tons-per-year and represent the facility's potential to emit. Potential to emit is defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hour of operation or on the type or amount of material combusted, stored or processed shall be treated as part of its design if the limitation or the effect it would have on emission is state or federally enforceable.

Listed below Table 5. are the references for the emission factors used to estimate the emissions. The documentation provided by the applicant for the emissions inventory and emission factors is provided as Appendix A of this statement of basis.

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

Source Description	PM <sub>10</sub> /PM <sub>2.5</sub> T/yr	NO <sub>x</sub> T/yr	SO <sub>2</sub> T/yr	CO T/yr	VOC T/yr	CO <sub>2e</sub> T/yr	HAP T/yr
B&W Boiler	4.6	63.5	0.4	47.0	3.3	74,296	1.8
Rentech Boiler	9.8	68.3	0.8	109.2	7.1	159,708	4.0
Nebraska Boiler <sup>(a)</sup>	4.6	63.4	0.4	46.9	3.3	74,076	1.7
South Pulp Dryer	83.1	155.2	54.0	540.9	3.5	35,613	4.6
North Pulp Dryer	85.8	153.9	63.4	658.1	4.1	41,807	5.4
Pellet Cooler No. 1	1.95	0.00	0.00	0.00	0.00	0.00	0.00
Pellet Cooler No. 2	1.95	0.00	0.00	0.00	0.00	0.00	0.00
Pellet Cooler No. 3	1.95	0.00	0.00	0.00	0.00	0.00	0.00
Eberhardt Lime Kiln	7.06	46.08	2.14	1572.7	2.80	33,192	0.12
Process Slaker	1.20	0.00	0.00	0.00	0.00	0.00	0.00
Drying Granulator	2.35	0.00	0.00	0.00	0.00	0.00	0.00
#1 Cooling Granulator	1.18	0.00	0.00	0.00	0.00	0.00	0.00
#2 Cooling Granulator	1.18	0.00	0.00	0.00	0.00	0.00	0.00
Sugar Handling (Process)	1.31	0.00	0.00	0.00	0.00	0.00	0.00
Sugar Handling (Bulk Loading)	1.31	0.00	0.00	0.00	0.00	0.00	0.00
Main Mill	0.00	0.00	0.00	0.00	145.6	0.00	94.72
Sulfur Stoves	0.00	0.00	14.3	0.00	0.00	0.00	0.00
Coal Unloading Area	0.15	0.00	0.00	0.00	0.00	0.00	0.00
Coal Storage Area	3.51	0.00	0.00	0.00	0.00	0.00	0.00
Boiler Coal Unloading Area & Haul Road	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Beet Hauling – West & Loop	3.24	0.00	0.00	0.00	0.00	0.00	0.00
Beet Hauling – East	4.97	0.00	0.00	0.00	0.00	0.00	0.00
Beet Hauling – North – East	0.74	0.00	0.00	0.00	0.00	0.00	0.00
Cooling Towers	4.02	0.00	0.00	0.00	0.00	0.00	0.00
Dryer Coal Unloading	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Dried Pulp Storage & Loadout	0.45	0.00	0.00	0.00	0.00	0.00	0.00
PCC Storage & Handling	3.94	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Emissions</b>	226.3	487.0	135.0	2927.9	166.4	344,616	110.6

a) The Nebraska boiler is operationally limited to operate when another boiler (B&W or Rentech) is down. Therefore, the Nebraska boiler emissions are not included in total emissions as both the B&W and Rentech boilers have equal or larger emissions.

The PTE emissions estimates of PM<sub>10</sub>/PM<sub>2.5</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO, and VOC were based on emission factors and process information specific to the facility. Emissions are included in Appendix A.

## 6. EMISSIONS LIMITS AND MRRR

This section contains the applicable requirements for this T1 facility.

This section is divided into the following subsections.

- Facility-Wide Conditions;
- B&W Boiler, Rentech Boiler, and Nebraska Boiler;
- Pulp Dryers;
- Pellet Coolers;
- Lime Kiln System;
- Tier I Operating Permit General Provisions.

### ***MRRR***

Monitoring, recordkeeping and reporting requirements (MRRR) are the means with which compliance with an applicable requirement is demonstrated. In this section, the applicable requirement (permit condition) is provided first followed by the MRRR. Should an applicable requirement not include sufficient MRRR to satisfy IDAPA 58.01.01.322.06, 07, and 08, then the permit must establish adequate monitoring, recordkeeping and reporting sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit (i.e. gap filling). In addition to the specific MRRR provided for each applicable requirement, generally applicable facility-wide conditions and general provisions may also be provided, such as performance testing, reporting, and certification requirements.

The legal and factual basis for each permit condition is provided for in this document. If a permit condition was changed due to facility draft comments or public comments, an explanation of the changes is provided.

### ***State Enforceability***

An applicable requirement that is not required by the federal CAA and has not been approved by EPA as a SIP-approved requirement is identified as a "State-only" requirement and is enforceable only under state law. State-only requirements are not enforceable by the EPA or citizens under the CAA. State-only requirements are identified in the permit within the citation of the legal authority for the permit condition.

### ***Federal Enforceability***

Unless identified as "State-only," all applicable requirements, including MRRR, are state and federally enforceable. It should be noted that while a violation of a MRRR is a violation of the permit, it is not necessarily a violation of the underlying applicable requirement (e.g. emissions limit).

To minimize the length of this document, the following permit conditions and MRRR have been paraphrased. Refer to the permit for the complete requirements.

## **6.1 Facility-Wide Conditions**

### **Permit Condition 3.1 - Definitions**

This permit condition incorporates the definition of “campaign year” to ensure compliance with permit conditions relying on this definition.

### **Permit Condition 3.2 through 3.3 – Beet Throughput**

Permit Conditions 3.2 and 3.3 incorporate daily and annual limits on throughput to the facility.

### **MRRR (Permit Condition 3.4)**

- Monitor and record daily beet throughput daily.
- Monitor and record annual beet throughput monthly.

The annual limit is a PSD avoidance limit, required to ensure net emission increases resulting from the lime kiln replacement project did not exceed applicable pollutant significance thresholds (**Error! Reference source not found.**), and to resolve the historic equipment review.

### **Permit Condition 3.5 – NSR Applicability Determinations**

This permit condition excludes emission decreases resulting from the conversion of boilers to natural gas firing with respect to netting calculations for applicability to PSD program requirements. The exclusion of emission decreases is a PSD avoidance limit established to resolve the historic equipment review.

### **Permit Condition 3.6 - Fugitive Dust**

All reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651.

[IDAPA 58.01.01.650-651, 3/30/07]

### **MRRR (Permit Conditions 3.7 through 3.9)**

- Monitor and maintain records of the frequency and the methods used to control fugitive dust emissions;
- Maintain records of all fugitive dust complaints received and the corrective action taken in response to the complaint; and
- Conduct facility-wide inspections of all sources of fugitive emissions. If any of the sources of fugitive dust are not being reasonably controlled, corrective action is required.

[IDAPA 58.01.01.322.06, 07, 08, 4/5/2000]

### **Permit Condition 3.10 - Odors**

The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution.

[IDAPA 58.01.01.775-776 (State-only), 5/1/94]

### **MRRR (Permit Condition 3.11)**

- Maintain records of all odor complaints received and the corrective action taken in response to the complaint; and
- Take appropriate corrective action if the complaint has merit, and log the date and corrective action taken.

[IDAPA 58.01.01.322.06, 07 (State only), 5/1/94]

### **Permit Condition 3.12 - Visible Emissions**

The permittee shall not discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined by procedures contained in IDAPA 58.01.01.625. These provisions shall not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this section.

[IDAPA 58.01.01.625, 4/5/00]

### **MRRR (Permit Condition 3.13 through 3.14)**

- Conduct facility-wide inspections of all emissions units subject to the visible emissions standards (or rely on continuous opacity monitoring);
- If visible emissions are observed, take appropriate corrective action and/or perform a Method 9 opacity test;
- Maintain records of the results of each visible emissions inspection.

[IDAPA 58.01.01.322.06, 07, 5/1/94]

### **Permit Conditions 3.15 through 3.19 - Excess Emissions**

The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions. The provisions of IDAPA 58.01.01.130-136 shall govern in the event of conflicts between the excess emissions facility wide conditions and the regulations of IDAPA 58.01.01.130-136.

[IDAPA 58.01.01.130-136, 4/5/00]

### **MRRR (Permit Conditions 3.16 through 3.19)**

- Take appropriate action to correct, reduce, and minimize emissions from excess emissions events;
- Prohibit excess emissions during any DEQ Atmospheric Stagnation Advisory or Wood Stove Curtailment Advisory; and
- Notify DEQ of each excess emissions events as soon as possible, including information regarding upset, breakdown, or safety events.
- Submit a report for each excess emissions event to DEQ; and
- Maintain records of each excess emissions event.

[IDAPA 58.01.01.130-136, 4/5/00]

### **Permit Condition 3.20 - Sulfur Content Limits**

The permittee shall not sell, distribute, use, or make available for use any of the following:

- Distillate fuel oil containing more than the following percentages of sulfur:
  - ASTM Grade 1 fuel oil, 0.3% by weight.
  - ASTM Grade 2 fuel oil, 0.5% by weight.
- Coal containing greater than 1.0% sulfur by weight.
- DEQ may approve an exemption from these fuel sulfur content requirements (IDAPA 58.01.01.725.01 725.04) if the permittee demonstrates that, through control measures or other means, SO<sub>2</sub> emissions are equal to or less than those resulting from the combustion of fuels complying with these limitations.

[IDAPA 58.01.01.725, 3/29/10]

### **MRRR - (Permit Condition 3.21)**

The permittee shall maintain documentation of supplier verification of fuel sulfur content on an as received basis or obtain samples and a laboratory analysis.

[PTC No. P-2010.0043, 3/18/14; IDAPA 58.01.01.322.06, 5/1/94]

### **Permit Condition 3.22 - Open Burning**

The permittee shall comply with the *Rules for Control of Open Burning*, IDAPA 58.01.01.600-623.

[IDAPA 58.01.01.600-623, 5/08/09]

### **MRRR**

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

### **Permit Condition 3.23 - Asbestos**

The permittee shall comply with all applicable requirements of 40 CFR 61, Subpart M—“National Emission Standard for Asbestos.”

[40 CFR 61, Subpart M]

### **MRRR**

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

#### **Permit Condition 3.24 - Accidental Release Prevention**

An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, shall comply with the requirements of the Chemical Accident Prevention Provisions at 40 CFR 68 no later than the latest of the following dates:

- Three years after the date on which a regulated substance present above a threshold quantity is first listed under 40 CFR 68.130.
- The date on which a regulated substance is first present above a threshold quantity in a process.

[40 CFR 68.10 (a)]

### **MRRR**

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

#### **Permit Condition 3.25 - Recycling and Emissions Reductions**

The permittee shall comply with applicable standards for recycling and emissions reduction of refrigerants and their substitutes pursuant to 40 CFR 82, Subpart F, Recycling and Emissions Reduction.

[40 CFR 82, Subpart F]

### **MRRR**

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

#### **Permit Condition 3.26 through 3.27- NSPS/NESHAP General Provisions**

This facility is subject to NSPS Subparts A and Db and NESHAP Subparts A and DDDDD, and is therefore required to comply with applicable General Provisions.

[40 CFR 60/63, Subpart A]

### **MRRR**

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

### **Permit Condition 3.28 – Operation and Maintenance**

The permit condition incorporates and establishes requirements to ensure proper maintenance and operation of treatment and control equipment.

#### **MRRR – (Permit Conditions 3.29 through 3.31)**

- Inspect, maintain, and operate control equipment in accordance with O&M manual(s).
- Record maintenance activities.
- Maintain records of O&M manual(s) and supporting documents, and report manual revisions semi-annually.

### **Permit Condition 3.32 - Monitoring and Recordkeeping**

The permittee shall maintain sufficient records to assure compliance with all of the terms and conditions of this operating permit. Records of monitoring information shall include, but not be limited to, the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.322.06, 07, 5/1/94]

### **MRRR**

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

### **Permit Conditions 3.33 through 3.37 - Performance Testing**

If performance testing is required, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test or shorter time period as provided in a permit, order, consent decree, or by DEQ approval. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests such testing not be performed on weekends or state holidays.

All testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, prior to conducting any performance test, the permittee is encouraged to submit in writing to DEQ, at least 30 days in advance, the following for approval:

- The type of method to be used.
- Any extenuating or unusual circumstances regarding the proposed test.
- The proposed schedule for conducting and reporting the test.

[IDAPA 58.01.01.157, 4/5/00; IDAPA 58.01.01.322.06, 08.a, 09, 5/1/94]

### **MRRR (Permit Conditions 3.34 and 3.37)**

The permittee shall submit compliance test report(s) to DEQ following testing.

[IDAPA 58.01.01.157, 4/5/00; IDAPA 58.01.01.322.06, 08.a, 09, 5/1/94]

### **Permit Condition 3.38 - Reports and Certifications**

This permit condition establishes generally applicable MRRR for submittal of reports, certifications, and notifications to DEQ and/or EPA as specified.

[IDAPA 58.01.01.322.08, 11, 5/1/94]

#### **MRRR**

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

### **Permit Condition 3.39 - Incorporation of Federal Requirements by Reference**

Unless expressly provided otherwise, any reference in this permit to any document identified in IDAPA 58.01.01.107.03 shall constitute the full incorporation into this permit of that document for the purposes of the reference, including any notes and appendices therein.

[IDAPA 58.01.01.107, 4/7/11]

#### **MRRR**

No specific monitoring is required for this facility-wide condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

## **6.2 Emissions Unit-Specific Emissions Limits and MRRR**

### **Emissions Units No. 1 – B&W, Rentech, and Nebraska Boilers**

#### **Permit Condition 4.1**

PC 4.1 incorporates fuel-burning equipment PM standards in accordance with IDAPA 58.01.01.676.

No specific monitoring was required for this permit condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

#### **Permit Condition 4.2 and 4.3**

PCs 4.2 and 4.3 are NO<sub>x</sub> emission limits taken from 40 CFR 60, Subpart Db.

#### **MRRR - (Permit Conditions 4.11 through 4.18)**

PCs 4.11, 4.12, and 4.18 include MRRR from 40 CFR 60, Subpart Db. These requirements include CEMS emission monitoring, recordkeeping, and reporting.

#### **Permit Condition 4.4**

PC 4.4 was incorporated to limit annual potential emissions from all three boilers combined.

#### **MRRR - (Permit Conditions 4.5 through 4.7)**

PCs 4.5 through 4.7 limits boiler operation to natural gas only, no more than two of the three boilers operating simultaneously, and a combined therm limit of 40,000,000 therms for each campaign year.

#### **Permit Condition 4.5**

PC 4.5 limits the boilers to natural gas fuel exclusively.

No specific monitoring was required for this permit condition. As with all permit conditions, the permittee must certify compliance with this condition annually, which includes making a reasonable inquiry to determine if this requirement was met during the reporting period.

#### **Permit Condition 4.7**

PC 4.7 limits the boilers to a combined therm limit of 40,000,000 therms for each campaign year.

MRRR - (Permit Condition 4.10)

PC 4.10 ensures recordkeeping on a monthly basis of the amount of fuel used in therms.

Permit Conditions 4.19 through 4.27

The boilers are located at a major source of HAPs and are therefore subject to the Boiler MACT or 40 CFR 63, Subpart DDDDD. The boilers are subject to work practice standards including conducting an 5 year performance tune-up.

MRRR – (Permit Conditions 4.19 through 4.27)

Compliance demonstration methods include good air pollution control practices, a 5 year performance tune-up, and records and reporting requirements.

### **Emissions Unit No. 2 – Pulp Dryers**

Permit Condition 5.1

PC 5.1 incorporates process weight-based PM standards in accordance with IDAPA 58.01.01.703.

MRRR - (Permit Conditions 5.2 and 5.3)

MRRR includes recording the process weight input rate to each of the Pulp Dryers monthly (Permit Condition 5.2) and CAM in section 8 of the permit. A compliance test is required every 5 years to demonstrate compliance with PC 5.1.

### **Emissions Unit No. 3 – Pellet Coolers**

Permit Condition 6.1

PC 6.1 incorporates process weight-based PM standards in accordance with IDAPA 58.01.01.702.

MRRR - (Permit Condition 6.2)

MRRR includes inspection of control equipment annually (Permit Condition 6.2).

### **Emissions Unit No. 4 – Lime Kiln System**

Permit Conditions 7.1 and 7.3

PCs 7.1 and 7.3 were incorporated to limit annual potential emissions.

MRRR – (Permit Conditions 7.5 – 7.13)

The MRRR includes monitoring and recording water flow rate daily and pressure drop daily. It also includes monitoring types and sulfur contents of fuels in each shipment, monitoring and recording lime rock input daily, calculating 5-day lime rock input average daily, monitoring and recording annual lime rock input monthly, monitoring and recording fuel input daily, calculating 5-day fuel input average daily, and monitoring and recording operating conditions during testing.

Permit Conditions 7.7 and 7.8

The annual lime rock input and coal/coke fuel limits are PSD avoidance limits, required to resolve the historic equipment review.

## **6.3 General Provisions**

Unless expressly stated, there are no MRRR for the general provisions.

### **General Compliance, Duty to Comply**

The permittee must comply with the terms and conditions of the permit.

[IDAPA 58.01.01.322.15.a, 5/1/94; 40 CFR 70.6(a)(6)(i)]

### **General Compliance, Need to Halt or Reduce Activity Not a Defense**

The permittee cannot use the fact that it would have been necessary to halt or reduce an activity as a defense in an enforcement action.

[IDAPA 58.01.01.322.15.b, 5/1/94; 40 CFR 70.6(a)(6)(ii)]

### **General Compliance, Duty to Supplement or Correct Application**

The permittee must promptly submit such supplementary facts or corrected information upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application. The permittee must also provide information as necessary to address any new requirements that become applicable after the date a complete application has been filed but prior to the release of a draft permit.

[IDAPA 58.01.01.315.01, 5/1/94; 40 CFR 70.5(b)]

### **Reopening, Additional Requirements, Material Mistakes, Etc.**

This term lists the instances when the permit must be reopened and revised, including times when additional requirements become applicable, when the permit contains mistakes, or when revision or revocation is necessary to assure compliance with applicable requirements.

[IDAPA 58.01.01.322.15.c, 5/1/94; IDAPA 58.01.01.386, 3/19/99; 40 CFR 70.7(f)(1), (2); 40 CFR 70.6(a)(6)(iii)]

### **Reopening, Permitting Actions**

This term discusses modification, revocation, reopening, and/or reissuance of the permit for cause. If the permittee files a request to modify, revoke, reissue, or terminate the permit, the request does not stay any permit condition, nor does notification of planned changes or anticipated noncompliance.

[IDAPA 58.01.01.322.15.d, 5/1/94; 40 CFR 70.6(a)(6)(iii)]

### **Property Rights**

This permit does not convey any property rights of any sort, or any exclusive privilege.

[IDAPA 58.01.01.322.15.e, 5/1/94; 40 CFR 70.6(a)(6)(iv)]

### **Information Requests**

The permittee must furnish, within a reasonable time to DEQ, any information, including records required by the permit, that is requested in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

[Idaho Code §39-108; IDAPA 58.01.01.122, 4/5/00; IDAPA 58.01.01.322.15.f, 4/5/00; 40 CFR 70.6(a)(6)(v)]

### **Information Requests, Confidential Business Information**

Upon request, the permittee must furnish to DEQ copies of records required to be kept by this permit. For information claimed to be confidential, the permittee may furnish such records along with a claim of confidentiality in accordance with Idaho Code §9-342A and applicable implementing regulations including IDAPA 58.01.01.128.

[IDAPA 58.01.01.322.15.g, 5/1/94; IDAPA 58.01.01.128, 4/5/00; 40 CFR 70.6(a)(6)(v)]

### **Severability**

If any provision of the permit is held to be invalid, all unaffected provisions of the permit will remain in effect and enforceable.

[IDAPA 58.01.01.322.15.h, 5/1/94; 40 CFR 70.6(a)(5)]

### **Changes Requiring Permit Revision or Notice**

The permittee may not commence construction or modification of any stationary source, facility, major facility, or major modification without first obtaining all necessary permits to construct or an approval

under IDAPA 58.01.01.213, or complying with IDAPA 58.01.01.220 through 223. The permittee must comply with IDAPA 58.01.01.380 through 386 as applicable.

[IDAPA 58.01.01.200-223, 4/2/08; IDAPA 58.01.01.322.15.i, 3/19/99; IDAPA 58.01.01.380-386, 7/1/02; 40 CFR 70.4(b)(12), (14), (15), and 70.7(d), (e)]

Changes that are not addressed or prohibited by the Tier I operating permit require a Tier I operating permit revision if such changes are subject to any requirement under Title IV of the CAA, 42 U.S.C. Section 7651 through 7651c, or are modifications under Title I of the CAA, 42 U.S.C. Section 7401 through 7515. Administrative amendments (IDAPA 58.01.01.381), minor permit modifications (IDAPA 58.01.01.383), and significant permit modifications (IDAPA 58.01.01.382) require a revision to the Tier I operating permit. IDAPA 58.01.01.502(b)(10) changes are authorized in accordance with IDAPA 58.01.01.384. Off permit changes and required notice are authorized in accordance with IDAPA 58.01.01.385.

[IDAPA 58.01.01.381-385, 7/1/02; IDAPA 58.01.01.209.05, 4/11/06; 40 CFR 70.4(b)(14) and (15)]

### **Federal and State Enforceability**

All permit conditions are federally enforceable unless specified in the permit as a state or local only requirement. State and local only requirements are not required under the CAA and are not enforceable by EPA or by citizens.

[IDAPA 58.01.01.322.15.j, 5/1/94; IDAPA 58.01.01.322.15.k, 3/23/98; Idaho Code §39-108; 40 CFR 70.6(b)(1), (2)]

### **Inspection and Entry**

Upon presentation of credentials, the facility shall allow DEQ or an authorized representative of DEQ to do the following:

- Enter upon the permittee's premises where a Tier I source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;
- Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
- As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108; IDAPA 58.01.01.322.15.l, 5/1/94; 40 CFR 70.6(c)(2)]

### **New Applicable Requirements**

The permittee must continue to comply with all applicable requirements and must comply with new requirements on a timely basis.

[IDAPA 58.01.01.322.10, 4/5/00; IDAPA 58.01.01.314.10.a.ii, 5/1/94; 40 CFR 70.6(c)(3) citing 70.5(c)(8)]

### **Fees**

The owner or operator of a Tier I source shall pay annual registration fees to DEQ in accordance with IDAPA 58.01.01.387 through IDAPA 58.01.01.397.

[IDAPA 58.01.01.387, 4/2/03; 40 CFR 70.6(a)(7)]

### **Certification**

All documents submitted to DEQ shall be certified in accordance with IDAPA 58.01.01.123 and comply with IDAPA 58.01.01.124.

[IDAPA 58.01.01.322.15.o, 5/1/94; 40 CFR 70.6(a)(3)(iii)(A); 40 CFR 70.5(d)]

## Renewal

The permittee shall submit an application to DEQ for a renewal of this permit at least six months before, but no earlier than 18 months before, the expiration date of this operating permit. To ensure that the term of the operating permit does not expire before the permit is renewed, the owner or operator is encouraged to submit a renewal application nine months prior to the date of expiration.

[IDAPA 58.01.01.313.03, 4/5/00; 40 CFR 70.5(a)(1)(iii)]

If a timely and complete application for a Tier I operating permit renewal is submitted, but DEQ fails to issue or deny the renewal permit before the end of the term of this permit, then all the terms and conditions of this permit including any permit shield that may have been granted pursuant to IDAPA 58.01.01.325 shall remain in effect until the renewal permit has been issued or denied.

[IDAPA 58.01.01.322.15.p, 5/1/94; 40 CFR 70.7(b)]

## Permit Shield

Compliance with the terms and conditions of the Tier I operating permit, including those applicable to all alternative operating scenarios and trading scenarios, shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

- Such applicable requirements are included and are specifically identified in the Tier I operating permit; or
  - DEQ has determined that other requirements specifically identified are not applicable and all of the criteria set forth in IDAPA 58.01.01.325.01(b) have been met.
- The permit shield shall apply to permit revisions made in accordance with IDAPA 58.01.01.381.04 (administrative amendments incorporating the terms of a permit to construct), IDAPA 58.01.01.382.04 (significant modifications), and IDAPA 58.01.01.384.03 (trading under an emissions cap).
- Nothing in this permit shall alter or affect the following:
  - Any administrative authority or judicial remedy available to prevent or terminate emergencies or imminent and substantial dangers;
  - The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
  - The applicable requirements of the acid rain program, consistent with 42 U.S.C. Section 7651(g)(a); and
  - The ability of EPA to obtain information from a source pursuant to Section 114 of the CAA; or the ability of DEQ to obtain information from a source pursuant to Idaho Code §39-108 and IDAPA 58.01.01.122.

[Idaho Code §39-108 and 112; IDAPA 58.01.01.122, 4/5/00;  
IDAPA 58.01.01.322.15.m, 325.01, 5/1/94; IDAPA 58.01.01.325.02, 3/19/99;  
IDAPA 58.01.01.381.04, 382.04, 383.05, 384.03, 385.03, 3/19/99; 40 CFR 70.6(f)]

## Compliance Schedule and Progress Reports

- For each applicable requirement for which the source is not in compliance, the permittee shall comply with the compliance schedule incorporated in this permit.
- For each applicable requirement that will become effective during the term of this permit and that provides a detailed compliance schedule, the permittee shall comply with such requirements in accordance with the detailed schedule.
- For each applicable requirement that will become effective during the term of this permit that does not contain a more detailed schedule, the permittee shall meet such requirements on a timely basis.

- For each applicable requirement with which the permittee is in compliance, the permittee shall continue to comply with such requirements.

[IDAPA 58.01.01.322.10, 4/5/00; IDAPA 58.01.01.314.9, 5/1/94; IDAPA 58.01.01.314.10, 4/5/00; 40 CFR 70.6(c)(3) and (4)]

### **Periodic Compliance Certification**

The permittee shall submit compliance certifications during the term of the permit for each emissions unit to DEQ and the EPA as specified.

- Compliance certifications for all emissions units shall be submitted annually unless otherwise specified; and
- All original compliance certifications shall be submitted to DEQ and a copy of all compliance certifications shall be submitted to the EPA.

[IDAPA 58.01.01.322.11, 4/6/05; 40 CFR 70.6(c)(5)(iii) as amended, 62 Fed. Reg. 54900, 54946 (10/22/97); 40 CFR 70.6(c)(5)(iv)]

### **False Statements**

The permittee may not make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

### **No Tampering**

The permittee may not render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

### **Semiannual Monitoring Reports.**

In addition to all applicable reporting requirements identified in this permit, the permittee shall submit reports of any required monitoring at least every six months as specified.

[IDAPA 58.01.01.322.15.q, 3/23/98; IDAPA 58.01.01.322.08.c, 4/5/00; 40 CFR 70.6(a)(3)(iii)]

### **Reporting Deviations and Excess Emissions**

Each and every applicable requirement, including MRRR, is subject to prompt deviation reporting. Deviations due to excess emissions must be reported in accordance Sections 130-136. All instances of deviation from Tier I operating permit requirements must be included in the deviation reports. The reports must describe the probable cause of the deviation and any corrective action or preventative measures taken. Deviation reports must be submitted at least every six months unless the permit specifies a different time period as required by IDAPA 58.01.01.322.08.c. Examples of deviations include, but are not limited to, the following:

- Any situation in which an emissions unit fails to meet a permit term or condition.
- Emission control device does not meet a required operating condition.
- Observations or collected data that demonstrate noncompliance with an emissions standard.
- Failure to comply with a permit term that requires a report.

[IDAPA 58.01.01.322.15.q, 3/23/98; IDAPA 58.01.01.135, 4/11/06; 40 CFR 70.6(a)(3)(iii)]

### **Permit Revision Not Required, Emissions Trading**

No permit revision will be required, under any approved, economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in the permit.

[IDAPA 58.01.01.322.05.b, 4/5/00; 40 CFR 70.6(a)(8)]

## **Emergency**

In accordance with IDAPA 58.01.01.332, an “emergency” as defined in IDAPA 58.01.01.008, constitutes an affirmative defense to an action brought for noncompliance with such technology-based emissions limitation if the conditions of IDAPA 58.01.01.332.02 are met.

[IDAPA 58.01.01.332.01, 4/5/00; 40 CFR 70.6(g)]

## **7. REGULATORY REVIEW**

### **7.1 Attainment Designation (40 CFR 81.313)**

The facility is located in Minidoka which is designated as attainment or unclassifiable for PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NO<sub>2</sub>, SO<sub>x</sub>, and Ozone. Reference 40 CFR 81.313.

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

TASCO - Paul 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.
- The facility emits or has the potential to emit greenhouse gases in excess of 100,000 CO<sub>2</sub>e T/yr.

TASCO – Paul has a fossil-fuel boiler (or combination thereof) of more than 250 MMBtu/hr heat input; therefore the boiler house (which includes the B&W Boiler, Rentech Boiler, and Nebraska 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.

Refer to Appendix A for a summary of the regulated air pollutant emissions.

### **7.3 PSD Classification (40 CFR 52.21)**

The facility is classified as an existing major stationary source as defined in 40 CFR 52.21(b), because the boiler house steam plant (which includes the B&W Boiler, Rentech Boiler, and Nebraska Boiler) has a fossil-fuel boiler of more than 250 MMBtu/hr heat input.

### **7.4 NSPS Applicability (40 CFR 60)**

The Nebraska and Rentech boilers are subject to the requirements of 40 CFR 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units because both boilers commenced construction after 1984 and have a heat input capacity greater than 100 MMBtu/hr. A complete breakdown of Subpart Db can be seen in the Statement of Basis of P-2017.0012 issued October 18, 2018 with some minor differences noted as follows. Permit condition 4.14 regarding the Nebraska and Rentech boilers performance test requirements has been modified to remove the restriction of conducting the performance test one year after the PTC issuance and 40 CFR 60.46b(e)(3) has been added to the condition for the Rentech boiler. 40 CFR 60.46b(e)(4) has also been clarified to be relevant only to the Nebraska boiler.

### **7.5 NESHAP Applicability (40 CFR 61)**

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

### **7.6 MACT Applicability (40 CFR 63)**

The facility boilers (B&W Boiler, Rentech Boiler, and Nebraska 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. TASCOPaul is classified as a major source of HAP; refer to the Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70) section for additional information concerning facility classification. A complete breakdown of Subpart DDDDD for the three affected boilers at the facility can be seen in the Statement of Basis of T1-2017.0057 issued February 23, 2018.

## **7.7 CAM Applicability (40 CFR 64)**

Based upon criteria pollutant emission estimates provided (refer to Appendix A for additional information), the B&W Boiler, Erie City Boiler, North Pulp Dryer, and South Pulp Dryer emissions units have previously been determined to be subject to the requirements of 40 CFR 64 - Compliance Assurance Monitoring (see T1-050414 issued October 15, 2014). CAM was only applicable to the B&W Boiler and Erie City Boiler when firing coal. Since issuance of the previous Tier I Operating Permit, the B&W Boiler has been converted to natural gas firing and the Erie City Boiler has been replaced by the Rentech Boiler which is also a natural gas fired boiler with neither boiler having any control devices. Therefore, CAM is no longer applicable to the B&W Boiler or the Erie City Boiler and the requirements have been removed from the permit. The CAM requirements for the North Pulp Dryer and the South Pulp Dryer remain the same for two indicators (scrubber water flow rate and scrubber differential pressure). TASCOPaul has requested to use a different indicator for CAM monitoring other than total solids. Previous source tests from 2008 to 2012 show that the total solids average around 40,000 mg/L which is well below the previous indicator range of less than 136,000 mg/L. Also, although solids variation may partly affect emissions, normal operation of the scrubbers within the flow and differential pressure parameters will effectively control emissions. In addition, the dual alkali pollution control system no longer contributes dissolved solids to the scrubber solution. Therefore, inspection and maintenance of the scrubbers is now listed as indicator 3 for the pulp dryer scrubbers. Below is a summary of CAM for the North Pulp Dryer and the South Pulp Dryer.

**Table 7.1 Compliance Assurance Monitoring Requirements for North and South Pulp Dryer Scrubbers <sup>(a)</sup>**

Requirement	Indicator No. 1	Indicator No. 2	Indicator No. 3
Indicator	Scrubber Water Flow Rate	Scrubber Differential Pressure	Inspection and Maintenance of Scrubbers
Measurement Approach	The water flow rate is monitored with insertion type magnetic flow meters.	The differential pressure in the scrubbers is measured by a differential pressure sensor and transmitter. The monitor compares pressure before and after the scrubber and transmits the value to the control room.	Physical degradation of the scrubbers or mechanical components could affect the performance.
Indicator Range	An excursion <sup>a</sup> is defined as a scrubber water flow of less than 100 gpm and greater than 400 gpm.	An excursion <sup>a</sup> is defined as a pressure drop of less than 4.0 inches of water.	---
Performance Criteria Data Representativeness	The magnetic water flow meters are located on the pipeline between the scrubber water pumps and the two scrubbers.	Measure pressure differential before and after each scrubber.	---
QA/QC Practices	The flow meters were installed in accordance with the manufacturer's recommendations. The flow meters are removed, cleaned, and inspected annually. Operation is checked during the test-out before the beet run.	The pressure sensors and transmitters were installed in accordance with the manufacturer's recommendations. The pressure sensors and transmitters are inspected and calibrated annually.	Annual inspection and maintenance in accordance with the O&M manual.
Monitoring Frequency	The scrubber water flow is monitored continuously.	The pressure drop across the scrubbers is measured continuously.	The scrubbers are inspected annually during a planned maintenance downtime.
Data Collection Procedure	The scrubber flow rates are recorded every 15 minutes and stored in Parview.	The scrubber differential pressure values are recorded every 15 minutes and stored in Parview.	Inspection and maintenance is checked and recorded.
Averaging Period	Daily average	Daily average	---

a) Excursion is defined in 40 CFR 64 as a departure from an indicator range established for monitoring under this part, consistent with any averaging period specified for averaging the results of the monitoring.

## 7.8 Acid Rain Permit (40 CFR 72-75)

This facility is not an affected facility as defined in 40 CFR 72 through 75; therefore, acid rain permit requirements do not apply.

## 8. PUBLIC COMMENT

As required by IDAPA 58.01.01.364, a public comment period was made available to the public from March 9, 2020 – April 8, 2020. 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.

## 9. EPA REVIEW OF PROPOSED PERMIT

As required by IDAPA 58.01.01.366, DEQ provided the proposed permit to EPA Region 10 for its review and comment on April 14, 2020, via the online the Electronic Permit System (EPS). On April 24, 2020, EPA Region 10 responded to DEQ via e-mail indicating that EPA would not be reviewing the permit and would not object to the permit issuance.

## **Appendix A - Emissions Inventory**

SUMMARY OF CRITERIA POLLUTANT EMISSIONS - Facility Classification  
Mini Cassia Facility

Table I

3852000 tons beets per year

Source	ID	PM			PM10			SO2			CO			NOx			VOC		
		max lbs/hr	avg lbs/h	year tns/yr															
B&W Boiler	S-B1	1.6	1.0	4.6	1.6	1.0	4.6	0.1	0.1	0.4	16.1	10.7	47.0	21.8	14.5	63.5	1.1	0.8	3.3
Rentech Boiler	S-B2	2.3	2.2	9.8	2.3	2.2	9.8	0.2	0.2	0.8	25.3	24.9	109.2	15.8	15.6	68.3	1.6	1.6	7.1
South Pulp Dryer	S-D1	44.1	19.0	83.1	44.1	19.0	83.1	27.4	12.3	54.0	287.3	123.5	540.9	78.9	35.4	155.2	1.8	0.8	3.5
North Pulp Dryer	S-D2	45.5	19.6	85.8	45.5	19.6	85.8	31.9	14.5	63.4	349.4	150.3	658.1	77.5	35.1	153.9	2.1	0.9	4.1
Pellet Cooler No. 1	S-D3	2.40	0.89	3.89	1.20	0.44	1.95												
Pellet Cooler No. 2	S-D4	2.40	0.89	3.89	1.20	0.44	1.95												
Pellet Cooler No. 3	S-D5	2.40	0.89	3.89	1.20	0.44	1.95												
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
Eberhardt Kiln	S-K1	3.10	1.61	7.06	3.10	1.61	7.06	0.92	0.49	2.14	690.2	359.1	1572.7	20.22	20.22	46.08	1.21	0.64	2.80
Process Slaker	S-K2	0.46	0.24	1.05	0.46	0.24	1.05												
Drying Granulator	S-W1	0.73	0.54	2.35	0.73	0.54	2.35												
#1 Cooling Granulator	S-W2	0.37	0.27	1.18	0.37	0.27	1.18												
#2 Cooling Granulator	S-W3	0.37	0.27	1.18	0.37	0.27	1.18												
Sugar Handling(Process)	S-W4	0.30	0.30	1.31	0.30	0.30	1.31												
Sugar Handling(Bulk Loading)	S-W5	0.30	0.30	1.31	0.30	0.30	1.31												
Main Mill	S-O5																67.3	33.3	145.6
Sulfur Stoves	S-O7							6.3	2.9	12.9									
Coal Unloading Area	F-O1					0.03	0.15												
Coal Storage Area	F-O2					0.80	3.51												
Boiler Coal Unloading area & Haul Road	F-B3					0.11	0.50												
Beet Hauling - West & Loop	F-O4 (a-e)					0.74	3.24												
Beet Hauling - East	F-O4 (f-l)					1.13	4.97												
Beet Hauling - North - East	F-O4 (j)					0.17	0.74												
Cooling Towers	F-O6					0.92	4.02												
Dryer Coal Unloading	F-D6					0.01	0.06												
Dried Pulp Storage & Loadout	F-D7					0.10	0.45												
PCC Storage & Handling	F-O8 (a-e)					0.90	3.94												
<b>TOTAL</b>	<b>TOTAL</b>	<b>106.3</b>	<b>48.0</b>	<b>210.4</b>	<b>102.7</b>	<b>51.6</b>	<b>226.1</b>	<b>66.9</b>	<b>30.5</b>	<b>133.6</b>	<b>1368.3</b>	<b>668.5</b>	<b>2928.0</b>	<b>214.3</b>	<b>120.9</b>	<b>486.8</b>	<b>75.1</b>	<b>38.0</b>	<b>166.4</b>

**TABLE 4-5 Fugitive Dust Emissions**

F-01	Coal Unloading Area.	POLLUTANT	% Reduction (control)	UNIT	Process Input	Emission Factor		Emission PM10 (tons/yr)	REFERENCE
						w/o reduction LB/UNIT	w / reduction LB/UNIT		
F-01a.)	Railcar unloading to conveyor	PM10	80%	Tons	41,900	1.09E-04	2.18E-05	0.000	AP-42 13.2.2-2 (1/95)
F-01b.)	Conveyor dump to interm storage pile	PM10	80%	Tons	41,900	2.07E-03	4.14E-04	0.01	AP-42 11.9-1 (1/95)
F-01c.)	Coke unloading from railcar	PM10	0%	Tons	10,680	4.00E-04	0.0004	0.0021	AP-42, 13.2.4.3
F-01d.)	Coke conveyor drop	PM10	0%	Tons	10,680	4.00E-04	0.0004	0.0021	AP-42, 13.2.4.3
F-01e.)	Limerock rail unloading	PM10	0%	Tons	146,300	8.00E-04	0.0008	0.06	AP-42, 13.2.4.3
F-01f.)	Limerock unloading -conveyor	PM10	0%	Tons	146,300	8.00E-04	0.0008	0.06	AP-42, 13.2.4.3
<b>F-01 total</b>								<b>0.13</b>	
F-02	Coal Storage Area								
F-02a.)	Front end loader to storage pile	PM10	80%	Tons	41,900	1.09E-04	2.18E-05	0.000	AP-42, 13.2.4.3
F-02b.)	Front end loader from storage pile	PM10	80%	Tons	41,900	1.09E-04	2.18E-05	0.000	AP-42, 13.2.4.3
F-02c.)	Vehicle traffic on storage pile (Front end loaders)	PM10	80%	Hours	7,944	3.99E+00	0.797	3.17	AP-42, 11.9-1
F-02d.)	Active coal pile	PM10	70%	Per acre	3	7.60E+02	228.000	0.34	AP-42, 11.9-4
<b>F-02 total</b>								<b>3.51</b>	
F-B3	Boiler Coal Unloading Area & Haul Road.								
F-B3a.)	Coal unloading at boiler	PM10	80%	Tons	0	1.10E-04	2.20E-05	0.0000	AP-42, 13.2.4.3
F-B3b.)	Coal Traffic to boiler hopper	PM10	90%	VMT	0	3.11E-01	3.11E-02	0.0000	AP-42, 13.2.2
F-B3c.)	Limerock transfer to short term storage	PM10	0%	Tons	146,300	8.00E-04	0.0008	0.06	AP-42, 13.2.4.3
F-B3d.)	Lime kiln operational drop	PM10	0%	Tons	146,300	8.00E-04	0.0008	0.06	AP-42, 13.2.4.3
F-B3e.)	Coke transfer to Coke Bunker	PM10	0%	Tons	10,680	4.00E-04	0.0004	0.0021	AP-42, 13.2.4.3
F-B3f.)	Coke transfer to hopper at kiln	PM10	0%	Tons	10,680	4.00E-04	0.0004	0.0021	AP-42, 13.2.4.3
F-B3g.)	Coke transfer to kiln at (2) belts	PM10	0%	Tons	10,680	9.00E-04	0.0009	0.0048	AP-42, 13.2.4.3
F-B3h.)	Coke pile wind erosion	PM10	50%	Per acre	1	7.60E+02	380	0.19	AP-42, 11.9-4
F-B3i.)	Vehicle traffic on unpaved roads	PM10	90%	VMT	1,799	8.99E-01	0.0899	0.08	AP-42, 13.2.2-2
<b>F-B3 total</b>								<b>0.40</b>	
F-04	Beet Hauling								
	West Beet Pile Area & Beet Haul Loop					Area = 87,500 Meters <sup>2</sup>			
F-04a.)	Beet unloading for processing	PM10	0%	Tons slice	3,852,000	3.142E-04	3.14E-04	0.605	AP-42, 13.2.4.3
F-04b.)	Beets drop for beets stored onsite	PM10	0%	Tons Piled	261,623	3.142E-04	3.14E-04	0.04	AP-42, 13.2.4.3
F-04c.)	Vehicle traffic to storage	PM10	90%	VMT	12,247	7.433E-01	7.43E-02	0.46	AP-42, 13.2.2-2
F-04d.)	Vehicle traffic from storage (Trans-sys)	PM10	90%	VMT	7,626	1.064E+00	1.06E-01	0.41	AP-42, 13.2.2-2
F-04e.)	Trans-sys OTR (over the road) deliveries	PM10	90%	VMT	33,666	1.064E+00	1.06E-01	1.79	AP-42, 13.2.2-2
<b>F-04 a-e total</b>								<b>3.30</b>	
	East Beet Pile Area					Area = 162,000 Meters <sup>2</sup>			
F-04f.)	Beets drop for beets stored onsite	PM10	0%	Tons Piled	484,377	3.142E-04	3.14E-04	0.08	AP-42, 13.2.4.3
F-04g.)	Vehicle traffic to storage	PM10	90%	VMT	22,675	7.433E-01	7.433E-02	0.84	AP-42, 13.2.2-2
F-04h.)	Vehicle traffic from storage (Trans-sys)	PM10	90%	VMT	14,120	1.064E+00	1.06E-01	0.75	AP-42, 13.2.2-2
F-04i.)	Trans-sys OTR (over the road) deliveries	PM10	90%	VMT	62,330	1.060E+00	1.06E-01	3.30	AP-42, 13.2.2-2
<b>F-04 f-i total</b>								<b>4.97</b>	
	Northeast Beet Pile Area								
F-04j.)	Flume dirt handling	PM10	0%	Tons dirt	40,000	3.700E-02	3.70E-02	0.74	AP-42, 11.9-4 (7/98)
<b>F-04j total</b>								<b>0.74</b>	overburden batch drop
<b>F-04 total</b>								<b>9.01</b>	

F-06 Cooling Towers										
Cooling Towers										
F-06a.)	Cooling tower drift (11,000 gpm)	PM10	0%	per day	330	2.42E+01	2.42E+01	3.99	AP-42, 13.4 (Table 13.4-1)	
F-06b.)	Cooling Tower drift (1,500 gpm)	PM10	0%	per day	330	1.80E-01	1.80E-01	0.03	Factory Manual	
								<b>F-06 total</b>	<b>4.02</b>	
F-D6 Dryer Coal Unloading										
Pulp Dryers										
F-D6 a.)	Coal unloading at dryers	PM10	80%	Tons coal	41,900	1.090E-04	2.18E-05	0.0005	AP-42, 13.2.4.3	
F-D6 b.)	Vehicle Traffic (eg. coal delivery)	PM10	90%	VMT	3,868	3.114E-01	3.11E-02	0.06	AP-42, 13.2.2	
								<b>F-D6 total</b>	<b>0.06</b>	
F-D7 Dried Pulp Storage & Loadout										
Pulp Loadout										
F-D7a.)	Pressed pulp warehouse conveyor outside drop.	PM10	0%	Tons	330,000	1.87E-05	1.87E-05	0.003	AP-42, 13.2.4.3	
F-D7b.)	Pressed pulp loading truck loading (100% performed outside)	PM10	0%	Tons	330,000	1.87E-05	1.87E-05	0.003	AP-42, 13.2.4.3	
F-D7c.)	Dried (shreds) pulp warehouse conveyor drop (100% inside).	PM10	90%	Tons	40,262	2.75E-04	2.75E-05	0.001	AP-42, 13.2.4.3	
F-D7d.)	Dried (shreds) pulp warehouse truck loading (100% performed inside)	PM10	90%	Tons	40,262	2.75E-04	2.75E-05	0.001	AP-42, 13.2.4.3	
F-D7e.)	Pellet warehouse conveyor drop.	PM10	90%	Tons	72,999	3.14E-04	3.14E-05	0.001	AP-42, 13.2.4.3	
F-D7f.)	Pellet warehouse loading truck loading (80% performed inside)	PM10	72%	Tons	72,999	3.14E-04	8.79E-05	0.003	AP-42, 13.2.4.3	
F-D7g.)	Pellet warehouse loading truck loading for transport off-site	PM10	90%	VMT	5,495	1.60E+00	1.60E-01	0.44	AP-42, 13.2.2	
								<b>F-D7 total</b>	<b>0.45</b>	
F-08 PCC Storage & Handling										
PCC Loop										
F-08a.)	PCC transporation (N-Pond)	PM10	90%	VMT	12,782	8.99E-01	8.99E-02	0.57	AP-42, 13.2.2-2	
F-08aii.)	Wind erosion (N-Pond)*	PM10	70%	Per acre	20	760	228	2.28	AP-42, 11.9-4	
F-08b.)	Small vehicle traffic (S-Pond)*	PM10	50%	VMT	987	2.01E+00	1.01E+00	0.50	AP-42 (12/03), 13.2.2-4	
F-08bii.)	Wind erosion (S-Pond)*	PM10	70%	Per acre	2.4	760	228	0.27	AP-42, 11.9-4	
Limerock Handling										
F-08c.)	Agregate lime pile construction	PM10	0%	Tons	146,300	8.29E-04	8.29E-04	0.06	AP-42, 13.2.4.3	
F-08d.)	Limerock Loading	PM10	0%	Tons	146,300	8.29E-04	8.29E-04	0.06	AP-42, 13.2.4.3	
F-08e.)	Lime pile wind erosion	PM10	50%	Per acre	1	760	380	0.19	AP-42, 11.9-4	
								<b>F-08 total</b>	<b>3.94</b>	

Note: F-08b is based on maintenance access (pickup trucks) during April - August. (578 VMT). Plus Minimal vehicle traffic during the remaining 7 months of the year (409 VMT). Total yearly VMT is estimated as 987 .

**Table 4-6 Summary of GHG Emissions Estimates**  
**The Amalgamated Sugar Co. LLC**  
**Mini-Cassia Facility**

Source	CO <sub>2</sub> (tons/y)	CH <sub>4</sub> (tons/y)	N <sub>2</sub> O (tons/y)	CO <sub>2</sub> e (tons/y)
Total - Boilers	234000	4.40	0.44	234241
Total - Pulp Dryers	77410	8.76	1.27	78009
Total - Lime Kilns	33188	3.21	0.47	33408
Total	344598	16.37	2.18	345657

**Table 4-7 Facility GHG Emissions Estimates**  
**The Amalgamated Sugar Co. LLC**  
**Mini-Cassia Facility**

Source Name	Source ID	Annual	Units	Parameter	Factor	Units	Emissions		Annual Emissions (tons/y)
							Reference		
B&W Boiler	S-B1	12,700,000	therms nat. gas	CO <sub>2</sub>	11.70	lbs/therm	40CFR98 Subpart C Table C-1		74295
		12,700,000	therms nat. gas	CH <sub>4</sub>	0.00022	lbs/therm	40CFR98 Subpart C Table C-2		1
		12,700,000	therms nat. gas	N <sub>2</sub> O	0.000022	lbs/therm	40CFR98 Subpart C Table C-2		0.1
Rentech Boiler	S-B4	27,300,000	therms nat. gas	CO <sub>2</sub>	11.70	lbs/therm	40CFR98 Subpart C Table C-1		159705
		27,300,000	therms nat. gas	CH <sub>4</sub>	0.00022	lbs/therm	40CFR98 Subpart C Table C-2		3
		27,300,000	therms nat. gas	N <sub>2</sub> O	0.000022	lbs/therm	40CFR98 Subpart C Table C-2		0.3
				CO <sub>2</sub> (tons/y)	CH <sub>4</sub> (ton/y)	N <sub>2</sub> O(tons/y)			
Total - Boilers				234000	4	0.4			

Source Name	Source ID	Annual	Units	Parameter	Factor	Units	Emissions		Annual Emissions (tons/y)
							Reference		
South Dryer	S-D1	19274	tons - coal	CO <sub>2</sub>	3695	lbs/ton coal	40CFR98 Subpart C Table C-1		35609
		19274	tons - coal	CH <sub>4</sub>	0.418	lbs/ton coal	40CFR98 Subpart C Table C-2		4
		19274	tons - coal	N <sub>2</sub> O	0.0608	lbs/ton coal	40CFR98 Subpart C Table C-2		0.6
North Dryer	S-D2	22626	tons - coal	CO <sub>2</sub>	3695	lbs/ton coal	40CFR98 Subpart C Table C-1		41802
		22626	tons - coal	CH <sub>4</sub>	0.418	lbs/ton coal	40CFR98 Subpart C Table C-2		5
		22626	tons - coal	N <sub>2</sub> O	0.0608	lbs/ton coal	40CFR98 Subpart C Table C-2		0.7
				CO <sub>2</sub> (tons/y)	CH <sub>4</sub> (ton/y)	N <sub>2</sub> O(tons/y)			
Total - Pulp Dryers				77410	9	1			

Source Name	Source ID	Annual	Units	Parameter	Factor	Units	Emissions		Annual Emissions (tons/y)
							Reference		
Eberhardt Lime Kiln	S-K1	10680	tons - coke	CO <sub>2</sub>	6215	lbs/ton coke	40CFR98 Subpart C Table C-1		33188
		10680	tons - coke	CH <sub>4</sub>	0.601	lbs/ton coke	40CFR98 Subpart C Table C-2		3.2
		10680	tons - coke	N <sub>2</sub> O	0.0875	lbs/ton coke	40CFR98 Subpart C Table C-2		0.5
				CO <sub>2</sub> (tons/y)	CH <sub>4</sub> (ton/y)	N <sub>2</sub> O(tons/y)			
Total - Lime Kilns				33188	3.2	0.5			

**The Amalgamated Sugar Co. LLC  
Mini-Cassia Facility**

4/4/2019

**Table 4-9 HAP Emissions Summary for Facility**

**HAPs based on 3,852,000 tons beet slice**

Hazardous Air Pollutant (HAP)	BW Boiler Nat. Gas (tons / year)	Rentech Nat. Gas (tons / year)	Nebraska Boiler Nat. Gas (tons / year)	South Dryer (tons / year)	North Dryer (tons / year)	EBERHARDT KILN (COKE) (tons / year)	Main Mill (tons / year)	Constituent Totals (tons / year)
Acetaldehyde				1.663	1.941	0.0E+00	4.76	8.37
Acrolein				0.804	0.939	0.0E+00	0.11	1.85
Formaldehyde	4.8E-02	1.0E-01	0.0E+00	0.815	0.952	0.0E+00	0.04	1.96
Methanol				1.115	1.302		89.81	92.23
Arsenic	6.4E-01	1.4E+00	0.0E+00	0.004	0.004	2.2E-03		2.01
Benzene	1.3E-03	2.9E-03	0.0E+00	0.012	0.014	0.0E+00		0.03
Beryllium	7.6E-06	1.6E-05	0.0E+00	0.000	0.000	1.1E-04		0.00
Cadmium	7.0E-04	1.5E-03	0.0E+00	0.000	0.001	8.8E-02		0.09
Chromium	8.9E-04	1.9E-03	0.0E+00	0.002	0.003	1.4E-03		0.01
Cyanide				0.023	0.027	1.3E-02		0.06
Hydrochloric Acid				0.048	0.057	0.0E+00		0.10
Hydrogen Fluoride				0.058	0.068	0.0E+00		0.13
Lead	3.2E-04	6.8E-04	0.0E+00	0.004	0.004	2.2E-03		0.01
Manganese	2.4E-04	5.2E-04	0.0E+00	0.004	0.005	2.6E-03		0.01
Mercury	1.7E-04	3.5E-04	0.0E+00	0.0006	0.0007	2.6E-03		0.0046
Nickel	1.3E-03	2.9E-03	0.0E+00	0.003	0.003	1.5E-03		0.01
Selenium	1.5E-05	3.3E-05	0.0E+00	0.012	0.014	6.9E-03		0.03
Toluene	2.2E-03	4.6E-03	0.0E+00	0.002	0.003	0.0E+00		0.01
Xylenes		-	-	0.000	0.000	0.0E+00		0.00
PAH and other HAPs	1.1E+00	2.5E+00	0.00E+00	0.03	0.04	0.0E+00		3.68

**Grand Total 110.61**

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

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

2. Emission Factors provided in Tier I Permit Renewal Application.

## HAP's Emissions Inventory Annual Production Values Mini-Cassia Facility

**Table 4-10 HAP Operating Assumptions**

	Beet Campaign	Juice Campaign	Units
OPERATING CAMPAIGN	206	125	DAYS
BEETS SLICED (Max Daily)	21,550		Tons per day
BEETS SLICED (Annually)	3,852,000		Tons per year
B & W BOILERS (Natural Gas Fired)	1,270	0.00	MMCF / year
RENTECH BOILER (Natural Gas Fired)	2,730	0.00	MMCF / year
NEBRASKA BOILER (NATURAL GAS FIRED)	0.0		MMCF / year
SOUTH DRYER (COAL INPUT)	18,200		Tons per year
SOUTH DRYER (NATURAL GAS INPUT)	0		MMCF / year
SOUTH DRYER (TOTAL INPUT)	173,000		Tons per year
NORTH DRYER (COAL INPUT)	21,400		Tons per year
NORTH DRYER (NATURAL GAS INPUT)	0		MMCF / year
NORTH DRYER (TOTAL INPUT)	202,000		Tons per year
EBERHARDT KILN (COKE)	10,680		Tons per year
(Lime Rock)	146,300		Tons per year
MAIN MILL	1,051,596		1000 gal / year
HAP emissions are calculated using max hourly production rates multiplied by 24 and the days of operation with the exception of operations associated directly with beet slicing rates. These are calculated using the annual beet slice rate.			
<sup>1</sup> The Mini-Cassia facility has a Federally Enforcable Permit Limit. This limits the total tons of beets sliced to 3,852,000 tons per year. Since Major/Minor status is based on annual HAP's produced, the beet slice annual limit will be used to calculate average daily process production rates.			
The Erie City boiler is currently permitted to operate on natural gas, which can produce rates as high as 250,000 lbs / hr. Overall therms of gas for boilers is limited to a total of 40,000,000 therms.			
The Mini-Cassia facility is permitted to operate two of three boilers simultaneously. Steam produced in the Nebraska boiler will be used to supplement steam production from one other boiler: B&W, Erie City (if not decommissioned), or Rentech (when operational). The Nebraska boiler may be operated during the beet or juice runs.			

Facility HAP Emissions Summary  
Mini Cassia Facility  
April 2018

HAP Pollutants	PTE (t/y)
Acetaldehyde	8.37
Acrolein	1.85
Formaldehyde	1.96
Methanol	92.23
Arsenic	2.01
Benzene	0.03
Beryllium	0.00
Cadmium	0.09
Chromium	0.01
Cyanide	0.06
Hydrochloric Acid	0.10
Hydrogen Fluoride	0.13
Lead	0.01
Manganese	0.01
Mercury	0.00
Nickel	0.01
Selenium	0.03
Toluene	0.01
Xylenes	0.00
PAH and other HAPs	3.68

## **Appendix B - Facility Comments on Draft Permit**

**The following comments were received from the facility on February 21, 2020:**

**Facility Comment:** Table 3.3, P.C. 3.27 – For natural gas fired boilers, 63.6(e) does not apply per Subpart DDDDD Table 10. 63.6(f)(1) also does not apply. These bullets should be removed from the permit. None of the natural gas boilers are required to perform source testing under Part 63. Section 63.7 of the table should be removed from the permit. Section 63.9 regarding source testing is not relevant to natural gas boilers and should be removed from the permit. Section 63.10 other than the first bullet point does not apply.

**DEQ Response:** Table 3.3 is a summary of the General Provisions of 40 CFR 63, Subpart A for affected sources. Some sources, such as natural gas fired boilers, may not be subject to all of the general provisions. The entire table is included to cover all sources in all Tier I operating permits.

**Facility Comment:** P.C. 3.30 – In the second bullet point, natural gas fired boilers are not required to have an O&M manual. Remove Permit Condition 4.1 from the list.

**DEQ Response:** The requested change has been made.

**Facility Comment:** P.C. 4.4 – Remove Erie City reference and replace with Rentech. The same comment for Table 4.4.

**DEQ Response:** The requested change has been made.

**Facility Comment:** P.C. 4.14 – The Nebraska boiler successfully fulfilled its performance test requirements. Please remove “Nebraska” from the heading and related condition bullets.

**DEQ Response:** DEQ acknowledges that the initial performance testing has been completed on the Nebraska boiler, however, the third bullet point taken from 40 CFR 60.46b(e)(4) states that the permittee shall upon request determine compliance with the NO<sub>x</sub> standards through the use of a 30-day performance test for the Nebraska boiler. Therefore, DEQ feels it appropriate to title the condition for both the Nebraska and Rentech boilers.

**Facility Comment:** P.C. 4.19 – Delete this condition. This condition does not apply to natural gas fired boilers.

**DEQ Response:** 40 CFR 63.7500(a)(3) does not exclude natural gas boilers from meeting this condition. This condition applies to all boilers that are subject to the rule.

**Facility Comment:** P.C. 4.21 – 40 CFR 63.7540(a)(12) allows for 5-years burner inspection. The 36 months come from the language copied from the annual tune-up in 63.7540(a)(10)(i). Alternatively, if desired, you may copy the following at the end of the bullet: You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.

**DEQ Response:** The requested change has been made. The language from 40 CFR 63.7540(a)(12) regarding inspecting each burner at least once every 72 months has been placed in P.C. 4.21.

**Facility Comment:** P.C. 4.23 – Delete the language that does not refer to the 5-year tune-up requirements.

**DEQ Response:** The requested change has been made.

**Facility Comment:** P.C. 4.24 – This paragraph “(iv)” is for limited-use boilers. The Nebraska is not a limited use boiler and requires a CEMS. Factory preferential use of the Nebraska as a backup should not be mandated by the permit (“backup use” terms should be removed from the permit).

**DEQ Response:** The requested change has been made.

**Facility Comment:** Table 7.2 – In Table 7.2, P.C. 7.14 has provisions for either a 3-year or 5-year test cycle. Please clarify in the table.

**DEQ Response:** The requested change has been made.

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