DEQ
Montana Department of Environmental Quality

Air, Energy & Mining Division

March 30, 2022

David Garland, General Manager
Sidney Sugars Inc.
35140 County Road 125
Sidney, MT 59270

Sent via email: dgarland@crystalsugar.com

RE: Final Permit Issuance for MAQP #1826-15

Dear Mr. Garland:

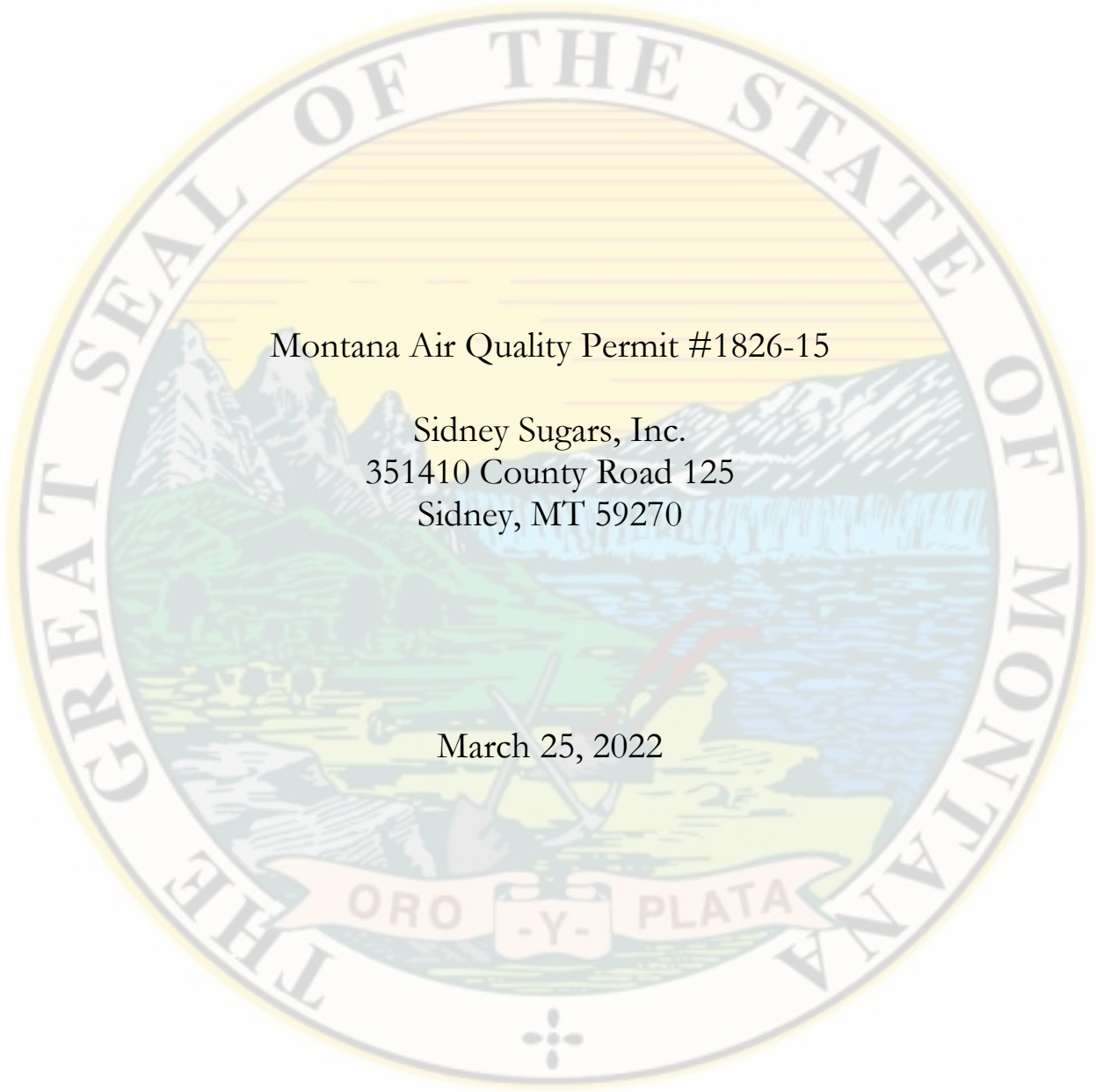
Montana Air Quality Permit (MAQP) #1826-15 is deemed final as of March 25, 2022, by DEQ. This permit is for a sugar beet processing plant. All conditions of the Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For DEQ,

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

John P. Proulx
Environmental Scientist 2
Air Quality Bureau
(406) 444-5391

Montana Department of Environmental Quality
Air, Energy & Mining Division
Air Quality Bureau



Montana Air Quality Permit #1826-15

Sidney Sugars, Inc.
351410 County Road 125
Sidney, MT 59270

March 25, 2022

MONTANA AIR QUALITY PERMIT

Issued to: Sidney Sugars Incorporated
35140 County Road 125
Sidney, MT 59270

MAQP: #1826-15
Application Complete: 1/7/2022
Preliminary Determination Issued: 2/2/2022
Department's Decision Issued: 3/9/2022
Permit Final: 3/25/2022

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Sidney Sugars Incorporated (Sidney Sugars), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

Sidney Sugars operates a sugar refining plant. The facility is located in the NW¼, of the NW¼, Section 34, Township 23 North, Range 59 East, Richland County, Montana: East Holly Street, Sidney, Montana.

B. Current Permit Action

On December 2, 2021, the Department received an application from Sidney Sugars to replace two (2) existing coal fired boilers with one (1) natural gas-fired boiler. This project is referred to as the "185 MMBtu Boiler Project" throughout the permit.

Section II: Conditions and Limitations

A. Operational Requirements and Emission Limitations Effective Until The 185 MMBtu Boiler Project Startup

Combustion Engineering (CE) Boilers:

1. Sidney Sugars shall install, operate, and maintain an Anderson 2000 Inc. Model WAV-162 wetted approach venturi scrubber with wetted elbow and an Anderson 2000 Inc. Model VES-162 vertical cyclonic entrainment separator on each CE boiler (ARM 17.8.752).

2. The sulfur content of the lignite coal and coke breeze fired in the CE boilers shall not exceed 0.63% by weight, determined on a monthly average (ARM 17.8.749).

3. Total fuel consumption by the CE boilers shall not exceed 17.4 ton/hour of lignite coal and coke breeze combined (ARM 17.8.749).

4. Annual hours of operation of each CE boiler shall not exceed 4,320 hour/year (ARM 17.8.749).

5. Sidney Sugars shall not cause or authorize to be discharged into the atmosphere from each CE boiler stack particulate matter in excess of the following (ARM 17.8.752):

   a. 0.10 lb/MMBtu heat input; and
   b. 0.046 gr/dscf.

6. Sidney Sugars shall not cause or authorize to be discharged into the atmosphere from both CE boiler stacks particulate matter in excess of 23 pound/hour (ARM 17.8.752).

7. Sidney Sugars shall not cause or authorize to be discharged into the atmosphere, from either CE boiler, SO_2 emissions in excess of the following (ARM 17.8.752):

   a. 0.43 lb/MMBtu heat input; and
   b. 106.8 ton/year.

8. Sidney Sugars shall maintain a minimum SO_2 removal efficiency of 70% by the control device on the CE boilers. Removal efficiency, in this case, shall be determined based on stack emissions from the CE boilers as a percentage of total sulfur in the lignite coal and coke breeze fuel fired in the boilers (ARM 17.8.752).

Coal Handling:

9. Sidney Sugars shall not add more than 3.0 tons/day of coke breeze to the lignite coal stockpile as supplemental fuel for the CE Boilers (ARM 17.8.749).

10. Sidney Sugars shall install, operate, and maintain pulse jet baghouses on the lignite coal and coke breeze handling, conveying, screening, and crushing system (ARM 17.8.752).

11. Sidney Sugars shall cover all external lignite coal and coke breeze conveyors (ARM 17.8.752).

12. Sidney Sugars shall not cause or authorize to be discharged into the atmosphere from the baghouse controlling the lignite coal and coke breeze handling, conveying, screening, and crushing system, particulate matter in excess of 0.01 gr/dscf (ARM 17.8.749).

B. Operational Requirements and Emission Limitations Effective Prior to and After 185 MMBtu Boiler Project Startup

Boilers and Dryers:

1. The CBW-600 Boiler shall burn only pipeline quality natural gas (ARM 17.8.749).

2. Sidney Sugars shall install a flowmeter to measure the amount of natural gas burned in the CBW-600 Boiler (ARM 17.8.749).

3. NO_X emissions from the CBW-600 Boiler shall not exceed 0.09 lb/MMBtu and 2.23 lb/hr (ARM 17.8.749).

4. CO emissions from the CBW-600 Boiler shall not exceed 0.09 lb/MMBtu and 2.23 lb/hr (ARM 17.8.749).

5. At least once every 3 years from startup of the CBW-600 Boiler, Sidney Sugars shall record an inspection of the boiler for combustion performance. The inspection shall include observing the flame pattern of the burners and measuring CO emissions via a portable analyzer to assess burner performance. Sidney Sugars shall record the date of the inspection, the CO levels observed, and any adjustments made including cleaning of the nozzles or other actions deemed necessary, as a result of the inspection. The inspection records shall be maintained for a minimum of 5 years from the date of inspection and shall be submitted to the Department upon request (ARM 17.8.752).

6. By the 25th day of each month, Sidney Sugars shall record in a log the total amount of gas burned in the CBW-600 boiler for the previous month (ARM 17.8.749 and a compliance option of ARM 17.8.340 and 40 CFR 60 Subpart Dc).

7. Sidney Sugars shall comply with all applicable requirements of 40 CFR 60 Subpart Dc as applicable to the CBW-600 boiler, including the reporting requirements of 40 CFR 60.48c(a) and 40 CFR 60.48c(g)(1)-(3) and (i) (ARM 17.8.340 and 40 CFR 60 Subpart Dc). The Department waives the requirement for initial performance tests required by 40 CFR 60.8 because the Department considers the burning of only pipeline quality natural gas as demonstrating by other means to the Department's satisfaction that the affected facility is in compliance with the standard (ARM 17.8.340 and 40 CFR 60 Subparts A and Dc).

8. The sulfur content of the natural gas fired in the boilers or dryers shall not exceed 50 grains per 100 cubic feet of gaseous fuel (ARM 17.8.322).

9. Each dryer process rate (to include molasses) shall not exceed 114,192 tons during any one campaign (ARM 17.8.749).

10. Sidney Sugars shall install, operate, and maintain a weighing device on each dryer to verify the process rate and to demonstrate compliance with the process rate limitation. In the event of weigh device malfunction, Sidney Sugars shall use an alternative monitoring method approved by the Department (ARM 17.8.749).

11. Sidney Sugars shall not cause, suffer, allow, or permit to be discharged into the atmosphere, from each pulp dryer (#1 and #2), particulate matter in excess of the amount allowed by ARM 17.8.310. The following equations shall be used to calculate the values:

    $E = 55.0 * P^{0.11} - 40$ For process weight rates in excess of 30 tons/hr;

    Or

$E = 4.10 * P^{0.67}$ For process weight rates up to 30 tons/hr:

Where E is the emission rate in pounds per hour and P is the process weight in tons per hour.

12. Sidney Sugars shall not cause or authorize to be discharged into the atmosphere from any of the boilers or dryers, particulate matter in excess of that allowed by ARM 17.8.309.

Sugar Silos:

13. Sidney Sugars shall install, operate, and maintain a filter vent on sugar silos #7 through #16 (ARM 17.8.752).

14. Sidney Sugars shall install, operate, and maintain a connection between conditioner silo #6 and silo #7 to control emissions from silo #6 through the silo #7 filter vent (ARM 17.8.752).

15. Sidney Sugars shall install, operate, and maintain enclosed screw conveyors and enclosed bucket elevators, used to transfer sugar (ARM 17.8.752).

16. Sidney Sugars shall not cause or authorize to be discharged into the atmosphere from each of the sugar silos (#7 through #16), visible emissions in excess of 10% opacity averaged over 6 consecutive minutes (ARM 17.8.752).

Sugar Packaging Line:

17. Sidney Sugars shall install, operate, and maintain a baghouse on the sugar packaging line (ARM 17.8.752).

Pebble Lime Silo:

18. Sidney Sugars shall install, operate, and maintain a baghouse on the Pebble Lime Silo (ARM 17.8.752).

Lime Handling:

19. The pebble lime hopper throughput shall not exceed 400 ton/day (ARM 17.8.752).

20. Sidney Sugars shall vent all emissions from the loading of the pebble lime hopper to the existing MAC Equipment 72-avw baghouse (ARM 17.8.752).

21. A pneumatic loading device shall be used when loading the pebble lime hopper (ARM 17.8.752).

Fugitives:

22. Sidney Sugars shall chemically stabilize, as necessary, ash piles from dredging operations to prevent fugitive particulate emissions from wind erosion (ARM 17.8.752).

23. Sidney Sugars shall not cause or authorize to be discharged into the atmosphere any visible fugitive emissions that exhibit opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.308).

All Applicable Units:

24. Sidney Sugars shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes. This includes but is not limited to the CE boilers and the coal handling baghouse (ARM 17.8.304).

25. Sidney Sugars shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

26. Sidney Sugars shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

27. Sidney Sugars shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60, Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* as it applies to the CBW-600 Boiler and Subpart Y - *Standards of Performance for Coal Preparation and Processing Plants* as it applies to the coal handling, conveying, screening, crushing, and stockpile facilities at the Sidney Sugars facility (ARM 17.8.340 and 40 CFR 60, Subpart Dc and Subpart Y).

C. Operational Requirements and Emission Limitations Effective After 185 MMBtu Boiler Project Startup

1. The maximum rated design capacity of the boiler shall not exceed 185 MMBtu/hr (ARM 17.8.749).

2. Emissions Limits for the 185 MMBtu natural gas-fired boiler shall not exceed the following (ARM 17.8.752):

   Oxides of Nitrogen (NO_X) – 0.04 lb/MMBtu
   Carbon Monoxide (CO) – 0.04 lb/MMBtu

3. Sidney Sugars shall operate and maintain all emission control equipment as specified in its application for its MAQP and all subsequent revisions (ARM 17.8.752).

4. Sidney Sugars shall not operate the Two Combustion Engineering (CE) boilers after startup of the new 185 MMBtu Boiler natural gas-fired boiler (ARM 17.8.749).

5. Sidney Sugars shall disconnect or otherwise render inoperable the two (2) CE boilers upon startup of the 185 MMBtu Boiler (ARM 17.8.749).

6. Sidney Sugars shall comply with all applicable standards and limitations, reporting, record keeping, and notification requirements of 40 CFR 60, Subpart Db (ARM 17.8.340 and 40 CFR 60, Subpart Db).

D. Emissions Monitoring

Sidney Sugars shall inspect the fabric filter dust collector (baghouse) for the Pebble Lime Silo daily to ensure that it is operating at the optimum efficiency. Records of inspection, repairs, and maintenance shall be kept for a minimum of 5 years (ARM 17.8.749).

E. Testing Requirements

1. Within 365 days of startup of the CBW-600 Boiler, Sidney Sugars shall conduct an initial source test on the CBW-600 Boiler for NO_X and CO, concurrently, to determine lb/MMBtu and lb/hr emissions rates. During the performance test, the amount of fuel burned shall be recorded (ARM 17.8.105).

2. While the CE boilers remain operable, Sidney Sugars shall conduct source tests for opacity, particulate, and SO_2 on the two CE boilers, and demonstrate compliance with the limitations in Sections II.A.5, A.6, A.7, A.8, and A.27. Testing shall be conducted within 180 days of initial startup following the addition of coke breeze as a fuel source for the CE boilers. Testing shall continue on an every 4-year basis, or according to another testing/monitoring schedule as may be approved by the Department of Environmental Quality (Department) (ARM 17.8.105).

3. Sidney Sugars shall conduct source tests for opacity and particulate on the pulp dryers to demonstrate compliance with the emissions limitations in Section II.B.14 and B.28. The testing shall be performed on an every 4-year basis, or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105).

4. Within 180 days of startup of the 185 MMBtu Boiler, Sidney Sugars shall conduct an initial source test on the 185 MMBtu Boiler for NO_X and CO concurrently to demonstrate compliance with the limitations in Section II.C.1 (ARM 17.8.105).

5. All testing shall include a determination of production rate and fuel consumption rate at the time of testing (ARM 17.8.749).

6. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

7. The Department may require further testing (ARM 17.8.105).

F. Operational Reporting Requirements

1. Sidney Sugars shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). Sidney Sugars shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

   a. While the CE boilers remain operable,
      1) Tons of lignite coal and coke breeze burned in CE boiler #1;
      2) Tons of lignite coal and coke breeze burned in CE boiler #2;
      3) Heat content of the lignite coal received, on a monthly average;
      4) Annual average heat content of the lignite coal and coke breeze burned;
      5) Ash content of lignite coal received, on a monthly average;
      6) Annual average ash content of the lignite coal burned;
      7) Sulfur content of lignite coal received, on a monthly average;
      8) Annual average sulfur content of lignite coal and coke breeze burned;
   b. Amount of natural gas used in the Union Pacific boilers (in mmcf);
   c. Amount of natural gas used in the CBW-600 boiler (in mmcf);
   d. Amount of natural gas used in the pulp dryers (in mmcf);
   e. Average heat content of natural gas;
   f. Quantity of wet beet pulp produced;
   g. Quantity of beet pulp dried;
   h. Process rate for each dryer, reported on a campaign basis;
   i. Operating hours of each CE boilers and the coal handling system;
   j. Quantity of sugar beets sliced;
   k. Quantity of limestone handled;
   l. Quantity of coke used in the lime kiln;
   m. Quantity of coal used in the lime kiln;
   n. Quantity of sugar produced/packaged;
   o. Quantity of pellets produced;
   p. Quantity of reject pellets produced;
   q. Quantity of sugar loaded into silos #7 through #16; and

r. Quantity of sugar unloaded from silos #7 through #16.

2. Sidney Sugars shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include *the addition of a new emissions unit,* change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. Sidney Sugars shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. This includes, but is not limited to, the daily pebble lime hopper throughput and the cumulative process rate for each dryer. All records compiled in accordance with this permit must be maintained by Sidney Sugars as a permanent business record for at least five years following the date of the measurement, must be available at the plant site for inspection by the Department and must be submitted to the Department upon request (ARM 17.8.749).

4. Sidney Sugars shall record in a log anytime fuel other than natural gas is combusted in the dryers. The log must be maintained on site, contain the date, time, type, and quantity of fuel fed into the dryers, and must be submitted to the Department upon request (ARM 17.8.749).

5. Sidney Sugars shall maintain a daily log with a cumulative total of the current campaign production. This log shall be maintained on site, made available to Department personnel during facility visits, and submitted to the Department upon request (ARM 17.8.749).

G. Notification

1. Sidney Sugars shall provide the Department with written notification of the startup date of the 185 MMBtu Boiler within 15 days after the actual start-up date, as determined by the earlier of postmark or email date (ARM 17.8.749).

2. Sidney Sugars shall provide the Department with written notification of the decommissioning dates of the two (2) CE Boilers (ARM 17.8.749).

Section IV: General Conditions

A. Inspection – Sidney Sugars shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (continuous emissions monitoring system (CEMS) or continuous emissions rate monitoring system (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Sidney Sugars fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Sidney Sugars of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq.,* (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Sidney Sugars may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Duration of Permit – Construction or installation of the 185 MMBtu Boiler Project must begin, or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
Sidney Sugars Incorporated
MAQP #1826-15

I. Introduction/Process Description

Sidney Sugars Incorporated (Sidney Sugars) owns and operates a sugar refining plant. The facility is located in the NW¼, of the NW¼, Section 34, Township 23 North, Route 59 East, Richland County: East Holly Street, Sidney, Montana.

A. Permitted Equipment and Source Description

1. Two Combustion Engineering (CE) boilers, fueled with lignite coal and coke breeze, each rated at 115 MMBtu/hr. The boilers each have 80-foot stacks. These boilers shall be decommissioned upon startup of the equipment in Section I.A.4 of this Permit Analysis.

2. Two Union Pacific natural gas/fuel oil-fired boilers. Union Pacific boiler #1 is rated at 130 MMBtu/hr (100,000 lb steam/hr @ 85% boiler efficiency). Union Pacific boiler #2 is rated at 83 MMBtu/hr (60,000 lb steam/hr @ 80% boiler efficiency).

3. One CBW-600 boiler with a capacity of 24.7 MMBtu/hr, burning only pipeline quality natural gas.

4. One 185 MMBtu natural gas-fired boiler.

5. Two beet pulp dryers. The dryers are heated by natural gas only, except during emergency curtailment situations (each dryer is rated at 95 MMBtu/hr).

6. Coal or Coke-fired vertical lime kiln (closed system, no emissions to the atmosphere).

7. Two sulfitators (used to control bacteria in the sugar).

8. Lignite coal handling, conveying, screening, crushing, and stockpile facilities, including two coal bunkers with dust collector (installed 1984). This equipment shall be decommissioned upon startup of the equipment in Section I.A.4 of this Permit Analysis.

9. Beet handling, screening, conveying, and stockpile facilities.

10. Limestone handling and stockpile facilities.

11. Coke handling and stockpiling for use in the lime kiln.

12. Coal handling and stockpiling for use in the lime kiln.

13. Sugar handling and storage.

14. Sugar packaging line (enclosed in building, no emissions to the atmosphere).

15. Pulp pelletizer.

16. Pellet storage, shipping, and handling.

17. Reject pellet system.

18. Wet pulp handling and storage.

19. Weibul (used to condition the finished sugar) with baghouse controls, installed April 1968.

20. Vacuum cleaning system with dust collector, installed mid-1960s.

21. Sugar handling equipment, including 20 enclosed screw conveyors (50 tph) and one bucket elevator (50 tph).

22. Sugar Silos #7 through #16 (12.5 million pounds each) with filter vents for the control of particulates.

23. Conditioner silo #6 (1.9 million pounds). Exhaust from this silo is routed to silo #7 for particulate control.

24. Pebble Lime Hopper. Emissions from the hopper are controlled by the existing MAC Equipment baghouse.

25. Pebble Lime Silo with baghouse for the control of particulates.

B. Permit History

On May 2, 1984, Holly Sugar Incorporated (Holly) received **MAQP #1826** for the conversion of the two existing CE boilers from gas and oil fired to coal fired. The company was required to receive a permit due to changes in emissions for the different fuel sources.

On March 29, 1993, Holly received **MAQP #1826-01** for removal of a permit condition limiting the ash content of the lignite coal burned in their two CE boilers. This modification had no effect on emissions since the existing particulate and SO_2 emission limitations and production limitations would not be changed. Increased testing, monitoring, and reporting requirements were imposed to demonstrate compliance.

On January 6, 1995, Holly received **MAQP #1826-02** to correct errors that existed in MAQP #1826-01. The language limiting the hours of operation of the entire plant was changed to correctly state that the limitation applies to the CE boiler and associated coal handling equipment. Another change was to reference the appropriate rules that determine the maximum emissions from the other boilers and dryers at differing performance loads. Also, references to the applicable rules that were used to determine the conditions or limitations were added to the permit. The corrections did not cause a change in the allowable or actual emissions at the facility. A summary of some of the

changes follows. A more complete description of the changes is included in the analysis of MAQP #1826-02.

1. The section listing limitations for the CE boilers was changed to identify that the CE boilers were limited to 180 days of operation. The previous permit had incorrectly stated the entire facility was subject to the limitation.
   The limitation was included as part of MAQP #1826 and should have been specific to the CE boilers and coal-handling equipment since this equipment was the only equipment reviewed as part of the original permit application.

2. The limitation for the dryers was incorrectly stated in MAQP #1826-01. The condition was rewritten to identify the equations that must be used by the facility to determine allowable emissions from the dryers.

On June 10, 1995, Holly was issued **MAQP #1826-03** to authorize the construction of sugar silos #7 through #16 that allowed for additional sugar storage on site. The equipment also included sugar handling equipment and a conditioner silo #6. Each sugar silo has a filter vent to control emissions from loading and unloading. The conditioner silo #6 vents to silo #7 and emissions are controlled by the silo #7 filter vent.

On April 14, 1996, Holly was issued **MAQP #1826-04** to extend the operating schedule of the coal handling equipment at the facility. Previously, the permit had limited the operation of the CE boilers and the coal handling equipment to 180 days per year. Holly determined that they could meet their needs with only one CE boiler operating and needed the flexibility to extend their campaign beyond the 180-day limit. Therefore, Holly requested that the operating limit on the coal handling equipment be increased to 360 days per year. To ensure there was no increase in the allowable particulate emissions from the coal handling equipment, Holly requested that the emission limit from the coal handling baghouse be reduced from 0.02 gr/dscf to 0.01 gr/dscf. Actual emissions from the coal handling facility were not expected to change as a result of the permitting action.

Holly also requested, and the Department agreed, that the following testing requirements be removed: 1) The requirement to test the Union boilers and the pulp dryers for SO_2 has been removed; the permit contained no limits for SO_2 emissions from these sources and it was not reasonable to require Sidney Sugars to test for the sake of information gathering. 2) The requirement to perform compliance tests for opacity on the sugar silos was removed; the silo vents are located inside small enclosures on top of the silos. The exhaust exits the enclosure through various openings such as the door seals and it would be difficult to perform a compliance test on each opening. The opacity limit on the silo emissions was not affected by this action.

On February 28, 1998, Holly was issued **MAQP #1826-05** to remove the particulate and opacity testing requirements for the two Union boilers. Previously, Holly was required to test the Union boilers for particulate and opacity because the boilers could be fired with natural gas or fuel oil. However, Holly requested that these testing requirements be removed because the boilers are fired almost exclusively on natural gas. Fuel oil is used only during emergency gas curtailments, for less than 30 days per year. With natural gas as the primary fuel, Holly is expected to be in compliance with the opacity and particulate emission limits. If it is determined that Holly is using more fuel than

expected, the Department may require testing. This change did not increase the facility's allowable or potential emissions.

On July 28, 1998, Holly was issued **MAQP #1826-06** for the addition of a pebble lime hopper that would use a pneumatic loading system when lime is loaded into the hopper. This permit modification also clarified the language limiting total annual hours of operation to apply to each CE boiler. This change increased the facility's actual emissions of particulate matter (PM) and particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) by less than 1.5 tons for each pollutant.

On February 26, 1999, Holly was issued **MAQP #1826-07** to increase the throughput capacity of the pebble lime hopper. This increase was necessary to handle the variable quality of beets being processed. Particulate emissions increased by 13.51 tpy as a result of this permitting action. The increase in emissions resulting from the increase in throughput will occur during pneumatic loading from the truck. The tank air vent is ducted directly to the slaker building vent baghouse via a 10" duct. This is an existing baghouse on the slaker building and no new equipment was installed to perform the increased throughput. Also included in this permit modification is clarification of some of the permit conditions. The language for the particulate matter and SO_2 conditions concerning the CE boilers has been changed to indicate the original intent of the conditions. The language concerning the pulp dryer particulate limits was clarified by indicating it applied to each pulp dryer (#1 and #2) rather than both.

As a result of Notice of Violation: EK99-02, an extensive review revealed that Holly's replacement of the facility's diffuser required a permit modification. On August 18, 1999, Holly submitted an application for the increase in emissions resulting in down-stream units from the new diffuser. Affected down-stream units included both pulp dryers, the dry-pulp cyclone, the pellet-cooler cyclone and the pellet-tank fan. The resulting increase in allowable PM and PM_{10} emissions are 14.06 tons per year (tpy) and 11.60 tpy, respectively. The following conditions were added to MAQP #1826-07:

1. Each dryer process rate (to include molasses) shall not exceed 114,192 tons during any one campaign. Holly shall maintain a daily log with a cumulative total of the current campaign production. This log shall be maintained on site, made available to Department personnel during facility visits, and submitted to the Department upon request.

2. Holly shall install, operate, and maintain a weighing device on each dryer to verify the process rate and to demonstrate compliance with the process rate limitation.

3. Each dryer is limited to burning natural gas only, except during emergency curtailment situations. Holly shall record in a log anytime fuel other than natural gas is combusted in the dryers. The log must be maintained on site, contain the date, time, type, and quantity of fuel fed into the dryers, and must be submitted to the Department upon request.

MAQP #1826-08 replaced MAQP #1826-07.

On November 20, 2001, the Department issued **MAQP #1826-09** to Holly. The administrative amendment included Holly's request to add the following language to

permit condition II.A.16: "In the event of weigh device malfunction, Holly shall use an alternative monitoring method approved by the Department." MAQP #1826-09 replaced MAQP #1826-08.

On February 19, 2002, a modification to MAQP #1826-09 was issued to Holly. The modification involved the installation and operation of a Superior Mohawk natural gas-fired boiler and the removal of a Cleaver Brooks natural gas-fired boiler. **MAQP #1826-10** replaced MAQP #1826-09.

The modification also included the relocation of the Sly filter baghouse, which was approved by the Department on May 2, 2000. The Sly Filter baghouse was moved from the sugar handling and storage area to Silos 1-4. The dust from the sugar handling and storage area was routed to the existing MAC baghouse, which vents inside the sugar warehouse. The change was considered de minimis as described in ARM 17.8.705 (1)(r) because the potential emissions were less than 15 ton/year and the proposal did not violate any conditions of the existing permit.

On October 18, 2002 the Department received a request for an administrative amendment to transfer ownership of the facility from Holly Sugar Corporation to Sidney Sugars Incorporated. The permit action transferred ownership of the facility and **MAQP #1826-11** replaced MAQP #1826-10.

On June 24, 2013, the Department received an application to modify MAQP #1826-11 to include coke breeze as a fuel for the two CE boilers. Coke breeze, the undersized screenings collected during the loading of coke, is collected and added to the lignite coal to fuel the CE boilers. The Department has determined that the properties of the coke-breeze are similar to coal and that air pollutant emissions from the CE boiler would be similar to those encountered in burning coal fuel alone. The permit action added coke breeze as a fuel for the CE boilers and updated the permit to reflect current permit language and rule references used by the Department. **MAQP #1826-12** replaced MAQP #1826-11.

On November 2, 2016, the Department received from Sidney Sugars an application for a natural gas-fired boiler to replace the existing Superior Mohawk Boiler. The existing Superior Mohawk Boiler was damaged in a fire at the facility and therefore a replacement was necessary. The replacement boiler, named the "CBW-600 Boiler" is slightly smaller in size with a capacity of 24.7 million British thermal units per hour (MMBtu/hr), while the prior boiler had a stated capacity of 25.1 MMBtu/hr.

The replacement boiler was reviewed under the requirements of ARM 17.8.752 – Best Available Control Technology. Because no manufacturer guaranteed emissions rates could be provided for this used boiler, the Department requested testing for oxides of nitrogen (NO_X) and carbon monoxide (CO) to confirm assumed emissions rates, with further testing requirements based on the results of the tests. This permit action allowed for the installation of the CBW-600 Boiler to replace the Superior Mohawk Boiler. Fuel-fired emissions sources were reviewed to confirm the area source status of the facility, and during that process all other pollutant emission levels were updated as well. Therefore, this action updated the emissions inventory in the permit analysis for the fuel fired sources (PM emissions from fuel and product handling were not reviewed or

updated during this action). For hydrochloric acid and hydrofluoric acid emissions from coal combustion, emissions factors from the Environmental Protection Agency's Toxic Release Inventory guidance were used, as this guidance provided emissions factors specific to lignite combustion. **MAQP #1826-13** replaced MAQP #1826-12.

On May 10, 2017, the Department received an application from Sidney Sugars for a new Pebble Lime Silo to replace the existing lime silo located in the Slaker Building. The new silo is used to store lime as well as pneumatic conveyance of pebble lime for the Lime Kiln. Particulate emissions from the lime silo are controlled through the use of a baghouse. **MAQP #1826-14** replaced MAQP #1826-13.

C. Current Permit Action

On December 2, 2021, the Department received an application from Sidney Sugars to replace two (2) existing CW coal fired boilers with one (1) 185 MMBtu Boiler. The Department issued an incompleteness letter on December 15, 2021, that required Sidney Sugars to address if this project triggered the Prevention of Significant Deterioration (PSD) major source permitting requirements of ARM 17.8 Subchapter 8. Sidney Sugars provided a response on January 8, 2022, that satisfied this requirement. On January 28, 2022, Sidney Sugars contacted the Department and requested a 30-day public comment period to evaluate the reported NO_X and CO emissions associated with the 185 MMBtu Boiler. The current permit action does not trigger PSD major source permitting because it does not result in a significant net emission increase of any pollutant. **MAQP #1826-15** replaces MAQP #1826-14.

D. Response to Public Comments

Person/Group Commenting	Permit Reference	Comment	Department Response
Sidney Sugars, Inc.	MAQP #1826-15, Section II.C.1	In summary, Sidney Sugars requested a BACT limit of 0.07 pounds per million British thermal units (lb/MMBtu).	Sidney Sugars accepted the proposed BACT limits of 0.04 lb/MMBtu.
	MAQP & Analysis #1826-15, various sections	In summary, Sidney Sugars requested to have boiler specific notation removed from the MAQP.	The Department made the requested language changes proposed by Sidney Sugars.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments are included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1, General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emissions of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment, including instruments and sensing devices, and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

   Sidney Sugars shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports.
   A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by phone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2, Ambient Air Quality. including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide

5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

Sidney Sugars must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3, Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emissions sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Sidney Sugars shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions - Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.

6. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Sidney Sugars is considered an NSPS affected facility under 40 CFR Part 60 and has applicability considerations for the following subparts.

   a. 40 CFR 60, Subpart A - General Provisions. Apply to all equipment or facilities subject to an NSPS Subpart as listed below:

b. 40 CFR 60, Subpart D - Standards of Performance for Fossil-Fuel-Fired Steam Generators. The affected facilities to which the provisions of this subpart apply are each fossil-fuel-fired steam generating unit of more than 73 megawatts (MW) heat input rate (250 million British thermal units per hour (MMBtu/hr)). The fossil fuel-fired CE Boilers and the Union Pacific Boilers have a heat input capacity less than 250 million MMBtu/hr; therefore 40 CFR 60, Subpart D does not apply.

c. 40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. The affected facilities to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)). The 185 MMBtu Boiler is subject to this regulation based on rated capacity and construction date.

The CE Boilers and the Union Pacific Boiler # 1, meet the applicable threshold for steam generating units greater than 100 MMBtu/hr, however, these units were installed or modified prior to the compliance applicability date of June 19, 1984 and are therefore not subject to the standard (The modification to permit a change in fuel from oil/natural gas to coal for the CE Boilers was issued by the Department on May 5, 1984). The Union Pacific Boiler #2 is not subject to 40 CFR 60, Subpart Db as the heat input does not meet the applicability threshold, and as it was installed prior to the June 19, 1984 applicability date.

d. 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h). The CBW-600 Boiler is an affected source under Subpart Dc.

e. 40 CFR 60, Subpart Y - Standards of Performance for Coal Preparation and Processing Plants. The provisions of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after October 27, 1974, and on or before April 28, 2008: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), and coal storage systems, transfer and loading systems. Sidney Sugars emitting sources include coal handling, conveying, screening, crushing, and stockpile facilities, and are therefore subject to this subpart.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:

a. 40 CFR 63, Subpart A - General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:

b. 40 CFR 63, Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. A facility is subject to this subpart if it owns or operates an industrial, commercial, or institutional boiler as defined in § 63.11237 (which includes industrial boilers used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity), that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in § 63.2, except as specified in § 63.11195 (which includes gas-fired boilers). Current applicability at Sidney Sugars is limited to CE Boilers #1 and #2, due to combustion of coal. Additional boilers may fall under regulation of the Area Source Boiler MACT in the event a change in combustion fuel(s) occur.

D. ARM 17.8, Subchapter 5, Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Sidney Sugars submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department.

   The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year. An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7, Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Sidney Sugars has the potential to emit greater than 25 tons/year of PM, PM_{10}, NO_X, CO, and SO_2; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Sidney Sugars submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Sidney Sugars submitted an affidavit of publication of public notice for the November 7, 2021, issue of the *Sidney Herald*, a newspaper of general circulation in the Town Sidney in Richland County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Condition of Issuance of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts. Sidney Sugars has demonstrated compliance with applicable rules and standards as required for permit issuance.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. 8ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Sidney Sugars of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8, Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications – Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

   This facility is considered a major stationary source. This modification will not cause a net emission increase greater than significance levels and, therefore, does not require a New Source Review (NSR) analysis.

G. ARM 17.8, Subchapter 12, Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

   a. Potential to Emit (PTE) > 100 tons/year of any pollutant,

   b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or a lesser quantity as the Department may establish by rule;

   c. PTE > 70 tons/year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #1826-15 for Sidney Sugars, the following conclusions were made:

   a. The facility's PTE is greater than 100 tons/year for several pollutants.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAP's.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is subject to NSPS requirements (40 CFR 60, Subparts A, Db, Dc, and Y).

   e. This facility is subject to current NESHAP requirements (40 CFR 63, Subparts A and JJJJJJ).

   f. This source is not a Title IV affected source.

   g. This source is not a solid waste combustion unit.

   h. This source is not an EPA designated Title V source.

   Based on these facts, the Department determined that Sidney Sugars is a major source of emissions as defined under Title V. Upon startup of the 185 MMBtu Boiler, Sidney Sugars will need to submit a Title V Significant Modification application to update the Operating Permit with the relevant requirements.

III. BACT Determination

A BACT determination is required for each new or modified source. Sidney Sugars shall install on the new or modified source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT determination is required for each new or modified source. Sidney Sugars shall install on the new or modified source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be used. BACT for the proposed natural gas-fired boiler is provided below.

NO_X Emissions

NO_X is formed by three mechanisms: thermal NO_x, fuel NO_x, and prompt NO_x. In natural gas combustion, NO_X is primarily produced via the thermal and prompt NO_x mechanisms.

Thermal NO_x results from the high temperature thermal dissociation and subsequent reaction of combustion air molecular nitrogen and oxygen. Thermal NO_x tends to be generated in the high temperature zone near the burner of an external combustion device. The rate of thermal NO_x generation is affected by oxygen concentration, peak temperature, and the duration at peak temperature. As these three factors increase in value, the rate of thermal NO_x generation increases.

During combustion of hydrocarbon fuels, the NO_x formation rate can exceed that produced from direct oxidation of nitrogen molecules, due to 'prompt NO_x'. Prompt NO_x is usually a very small fraction of overall potential NO_x emissions levels in natural gas-fired combustion equipment, although the prompt NO_x mechanism can become a larger factor of NO_X emissions in lower temperature, fuel rich, short residence time designs (i.e – Ultra Low NO_x burner designs). Prompt NO_x plays a factor in limiting the NO_x emissions reductions achievable through typical combustion controls, however, because Prompt NO_x is a small part of overall potential NO_x emissions, its presence does not override the effectiveness of utilizing combustion controls that limit thermal NO_x formation.

Fuel NO_x is formed by the direct oxidation of nitrogen compounds contained in a fuel stream. Therefore, fuel NO_x related emissions increase with an increase in the quantity of nitrogen-containing compounds present in a fuel.

Combustion Controls:

Ultra-Low NO_X Burners (ULNB) and Flue Gas Recirculation (FGR) are combustion controls that reduce the formation of NO_X at the source, and are typically used together. These combustion controls reduce peak flame temperatures, and help provide for a fuel rich (reducing) atmosphere in the primary combustion zone, reducing the amount of Thermal NO_x formed.

Selective Catalytic Reduction:

Selective Catalytic Reduction (SCR) is a post-combustion treatment which reduces oxides of nitrogen to molecular nitrogen, water, and oxygen via utilization of ammonia or urea as a reducing agent and a catalyst. SCR has been demonstrated to achieve high levels of NO_x reduction, up to 90%. In general, SCR presents economic challenges in being applied as BACT for natural gas-fired boilers.

Selective Non-Catalytic Reduction:

Selective Non-Catalytic Reduction (SNCR) is a post-combustion treatment which is similar to SCR in that this technology utilizes ammonia or urea to reduce oxides of nitrogen, but does so without use of a catalyst. Because no catalyst is utilized in this technology, the temperatures required are usually over twice as high, typically requiring temperatures ranging between 1600°F and 2100°F. Also, reduction efficiency is reduced, as this control technology typically provides up to only a 50% reduction. In general, SNCR presents economic challenges in being applied as BACT for natural gas-fired boilers.

Other recently-permitted similar sources have established BACT for NO_X as use of ultra-low NO_X burners and flue gas recirculation, meeting an emission limit of 0.04 lb/MMBtu on a 1-hour average basis. In review of the RACT/BACT/LAER clearinghouse and other BACT determinations, the Department determined that 0.04 lb/MMBtu, not applicable during startup or shutdown, meets BACT.

CO and VOC Emissions

CO and VOC are generated and controlled by the same mechanisms and are therefore addressed together in this BACT analyses.

CO and VOC emissions result from the incomplete combustion of organic compounds. Higher temperatures, higher residence times, and increased oxygen levels generally result in more complete combustion and therefore less CO and VOC emissions, however, such efforts can also result in increased NO_X emissions. Because ambient air quality standards for NO_2 are more stringent than CO standards, a certain amount of tradeoff of maximizing reduction of NO_X emissions compared to maximizing reduction of CO emissions may be accepted to provide an overall best impacts scenario from an environmental impacts standpoint. Proper operation and design of a boiler equipped with ultra-low NO_X technology can provide for high levels of NO_X performance while maintaining low levels of CO and VOC emissions.

Thermal Oxidation:

By creating a high temperature environment (usually 1400°F to 1500°F for this application), thermal oxidizers complete conversion of CO and VOC to CO_2 and water. Such technology is capable of reducing CO and VOC emissions on the order of 95%. The costs associated with this technology are usually prohibitive for a boiler of this size and type.

Catalytic Oxidation

Catalytic Oxidizers utilize a catalyst to lower the temperature required to ensure complete oxidation, generally about 800 °F. However, the costs associated with such technology are usually prohibitive for a boiler of this size and type.

Proper System Design and Operation:

Other recently permitted similar sources have established BACT as proper system design and operation with an emissions limitation of 0.04 lb/MMBtu, not applicable during startup and shutdown. Such emissions level requires a certain level of proper operations, maintenance, and design.

With a CO limit and compliance demonstration prescribed and the known relationship between pollutants, no VOC limit and likewise no additional VOC monitoring was deemed necessary as required BACT permit conditions. The Department concluded that proper operation and design, meeting a CO emissions limit of 0.04 lb/MMBtu, meets BACT.

SO_2 Emissions:

Natural gas has a very low sulfur content. Any additional add on control would be expected to be cost-prohibitive. Other recently permitted similar sources have established that combusting pipeline quality natural gas with no further add-on controls is BACT.

$PM/PM_{10}/PM_{2.5}$ Emissions:

Particulate controls are rarely applied to natural gas-fired boilers due to the low level of potential emissions from such sources. The Department determined that burning natural gas meets BACT for PM, PM_{10}, and $PM_{2.5}$.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory – Pre boiler replacement

1826-14	Emissions in Tons/yr					
Emissions Source	PM(fil+cond)	SO_2	NO_X	VOC	CO	HAPs
C.E. Boiler #1	24.84	106.84	217.99	1.13	187.92	1.64
C.E. Boiler #2	24.84	106.84	217.99	1.13	187.92	1.64
Union Boiler #1	8.26	93.55	158.98	2.92	44.85	1.12
Union Boiler #2	5.27	59.73	101.50	1.87	28.64	0.72
CBW-600 Boiler	0.81	0.06	9.77	0.58	9.77	0.20
#1 Pulp Dryer Combustion Emissions	3.10	0.24	40.79	2.24	34.27	0.77
#2 Pulp Dryer Combustion Emissions	3.10	0.24	40.79	2.24	34.27	0.77
Pulp Dryers Beet Pulp PM Emissions	141.07					
Coal Handling	300.67					0.03
Coke Handling	0.31					
Beet Handling	193.22					
Lime Handling	0.31					
Sugar Silos #7-#16	0.04					
Pebble Lime Silo	0.19					
Dry Pulp Cyclone	10.21					
Pellet Cooler Cyclone	10.21					
Pellet Tank Fan	10.21					
TOTAL:	**736.66**	**367.52**	**787.81**	**12.11**	**527.63**	**6.89**

C.E. Boiler Emissions					
Lignite Coal fired Boiler					
PM(fil+con) Emissions					
NOX Emissions					
Emissions Factor:	0.1	lb/MMBtu - emissions limitation			
Capacity:	115	MMBtu/hr			
Hours of Operation:	4320	hr/yr			
Calculations:					
Calculations:	0.1lb/MMBtu - emissions limitation*115MMBtu/hr*4320hr/yr*0.005 ton/lb =			**24.84**	**ton/yr**
PM(fil+con) Emissions					
NOX Emissions					
Emissions Factor:	5.8	lb/ton (Table 1.7-1, AP-42 5th Edition)			
Capacity:	17.4	ton/hr			
Hours of Operation:	4320	hr/yr			
Calculations:					
Calculations:	5.8lb/ton (Table 1.7-1, AP-42 5th Edition) *17.4ton/hr*4320hr/yr*0.005 ton/lb =			**217.99**	**ton/yr**
SO2 Emissions	**106.8**	ton/yr emissions limitation			
VOC Emissions					
Emissions Factor:	0.03	lb/ton (Table 1.7-1, AP-42 5th Edition)			
Capacity:	17.4	ton/hr			
Hours of Operation:	4320	hr/yr			
Calculations:					
	0.03lb/ton (Table 1.7-1, AP-42 5th Edition) *17.4ton/hr*4320hr/yr*0.005 ton/lb =			**1.13**	**ton/yr**
CO Emissions					
Emissions Factor:	5	lb/ton (EI Submission - Webfire)	**subject to MACT JJJJJJ CO limitations		
Capacity:	17.4	ton/hr			
Hours of Operation:	4320	hr/yr			
Calculations:					
	5lb/ton (EI Submission - Webfire) *17.4ton/hr*4320hr/yr*0.005 ton/lb =			**187.92**	**ton/yr**

HAPs Emissions									
Other Non-Metal Emissions Factor:	0.009207138	lb/ton (AP-42 5th Edition)							
Capacity:	17.4	ton/hr							
Hours of Operation:	4320	hr/yr							
Other Non-Metal Calculations:									
	0.009207138	lb/ton (AP-42 5th Edition) *17.4ton/hr*4320hr/yr*0.005 ton/lb =						0.35	ton/yr
Acid Gases Emissions Factor:	0.02	lb/ton							
Capacity:	17.4	ton/hr							
Hours of Operation:	4320	hr/yr							
Acid Gases Calculations:									
	0.02lb/ton*17.4ton/hr*4320hr/yr*0.005 ton/lb =							0.75	ton/yr
Metals Emissions Factor:	0.014512	lb/ton (Table 1.7-14, AP-42 5th Edition)							
Capacity:	17.4	ton/hr							
Hours of Operation:	4320	hr/yr							
Acid Gases Calculations:									
	0.014512lb/ton (Table 1.7-14, AP-42 5th Edition)*17.4ton/hr*4320hr/yr*0.005 ton/lb =							0.55	ton/yr
TOTAL HAPS:								**1.64**	**ton/yr**

Union Boiler #1									
Natural Gas / Fuel Oil Fired Boiler									
Maximum Capacity:	130	MMBtu/hr							
Fuel Oil Sulfur:	1	lb/MMBtu							
Hours Fuel Oil Service:	672	hr/yr							
Hours Natural Gas Service:	8088	hr/yr							
PM (fil + cond) Emissions - Fuel Oil									
Filterable Emissions Factor:	12.41	lb/1000 gal							
Condensable Emissions Factor:	1.5	lb/1000 gal							
TOTAL PM:	13.91	lb/1000 gal							
TOTAL PM:	0.099	lb/MMBtu	@ 140 MMBtu/1000 gal						
Fuel Oil Calculations:	0.099lb/MMBtu *130MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**4.34**	**ton/yr**
PM (fil+cond) Emissions - Natural Gas									
Emissions Factor:	7.6	lb/MMscf							
	0.0075	lb/MMBtu							
Natural Gas Calculations:	0.0075lb/MMBtu*130MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**3.92**	**ton/yr**
SO2 Emissions - Fuel Oil									
	1.90	permit allowable wt% Sulfur							
Emissions Factor:	298.857868	lb/1000 gal							
	2.13	lb/MMBtu	@ 140 MMBtu/1000 gal						
Fuel Oil Calculations:	2.135lb/MMBtu*130MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**93.24**	**ton/yr**
SO2 Emissions - Natural Gas									
Emissions Factor:	0.6	lb/MMscf							
	0.000588235	lb/MMBtu							
Natural Gas Calculations:	0.0006lb/MMBtu*130MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**0.31**	**ton/yr**
NOX Emissions - Fuel Oil									
Emissions Factor:	47	lb/1000 gal	(AP-42 Table 1.3-1)						
	0.34	lb/MMBtu							
Fuel Oil Calculations:	0.3357lb/MMBtu*130MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**14.66**	**ton/yr**
NOX Emissions - Natural Gas									
Emissions Factor:	280	lb/MMscf							
	0.274509804	lb/MMBtu							
Natural Gas Calculations:	0.2745lb/MMBtu*130MMBtu/hr*8088hr/yr*0.0005 =							**144.32**	**ton/yr**

VOC Emissions - Fuel Oil									
Emissions Factor:	0.28	lb/1000 gal	(AP-42 Table 1.3-3)						
	0.002	lb/MMBtu							
Fuel Oil Calculations:	0.002lb/MMBtu*130MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**0.09**	**ton/yr**
VOC Emissions - Natural Gas									
Emissions Factor:	5.5	lb/MMscf							
	0.005392157	lb/MMBtu							
Natural Gas Calculations:	0.0054lb/MMBtu*130MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**2.83**	**ton/yr**
CO Emissions - Fuel Oil									
Emissions Factor:	5	lb/1000 gal							
	0.0357	lb/MMBtu							
Fuel Oil Calculations:	0.036lb/MMBtu*130MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**1.56**	**ton/yr**
CO Emissions - Natural Gas									
Emissions Factor:	84	lb/MMscf							
	0.082352941	lb/MMBtu							
Natural Gas Calculations:	0.0824lb/MMBtu*130MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**43.29**	**ton/yr**

HAPs Emissions - Fuel Oil									
Organics Emissions Factor:	0.041013176	lb/1000 gal							
	0.000292951	lb/MMBtu							
Metals Emissions Factor:	0.4532368	lb/1000 gal							
	0.003237406	lb/MMBtu							
TOTAL Emissions Factor:	0.003530357	lb/MMBtu							
Fuel Oil Calculations:	0.0035lb/MMBtu*130MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**0.15**	**ton/yr**
HAPs Emissions - Natural Gas									
Emissions Factor:	1.8823618	lb/MMscf							
	0.001845453	lb/MMBtu							
Natural Gas Calculations:	0.0018lb/MMBtu*130MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**0.97**	**ton/yr**

Union Boiler #2									
Natural Gas / Fuel Oil Fired Boiler									
Maximum Capacity:	83	MMBtu/hr							
Allowable Fuel Oil Hours:	672	hr/yr							
Allowable Natural Gas Hours:	8088	hr/yr							
Fuel Sulfur:	1	lb/MMBtu							

PM (fil + cond) Emissions - Fuel Oil									
Filterable Emissions Factor:	12.41	lb/1000 gal							
Condensable Emissions Factor:	1.5	lb/1000 gal							
TOTAL PM:	13.91	lb/1000 gal							
TOTAL PM:	0.099	lb/MMBtu	@ 140 MMBtu/1000 gal						
Fuel Oil Calculations:	0.099lb/MMBtu *83MMBtu/hr672hr/yr* 0.0005 ton/lb =							**2.77**	**ton/yr**
PM (fil+cond) Emissions - Natural Gas									
Emissions Factor:	7.6	lb/MMscf							
	0.00745098	lb/MMBtu							
Calculations:	0.0075lb/MMBtu*83MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**2.50**	**ton/yr**
SO2 Emissions - Fuel Oil									
	1.90	permit allowable wt% Sulfur							
Emissions Factor:	298.3	lb/1000 gal							
	2.13	lb/MMBtu	@ 150 MMBtu/1000 gal						
Fuel Oil Calculations:	2.131lb/MMBtu*83MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**59.42**	**ton/yr**
SO2 Emissions - Natural Gas									
Emissions Factor:	0.6	lb/MMscf							
	0.000588235	lb/MMBtu							
Natural Gas Calculations:	0.0006lb/MMBtu*83MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**0.20**	**ton/yr**

NOX Emissions - Fuel Oil									
Emissions Factor:	47	lb/1000 gal	(AP-42 Table 1.3-1)						
	0.34	lb/MMBtu							
Fuel Oil Calculations:	0.3357lb/MMBtu*83MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**9.36**	**ton/yr**
NOX Emissions - Natural Gas									
Emissions Factor:	280	lb/MMscf							
	0.274509804	lb/MMBtu							
Natural Gas Calculations:	0.2745lb/MMBtu*83MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**92.14**	**ton/yr**
VOC Emissions - Fuel Oil									
Emissions Factor:	0.28	lb/1000 gal	(AP-42 Table 1.3-3)						
	0.002	lb/MMBtu							
Fuel Oil Calculations:	0.002lb/MMBtu*83MMBtu/hr*672 hr/yr * 0.0005 ton/lb =							**0.06**	**ton/yr**
VOC Emissions - Natural Gas									
Emissions Factor:	5.5	lb/MMscf							
	0.005392157	lb/MMBtu							
Natural Gas Calculations:	0.0054lb/MMBtu*83MMBtu/hr*8088hr/yr*0.0005 ton/lb =							**1.81**	**ton/yr**

CO Emissions - Fuel Oil					
Emissions Factor:	5	lb/1000 gal			
	0.0357	lb/MMBtu			
Fuel Oil Calculations:	0.036lb/MMBtu*83MMBtu/hr*672 hr/yr * 0.0005 ton/lb =			**1.00**	**ton/yr**
CO Emissions - Natural Gas					
Emissions Factor:	84	lb/MMscf			
	0.082352941	lb/MMBtu			
Natural Gas Calculations:	0.0824lb/MMBtu*83MMBtu/hr*8088hr/yr*0.0005 ton/lb =			**27.64**	**ton/yr**
HAPs Emissions - Fuel Oil					
Organics Emissions Factor:	0.041013176	lb/1000 gal			
	0.000292951	lb/MMBtu			
Metals Emissions Factor:	0.4532368	lb/1000 gal			
	0.003237406	lb/MMBtu			
TOTAL Emissions Factor:	0.003530357	lb/MMBtu			
Fuel Oil Calculations:	0.0035lb/MMBtu*83MMBtu/hr*672 hr/yr * 0.0005 ton/lb =			**0.10**	**ton/yr**
HAPs Emissions - Natural Gas					
Emissions Factor:	1.8823618	lb/MMscf	(AP-42 Table 1.4-3)		
	0.001845453	lb/MMBtu			
Natural Gas Calculations:	0.0018lb/MMBtu*83MMBtu/hr*8088hr/yr*0.0005 ton/lb =			**0.62**	**ton/yr**

CBW Boiler					
Natural Gas Fired Boiler					
Capacity:	24.7	MMBtu/hr			
Operation:	8760	hr/yr			
PM(fil+cond) Emissions					
Emissions Factor:	7.6	lb/MMscf	(AP-42 Table 1.4-2)		
	0.00745098	lb/MMBtu			
Calculations:	0.0075lb/MMBtu*24.7MMBtu/hr*8760hr/yr*0.0005 ton/lb =			**0.81**	**ton/yr**
SO2 Emissions					
Emissions Factor:	0.6	lb/MMscf	(AP-42 Table 1.4-2)		
	0.00058824	lb/MMBtu			
Calculations:	0.0006lb/MMBtu*24.7MMBtu/hr*8760hr/yr*0.0005 ton/lb =			**0.06**	**ton/yr**

NOX Emissions					
Emissions Factor:	2.23	lb/hr	(Emissions Limitation)		
Calculations:	2.23lb/hr *8760hr/yr*0.0005 ton/lb =			**9.77**	**ton/yr**
VOC Emissions					
Emissions Factor:	5.5	lb/MMscf	(AP-42 Table 1.4-2)		
	0.00539216	lb/MMBtu			
Calculations:	0.0054lb/MMBtu*24.7MMBtu/hr*8760hr/yr*0.0005 ton/lb =			**0.58**	**ton/yr**
CO Emissions					
Emissions Factor:	2.23 lb/hr				
Calculations: Identical to NOX					
HAPs Emissions					
Emissions Factor:	1.8823618	lb/MMscf	(AP-42 Table 1.4-3)		
	0.00184545	lb/MMBtu			
Calculations:	0.0018lb/MMBtu*24.7MMBtu/hr*8760hr/yr*0.0005 ton/lb =			**0.20**	**ton/yr**

Pulp Dryer Combustion					
Natural Gas Dryers					
Capacity:	95	MMBtu/hr			
PM(fil+cond) Emissions					
Emissions Factor:	7.6	lb/MMscf	(AP-42 Table 1.4-2)		
	0.00745098	lb/MMBtu			
Calculations:	0.0075lb/MMBtu*95MMBtu/hr*8760 hr/yr * 0.0005 ton/lb =			**3.10**	**ton/yr**
SO2 Emissions:					
Emissions Factor:	0.6	lb/MMscf	(AP-42 Table 1.4-2)		
	0.00058824	lb/MMBtu			
Calculations:	0.0006lb/MMBtu*95MMBtu/hr*8760 hr/yr * 0.0005 ton/lb =			**0.24**	**ton/yr**
NOX Emissions					
Emissions Factor:	100	lb/MMscf	(AP-42 Table 1.4-1)		
	0.09803922	lb/MMBtu			
Calculations:	0.098lb/MMBtu*95MMBtu/hr*8760 hr/yr * 0.0005 ton/lb =			**40.79**	**ton/yr**

VOC Emissions					
Emissions Factor:	5.5	lb/MMscf	(AP-42 1.4-2)		
	0.00539216	lb/MMBtu			
Calculations:	0.0054lb/MMBtu*95MMBtu/hr*8760 hr/yr * 0.0005 ton/lb =			**2.24**	**ton/yr**
CO Emissions					
Emissions Factor:	84	lb/MMscf	(AP-42 1.4-1)		
	0.08235294	lb/MMBtu			
Calculations:	0.0824lb/MMBtu*95MMBtu/hr*8760 * 0.0005 ton/lb =			**34.27**	**ton/yr**
HAPs Emissions					
Emissions Factor:	1.8823618	lb/MMscf	(AP-42 Table 1.4-3)		
	0.00184545	lb/MMBtu			
Calculations:	0.0018lb/MMBtu*95MMBtu/hr*8760 hr/yr * 0.0005 ton/lb =			**0.77**	**ton/yr**
Pulp Dryers Pulp PM Emissions					
Emissions Factor:	1.2354	lb/ton	(EI Submitted EF)		
Throughput Limit:	114,192	ton/yr	(Permit Limit - each boiler)		

Assumtions	2	tons per hour (maximum transefer rate, supplied by source)
	2.2	pounds per ton, AP 42, Table 11.17-4, Product Transfer and conveying (SCC 3-05-016-15)
	8760	tons per year
	0.0005	tons per pound
	99%	baghouse efficiceny
Potential To Emit		
Lime Pebble Silo	0.19	tons per year Total Particualate Matter

Calculation:

$$\frac{\text{pounds}}{\text{ton}} \times \frac{\text{tons}}{\text{hour}} \times \frac{\text{hours}}{\text{year}} \times \frac{\text{tons}}{\text{pound}} \times \text{baghouse efficiency} = \frac{\text{ton}}{\text{year}}$$

Post boiler Replacement:

CONTROLLED, 1826-15	**tons/year**					
Emission Source	**PM (cond. & fil.)**	**NO_X**	**CO**	**VOC**	**SO_2**	**HAPs**
185 MMBtu Boiler	*6.0*	*32.4*	*32.4*	*4.4*	*0.5*	*8.7*
Union Boiler #1	8.26	158.98	44.85	2.92	93.55	1.12
Union Boiler #2	5.27	101.5	28.64	1.87	59.73	0.72
CBW-600 Boiler	0.81	9.77	9.77	0.58	0.06	0.2
#1 Pulp Dryer Combustion Emissions	3.1	40.79	34.27	2.24	0.24	0.77
#2 Pulp Dryer Combustion Emissions	3.1	40.79	34.27	2.24	0.24	0.77
Pulp Dryers Beet Pulp PM Emissions	141.07	--	--	--	--	--
Coke Handling	0.31	--	--	--	--	--
Beet Handling	193.22	--	--	--	--	--
Lime Handling	0.31	--	--	--	--	--
Sugar Silos #7-#16	0.04	--	--	--	--	--
Pebble Lime Silo	0.19	--	--	--	--	--
Dry Pulp Cyclone	10.21	--	--	--	--	--
Pellet Cooler Cyclone	10.21	--	--	--	--	--
Pellet Tank Fan	10.21	--	--	--	--	--
Total (1826-15)	**392.3**	**384.2**	**184.2**	**14.2**	**154.3**	**12.3**

CONTROLLED, 1826-14	**tons/year**					
Emission Source	**PM (cond. & fil.)**	**NO_X**	**CO**	**VOC**	**SO_2**	**HAPs**
C.E. Boiler #1	*24.84*	*217.99*	*187.92*	*1.13*	*106.84*	*1.64*
C.E. Boiler #2	*24.84*	*217.99*	*187.92*	*1.13*	*106.84*	*1.64*
Union Boiler #1	8.26	158.98	44.85	2.92	93.55	1.12
Union Boiler #2	5.27	101.5	28.64	1.87	59.73	0.72
CBW-600 Boiler	0.81	9.77	9.77	0.58	0.06	0.2
#1 Pulp Dryer Combustion Emissions	3.1	40.79	34.27	2.24	0.24	0.77
#2 Pulp Dryer Combustion Emissions	3.1	40.79	34.27	2.24	0.24	0.77
Pulp Dryers Beet Pulp PM Emissions	141.07					
Coal Handling	*300.67*					*0.03*
Coke Handling	0.31					
Beet Handling	193.22					
Lime Handling	0.31					
Sugar Silos #7-#16	0.04					
Pebble Lime Silo	0.19					
Dry Pulp Cyclone	10.21					
Pellet Cooler Cyclone	10.21					
Pellet Tank Fan	10.21					
Total (1826-14)	**736.66**	**787.81**	**527.64**	**12.11**	**367.5**	**6.89**

Net Emissions Calculation	**PM (cond. & fil.)**	**NO_X**	**CO**	**VOC**	**SO_2**	**HAPs**
Total (1826-15)	392.3	384.2	184.2	14.2	154.3	12.3
Total (1826-14)	736.7	787.8	527.6	12.1	367.5	6.9
Net Total	**-344.3**	**-403.6**	**-343.4**	**2.1**	**-213.2**	**5.4**

1.85 MMBtu boiler

Note: Emissions are based on the btu rating of the boiler (185000000 hp).		
Btu per hour	1.85E+08	**btu/hr**
Standard Cubic Feet per btu	0.00098	**scf/btu**
Hours per year	8760	**hr/yr**
Pounds per ton	0.0005	**lb/ton**
PM Total		
PM Emissions = 6.04 ton/yr AP 42, Table 1.4-2, Controlled - Flue Gas Recirculation (Assume all PM < 1.0 um)	6.04	**ton/yr**
PM Filterable:		
Emission Factor = 0.0000057 lb/scf AP 42, Table 1.4-2	0.00	**lb/scf**
Calculation: (0.00001 lb/scf) * (0.00098 scf/btu) * (185,000,000.0000 btu/hr) * (8,760 hr/yr) * (0.0005 lb/ton) * = 4.53 ton/yr	4.53	**ton/yr**
PM Condensable		
Emission Factor = 0.0000019 lb/scf, AP 42, Table 1.4-2	0.00	**lb/scf**
Calculation: (0.00001 lb/scf) * (0.00098 scf/btu) * (185,000,000.0000 btu/hr) * (8,760 hr/yr) * (0.0005 lb/ton) * = 1.51 ton/yr	1.51	**ton/yr**
NOx Emissions:		
Emission Factor = 0.04 lb/MMBtu BACT	0.04	**lb/mmbtu**
Calculation: (0.04 lb/MMBtu) * (185,000,000 btu/hr) * (8,760 hr/yr) * (0.0005 lb/ton) * = 32.41 ton/yr	32.41	**ton/yr**
CO Emissions:		
Emission Factor = 0.04 lb/MMBtu BACT	0.04	**lb/mmbtu**
Calculation: (0.04 lb/MMBtu) * (185,000,000 btu/hr) * (8,760 hr/yr) * (0.0005 lb/ton) * = 32.41 ton/yr	32.41	**ton/yr**
VOC Emissions:		
Emission Factor = 0.0000055 lb/scf, AP 42, Table 1.4-2	0.0000055	**lb/scf**
Calculation: (0.0000055 lb/scf) * (185,000,000 btu/hr) * (0.0010 scf/btu) * (8,760 hr/yr) * (0.0005 lb/ton) * = 4.37 ton/yr	4.37	**ton/yr**
SOx Emissions:		
Emission Factor = 0.0000006 lb/scf, AP 42, Table 1.4-2	0.0000006	**lb/scf**
Calculation: (0.0000006 lb/scf) * (185,000,000 btu/hr) * (0.0010 scf/btu) * (8,760 hr/yr) * (0.0005 lb/ton) * = 0.48 ton/yr	0.48	**ton/yr**
HAPs Emissions		
Emission Factor = 0.000011 lb/scf , AP 42, Table 1.4-2	0.000011	**lb/scf**
Calculation: (0.000011 lb/scf) * (185,000,000 btu/hr) * (0.0010 scf/btu) * (8,760 hr/yr) * (0.0005 lb/ton) * = 8.74 ton/yr	8.74	**ton/yr**

V. Existing Air Quality

Sidney Sugars beet sugar plant is located in eastern Montana in a sparsely populated area with generally very good ventilation throughout the year. There are only a few significant air pollution sources in the surrounding area (a coal-fired power plant, two natural gas processing plants, coal strip mine, natural gas and oil well flares and vents). Ambient monitoring for several pollutants was discontinued in the area in 1987 due to a history of low ambient concentrations and good meteorological air dispersion.

While there is no current ambient air monitoring data from nearby monitors available, the Department does not believe the area is in danger of approaching any ambient air quality standards at the present time.

VI. Ambient Air Quality Impacts

The current permit action will generally result in a decrease in emissions from the facility. Therefore, the Department believes the current permit action will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

YES	NO	
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Sidney Sugars Incorporated

Final Environmental Assessment for the

Determination Montana Air Quality Permit #1826-15

Montana Department of Environmental Quality
Air Quality Bureau
Air Permitting Services Section
ENVIRONMENTAL ASSESSMENT

APPLICANT: Sidney Sugars Incorporated		
SITE NAME:		
PROPOSED PERMIT NUMBER: Montana Air Quality Permit Number 1826-15		
APPLICATION DATE: December 2, 2021		
APPLICATION COMPLETE DATE: January 8, 2022		
LOCATION: Section 34, Township 23 North, Range 59 East		**COUNTY: Richland**
PROPERTY OWNERSHIP:	**FEDERAL ____ STATE ____ PRIVATE _X___**	
EA PREPARER:	**John P. Proulx – Environmental Scientist 2**	
EA Draft Date	**EA Final Date**	**Permit Final Date**
February 2, 2022	**March 9, 2022**	**March 25, 2022**

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT

The Montana Department of Environmental Quality (DEQ) prepared this Environmental Assessment (EA) in accordance with requirements of the Montana Environmental Policy Act (MEPA). An EA functions to determine the need to prepare an EIS through an initial evaluation and determination of the significance of impacts associated with the proposed action. However, an agency is required to prepare an EA whenever statutory requirements do not allow sufficient time for the agency to prepare an EIS. This document may disclose impacts over which DEQ has no regulatory authority.

COMPLIANCE WITH THE CLEAN AIR ACT OF MONTANA

The state law that regulates air quality permitting in Montana is the Clean Air Act of Montana (§ 75-2-201, et seq., Montana Code Annotated (MCA). DEQ may not approve a proposed project contained in an application for an air quality permit unless the project complies with the requirements set forth in the Clean Air Act of Montana and the administrative rules adopted thereunder. DEQ's approval of an air quality permit application does not relieve the Sidney Sugars Incorporated (Sidney Sugars), from complying with any other applicable federal, state, or county laws, regulations, or ordinances. Sidney Sugars is responsible for obtaining any other permits, licenses, approvals, that are required for any part of the proposed project. DEQ will decide whether to approve the permit in accordance with the requirements of the Clean Air Act of Montana. DEQ may not withhold, deny, or impose conditions on the permit based on the information contained in this Environmental Assessment. § 75-1-201(4), MCA.

SUMMARY OF THE PROPOSED ACTION: Sidney Sugars has applied for a modification to Montana air quality permit under the Clean Air Act of Montana for the installation of one (1) 185 MMBtu natural gas fired boiler as a replacement for two (2) Combustion Engineering (CE) coal fired boilers that are scheduled to be decommissioned upon startup of the replacement boiler. The proposed action would be located in Section 35, Township 23 North, Range 59 East, Richland County. All information included in the EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools.

PURPOSE AND BENEFIT FOR PROPOSED ACTION: DEQ's purpose in conducting this environmental review is to act upon Sidney Sugars air quality permit application to authorize one (1) 185 MMBtu boiler and the associated air contaminants. DEQ's action on the permit application is governed by the Clean Air Act of Montana, § 75-2-201, et seq., MCA and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*

The benefits of the proposed action include: The proposed permit action would decommission two coal fired boilers and install a natural gas fired boiler. The main benefit of the proposed action would be a decrease in overall emissions associated with replacing coal as a fuel source.

REGULATORY RESPONSIBILITIES: In accordance with ARM 17.4.609(3)(c), DEQ must list any federal, state, or local authorities that have concurrent or additional jurisdiction or environmental review responsibility for the proposed action and the permits, licenses, and other authorizations required.

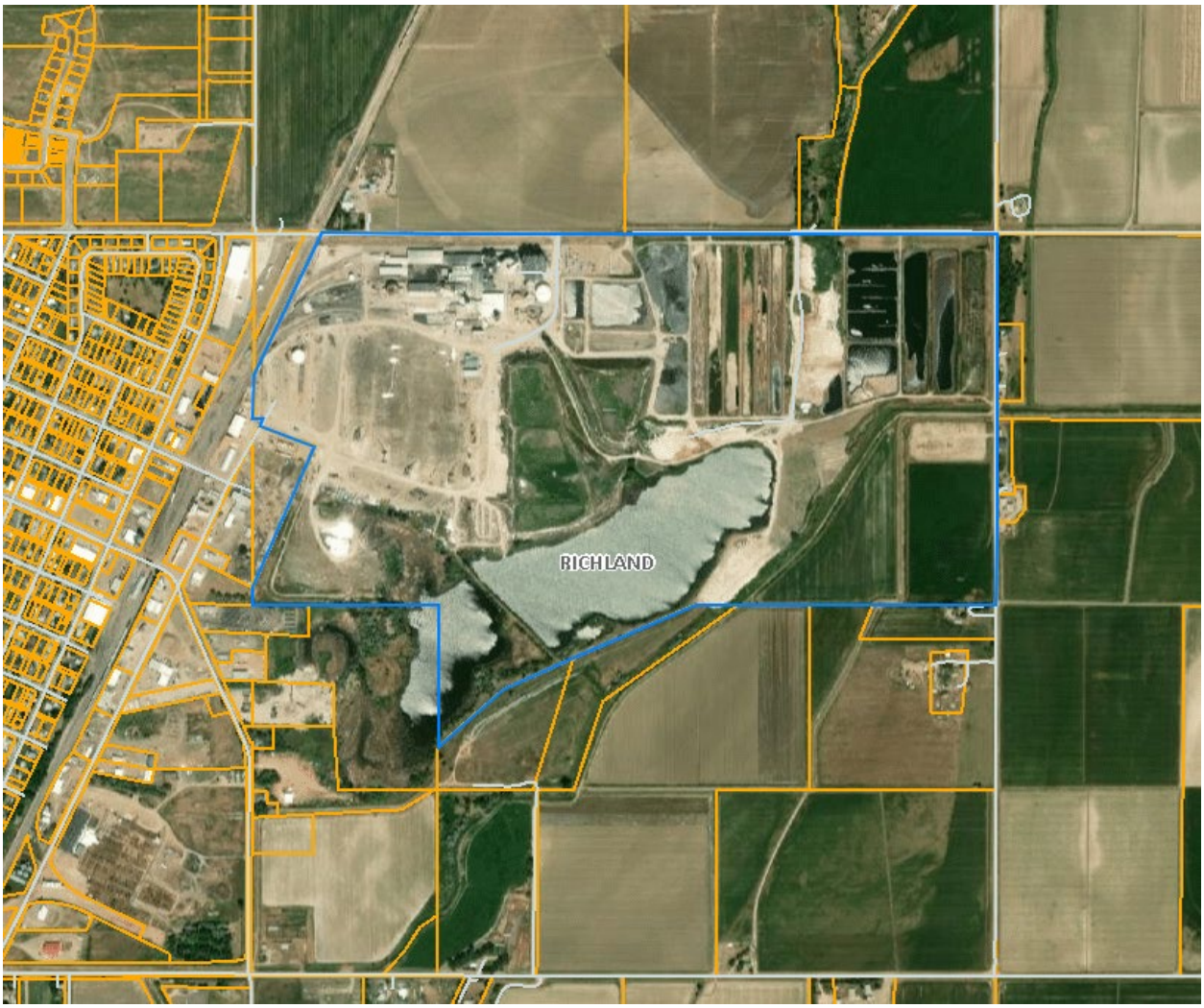
Sidney Sugars must conduct its operations according to the terms of its permit. Sidney Sugars further agrees to be legally bound by the permit, The Clean Air Act of§ 75-2-201, et seq., MCA and ARM 17.8.740, *et seq.*

Sidney Sugars must cooperate fully with, and follow the directives of any federal, state, or local entity that may have authority over Sidney Sugars' operations. These permits, licenses, and other authorizations may include: Richland County and DEQ AQB (air quality).

Table 1: Proposed Action Details

Summary of Proposed Action	
General Overview	Sidney Sugars air quality permit application consists of the following equipment: The permitted equipment associated with MAPQ 1826-15 is listed in Section 1.A of the MAQP Permit Analysis The facility would be permitted to operate until Sidney Sugars requested permit revocation or until the permit were revoked by DEQ due to gross non-compliance with the permit conditions.
Proposed Action Estimated Disturbance	
Disturbance	Minimal disturbance is estimated with the proposed permit action.
Proposed Action	
Duration	**Construction:** Construction or commencement would start within three years of issuance of the final air quality permit. **Construction Period:** The construction period could begin as soon as the air quality permit (and any other permits identified in this EA) were in place. **Operation Life:** Until permit is either revoked at the request of the permittee or the Department has determined the need for revocation.
Construction Equipment	Cranes, delivery trucks, various other types of smaller equipment
Personnel Onsite	**Construction:** Various number of installation personnel depending on which piece of equipment is being installed. **Operations:** Current number of employees.
Location and Analysis Area	**Location**: Section 34, Township 23 North, Range 59East, in Richland County, MT **Analysis Area**: The area being analyzed as part of this environmental review includes the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered.
Air Quality	This EA will be attached to the Air Quality Permit which would include all enforceable conditions for operation of the emitting units
Conditions incorporated into the Proposed Action	The conditions developed in the Preliminary Determination of the Montana Air Quality Permit dated November 26, 2021, set forth in Sections II.A-D, and updated in the Decision Air Quality Permit if needed.

Figure 1: Map of general location of the proposed project, outlined in blue.



EVALUATION AND SUMMARY OF POTENTIAL IMPACTS TO THE PHYSICAL AND HUMAN ENVIRONMENT IN THE AREA AFFECTED BY THE PROPOSED PROJECT:

The impact analysis will identify and evaluate direct and secondary impacts. Direct impacts are those that occur at the same time and place as the action that triggers the effect. Secondary impacts means "a further impact to the human environment that may be stimulated or induced by or otherwise result from a direct impact of the action." ARM 17.4.603(18). Where impacts are expected to occur, the impacts analysis estimates the duration and intensity of the impact.

The duration of an impact is quantified as follows:

- **Short-term**: Short-term impacts are defined as those impacts that would not last longer than the proposed operation of the site.

- **Long-term**: Long-term impacts are defined as impacts that would remain or occur following shutdown of the proposed facility.

The severity of an impact is measured using the following:

- **No impact**: There would be no change from current conditions.
- **Negligible**: An adverse or beneficial effect would occur but would be at the lowest levels of detection.
- **Minor**: The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate**: The effect would be easily identifiable and would change the function or integrity of the resource.
- **Major**: The effect would alter the resource.

1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Direct Impacts:

Proposed Action: Negligible impacts to topography, geology, stability, and moisture would be expected because the proposed project would occur in an already existing facility with minor disturbances due to equipment installation and site preparation.

Secondary Impacts:

Proposed Action: No secondary impacts to topography, geology, stability, and moisture are anticipated with the proposed action.

2. WATER QUALITY, QUANTITY, AND DISTRIBUTION:

Direct Impacts:

Proposed Action: No primary impacts to water quality, quantity, and distribution would be expected because the proposed project would occur near an already existing facility. Water is required for normal operation of the proposed equipment and would be required for the operation of the new boiler, however, the decrease from two boilers to one would result in less water being used in the boiler system.

Secondary Impacts:

Proposed Action: No secondary impacts are anticipated with the proposed action.

3. AIR QUALITY:

Direct Impacts:

Proposed Action: Minor impacts to air quality would be expected with the proposed action due to the facility's potential to emit air pollutants with temporary air quality impacts of particulate matter due to construction activities. After the proposed project is completed, Sidney Sugars would have a large reduction of NO_X, SO_X, CO, and PM, thus improving air quality in the immediate area.

Secondary Impacts:

Proposed Action: Negligible impacts could be expected with the proposed action.

4. VEGETATION COVER, QUANTITY AND QUALITY:

Direct Impacts:
Proposed Action: No impacts are expected with the proposed permit action. The Sidney Sugars facility is an existing, developed facility and the proposed project is not expected to disturb any new land. Road traffic to and from the facility would occur on improved roadways.

Secondary Impacts:
Proposed Action: Negligible impacts to land disturbance at the site may result in propagation of noxious weeds.

5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Direct Impacts:
Proposed Action: No impacts are expected with the proposed permit action. The Sidney Sugars facility is an existing, developed facility and the proposed project is not expected to disturb any new land.

Secondary Impacts:
Proposed Action: No secondary impacts to terrestrial, avian and aquatic life and habitats stimulated or induced by the direct impacts analyzed above would be anticipated for the proposed action.

6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Impacts:
Proposed Action: According to a Montana Natural Heritage Program, there are six (6) species of concern; Whooping Crane (bird), Great Blue Herron (bird), Bald Eagle (bird), Least Tern (bird), Townsend's Big-eared Bat (mammal), and Pale-spiked Lobelia (Vascular Plant). No impacts are expected with the proposed permit action. The Sidney Sugars facility is an existing, developed facility and the proposed project is not expected to disturb any new habitat.

7. HISTORICAL AND ARCHAEOLOGICAL SITES:

Impacts:
Proposed Action: It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are within the Area of Potential Effect, and are over fifty years old, we would recommend that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place. As long as there will be no disturbance or alteration to structures over fifty years of age, a cultural resource inventory is unwarranted.

8. SAGE GROUSE EXECUTIVE ORDER:

The current permit action is not located in the Greater Sage Grouse habitat area.

9. AESTHETICS:

Direct Impacts:
Proposed Action: No impacts are expected with the proposed permit action. The Sidney Sugars facility is an already developed facility and the proposed project is not expected to disturb any new land. The proposed project would occur inside already existing structures with no new building expected.

Secondary Impacts:
Proposed Action: No secondary impacts to aesthetics and noise are anticipated with the proposed action.

10. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Direct Impacts:
Proposed Action: No more than minor impacts are expected with the proposed permit action. The Sidney Sugars facility is an existing, developed facility and the proposed project is not expected to disturb any new land or require more resources of air or water. The application indicated that the capacity of the natural gas supply to the facility would need to be increased to accommodate the project.

Secondary Impacts:
Proposed Action: No secondary impacts to land, water, air or energy resources are anticipated with the proposed action.

11. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:

Direct Impacts:
Proposed Actions: No primary impacts to other environmental resources are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to other environmental resources are anticipated as a result of the proposed action.

12. HUMAN HEALTH AND SAFETY:

Direct Impacts:
Proposed Action: Impacts to human health and safety are anticipated to be short-term and minor as a result of this project. The proposed equipment would be installed with Best Available Control Technology to minimize emissions from the new equipment.

Secondary Impacts:
Proposed Action: No secondary impacts to human health and safety are anticipated as a result of the proposed action.

13. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:

Direct Impacts:
Proposed Action: No impacts are expected with the proposed permit action. The Sidney Sugars facility is an existing, developed facility and the proposed project is not expected to disturb any new land.

Secondary Impacts:
Proposed Action: No secondary impacts to industrial, commercial, water conveyance structures, and agricultural activities and production are anticipated as a result of the proposed action.

14. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Direct Impacts:
Proposed Action: No impacts to quantity and distribution of employment are anticipated for the proposed action.

Secondary Impacts:
Proposed Action: No increases in distribution of employment are anticipated as a result of the proposed action.

15. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Direct Impacts:
Proposed Action: Local, state and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, from the companies, employees, or landowners benefitting from this operation. No impacts are expected as a result of this project.

Secondary Impacts:
Proposed Action: No secondary impacts to local and state tax base and tax revenues are anticipated as a result of the proposed action.

16. DEMAND FOR GOVERNMENT SERVICES:

Direct Impacts:
Proposed Action: Minor impacts are anticipated for demand for government services. The air quality permit and physical site associated with the current permit action would require inspections from state government representatives to ensure the facility is operating within the limits and conditions listed in the air quality permit.

Secondary Impacts:
Proposed Action: No secondary impacts are anticipated with the proposed action.

17. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

Direct Impacts:

Proposed Action: No primary impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed action.

18. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Direct Impacts:
Proposed Action: No primary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action. The proposed area is an industrial facility with farmland to the north, east, and west and a residential area to the west.

Secondary Impacts:
Proposed Action: No secondary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action.

19. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Direct Impacts:
Proposed Action: No primary impacts to density and distribution of population and housing are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to density and distribution of population and housing are anticipated as a result of the proposed action.

20. SOCIAL STRUCTURES AND MORES:

Direct Impacts:
Proposed Action: No primary impacts anticipated to social structures and mores are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to social structures and mores are anticipated as a result of the proposed action.

21. CULTURAL UNIQUENESS AND DIVERSITY:

Direct Impacts:

Proposed Action: No primary impacts anticipated to cultural uniqueness and diversity are anticipated from the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to cultural uniqueness and diversity are anticipated as a result of the proposed action.

22. PRIVATE PROPERTY IMPACTS:

The proposed action would take place on privately owned property and is not expected impact other privately owned properties. The Department does not plan to deny the application or impose conditions that would restrict the regulated person's use of private property.

23. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Due to the nature of the proposed action, no further direct or secondary impacts are anticipated from this project.

ADDITIONAL ALTERNATIVES CONSIDERED:

No Action Alternative: In addition to the proposed action, DEQ is considering a "no action" alternative. The "no action" alternative would deny the approval of the proposed action. The applicant would lack the authority to conduct the proposed activity. Any potential impacts that would result from the proposed action would not occur. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

If the applicant demonstrates compliance with all applicable rules and regulations as required for approval, the "no action" alternative would not be appropriate. Pursuant to, § 75-1-201(4)(a), (MCA) DEQ "may not withhold, deny, or impose conditions on any permit or other authority to act based on" an environmental assessment.

CUMULATIVE IMPACTS:

Cumulative impacts are the collective impacts on the human environment within the borders of Montana of the proposed action when considered in conjunction with other past and present actions related to the proposed action by location and generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through preimpact statement studies, separate impact statement evaluation, or permit processing procedures. This environmental review analyzes the proposed action submitted by the Sidney Sugars.

DEQ considered potential impacts related to this project and potential secondary impacts. Due to the limited activities in the analysis area, cumulative impacts related to this project would be minor

and short-term.

PUBLIC INVOLVEMENT:

Scoping for this proposed action consisted of internal efforts to identify substantive issues and/or concerns related to the proposed operation. Internal scoping consisted of internal review of the environmental assessment document by DEQ Air Permitting staff.

Internal efforts also included queries to the following websites/ databases/ personnel:
• Montana State Historic Preservation Office
• Montana Department of Environmental Quality (DEQ)
• Montana Natural Heritage Program

OTHER GOVERNMENTAL AGENCIES WITH JURSIDICTION:

The proposed project would be fully located on privately-owned land. All applicable local, state, and federal rules must be adhered to, which, at some level, may also include other local, state, federal, or tribal agency jurisdiction. Other governmental agencies which may have overlapping, or sole jurisdiction include, but may not be limited to: Richland County, OSHA (worker safety), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), DNRC (water rights), and MDT (road access).

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

Under ARM 17.4.608, DEQ is required to determine the significance of impacts associated with the proposed action. This determination is the basis for the agency's decision concerning the need to prepare an environmental impact statement and also refers to DEQ's evaluation of individual and cumulative impacts. DEQ is required to consider the following criteria in determining the significance of each impact on the quality of the human environment:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact;

   "Severity" is analyzed as the density of the potential impact while "extent" is described as the area where the impact is likely to occur. An example could be that a project may propagate ten noxious weeds on a surface area of 1 square foot.

   In this case, the impact may be a high severity over a low extent. If those ten noxious weeds were located over ten acres there may be a low severity over a larger extent.

   "Duration" is analyzed as the time period in which the impact may occur while "frequency" is analyzed as how often the impact may occur. For example, an operation that occurs throughout the night may have impacts associated with lighting that occur every night (frequency) over the course of the one season project (duration).

2. The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;

3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;

4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values;

5. The importance to the state and to society of each environmental resource or value that would be affected;

6. Any precedent that would be set as a result of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and

7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

The significance determination is made by giving weight to these criteria in their totality. For example, impacts with moderate or major severity may be determined to be not significant if the duration of the impacts is considered to be short-term. As another example, however, moderate or major impacts of short-term duration may be considered to be significant if the quantity and quality of the resource is limited and/or the resource is considered to be unique or fragile. As a final example, moderate or major impacts to a resource may be determined to be not significant if the quantity of that resource is high or the quality of the resource is not unique or fragile.

Pursuant to ARM 17.4.607, preparation of an environmental assessment is the appropriate level of environmental review under MEPA if statutory requirements do not allow sufficient time for an agency to prepare an environmental impact statement. An agency determines whether sufficient time is available to prepare an environmental impact statement by comparing statutory requirements that establish when the agency must make its decision on the proposed action with the time required to obtain public review of an environmental impact statement plus a reasonable period to prepare a draft environmental review and, if required, a final environmental impact statement.

SIGNIFICANCE DETERMINATION

The severity, duration, geographic extent and frequency of the occurrence of the impacts associated with the proposed action would be limited. Sidney Sugars proposes to construct and operate the proposed action on private land located in Section 24, Township 25 North, Range 58 East, in Richland County**,** Montana.

DEQ has not identified any significant impacts associated with the proposed action for any environmental resource. Approving Sidney Sugars's Air Quality Application would not set precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If Sidney Sugars submits another permit application, DEQ is not committed to approve those applications. DEQ would conduct a new environmental review for any subsequent air quality permit applications sought by Sidney Sugars. DEQ would make a decision on Sidney Sugars's subsequent application based on the criteria set forth in the Clean Air Act of Montana.

DEQ's issuance of an Air Quality Permit to Sidney Sugars for this proposed operation does not set

a precedent for DEQ's review of other applications, including the level of environmental review. The level of environmental review decision is made based on a case-specific consideration of the criteria set forth in ARM 17.4.608.

DEQ does not believe that the proposed action has any growth-inducing or growth-inhibiting aspects or that it conflicts with any local, state, or federal laws, requirements, or formal plans. Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed state action is not predicted to significantly impact the quality of the human environment. Therefore, at this time, preparation of an environmental assessment is determined to be the appropriate level of environmental review under the Montana Environmental Protection Act.

Environmental Assessment and Significance Determination Prepared By:

John P. Proulx	**Environmental Scientist 2**
Name	**Title**

EA Reviewed By:

Ed Warner	**Lead Engineer**
Name	**Title**

Responses to Substantive Comments are located in the Permit Analysis Section of the Air Quality Permit.

References