



Michigan Department of Environmental Quality
Air Quality Division

EFFECTIVE DATE: March 14, 2011

ISSUED TO

Michigan Sugar Company

State Registration Number (SRN): B1493

LOCATED AT

2600 South Euclid Avenue, Bay City, Michigan 48706

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-B1493-2011

Expiration Date: March 14, 2016

Administratively Complete ROP Renewal Application Due Between September 14, 2014, and September 14, 2015

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Michigan Department of Environmental Quality and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Michigan Air Pollution Control Rule 210(1), this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-B1493-2011

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(5) of Act 451. Pursuant to Michigan Air Pollution Control Rule 214a, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environmental Quality

Chris Hare, Saginaw Bay District Supervisor

TABLE OF CONTENTS

AUTHORITY AND ENFORCEABILITY	3
A. GENERAL CONDITIONS	3
Permit Enforceability	3
General Provisions	3
Equipment & Design	3
Emission Limits	3
Testing/Sampling	3
Monitoring/Recordkeeping	3
Certification & Reporting	3
Permit Shield.....	3
Revisions	3
Reopenings.....	3
Renewals	3
Stratospheric Ozone Protection	3
Risk Management Plan.....	3
Emission Trading	3
Permit To Install (PTI)	3
Consent Judgment.....	3
B. SOURCE-WIDE CONDITIONS	3
C. EMISSION UNIT CONDITIONS	3
EMISSION UNIT SUMMARY TABLE	3
EUBOILER#5	3
EULIMEKILN.....	3
EUPELLETPRDCTN.....	3
EUPULPDRYER#3	3
EUANAEROBIC DIGESTER.....	3
EUCOOLINGTOWER	3
EUSTEAMDRYER	3
D. FLEXIBLE GROUP CONDITIONS	3
FLEXIBLE GROUP SUMMARY TABLE	3
FGBOILERS	3
FGRULE290	3
E. NON-APPLICABLE REQUIREMENTS.....	3
APPENDICES.....	3
Appendix 1: Abbreviations & Acronyms	3
Appendix 2. Schedule of Compliance	3
Appendix 3. Monitoring Requirements	3
Appendix 4. Recordkeeping.....	3
Appendix 5. Testing Procedures	3
Appendix 6. Permits to Install	3
Appendix 7. Emission Calculations	3
Appendix 8. Reporting	3
Appendix 9. Fugitive Dust Plan.....	3

AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environmental Quality (MDEQ) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a source-wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements will be identified for each ROP term or condition. All terms and conditions that are included in a PTI, are streamlined or subsumed, or is state only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

A. GENERAL CONDITIONS

Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**
- Those conditions that are hereby incorporated in a state only enforceable Source-wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R336.1214a(5))**
- Those conditions that are hereby incorporated in federally enforceable Source-wide PTI No. MI-PTI-B1493-2011 pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**
2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**
3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**
4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities **(R 336.1213(1)(d))**:
 - a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
 - c. Inspect, at reasonable times, any of the following:
 - i. Any stationary source.
 - ii. Any emission unit.
 - iii. Any equipment, including monitoring and air pollution control equipment.
 - iv. Any work practices or operations regulated or required under the ROP.
 - d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.
5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**
7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**
8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

Equipment & Design

9. Any collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
10. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

Emission Limits

11. Except as provided in Subrules 2, 3, and 4 of Rule 301, states in part: "a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of Rule 301(1)(a) or (b) unless otherwise specified in this ROP." The grading of visible emissions shall be determined in accordance with Rule 303. **(R 336.1301(1) in pertinent part):**
 - a. A 6-minute average of 20 percent opacity, except for one 6-minute average per hour of not more than 27 percent opacity.
 - b. A limit specified by an applicable federal new source performance standard.
12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
 - a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.¹ **(R 336.1901(a))**
 - b. Unreasonable interference with the comfortable enjoyment of life and property.¹ **(R 336.1901(b))**

Testing/Sampling

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1). **(R 336.2001)**
14. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**
15. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(4))**

Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate **(R 336.1213(3)(b))**:
 - a. The date, location, time, and method of sampling or measurements.
 - b. The dates the analyses of the samples were performed.
 - c. The company or entity that performed the analyses of the samples.
 - d. The analytical techniques or methods used.
 - e. The results of the analyses.
 - f. The related process operating conditions or parameters that existed at the time of sampling or measurement.
17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than five years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a responsible official which states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**
19. A responsible official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. **(R 336.1213(4)(c))**
20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**
21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
 - a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
 - b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
 - c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following **(R 336.1213(3)(c))**:
 - a. Submitting a certification by a responsible official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
 - b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a responsible official which states that, "based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete". The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.
23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**
24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**
25. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a responsible official in a manner consistent with the CAA. **(R 336.1912)**

Permit Shield

26. Compliance with the conditions of the ROP shall be considered compliance with any applicable requirements as of the date of ROP issuance, if either of the following provisions is satisfied. **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
 - a. The applicable requirements are included and are specifically identified in the ROP.
 - b. The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

27. Nothing in this ROP shall alter or affect any of the following:
 - a. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
 - b. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
 - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

- d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**
28. The permit shield shall not apply to provisions incorporated into this ROP through procedures for any of the following:
 - a. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
 - b. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
 - c. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
 - d. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
 - e. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**
29. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield shall extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

Revisions

30. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**
31. A change in ownership or operational control of a stationary source covered by this ROP shall be made pursuant to Rule 216(1). **(R 336.1219(2))**
32. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(9))**
33. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee shall comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

Reopenings

34. A ROP shall be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
 - a. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
 - b. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
 - c. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
 - d. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**

Renewals

35. For renewal of this ROP, an administratively complete application shall be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(7))**

Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaiming, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F.
37. If the permittee is subject to 40 CFR, Part 82, and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR, Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR, Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR, Part 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR, Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).
39. If subject to Section 112(r) of the CAA and 40 CFR, Part 68, the permittee shall comply with the requirements of 40 CFR, Part 68, no later than the latest of the following dates as provided in 40 CFR, Part 68.10(a):
- June 21, 1999,
 - Three years after the date on which a regulated substance is first listed under 40 CFR, Part 68.130, or
 - The date on which a regulated substance is first present above a threshold quantity in a process.
40. If subject to Section 112(r) of the CAA and 40 CFR, Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR, Part 68.
41. If subject to Section 112(r) of the CAA and 40 CFR, Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c)). **(40 CFR, Part 68)**

Emission Trading

42. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan's State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

Permit To Install (PTI)

43. The process or process equipment included in this permit shall not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.² **(R 336.1201(1))**
44. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department's rules or the CAA.² **(R 336.1201(8), Section 5510 of Act 451)**
45. The terms and conditions of a PTI shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI will be amended to reflect the change of ownership or operational control. The request must include all of the information required by Subrules (1)(a), (b) and (c) of Rule 219. The written request shall be sent to the appropriate AQD District Supervisor, MDEQ.² **(R 336.1219)**
46. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months, or has been interrupted for 18 months, the applicable terms and conditions from that PTI shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, MDEQ, AQD, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.² **(R 336.1201(4))**

Consent Judgment

47. The conditions contained in this ROP for which a Consent Judgment is the only identified underlying applicable requirement shall be considered null and void upon the effective date of termination of the Consent Judgment.

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

B. SOURCE-WIDE CONDITIONS

Part B outlines the source-wide terms and conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply to this source, NA (not applicable) has been used in the table. If there are no source-wide conditions, this section will be left blank.

SOURCE-WIDE CONDITIONS

DESCRIPTION

POLLUTION CONTROL EQUIPMENT NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Permittee shall comply with applicable provisions of R 336.1371 and R 336.1372 for fugitive dust emissions. The most recent fugitive dust plan is hereby approved. Permittee shall comply with the provisions of the permittee's fugitive dust control program presented in Appendix 9. **(R336.1371 and R336.1372)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year.
(R 336.1213(4)(c))

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

C. EMISSION UNIT CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUBOILER#5	146.5 million BTUs per hour heat input, 120,000 pounds steam per hour, natural gas-fired boiler that supplies process steam and heat to the facility. The boiler is equipped w/Low NOx Burner.	01/01/1991, 08/27/1997	NA
EUBOILER#6	180 million BTUs per hour heat input, 150,000 pounds steam per hour, natural gas fired boiler that supplies process steam and heat to the facility. The boiler is equipped w/Low NOx Burner and flue gas recirculation.	01/01/1991, 10/30/1995	FGBOILERS
EUBOILER#7	180 million BTUs per hour heat input, 150,000 pounds steam per hour, natural gas fired boiler that supplies process steam and heat to the facility. The boiler is equipped w/Low NOx Burner and flue gas recirculation.	01/01/1991, 10/30/1995	FGBOILERS
EULIMEKILN	The lime kiln is a vertical shaft lime kiln (Eberhardt) model. KR 380. The lime kiln is 18' diameter by 165' height. The capacity of the lime kiln is 13,200 Cu. Ft.	01/01/1984, 12/07/1984	NA
EUPELLETPRDCTN	In the pellet production area, milled pulp is cooled in two pellet coolers. The pellet production area is made up of two pellet coolers (one vertical and one horizontal), conveyors, and storage silo. The two pellet coolers have the capacity to cool up to 850 tons of beet pulp pellets per day. The two pellet coolers are each controlled by separate cyclones and the material handling area/conveyor area is controlled by a third cyclone. The two Beckert & Hiester, and unknown brand cyclones, are in parallel and are all connected to the wet scrubber (Emetrol) to control fine particulate.	01/01/1984, 04/15/1988	NA
EUPULPDRYER#3	74.5 million BTUs per hour natural gas fired pulp dryer with the capacity to dry 40 tons per hour wet pulp. The pulp dryer is equipped with a pair of parallel control systems on each stack. Both control systems contain multicyclone followed in series by wet fan scrubbers. The pulp dryer includes the screw conveyor system that feeds the pulp.	01/01/1984, 10/30/1995	NA

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUANAEROBIC DIGESTER	The flare burns gas generated in the anaerobic digesting system ("ANAMET" tank).	10/15/1986 01/29/1988, 01/01/1991	NA
EU- COOLINGTOWER	The cooling tower is used to cool water from the barometric condensing operation.	7/24/2001	NA
EURULE290	EUMOLASSEDESUG- equipment used to remove sugar from molasses through chromatographic separation.		FGRULE290
EUSTEAMDRYER	Fluidized bed steam pulp dryer		NA

**EUBOILER#5
 EMISSION UNIT CONDITIONS**

DESCRIPTION

146.5 million BTUs per hour heat input, 120,000 pounds steam per hour, natural gas-fired boiler that supplies process steam and heat to the facility. The boiler is equipped w/Low NOx Burner.

Flexible Grouping ID: NA

POLLUTION CONTROL EQUIPMENT

Low NOx Burner Technology

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Applicable Requirement
1. NOx	0.15 lb/MMBTU ² *	24 hour average	EUBOILER#5	SC VI 1	R 336.1205
2. NOx	21.9 pph ² *	24 hour average	EUBOILER#5	SC VI 1, and VI 2	R 336.1205, 40 CFR Part 60 Subparts A and Db
3. NOx	48.0 tpy ²	12-month rolling time period	EUBOILER#5	SC VI 1, VI 2, and VI 3	336.1205, 40 CFR Part 60 Subparts A and Db
4. CO	0.23 lb/MMBTU ² *	24 hour average	EUBOILER#5	SCII 1 and GC 14	R 336.1205
5. CO	33.6 pph ² *	24 hour average	EUBOILER#5	SCII 1 and GC 14	R 336.1205
6. CO	73.6 tpy ²	12-month rolling time period	EUBOILER#5	SC II 1 and SC VI 3	R 336.1205

* All limits include startup, shutdown and malfunction conditions.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural gas	Natural gas shall be the only fuel used in EUBOILER#5 ²	NA	NA	NA	40 CFR Part 60 Subparts A and Db

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The ratio of actual heat input for twelve consecutive calendar months to the maximum potential heat input based on an operation of 8,760 hours shall not exceed 0.50 for EUBOILER#5. Refer to Appendix 7. ² (R 336.1205(1)(a)(ii))

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Permittee shall monitor and record the emissions of nitrogen oxides and oxygen from EUBOILER#5 on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division as well as other emissions and operating information as required to comply with the Federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Db.² **(R 336.1205 and 40 CFR Part 60 Subpart Db)**
2. The permittee shall keep, in a satisfactory manner, 24-hour rolling average NOx emission records for EUBOILER#5. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213 (3) and 40 CFR Part 60 Subpart Db)**
3. The permittee shall monitor and record the amount of natural gas utilized as well as the ratio of actual heat input on a monthly basis using instrumentation acceptable to the District Supervisor of the Air Quality Division. Natural gas usage shall be recorded on a log and kept on file for EUBOILER#5. See Appendix 7.² **(336.1205(1)(a)(ii)(D) and R 336.1201(3))**
4. The Continuous Emission Monitoring System (CEMS) for NOx and O₂ shall be installed, calibrated, maintained and operated in accordance with the procedures set forth in 40 CFR 60.13 and Performance Specifications (PS) 2 and 3 of Appendix B, 40 CFR 60. **(40 CFR Part 60.48b(b) & (e)(2), R 336.1213(3))**
5. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR, Part 60. **(R 336.1213(3), 40 CFR Part 60 Appendix F)**
6. The permittee shall keep, in a satisfactory manner, records of the occurrence and duration of each start-up, shutdown, or malfunction of a continuous monitoring system or monitoring device is inoperative. **(R 336.2170, 40 CFR Part 60.7)**

VII. REPORTING

1. Prompt reporting of deviations pursuant to Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to Condition 23 of Part A. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to Conditions 19 and 20 of Part A. Reports shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. All records of the emissions of nitrogen oxides and oxygen from EUBOILER#5 as referenced in SC VI.1, shall be submitted to the District Supervisor, Air Quality Division, in an acceptable format within 30 days following the end of the quarter in which the data was collected. **(R 336.1205 and 40 CFR Part 60 Subpart Db)**
5. All source emissions data and operating data required to comply with the Federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and DB shall be submitted to the District Supervisor, Air Quality Division, in an acceptable format within 30 days following the end of the quarter in which the data was collected.² **(R 336.1205 and 40 CFR Part 60 Subparts A and Db)**

6. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS complies with the requirements of the corresponding PS in Appendix B, 40 CFR Part 60. **(R 336.2150, 40 CFR Part 60 Appendix B)**
7. Within 30 days following the end of each calendar quarter, the permittee shall submit the results of CEMS testing conducted to meet Quality Assurance Procedures for the CEMS to the AQD District Supervisor in the format of the data assessment report (Figure 1, Appendix F). **(40 CFR Part 60 Appendix F)**
8. The permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to the AQD, within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
 - a. A report of each exceedance above the limits specified in the conditions of this permit. This includes date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
 - b. A report of all periods of CEMS downtime and corrective action.
 - c. A report of the total operating time of each boiler during the reporting period.
 - d. A report of any periods that the CEMS exceeds the instrument range.
 - e. If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact. **(40 CFR 60.7 (c) and (d))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOILER#5	60 ²	50 ²	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EULIMEKILN
 EMISSION UNIT CONDITIONS**

DESCRIPTION

The lime kiln is a vertical shaft lime kiln (Eberhardt) model KR 380. The lime kiln is 18' diameter by 165' height. The capacity of the lime kiln is 13,200 Cu. Ft. The lime kiln is part of the purification and filtration processes. Lime (CaO) produced in the lime kiln is introduced into the sugar making process as milk of lime [Ca(OH)₂] at the carbonation tanks. The CO₂ is used for pH adjustment in the carbonation tanks. SO₂ generated during the process is in part recaptured as calcium sulfate in later stages of the process.

Flexible Grouping ID: NA

POLLUTION CONTROL EQUIPMENT

Scrubber

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.20 lb / 1,000 lbs of exhaust gases, calculated on a dry gas basis ²	As defined by test method	EULIMEKILN	SC V 2 GC 14	R 336.1331(1)(a)
2. SO ₂	8.0 pph ²	As defined by test method	EULIMEKILN	SC V.1, V.2, VI 1, VI 2, and VI 3, GC 14*	R 336.1201(3)
3. SO ₂	35.0 tpy ²	12-month rolling time period	EULIMEKILN	SC III 1, VI 1, VI 3 and VI 4	R 336.1201(3)

* Samples of coke shall be collected and analyzed in the manner specified in Appendix 5

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Permittee shall not operate the lime kiln unless the scrubber is installed and operating properly.² **(R336.1201, R336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. At least once per sugar production campaign, the permittee shall verify the vendor supplied sulfur content data by conducting an independent analysis in accordance with ASTM methods as outlined in Appendix 5. **(R 336.1213(3))**

2. Prior to December 1, 2014, verification of particulate matter and SO₂ emission rates from SVLIMESTACK1 and SVLIMESTACK2 stacks by testing, at owner's expense, in accordance with Department requirements, will be required. Verification of emission rates includes the submittal of a complete report of the test results. **(R 336.1213(3), R 336.2001 and R 336.2003)**
 - a. Testing shall be conducted using an approved test method. The permittee shall submit a complete test protocol to the AQD for approval at least 30 days prior to the anticipated test date. **(R 336.1213(3))**
 - b. The permittee shall notify the District Supervisor or the AQD Technical Programs Unit no less than 7 days prior to the anticipated test date. **(R 336.2001(3))**
3. Permittee shall conduct a daily visible emission survey during daylight hours for opacity from SVLIMESTACK1 and SVLIMESTACK2 stacks. The data and time of the survey, together with the initials of the person performing the survey, shall be recorded on a log. If visible emissions in excess of 15% opacity are observed for six minutes, the permittee shall perform and record at least one 15-minute visible emission reading in accordance with Federal Test Method 9, by a certified reader. The date, time and Method 9 reader's initials shall be recorded on the visible emission observation form. **(R 336.1213(3))**

VI. MONITORING/RECORDKEEPING

Records and reports shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Permittee shall keep monthly records of the amount of coke used in the lime kiln. **(R 336.1213(3))**
2. Permittee shall monitor and record the sulfur content of the coke charged to the lime kiln on an intermittent basis in a manner and with instrumentation acceptable to the Air Quality Division.² In addition, records shall be maintained of the coke analysis of all shipments of coke as supplied by the vendor(s) and of all independent coke analysis conducted by permittee. This record shall include the percent sulfur content and heat input in BTUs per pound of coke used in the lime kiln. **(R 336.1213(3)) (R 336.1201(3))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to Conditions 21 and 22 of Part A General Conditions. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to Condition 23 of Part A General Conditions. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to Conditions 19 and 20 of Part A General Conditions. Reports shall be received postmarked or by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit a complete test report of the SC III.2 particulate matter and SO₂ test results within 60 days following the last date of the test. **(R336.20001(4))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVLIMEKILNEASTSTACK	24 ²	185 ²	R 336.1201(3)
2. SVLIMEKILNWESTSTACK	24 ²	185 ²	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EUPELLETPRDCTN
 EMISSION UNIT CONDITIONS**

DESCRIPTION

In the pellet production area, milled pulp is cooled in two pellet coolers. The pellet production area is made up of two pellet coolers (one vertical and one horizontal), conveyors, and storage silo. The two pellet coolers have the capacity to cool up to 850 tons of beet pulp pellets per day. The two pellet coolers are controlled by one cyclone a piece and the material handling area/conveyor area is controlled by a third cyclone. The two Beckert & Hiester, and one unknown brand, cyclones are in parallel and are all connected to the wet scrubber (Emetrol) to control fine particulate.

Flexible Grouping ID: NA

POLLUTION CONTROL EQUIPMENT

Wet Scrubber
 Cyclones

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.05 lb/1,000 lbs of exhaust gases, calculated on a dry gas basis ²	As defined by test method	EUPELLETPRDCTN	SC VI 1 GC14	R 336.1331(c)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Permittee may operate the silo basement conveyor wall vent for EUPELLETPRDCTN only when plant personnel are present in the basement conveyor area.² **(R 336.1201(3))**
2. All vehicles transporting pellets off the plant site shall be covered or otherwise enclosed.² **(R336.1201 and R336.1372(3))**
3. The permittee shall operate the wet scrubber and cyclones for EUPELLETPRDCTN within the appropriate range of differential pressure and water flow rates (wet scrubber only) as recommended by the manufacturer and outlined in the approved CAM Plan on file at the District Office. An excursion occurs if the pressure drop or water flow rates for the wet scrubber and/or cyclones occur outside the appropriate ranges, triggering an inspection and corrective action. **(40 CFR (64.6(2)))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUPELLETPRDCTN unless the cyclones and wet scrubber are installed, maintained, and operated in a satisfactory manner.² **(R 336.1910 and R 336.1331)**
2. Permittee shall equip and maintain the wet scrubber for EUPELLETPRDCTN with instrumentation to continuously measure the pressure drop across the wet scrubber. Maintenance will include but not be limited to maintaining necessary parts for routine repairs of monitoring equipment. The instrumentation and monitoring will be in a manner and with instrumentation acceptable to the Air Quality Division.² **(R 336.910, R 336.1331 and 40 CFR 64.7(b))**
3. Permittee shall equip and maintain the pellet silo unloading elevator with an extendable chute to minimize the pellet drop height during truck and rail car loading. The drop height shall not exceed a maximum of six inches above the side of the bed enclosure of the vehicle being loaded.² **(R 336.1372(2)(b)(ii))**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPINGRecords shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall conduct and record the differential pressure and water flow rates across the wet scrubber a minimum of once per calendar day of operation or as outlined in the CAM Plan for EUPELLETPRDCTN maintained on file at the District Office. Data collected during malfunctions, repairs and QA/QC activities shall not be used to satisfy monitoring requirements. **(R 336.1213(3) 40 CFR64.6(c)(3) and 40 CFR 64.7 (c))**
2. The permittee shall keep records including the date and extent of any maintenance activities and repairs made to the wet scrubber and cyclones for EUPELLETPRDCTN should be maintained by the permittee and available for review by AQD staff. **(R336.1213(3))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to Special Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to Special Condition 23 of Part A. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to Special Conditions 19 and 20 of Part A. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The report required in 2., above, shall include: (a) summary information on the number, duration and cause of exceedances and excursions and corrective actions taken; (b) summary information on the number, duration and cause for pollution control and/or monitor equipment downtime incidents (other than for calibration checks); and (c) a description of the actions taken to implement a Quality Improvement Plan (QIP) during the reporting period, if applicable. If a QIP has been completed the report shall include documentation that the plan has been implemented and reduced the likelihood of similar levels of excursions or exceedances occurring. **(40 CFR 64.9)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVPELLET/STORAGE/HANDLING	48 ¹	42 ¹	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all requirements of 40 CFR Part 64. **(40 CFR 60.6(c)(3))**
2. Within 180 days of issuance of the ROP, the permittee shall submit a revised CAM Plan for approval by the District Supervisor. The revised CAM Plan shall define the normal operation range for the differential pressure gauges for the cyclones associated with EUPELLETPRDCTN. In addition, the permittee shall promptly notify AQD for the need to modify the CAM plan if the existing plan is found to be inadequate, and the permittee shall submit a proposed modification to the ROP if necessary. **(40 CFR 64.7 (e))**
3. The permittee shall submit a Quality Improvement Plan (QIP) if pressure drop readings occur outside the range 12 times in a campaign. **(40 CFR 64.8(a))**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EUPULPDYER#3
EMISSION UNIT CONDITIONS**
DESCRIPTION

74.5 million BTUs per hour natural gas fired pulp dryer with the capacity to dry 40 tons per hour wet pulp. The pulp dryer is equipped with multiclone and wet fan scrubber for controlling air pollution. The pulp dryer includes the screw conveyor system that feeds the pulp.

Flexible Grouping ID: NA

POLLUTION CONTROL EQUIPMENT

Multiclone on each stack

Wet Scrubber on each stack

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Opacity	10% ²	As defined by test method 9	EUPULPDYER#3/ Multiclone/ Wet scrubbers	SC V 1	R 336.1301, 40 CFR 52.21 (j)
2. PM	0.065 lb/ 1,000 lb ² *	As defined by test method 5B	EUPULPDYER#3/ Multiclone/ Wet scrubbers	SC VI1	R 336.1331(1)(c), 40 CFR 52.21 (j)
3. PM	21.3 pph ²	As defined by test method 5B	EUPULPDYER#3/ Multiclone/ Wet scrubbers	SC VI1	R 336.1331(1)(c), 40 CFR 52.21 (j)
4. PM	46.6 tpy ²	12-month rolling time period	EUPULPDYER#3/ Multiclone/ Wet scrubbers	SC VI1	R 336.1331(1)(c), 40 CFR 52.21 (j)
5. Formaldehyde	45.0 mg/m ³ corrected to 70°F and 29.92 inches Hg ¹	As defined by NCASI method 98.01	EUPULPDYER#3/ Multiclone/ Wet scrubbers	GC 14	R 336.1225(2)
6. VOC	137.7 pph ²	As defined by test method 25A	EUPULPDYER#3	GC 14	R 336.1205, R 336.1702, 40 CFR 52.21(j)
7. VOC	241.32 tpy ²	12-month rolling time period	EUPULPDYER#3	SC III 4, VI 4	R 336.1702, 40 CFR 52.21(j)
8. CO	186.0 pph ²	As defined by test method 10	EUPULPDYER#3	GC 14	40 CFR 52.21(j)
9. CO	325.8 tpy ²	12-month rolling time period	EUPULPDYER#3	SC III 4, VI 4	R 336.1205, 40 CFR 52.21(j)

* Pounds emitted per thousand pounds of exhaust gases, calculated on a dry gas basis.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	97,893,000 cubic feet per campaign year.*	Campaign Year	EUPULPDRYER#3	SC VI.6	10/13/2008 Consent Decree
*Effective 09/01/2009, natural gas usage shall be adjusted yearly based on moisture content of pressed sugar beet pulp dried during the current and previous campaign year. A campaign year being defined as September 1 through August 31. ³ See III.6.					

PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUPULPDRYER#3 unless the Malfunction Abatement Plan (MAP) (on file at District Office) or an alternate plan approved by the AQD District Supervisor has been implemented and maintained. The plan shall include procedures for maintaining and operating in a satisfactory manner each multiclone and wet scrubber during malfunction events, and a program for corrective action for such events. The plan shall also include procedures for monitoring and identifying, in a satisfactory manner, conditions in the water intended for use in the wet scrubber that may result in the emission of nuisance odors from the wet scrubber, and a program for corrective action for such conditions. If the malfunction abatement plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time, the owner or operator shall revise the malfunction abatement plan within 45 days after such an event occurs.² **(R 336.1901 and R 336.1911)**
2. The permittee shall not operate EUPULPDRYER#3 unless respective multiclone is installed, maintained, and operated in a satisfactory manner. Proper maintenance shall include, but not be limited to, maintaining necessary parts for routine repairs of the monitoring equipment. Proper operation of each multiclone includes the operating parameters listed in the CAM Plan and MAP.² **(R 336.1205, R 336.1331, R 336.1910, and R 336.1910, 40 CFR 64.6(c) and 40 CFR 64.7)**
3. The permittee shall not operate EUPULPDRYER#3 unless respective wet scrubber is installed, maintained, and operated in a satisfactory manner. Proper maintenance shall include, but not be limited to, maintaining necessary parts for routine repairs of the monitoring equipment. Proper operation of each wet scrubber includes the operating parameters listed in the CAM Plan and MAP.² **(R 336.1205, R 336.1331, R 336.1910, 40 CFR 64.6(c) and 40 CFR 64.7)**
4. The permittee shall not operate EUPULPDRYER#3 for more than 4380 hours per each 12-month rolling time period as determined at the end of each calendar month.² **(R 336.1205)**
5. EUPULPDRYER#3 shall not operate for more than 720 hours in the ozone control period, defined as May 1 through September 30 of each year. **(R 336.1205, R 336.1702, R 336.1801(1)(f))**
6. Beginning with the Campaign Year beginning on or about September 1, 2009, the permittee shall calculate the average moisture content of the pressed sugar beet pulp dried during the current and preceding Campaign Years.³ **(10/13/2008 Consent Decree)**
 - a. If the moisture content of the pressed sugar beet pulp dried during the preceding Campaign Year was 70% or greater, there shall be no adjustment to the natural gas usage limitation for EUPULPDRYER#3 for the current Campaign Year.
 - b. If the moisture content of the pressed sugar beet pulp dried during a Campaign Year is less than 70%, the natural gas usage limitation for EUPULPDRYER#3 for the following Campaign Year, measured in cubic feet of natural gas, shall be limited as follows:
 - 69 – 69.99% moisture = 90,000,000 cubic feet
 - 68 – 68.99% moisture = 80,000,000 cubic feet

- 67 – 67.99% moisture = 70,000,000 cubic feet
 - 66 – 66.99% moisture = 60,000,000 cubic feet
 - 65 – 65.99% moisture = 50,000,000 cubic feet
 - 64 – 64.99% moisture = 40,000,000 cubic feet
 - 63 – 63.99% moisture = 30,000,000 cubic feet
 - 62 – 62.99% moisture = 20,000,000 cubic feet
 - 61 – 61.99% moisture = 10,000,000 cubic feet
 - At less than 61% moisture, EUPULPDRYER#3 shall not have any natural gas allowance for the current Campaign Year and shall not operate.
7. No later than May 31, 2014, EUPULPDRYER#3 shall be permanently shut down and decommissioned.³ **(10/13/2008 Consent Decree)**
8. Permittee shall not operate EUPULPDRYER#3 unless the total suspended solids content of the scrubber feed water is less than or equal to 20,000 milligrams per liter.² **(R 336.1205, R 336.1901, and R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Permittee shall equip and maintain each multiclone with instrumentation to measure the pressure drop of the gas stream across the collector.² **(R 336.1205 and R 336.1910)**
2. Permittee shall equip and maintain each wet scrubber with instrumentation to continuously measure the scrubber liquid flow rate.² **(R 336.1205 and R 336.1910)**
3. Permittee shall equip and maintain the main wet pulp conveyor with a belt weigher system to measure the total weight of all beet pulp fed to the pulp dryers, and shall equip and maintain the screw conveyor feeding EUPULPDRYER#3 with instrumentation to monitor screw speed and relative trough loading as necessary to determine the percent of total feed rate to the dryer using the equations referenced in Appendix 7. Record-keeping procedures and format are described in the MAP.² **(R 336.1205)**
4. Permittee shall equip and maintain the rotary drum of EUPULPDRYER#3 with at least three inches of fiberglass type thermal insulation to increase the thermal efficiency of pulp dryer No. 3.² **(R 336.1205 and 40 CFR 52.21)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall record the pressure drop across each multiclone collector and scrubber liquid flow rates to each scrubber used to control emissions from EUPULPDRYER#3, when operating, according to the record-keeping procedures and format described in the CAM Plan and MAP maintained on file at the District Office. Data collected during malfunctions, repairs and QA/QC activities shall not be used to satisfy monitoring requirements.² **(R 336.1331, R 336.1910, CFR 64.6 and 40 CFR 64.7 (c))**

2. The permittee shall keep, in a satisfactory manner, monthly and previous 12-month records of the total weight of all beet pulp fed to EUPULPDRYER#3. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request.² **(R 336.1205)**
3. The permittee shall keep, in a satisfactory manner, hourly records of the operational status for EUPULPDRYER#3, as required by SC III.4 and III.5. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request.² **(R 336.1205, R 336.1702)**
4. The permittee shall keep, in a satisfactory manner, monthly and previous 12-month records of the CO and VOC emissions from EUPULPDRYER#3. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request.² **(R 336.1205, R 336.1702, 40 CFR 52.21(j))**
5. Beginning September 1, 2008, the permittee shall measure and calculate the average moisture content of the pressed sugar beet pulp dried in EUPULPDRYER#3 during the Campaign Year.³ **(10/13/2008 Consent Decree)**
6. Beginning September 1, 2009, the permittee shall determine the cubic feet of natural gas fired in EUPULPDRYER#3 during the Campaign Year.³ **(10/13/2008 Consent Decree)**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Reports shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. Reports shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Each semiannual report of monitoring and deviations (VII.2) shall include but not be limited to: (a) summary information on the number, duration and cause of exceedances and excursions and corrective actions taken: (b) summary information in a CAM Plan report regarding the number, duration and cause for pollution control and/or monitor equipment downtime incidents (other than for calibration checks): and (c) a description of the actions taken to implement a QIP during the reporting period, if applicable. If a QIP has been completed the report shall include documentation that the plan has been implemented and reduced the likelihood of similar levels of excursions or exceedances occurring. **(40 CFR 64.9)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
SVWETSCR/B/PD#3A	66 ¹	100 ¹	R 336.1225 and 40 CFR 52.21(c) & (d)
SVWETSCR/B/PD#3B	66 ¹	100 ¹	R 336.1225 and 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all requirements of 40 CFR Part 64. **(40 CFR 60.6(c)(3))**
2. The permittee shall promptly notify AQD of the need to modify the CAM Plan if the existing plan is found to be inadequate, and the permittee shall submit a proposed modification to the ROP if necessary. **(40 CFR 64.7 (e))**
3. The permittee shall submit a Quality Improvement Plan (QIP) if pressure drop readings occur outside the range 12 times in a campaign **(40 CFR 64.8(a))**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

³This condition is required under an October 13, 2008 Consent Decree in United States vs. Michigan Sugar Company.

**EUANAEROBIC DIGESTER
 EMISSION UNIT CONDITIONS**

DESCRIPTION

The waste water treatment system includes an anaerobic digesting system ("ANAMET" tank) with a flare.

Flexible Grouping ID: NA

POLLUTION CONTROL EQUIPMENT

Flare

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. SO ₂	20.14 pph ² *	24-hour average	EUANAROEBIC DIGESTER	SC VI 1, and VI 2	R 336.1201(3), 40 CFR 52.21(c) & (d)
2. SO ₂	36.16 tpy ²	12-month rolling time period	EUANAROEBIC DIGESTER	SC VI 1, and VI 2	R 336.1201(3), 40 CFR 52.21(c) & (d)

* This is equivalent to a mass flow rate of H₂S to the flare of 10.70 pounds per hour.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Permittee shall operate and maintain in a satisfactory manner the spark-ignited flare pilot at the anamet system. In the event that the pilot on the flare fails to ignite, the flow of biogas to the flare shall stop immediately consistent with safe operating practice. The flow of biogas to the flare shall not be restarted unless the spark-ignited flare pilot is back on line and operating properly.² **(R 336.1910)**
2. Except during a malfunction of the wastewater treatment system, the permittee shall maintain no detectable emission from the pressure-relief device on the process.² **(R 336.1201(3) and R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Permittee shall monitor and record, on a daily basis, in a manner and with instrumentation acceptable to the Air Quality Division, the mass flow rate of hydrogen sulfide gas going to the flare. The permittee shall keep all data used to determine the mass flow rate of hydrogen sulfide to the flare.² **(R336.1201(3))**
2. Permittee shall keep a record of each pressure release and each pressure-relief device inspection on the process. The record shall include:
 - a. date and time of beginning and ending of release;
 - b. reason for the release;
 - c. date when the pressure-relief device was inspected;
 - d. and results of inspection.² **(R 336.1201(3) and R 336.1901)**
3. Permittee shall conduct an inspection of the pressure-relief device within two working days following a pressure release, and at least once annually, to determine that there are no detectable emissions. "No detectable emissions" is defined as an instrument reading of less than 500 ppm above background as determined by EPA Reference method 21, or equivalent.² **(R 336.1201(3) and R 336.1901)**

VII. REPORTING

1. Prompt reporting of deviations pursuant to Special Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to Special Condition 23 of Part A. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to Special Conditions 19 and 20 of Part A. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Permittee shall submit data indicating the mass flow rate of hydrogen sulfide going to the flare. This data shall be submitted to the District Supervisor in an acceptable format within 30 days following the end of the month in which the data was collected.² **(R336.1201(3))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVANAEROBIC DIGESTER	4.0 ²	20.0 ²	R 336.1201(3) and 40 CFR 52.21(c) and (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EUCOOLINGTOWER
 EMISSION UNIT CONDITIONS**

DESCRIPTION

The counter current flow cooling tower is used to cool water from the barometric condensing operation. Ammonia associated EUCOOLINGTOWER was extracted along with sugar during processing, and is present in the condensate waters being cooled prior to reuse or discharge. Ammonia emissions are the result of rising air through the cooling tower stripping the ammonia from the condensate water.

Flexible Grouping ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Ammonia (NH ₃)	920.0 pph ¹	24-hour average	EUCOOLINGTOWER	SC VI 1	R 336.1224, and R 336.1225

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. To demonstrate compliance with the amount of ammonia entering EU-COOLINGTOWER, Applicant shall monitor and record the following parameters three times per week. These parameters refer to the water entering EU-COOLINGTOWER:
 - a. Water pump discharge pressure
 - b. Concentration of ammonia in the water

The volumetric flow rate of water entering EU-COOLINGTOWER can be determined from pump curves using the pump's discharge pressure.¹ **(R 336.1224 and R 336.1225)**

VII. REPORTING

1. Prompt reporting of deviations pursuant to Special Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to Special Condition 23 of Part A. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to Special Conditions 19 and 20 of Part A. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (feet)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVCOOLINGTOWER	19.0 ¹	36.0 ¹	R 336.1901 and R 336.1201(3)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EUSTEAMDRYER
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Fluidized bed steam pulp dryer utilizes steam generated from natural gas boilers onsite. EUSTEAMDRYER is not vented, and drying takes place in a closed and pressurized vessel

Flexible Grouping ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

* Pounds emitted per thousand pounds of exhaust gases, calculated on a dry gas basis.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. There shall be no visible emissions from EUSTEAMDRYER except uncombined water vapor. ² (R336.1301)

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

³This condition is required under an October 13, 2008 Consent Decree in United States vs. Michigan Sugar Company.

D. FLEXIBLE GROUP CONDITIONS

Part D outlines terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGBOILERS	Two 180 million BTUs per hour heat input, natural gas fired boilers that supply process steam and heat to the facility. Both boilers have low NOx burners and flue gas recirculation.	EUBOILER#6 EUBOILER#7
FGRULE290	Existing and future processes exempt per R 336.1290	EGRULE290

**FGBOILERS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Two 180 million BTUs per hour heat input, natural gas fired boilers that supply process steam and heat to the facility. Both boilers have low NOx burners and flue gas recirculation.

POLLUTION CONTROL EQUIPMENT

Low NOx Burner
 Flue Gas Recirculation

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Applicable Requirement
1. NOx	0.155 lb/MMBTU ² *	24 hour average	EUBOILER#6 EUBOILER#7	GC 14	R 336.1205
2. NOx	27.9 pph ² *	As defined by test method	EUBOILER#6 EUBOILER#7	SC IV 1, VI 1, VI 2, and VI 3	R 336.1205 and 40 CFR Part 60 Subparts A and Db
3. NOx	61.1 tpy ²	12-month rolling time period	EUBOILER#6 EUBOILER#7	SC IV 1, VI 1, VI 2, and VI 3	R 336.1205 and 40 CFR Part 60 Subparts A and Db
4. CO	0.22 lb/MMBTU ² *	8 hour average	EUBOILER#6 EUBOILER#7	GC 14	R 336.1205
5. CO	39.6 pph ² *	As defined by test method	EUBOILER#6 EUBOILER#7	GC 14	R 336.1205
6. CO	86.7 tpy ²	12-month rolling time period	EUBOILER#6 EUBOILER#7	SC VI 3	R 336.1205

* All limits include startup, shutdown and malfunction conditions.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The ratio of actual heat input for 12 consecutive calendar months to the maximum potential heat input based on an operation of 8,760 hours shall not exceed 0.50 for FGBOILERS. ² (R 336.1201(3))

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate an individual boiler in FGBOILERS unless the low NOx burners and flue gas recirculation system for that boiler are installed, maintained, and operated in a satisfactory manner.² **(R 336.1910)**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPINGRecords shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Permittee shall monitor and record the emissions of nitrogen oxides and oxygen from FGBOILERS on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. As well as record and monitor emissions and operating information required to comply with the Federal Standards of Performance for new Stationary 'sources as specified in 40 CFR Part 60 Subparts A and Db.² **(R 336.1205 and 40 CFR Part 60 Subpart A and Db)**
2. The permittee shall keep, in a satisfactory manner, 24-hour rolling average NOx emission records for each boiler included in FGBoilers. The permittee shall keep all records on file and make them available to the Department upon request.² **(R336.1205(1))**
3. The permittee shall monitor and record the amount of natural gas utilized as well as the ratio of actual heat input for 12 consecutive calendar months using instrumentation acceptable to the District Supervisor of the Air Quality Division. Natural gas usage shall be recorded on a log and kept on file for FGBOILERS. Refer to Appendix 7.² **(R 336.1205)**
4. The Continuous Emission Monitoring System (CEMS) for NOx and O₂ shall be installed, calibrated, maintained and operated in accordance with the procedures set forth in 40 CFR 60.13 and Performance Specifications (PS) 2 and 3 of Appendix B, 40 CFR 60. **(40 CFR Part 60.48b(b) & (e)(2), R 336.1213(3))**
5. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR, Part 60. **(R 336.1213(3), 40 CFR Part 60 Appendix F)**
6. The permittee shall keep, in a satisfactory manner, records of the occurrence and duration of each start-up, shutdown, or malfunction of a continuous monitoring system or monitoring device is inoperative. **(40 CFR Part 60.7)**

VII. REPORTING

1. Prompt reporting of deviations pursuant to Special Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to Special Condition 23 of Part A. Each semiannual report of monitoring deviations shall include summary information on number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. Reports shall be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i), 40 CR Part 60.7 (c) and (d))**
3. Annual certification of compliance pursuant to Special Conditions 19 and 20 of Part A. Reports shall be post marked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. All source emissions data and operating data required to comply with the Federal Standards of performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Db shall be submitted to the District Supervisor, Air Quality Division, in an acceptable format within 30 days following the end of the quarter in which the data was collected. ² **(R 336.1250, 40 CFR part 60 Subparts A and Db)**
5. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS complies with the requirements of the corresponding PS in Appendix B, 40 CFR 60. **(R 336.2150, 40 CFR Part 60 Appendix B)**
6. Within 30 days following the end of each calendar quarter, the permittee shall submit the results of the CEMS testing conducted to meet Quality Assurance Procedures for the CEMS to the AQD District Supervisor in the format of the data assessment report (Figure 1, Appendix F). **(40 CFR Part 60 Appendix F)**
7. The permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to the AQD, within 30 days following the end of each calendar quarter. The summary report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
 - a. A report of each exceedance above the limits specified in the conditions of this permit. This includes date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
 - b. A report of all periods of CEMS downtime and corrective action.
 - c. A report of the total operating time of each boiler during the reporting period.
 - d. A report of any periods that the CEMS exceeds the instrument range.
 - e. If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact. **(40 CFR 60.7 (c) and (d))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOILER#6	72 ²	50 ²	R 336.1201(3)
2. SVBOILER#7	72 ²	50 ²	R 336.1201(3)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FGRULE290 FLEXIBLE GROUP CONDITIONS
--

DESCRIPTION

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.

Emission Units:

EGRULE290 consisting of but not limited to: EUMOLASSEDESUG – Process and associated equipment used to remove sugar from molasses through chromatographic separation.

POLLUTION CONTROL EQUIPMENT**I. EMISSION LIMIT(S)**

1. Each emission unit that emits only noncarcinogenic volatile organic compounds or noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone if the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively. **(R 336.1290(a)(i))**
2. Each emission unit that the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively, and all the following criteria listed below are met: **(R 336.1290(a)(ii))**
 - a. For noncarcinogenic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 2.0 micrograms per cubic meter, the total uncontrolled or controlled emissions shall not exceed 1,000 or 500 pounds per month, respectively. **(R 336.1290(a)(ii)(A))**
 - b. For noncarcinogenic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 0.04 microgram per cubic meter and less than 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(a)(ii)(B))**
 - c. For carcinogenic air contaminants with initial risk screening levels greater than or equal to 0.04 microgram per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(a)(ii)(C))**
 - d. The emission unit shall not emit any air contaminants, excluding non-carcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with an initial threshold screening level or initial risk screening level less than 0.04 microgram per cubic meter. **(R 336.1290(a)(ii)(D))**
3. Each emission unit that emits noncarcinogenic particulate air contaminants and other air contaminants that are exempted under Rule 290(a)(i) and/or Rule 290(a)(ii), above, and all of the following provisions are met: **(R 336.1290(a)(iii))**
 - a. The particulate emissions are controlled by an appropriately designed and operated fabric filter collector or an equivalent control system which is designed to control particulate matter to a concentration of less than or equal to 0.01 pound of particulate per 1,000 pounds of exhaust gases and which does not have an exhaust gas flow rate more than 30,000 actual cubic feet per minute. **(R 336.1290(a)(iii)(A))**
 - b. The visible emissions from the emission unit are not more than 5% opacity in accordance with the methods contained in Rule 303. **(R 336.1290(a)(iii)(B))**

- c. The initial threshold screening level for each particulate air contaminant, excluding nuisance particulate, is more than 2.0 micrograms per cubic meter. **(R 336.1290(a)(iii)(C))**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The provisions of Rule 290 apply to each emission unit that is operating pursuant to Rule 290. **(R 336.1290)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall maintain records of the following information for each emission unit for each calendar month using the methods outlined in the DEQ Rule 290 Permit to Install Exemption Record form (EQP 3558) or an alternative format that is approved by the AQD District Supervisor. **(R 336.1213(3))**
 - a. Records identifying each air contaminant that is emitted. **(R 336.1213(3))**
 - b. Records identifying if each air contaminant is controlled or uncontrolled. **(R 336.1213(3))**
 - c. Records identifying if each air contaminant is either carcinogenic or non-carcinogenic. **(R 336.1213(3))**
 - d. Records identifying the ITSL and IRSL, if established, of each air contaminant that is being emitted under the provisions of Rules 290(a)(ii) and (iii). **(R 336.1213(3))**
 - e. Material use and calculations identifying the quality, nature, and quantity of the air contaminant emissions in sufficient detail to demonstrate that the actual emissions of the emission unit meet the emission limits outlined in this table and Rule 290.
2. The permittee shall maintain an inventory of each emission unit that is exempt pursuant to Rule 290. This inventory shall include the following information. **(R 336.1213(3))**
 - a. The permittee shall maintain a written description of each emission unit as it is maintained and operated throughout the life of the emission unit. **(R 336.1290(b), R 336.1213(3))**
 - b. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(a)(iii), the permittee shall maintain a written description of the control device, including the designed control efficiency and the designed exhaust gas flow rate. **(R 336.1213(3))**
3. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(a)(iii), the permittee shall perform a monthly visible emission observation of each stack or vent during routine operating conditions. This observation need not be performed using Method 9. The permittee shall keep a written record of the results of each observation. **(R 336.1213(3))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to Special Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of compliance pursuant to Special Condition 23 of Part A shall be post marked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to Special Conditions 19 and 20 of Part A is due annually and shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

E. NON-APPLICABLE REQUIREMENTS

At the time of ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

APPENDICES

Appendix 1: Abbreviations & Acronyms

The following is an alphabetical listing of abbreviations/acronyms that may be used in this permit.

AQD	Air Quality Division	MM	Million
acfm	Actual cubic feet per minute	MSDS	Material Safety Data Sheet
BACT	Best Available Control Technology	MW	Megawatts
BTU	British Thermal Unit	NA	Not Applicable
°C	Degrees Celsius	NAAQS	National Ambient Air Quality Standards
CAA	Federal Clean Air Act	NESHAP	National Emission Standard for Hazardous Air Pollutants
CAM	Compliance Assurance Monitoring	NMOC	Non-methane Organic Compounds
CEM	Continuous Emission Monitoring	NOx	Oxides of Nitrogen
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	Carbon Monoxide	NSR	New Source Review
COM	Continuous Opacity Monitoring	PM	Particulate Matter
department	Michigan Department of Environmental Quality	PM-10	Particulate Matter less than 10 microns in diameter
dscf	Dry standard cubic foot	pph	Pound per hour
dscm	Dry standard cubic meter	ppm	Parts per million
EPA	United States Environmental Protection Agency	ppmv	Parts per million by volume
EU	Emission Unit	ppmw	Parts per million by weight
°F	Degrees Fahrenheit	PS	Performance Specification
FG	Flexible Group	PSD	Prevention of Significant Deterioration
GACS	Gallon of Applied Coating Solids	psia	Pounds per square inch absolute
gr	Grains	psig	Pounds per square inch gauge
HAP	Hazardous Air Pollutant	PeTE	Permanent Total Enclosure
Hg	Mercury	PTI	Permit to Install
hr	Hour	RACT	Reasonable Available Control Technology
HP	Horsepower	ROP	Renewable Operating Permit
H ₂ S	Hydrogen Sulfide	SC	Special Condition
HVLP	High Volume Low Pressure *	scf	Standard cubic feet
ID	Identification (Number)	sec	Seconds
IRSL	Initial Risk Screening Level	SCR	Selective Catalytic Reduction
ITSL	Initial Threshold Screening Level	SO ₂	Sulfur Dioxide
LAER	Lowest Achievable Emission Rate	SRN	State Registration Number
lb	Pound	TAC	Toxic Air Contaminant
m	Meter	Temp	Temperature
MACT	Maximum Achievable Control Technology	THC	Total Hydrocarbons
MAERS	Michigan Air Emissions Reporting System	tpy	Tons per year
MAP	Malfunction Abatement Plan	µg	Microgram
MDEQ	Michigan Department of Environmental Quality	VE	Visible Emissions
mg	Milligram	VOC	Volatile Organic Compounds
mm	Millimeter	yr	Year

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

Appendix 2. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. (R 336.1213(4)(a), R 336.1119(a)(ii))

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications are detailed in Part A or the appropriate source-wide, emission unit and/or flexible group special conditions. Therefore, this appendix is not applicable.

Appendix 4. Recordkeeping

Specific recordkeeping requirement formats and procedures are detailed in Part A or the appropriate source-wide, emission unit and/or flexible group special conditions. Therefore, this appendix is not applicable.

Appendix 5. Testing Procedures

EULIMEKILN: Coke Testing Procedures

Coke is used as a fuel supply to the lime kiln at the MSC facility in Bay City, Michigan. The purpose of sampling is to determine the concentration of sulfur in the fuel in units of pounds per million BTU of representative composite samples. Sample collection shall be in the manner specified in ASTM 2234-76 or in accordance with a sample collection plan for representative coke samples to be submitted to the AQD District Supervisor and approved prior to sample collection.

In order to determine the sulfur content of the representative sample(s), a determination of the heat content, moisture content and sulfur content of the fuel must be conducted by an appropriately certified/licensed facility. The referenced variables may be determined by the following ASTMs or equivalent:

- Heat Content of the Fuel : D5865-04
- Moisture Contents of Fuel : ASTM D3173-03 or ASTM E871-82 (1998)
- Sulfur Concentration in Sample : ASTM D2492-90(1998) or ASTM D3177-89(2002)

Please note that concentrations obtained need to be converted into units of pounds of sulfur per MMBTU of heat content.

Appendix 6. Permits to Install

The following table lists any Permits to Install and/or Operate that relate to the identified Emission Units or Flexible Groups in this ROP. This includes all Permits to Install and/or Operate that are now incorporated into Source-Wide PTI No. MI-PTI-B1493-2011.

Permit to Install Number	Description of Equipment	Corresponding Emission Unit(s) or Flexible Group(s)
249-90B	146.5 million BTUs per hour heat input, 120,000 pounds steam per hour, natural gas-fired boiler that supplies process steam and heat to the facility. The boiler is equipped w/Low NOx Burner and Flue gas recirculation	EUBOILER#5
458-84	The lime kiln is a vertical shaft lime kiln (Eberhardt) model. KR 380. The lime kiln is 18' diameter by 165' height. The	EULIMEKILN

Permit to Install Number	Description of Equipment	Corresponding Emission Unit(s) or Flexible Group(s)
	capacity of the lime kiln is 13,200 Cu. Ft. The lime kiln is part of the purification and filtration processes and includes a carbonization system composed of a gas washer and two carbonization tanks which, though part of the process, result in reductions in PM and SO ₂ emissions.	
309-86A	In the pellet production area, milled pulp is cooled in two pellet coolers. The pellet production area is made up of two pellet coolers (one vertical and one horizontal), conveyors, and storage silo. The two pellet coolers have the capacity to cool up to 850 tons of beet pulp pellets per day. The two pellet coolers are each controlled by separate cyclones and the material handling area/conveyor area is controlled by a third cyclone. The two Beckert & Hiester, and unknown brand cyclones, are in parallel and are all connected to the wet scrubber (Emetrol) to control fine particulate.	EUPELLETPRDCTN
81-85C	74.5 million BTUs per hour natural gas fired pulp dryer with the capacity to dry 40 tons per hour wet pulp. The pulp dryer is equipped with a pair of parallel control systems on each stack. Both control systems contain multicyclone followed in series by wet fan scrubbers. The pulp dryer includes the screw conveyor system that feeds the pulp.	EUPULPDRYER#3
54-86A	The flare burns gas generated in the anaerobic digesting system ("ANAMET" tank).	EUANAEROBIC DIGESTER
1295-91B	Two 180 million BTUs per hour heat input, 150,000 pounds steam per hour, natural gas fired boilers that supply process steam and heat to the facility. The boilers are each equipped w/Low NOx Burner and Flue gas recirculation	FGBOILERS
265-00	The cooling tower is used to cool water from the barometric condensing operation.	EU-COOLINGTOWER
350-06	One 74.5 million BTUs per hour natural gas fired pulp dryer with the capacity to dry 40 tons per hour wet pulp. One fluidized bed steam pulp dryer. The natural gas fired pulp dryer is equipped with multicyclone and wet fan scrubber for controlling air pollution. Each pulp dryer includes a screw conveyor system that feeds the pulp.	EUPULPDRYER#3 EUSTEAMDRYER

Appendix 7. Emission Calculations

A. FORMULAS FOR EUBOILER#5 and FGBOILERS

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in EUBOILER#5 and FGBOILERS.

The following formula shall be used to determine the ratio of heat input:

$$R = A / B$$

where:

A = The total, actual heat input in BTUs for the preceding twelve consecutive calendar months,

B = 1,278,960,000,000, which is the maximum potential heat input in BTUs based on an operation of 8,760 hours for EUBOILER#5 and FGBOILERS, and

R = The ratio of actual heat input for the preceding twelve consecutive calendar months to the maximum potential heat input based on 8,760 hours.

Permittee shall calculate a new R for EUBOILER#5 and FGBOILERS on the first day of each calendar month. Permittee shall monitor and record the amounts of natural gas combusted in EUBOILER#5 and FGBOILERS during each calendar day on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division.

B. FORMULAS FOR EULIMEKILN

SO₂ Emissions for EULIMEKILN shall be calculated based on sulfur content of coke fuel source for EU as determined by analysis of representative sample of fuel and using the following assumptions:

- Potential SO₂ emissions are 0.20 of total sulfur content of coke fuel source.
- 30% of SO₂ generated during combustion of coke fuel source will be absorbed by lime during carbonization process.

Total Sulfur = (percent sulfur in fuel) x (2000lb/ton) x (tons of coke fuel used/24 hours) = lb/hour

Potential SO₂ Emissions = (total sulfur) x (0.20) = lb/hour

Anticipated SO₂ Emissions = (potential SO₂ emissions) x (1 – 0.30) = lb/hr

Note: lb/hr can be converted to tons per day. At the time of the original PTI (458-86) emissions were based on 24 hr per day operations, 0.62 sulfur content and use of 30 tons per day.

C. FORMULAS FOR EUPULPDRYER#3

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in EUPULPDRYER#3.

Emissions associated with EUPULPDRYER#3 are determined as follows:

- PM-Filterable = Tons of Pressed Pulp x MAERS Emission Factor
- PM-10 = 0.9 x PM Filterable
- NO_x and Sox = (Volume of Natural Gas) x Appropriate MAERS Emission Factor
- CO = (Tons of Pressed Pulp) x (0.391 lb of CO/ton of pressed pulp)
- VOCs = (Tons of pressed pulp) x (1.836 lb of VOCs /ton of pressed pulp)

Attached information was provided by Michigan Sugar Company for determining relative trough loading and percent of total feed rate for EUPULPDRYER#3.

CAPACITY FACTORS

TABLE 1-3

SPECIAL CONVEYOR PITCH CAPACITY FACTOR CF_1		
PITCH	DESCRIPTION	CF_1
STANDARD	PITCH = DIAMETER OF SCREW	1.00
SHOBT	PITCH = 2/3 DIAMETER OF SCREW	1.50
HALF	PITCH = 1/2 DIAMETER OF SCREW	2.00
LONG	PITCH = 1-1/2 DIAMETER OF SCREW	0.67

TABLE 1-4

SPECIAL CONVEYOR FLIGHT CAPACITY FACTOR CF_2			
TYPE OF FLIGHT	CONVEYOR LOADING		
	15%	30%	45%
CUT FLIGHT	1.95	1.57	1.43
CUT & FOLDED FLIGHT	N.R.*	3.75	2.54
RIBBON FLIGHT	1.04	1.37	1.62

* NOT RECOMMENDED

* IF NONE OF THE ABOVE FLIGHT MODIFICATIONS ARE USED: $CF_2 = 1.0$





TABLE 1-5

SPECIAL CONVEYOR MIXING PADDLE CAPACITY CF_3					
STANDARD PADDLES AT 45° REVERSE PITCH	PADDLES PER PITCH				
	NONE	1	2	3	4
FACTOR CF_3	1.00	1.08	1.16	1.24	1.32

HORIZONTAL SCREW CONVEYORS

(Consult Factory for Inclined Conveyors)

TABLE 1-6

TROUGH LOADING	SCREW DIA. INCH	CAPACITY CUBIC FEET PER HOUR (Full Pitch)		MAX RPM
		AT ONE RPM	AT MAX RPM	
45% 	4	0.62	114	184
	6	2.23	368	165
	9	8.2	1270	155
	10	11.4	1710	150
	12	18.4	2820	145
	14	31.2	4370	140
	16	46.7	6060	130
	18	67.6	8120	120
	20	93.7	10300	110
	24	164.0	16400	100
	30	282.0	28270	90
30% A 	4	0.41	53	130
	6	1.49	180	120
	9	5.45	545	100
	10	7.57	720	95
	12	12.9	1160	90
	14	20.8	1770	85
	16	31.2	2500	80
	18	45.0	3380	75
	20	62.5	4370	70
	24	109.0	7100	65
	30	216.0	12960	60
30% B 	4	0.41	29	72
	6	1.49	90	60
	9	5.45	300	55
	10	7.6	418	55
	12	12.9	645	50
	14	20.8	1040	50
	16	31.2	1400	45
	18	45.0	2025	45
	20	62.8	2500	40
	24	109.0	4360	40
	30	216.0	7560	35
15% 	4	0.21	15	72
	6	0.75	45	60
	9	2.72	150	55
	10	3.8	210	55
	12	6.46	325	50
	14	10.4	520	50
	16	15.6	700	45
	18	22.5	1010	45
	20	31.2	1250	40
	24	54.6	2180	40
	30	106.0	3780	35



SELECTION OF CONVEYOR SIZE AND SPEED

In order to determine the size and speed of a screw conveyor, it is necessary first to establish the material code number. It will be seen from what follows that this code number controls the cross-sectional loading that should be used. The various cross-sectional loadings shown in the Capacity Table (Table 1-6) are for use with the standard screw conveyor components indicated in the Component Group Selection Guide on page 20 and are for use where the conveying operation is controlled with volumetric loading and where the material is uniformly fed into the conveyor housing and discharged from it. Check lump size limitations before choosing conveyor diameter. See Table 1-7, page 18.

Capacity Table

The capacity table, (Table 1-6), page 17, gives the capacities in cubic feet per hour at one revolution per minute for various size screw conveyors for four cross-sectional loadings. Also shown are capacities in cubic feet per hour at the maximum recommended revolutions per minute.

The capacity values given in the table will be found satisfactory for most all applications. Where the capacity of a screw conveyor is very critical, especially when handling a material not listed in Table 1-2 it is best to consult our Engineering Department.

The maximum capacity of any size screw conveyor for a wide range of materials, and various conditions of loading may be obtained from Table 1-6 by noting the values of cubic feet per hour at maximum recommended speed.

Conveyor Speed

For screw conveyors with screws having standard pitch helical flights the conveyor speed may be calculated by the formula:

$$N = \frac{\text{Required capacity, cubic feet per hour}}{\text{Cubic feet per hour at 1 revolution per minute}}$$

N = revolutions per minute of screw, (but not greater than the maximum recommended speed.

For the calculation of conveyor speeds where special types of screws are used, such as short pitch screws, cut flights, cut and folded flights and ribbon flights, an equivalent required capacity must be used, based on factors in the Tables 1-3, 4, 5, page 16.

Factor CF₁ relates to the pitch of the screw. Factor CF₂ relates to the type of the flight. Factor CF₃ relates to the use of mixing paddles within the flight pitches.

The equivalent capacity then is found by multiplying the required capacity by the capacity factors. See Tables 1-3, 4, 5 for capacity factors.

$$\left(\begin{array}{l} \text{Equiv. Capacity} \\ \text{Cubic Feet Per Hour} \end{array} \right) = \left(\begin{array}{l} \text{Required Capacity} \\ \text{Cubic Feet Per Hour} \end{array} \right) (CF_1) (CF_2) (CF_3)$$

Appendix 8. Reporting

A. Annual, Semi-annual, and Deviation Certification Reporting

Unless otherwise required, the permittee shall use the MDEQ Report Certification form (EQP 5736) and MDEQ Deviation Report form (EQP 5737) for the annual, semi-annual and deviation certification reporting referenced in the Reporting section of the source-wide, emission unit and/or flexible group special conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate source-wide, emission unit and/or flexible group special conditions. Therefore, Part B of this appendix is not applicable.

Appendix 9. Fugitive Dust Plan

Michigan Sugar Company Fugitive Dust Control Program effective 12/2008 is on file at the District Office.