CITY COUNCIL/ELECTRICAL ADVISORY COMMITTEE

March 15, 2011 – 6:00 p.m.

CITY COUNCIL
Gilbert X. Cheves, Mayor
Leo Evans, Mayor Pro-tem
Patricia Baribeau, Council Member
Brady Nelson, Council Member
Walter Baker, Council Member

ADMINISTRATION
James V. O'Toole, City Manager
Robert S. Richards, CMC, City Clerk
Ralph B.K. Peterson, City Attorney
Mike Furmanski, Electrical Superintendent
Michael Dewar, City Controller
Thomas Butz, Power System Engineering

ELECTRICAL ADVISORY COMMITTEE
Ronald Beauchamp, Chairman
Vacant, Vice Chairman
Larry Arkens, Committee Member
Glendon Brown, Committee Member
Ann Bissell, Committee Member
Tim Wilson, Committee Member
John Anthony, Committee Member
Donald Racicot, Committee Member

City Council Chambers located at: City Hall - 410 Ludington Street - Room C101 - Escanaba, MI 49829

Meeting Agenda

Tuesday, March 15, 2011

CALL TO ORDER
ROLL CALL
APPROVAL/ADJUSTMENTS TO MINUTES
APPROVAL/ADJUSTMENTS TO THE AGENDA
CONFLICT OF INTEREST DECLARATION

NEW BUSINESS

1. **Update - Power Plant Operations.**
   Explanation: The Plant Operator will discuss current plant operations, plant maintenance issues and costs associated with the operation of the facility.

2. **Update - Electric Department.**
   Explanation: Electrical Superintendent Michael Furmanski will discuss current departmental activities and operations.

3. **Update – Electric Department – Substation.**
   Explanation: Mr. Dave Krause of Krause Power Engineering, LLC, will update the City Council, Electrical Advisory Committee and Citizens of Escanaba on the new electrical substation being designed for the City of Escanaba.

4. **Update– Operation and Maintenance Agreement(s).**
   Explanation: Administration will update the City Council, Electrical Advisory Committee and Citizens of Escanaba on the status of the Operation and Maintenance Agreements under consideration.

5. **Update– Sale of Generation Facilities Proposal(s).**
Explanation: Administration will update the City Council, Electrical Advisory Committee and Citizens of Escanaba on the status of the Sale of Generation Facilities Proposals under consideration.

6. **Update – Environmental Work Plan.**
Explanation: Administration will update the City Council, Electrical Advisory Committee and Citizens of Escanaba on the status of the Environmental Work Plan being completed by Mountain Engineering, Inc. of Iron Mountain, MI.

7. **Update- MISO Matters.**
Explanation: Administration will provide an overview and update on the impacts of congestion on Escanaba power costs and the impacts of the December 2010 FERC ruling of cost sharing of renewable transmission additions for multi-value projects being socialized across MISO.

8. **Update – Coal Bid.**
Explanation: Administration will update the City Council, Electrical Advisory Committee and Citizens of Escanaba on the status of the current coal request for proposal.

9. **Update – Power Purchase Agreement(s) – Short Term/ Long Term – Power Cost Options.**
Explanation: Administration will provide an overview and update on the various options being considered for short-term and/or long-term power. Additionally a review will take place on future options being investigated by the Administration in securing reliable, long-term power.

GENERAL PUBLIC COMMENT
COMMISSION/STAFF COMMENT AND ANNOUNCEMENTS
ADJOURNMENT

The City of Escanaba will provide all necessary, reasonable aids and services, such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting to individuals with disabilities at the meeting/hearing upon five days notice to the City of Escanaba. Individuals with disabilities requiring auxiliary aids or services should contact the City of Escanaba by writing or calling City Hall at (906) 786-9402.

Respectfully Submitted,

James V. O'Toole
City Manager

NB #6
CC/EAC
3/15/11

From: Myron Berry <myron.berry@berryeng.com>
Sent: Friday, March 11, 2011 2:41 AM
To: mfurmanski@escanaba.org
Subject: update

Mike

To date the field work has been completed, with 26 probes pushed to identify the subsurface layers, filling in the previous results. Samples were submitted to the lab for analysis and results have been received. Results will now be tabulated, compared to State Cleanup Criteria, and recommendations be prepared.

Please let me know if more is required.

Thanks

Myron H Berry, PE, PG
Mountain Engineering, Inc.
N3939 US 2,
Iron Mountain, MI 49801
(906) 779-5762
(906) 779-5789 fax
Myron.Berry@BerryEng.com

3/4/11

NB # 8
CC/EAC
3/15/11

March 4, 2011

REQUEST FOR QUOTATION
ESCANABA GENERATING STATION COAL

Dear Sir/Madam:

Request for Proposals (RFP)

The City of Escanaba, Michigan will be accepting sealed bids until 2:00 P. M. Eastern Prevailing Time, Tuesday, March 22, 2011, for the furnishing of Bituminous Steam Coal used in the generation of electricity at the Escanaba Generating Station in Escanaba, Michigan. This coal is to be transported to The C. Reiss Coal Company dock in Escanaba, Michigan. Coal prices may be bid F.O.B. Mine, or F.O.B. vessel at a Great Lakes origin port, or delivered to The C. Reiss Coal Company dock in Escanaba, Michigan. Bids that include all transportation to The C. Reiss Coal Company dock in Escanaba, Michigan may be given preference.

BID SPECIFICATIONS:

I. Tonnage and Term

Escanaba Generating Station is seeking the following quantites:

Lake Season	Base Quantity (net tons)	Quantity Flexibility at City of Escanaba's Option (net tons)
2011	30,000	± 15,000

The nominal cargo weight is considered to be 15,000 tons, so 30,000 tons would typically require two cargos.

II. Preparation

a) The coal that is to be delivered must be free from extraneous materials at all times.

b) A high percentage of fines in the coal has resulted in problems during plant operations. Coal delivered from two or more mines may be averaged to meet the fines specification on a weighted average basis; however, the fines limit must be

adhered to for each delivery. Bidders shall specifically confirm their ability to meet this specification.

c) The City of Escanaba acknowledges that the average heat content of the delivered coal may vary from the base heat content quality parameter. Coal delivered from two or more mines may be averaged to meet this specification; however, the minimum must be achieved for each cargo shipped.

d) The method of mining (strip, auger, deep, longwall, etc.) shall be indicated.

III. Quality Specifications – "As Received"

Bids are requested for coal meeting two separate sets of specifications. Bidders are encouraged to bid on both sets of specifications, but may bid on only one.

Specification Set A

Size	2" x 0 unwashed and intermediate sizes
Moisture Content	Not to exceed 8.0%
Ash Content	Not to exceed 12.0%
Sulfur Content	Not to exceed 1.4% but not less than 0.9%
Volatile Matter	Not less than 30.0%
Heat Content	Not less than 11,800 BTU/lb.
Ash Fusion Temp. (Reducing Atmosphere)	Not less than 2,600 °F, fluid
Grindability – HGI	35 minimum & 60 maximum
Fines	Not to exceed 40% minus ¼" F.O.B. Mine

Specification Set B

Specification Set B is identical to Specification Set A except that the allowable fines percentage is increased as follows:

Fines	Not to exceed 50% minus ¼" F.O.B. Mine

The City of Escanaba reserves the right to reject, at no expense to the City of Escanaba, cargos that fail to meet any or all specifications on an individual cargo basis. Seller must reconsign such unit train(s) to another buyer at no expense to the City of Escanaba.

IV. Substitute Coal

In addition to delivering coal from the mine(s) as indicated on the bid forms, Seller shall have the right to ship coal from other sources for blending or shortage make-up purposes provided:

(1) The City of Escanaba has first granted approval for the substitution.

(2) The delivered cost per million Btu of burning the substitute coal shall not exceed the delivered cost per million Btu of burning the coal from Seller's mine.

(3) The substitute coal shall be within the range of the typical coal characteristics as set forth in the applicable specification set in Quality and Specifications – "As Received" as shown herein.

V. Force Majeure Provision

(a) Bidders are advised that the coal supply agreement will include the following "force majeure" clause:

"Notice of Complete or Partial Force Majeure

"(a) If, because of 'force majeure', either party is unable, wholly or in part, to carry out any of its obligations under this agreement (other than the obligation to make payments) for more than seventy-two (72) hours and if such party promptly gives the other party written notice of such 'force majeure', then the obligations of the party giving such notice shall be suspended to the extent made necessary by such 'force majeure' (including the initial seventy-two hour period); and the party suffering the 'force majeure' shall incur no liability by reason of its failure to perform the obligation so suspended, provided, however, that the disabling effect of such 'force majeure' shall be eliminated by the affected party as soon as and to the extent reasonably possible. In the event that one party's performance is suspended by 'force majeure', the other party's obligation to perform hereunder shall be suspended for the duration of the 'force majeure' and for such additional reasonable period as may be required because of the existence of the 'force majeure'.

"(b) The term 'force majeure', as used herein, shall mean any cause which is not reasonably within the control of the party asserting the 'force majeure', and the adverse effects of which are not due to the fault or negligence of said party. "Force majeure" shall include but not be limited to, Acts of God, riot, insurrection, war, fire, flood, explosion, labor dispute, orders or acts of military or civil authority, derailment or mechanical breakdown of equipment vital to the loading or unloading operation.

BIDDER INSTRUCTIONS:

I. The bidder shall submit the following data for each coal offered:

(a) At least one (1) proximate "As Received" and "Dry Basis" analysis including a guaranteed "As Received" heat content, ash content, and sulfur content high and low value.

(b) The bidder shall set forth in the proposal, any facts helpful in determining the reliability of the coal supply available each applicable week of the lake-shipping season to the Great Lakes origin dock. The bidder shall also state the means by which the producer can provide uniform and consistent quality for each of the deliveries made.

(c) The bid price is to be submitted in the manner of the enclosed COAL PROPOSAL form. In order for any proposal to be considered, the bid price must remain firm and the quantity offered must remain available for sale through December 31, 2011.

II. It shall be understood that if such bid results in a sale, the quality specifications as given in the bid for the total quantity of coal purchased, shall be met by the Seller in all respects subject to usual penalties (see III. below).

III. An assurance that the coal delivered will meet the guaranteed "As Received" heat content, ash content, sulfur content, and fines content limitations shown in the bid shall be given together with the penalty clauses for non-compliance.

IV. The successful bidder will be required to adhere as nearly as possible to the following conditions for all Seller coal delivered to The C. Reiss Coal Company Dock in Escanaba.

(a) Lake shipments may begin at the beginning of the Great Lakes shipping season, which typically begins during April, and shall terminate no later than the end of the Great Lakes shipping season, which typically ends during December. Unless otherwise agreed by the City of Escanaba, shipments shall be scheduled to arrive at The C. Reiss Coal Company Dock in Escanaba no less than 30 days apart.

(b) Lake vessels used for all shipments must, at the time the shipment is made, be on the current Michigan DEQ list of vessels reported as complying with the requirements of 1994 PA 451, Section 3103a of the Natural Resources and Environmental Protection Act. The list of complying vessels may be found on internet site www.michigan.gov/deq by following the links Water → Great Lakes → Ballast Water Reporting and then selecting the list for the appropriate year.

(c) The Seller shall promptly furnish at its cost, a composite mine analysis of each shipment of coal sampled "As Received" and "Dry Basis" and a railcar loading sieve analysis. Bidders shall note under "Analysis Lab:" the name & location of the testing laboratory. The determination of the heat content and other characteristics of the coal sold hereunder (sampling and analyses) shall be made in accordance with methods and standards prescribed by the American Society of Testing and Materials (ASTM).

(d) Analysis reports shall be forwarded to the City of Escanaba by electronic transmission or other prompt means of communication within twenty-four (24) hours of being available to Seller. Final documentation shall be in written form.

(e) A composite sample of coal for each rail shipment shall be collected in accordance with ASTM method D 2234. Each composite sample shall be divided into three (3) portions, each portion to be placed and sealed in an airtight container and properly labeled. The first (1st) portion shall be analyzed by Seller's laboratory. The second (2nd) sample portion shall be sent to a laboratory of the City of Escanaba's choice

upon the City of Escanaba's request for analysis with the results being reported directly and only to the City of Escanaba. The third (3rd) portion shall be retained by the Seller for a period of at least one (1) month after the calendar month in which the sample was taken. The third (3rd) portion will be used for a referee analysis at a mutually agreed upon laboratory if a dispute arises regarding the analyses of the other two (2) portions.

V. The City of Escanaba reserves the right to average the Seller's and the City of Escanaba's analysis if there is a difference greater than the following:

(1) 150 BTU/lb. for "As Received" heat content;
(2) 2% for "As Received" Ash; and
(3) 0.1% for "As Received" Sulfur

for the determination of quality adjustments.

If differences of unexplained origin are found, termination of the coal sales agreement may result at the City of Escanaba's option.

VI. Bidders may bid more than one coal. Please submit a separate set of COAL PROPOSAL forms and attachments for each coal bid.

VII. Copies of the enclosed COAL PROPOSAL form may be used in submitting your bid. If the COAL PROPOSAL form is not used, the alternate form that is used must include all of the parameters shown on the COAL PROPOSAL form. Any additional information that you consider useful and is not indicated on the form, may be furnished under "Comments" or attached as additional pages.

VIII. All coal furnished by Seller may be inspected by the City of Escanaba's agents for quality, appearance, loss, and freedom from contaminants at the Great Lakes port of origin used as part of the transportation route to The C. Reiss Coal Company dock in Escanaba.

IX. Sealed bids are to be prepared and mailed or delivered to the address shown below in time for receipt no later than 2:00 p.m. (CDT) Tuesday, March 22, 2011. The mailing envelope (including delivery pouch) shall be clearly marked:

"SEALED COAL BID – ESCANABA GENERATING STATION – March 22, 2011

Deliver to:

City of Escanaba
City Clerk
2011 Coal Bid
P.O. Box 948
Escanaba, MI 49829

If delivered by other than U.S. Mail, the last two (2) lines of the address should be:

410 Ludington Street
Escanaba, MI 49829

Bids arriving late may be ignored.

X. The successful bidder(s) will be notified on or before April 22, 2011, after full consideration has been given to all proposals, it being understood that the City of Escanaba reserves the right to reject any and all bids and to purchase that coal which in its opinion best fits its overall requirements based on price, quality, service, reliability, etc.

XI. The bid opening will be public and all bids submitted, regardless of whether or not accepted, will be the property of the City of Escanaba.

Proposals, which do not provide all the information requested, may be rejected. The City of Escanaba reserves the right to seek amplification of any proposal, reject any or all proposals, and to negotiate the terms of payment, general terms and conditions, and the final offer with selected bidders. The City of Escanaba also reserves the right to split the award between bidders.

Proposal evaluation criteria will take all coal quality specifications and the City of Escanaba's prior dealings with bidders into account. This should be considered in assigning values to specification guarantees. The City of Escanaba requests proposals for the full quantities specified. The City of Escanaba asks that proposals are not quoted "subject to prior sale."

If you have any questions regarding this solicitation, please call me at (906) 786-0061, or email me at mfurmanski@escanaba.org

Sincerely,

Michael Furmanski
Electric Superintendent

Enclosures

COAL PROPOSAL FORM
FOR ESCANABA COAL MADE TO
CITY OF ESCANABA

Bids due no later than 2:00 p.m. (CPT) Tuesday, March 22, 2011

Date: _____

Producer: _____

Address: _____

_____

Telephone: _____

Producer Contact: _____

Sales Representative Company [(1)]: _____

Address: _____

_____

Telephone: _____

Sales Representative Contact: _____

Mining Information:

Location: _____ State: _____ County: _____

Production Capacity: _____ Tons / Month

Methods of Mining: _____

Seams: _____

Methods of Preparation: _____

Shipping Point: _____

Origin Railroad(s): _____

Tipple Loading Capacity: _____ Cars _____ Loading Time [(2)]

Sampling Method: _____ Analysis Lab: _____

COAL PROPOSAL FORM
FOR ESCANABA COAL MADE TO
CITY OF ESCANABA

Coal Characteristics:

	Typical	**Monthly Average Guarantee**	**Shipment Reject**
BTU/lb. (min.):	_____	_____	_____
Sulfur (max.):	_____%	_____%	_____%
#SO2/MMBTU (max.):	_____	_____	_____
Ash (max.):	_____%	_____%	_____%
#Ash/MMBTU (max.):	_____	_____	_____
Moisture (max.):	_____%	_____%	_____%
#Moist/MMBTU (max.):	_____	_____	_____
Grind (HGI) min.:			_____
Ash Fusion Tem. (°F Fluid, Reducing At.)	_____		
Volatile	_____%		
Maximum Top Size	_____"		
Maximum Fines (equal to or less than ¼")			_____%

Please include all three (3) specifications for first seven (7) items and Shipment Reject specification for Grind (HGI) and Maximum Fines. Monthly Average Guarantee specifications will be used for suspension purposes. Exceeding any of the Shipment Reject specifications could result in the rejection of that shipment.

COAL PROPOSAL FORM
FOR ESCANABA COAL MADE TO
CITY OF ESCANABA

Pricing Options:
(note that bids including delivery to Escanaba, MI may be given preference)

OPTION 1:

Pay in full upon delivery within 30 days of invoice.

Base Prices	F.O.B. Mine	F.O.B. Vessel	Delivered to Escanaba, MI
	$_____	$_____	$_____

at _____
(Great Lakes origin port)

Price Adjustment Mechanisms (coal quality based):

_____

_____

_____

_____

OPTION 2:

Pay on monthly basis as coal is used by the 10th day of the following month.

Base Prices	F.O.B. Mine	F.O.B. Vessel	Delivered to Escanaba, MI
	$_____	$_____	$_____

at _____
(Great Lakes origin port)

Price Adjustment Mechanisms (coal quality based):

_____

_____

_____

_____

Fixed Monthly Tonnage Minimum Required By Seller (if any): _____tons per month
(Seller's requirement for Fixed Monthly Tonnage Minimums will be considered in the evaluation.)

Additional Comments:[3]

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signed:[4] _____ Date: _____

Title: _____

This commitment is valid through December 31, 2011.

A recent ash mineral, ultimate, and full proximate analysis should be attached with this coal proposal.

Footnotes:

(1) If bidder does not control the coal, an exclusive right to represent from coal owner should be attached.

(2) For example, 4 hours, 24 hours, etc.

(3) Include objections and changes here; additional page(s) may be attached.

(4) This proposal must be signed by an official who is authorized to make this commitment.

TRAXYS Air Permit 3/9/11 General Info.

STATE OF MICHIGAN
Rick Snyder, Governor

DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT

AIR QUALITY DIVISION
CONSTITUTION HALL • 525 WEST ALLEGAN STREET • P.O. BOX 30260 • LANSING, MICHIGAN 48909-7760
www.michigan.gov/air

PUBLIC PARTICIPATION DOCUMENTS

For

Escanaba Generating Station
2000 Power Plant Road
Escanaba, Michigan

PERMIT APPLICATION NUMBER

143-10

March 9, 2011

FACT SHEET

March 9, 2011

Purpose and Summary

The Michigan Department of Natural Resources and Environment (DNRE), Air Quality Division (AQD), is proposing to act on Permit to Install (PTI) application No. 143-10 from the Escanaba Generating Station. The permit application is for the replacement of coal in two existing boilers with biomass, tire derived fuel (TDF), and railroad ties. The proposed project is subject to permitting requirements of the Department's Rules for Air Pollution Control. Prior to acting on this application, the AQD is holding a 30-day public comment period and a public hearing, if requested in writing, to allow all interested parties the opportunity to comment on the proposed PTI. All relevant information received during the comment period and hearing if held, will be considered by the decision maker prior to taking final action on the application.

Background Information

The Escanaba Generating Station, located at 2000 Power Plant Road in Escanaba, Michigan, is an existing facility which consists of the following equipment:

- Two stoker-fired boilers rated at 178 MMBtu/hr each. The boilers are presently burning coal. The boilers are equipped with cyclonic collectors and electrostatic precipitators (ESPs) for particulate matter (PM) control.
- An 18 MW No. 2 fuel oil-fired turbine peaking generator with water injection system.
- Coal handling and storage equipment.
- Ash handling storage equipment.

The Escanaba Generating Station is an existing major stationary source.

Proposed Facility and Present Air Quality

The applicant is proposing to discontinue the use of coal and convert both stoker fired boilers to combust biomass, TDF, and railroad ties. The existing ESPs will continue to be utilized for PM control. During the conversion of the boilers, the facility will continue to generate electricity for sale to the City of Escanaba and to the grid. This will make it necessary to convert only one boiler at a time, and to remove the existing operating restrictions on the existing turbine peaking generator. Currently the turbine peaking generator is restricted to combust no more than 2,000,000 gallons of oil per year. During the conversion of the boilers, the turbine peaking generator will be allowed to combust up to 10,650,000 gallons of fuel oil per year. The increased turbine generator utilization will be used to make up lost electrical load from each of the two boilers as they are modified. Once both boilers have been converted the turbine generator will revert back to its original operating restriction of 2,000,000 gallons of oil per year.

After the boilers are converted, the production capacity (steam) will remain the same, however the heat release capacity needed to produce that steam will increase from its current 178 Million British Thermal Units (Btu's) per hour per boiler to 211 Million Btu's per boiler.

The proposed modifications are considered to be a change in the method of operation resulting in an increase in the heat release capacities of the boilers. Also the operating restriction on the

turbine generator is being increased during the boiler conversions. As such a determination was made evaluating if the federal Prevention of Significant Deterioration (PSD) regulations and Michigan's PSD regulations were applicable. This determination was performed by comparing past actual to future potential emissions. This analysis indicates that during all phases of construction, there will not be a significant increase in emissions.

The Escanaba Generating Station is located in Delta County which is designated to be in attainment with all of the National Ambient Air Quality Standards (NAAQS).

Pollutant Emissions

In order to assure that there would be no significant increases in emissions during or after the conversion of the boilers, the project was divided into three separate phases. Phase I is defined as the period of time at which the first boiler begins the fuel conversion. During Phase I, Boiler 1 is shut down, and the turbine generator will be allowed to burn up to 10,650,000 gallons of oil per year. Phase II is defined as the time that Boiler 1 begins operation on biomass fuels and TDF, and Boiler 2 is shut down for fuel conversion. During and after Phase II coal will not be burned at this facility. Phase III is defined as the period of time after both boilers have been converted from coal to biomass and TDF and the turbine generator returns back to its original operating restriction of 2,000,000 gallons per year. The following three tables indicate the net changes in emissions during the three phases of the project.

Table 1. Phase I Net Emission Changes.

Pollutant	Baseline Actual Emissions, Boiler #1, Boiler #2, and Turbine	Boiler #2 Interim Emissions	Turbine Interim Emission	Net Emissions Increase TPY	PSD Significant Increase TPY	Less Than Significance
CO	257.12	185	56.2	-15.92	100	Yes
NOx	519.47	357	182.7	20.23	40	Yes
PM	4.28	2.7	3.2	1.62	25	Yes
PM10	31.36	22.2	8.9	-0.26	15	Yes
PM2.5	30.55	21.6	8.9	-0.05	10	Yes
SO2	2224.8	1741	37.8	-446	40	Yes
VOC	2.21	1.6	0.3	-0.31	40	Yes
Lead	0.58	0.428	0.01	-0.142	0.6	Yes
Sulfuric Acid Mist	10.04	8.4	0.2	-1.44	7	Yes

Table 2.
Phase II Net Emission Changes

Pollutant	Baseline Actual Emissions, Boiler#1, Boiler#2, and Turbine	Boiler#1 Allowed Emissions	Turbine Interim Emission	Net Emission s Increase TPY	PSD Significant Increase TPY	Less Than Significance
CO	257.12	178	56.2	-22.92	100	Yes
NOx	519.47	259	182.7	-77.77	40	Yes
PM	4.28	14.1	3.2	13.02	25	Yes
PM10	31.36	22.6	8.9	0.14	15	Yes
PM2.5	30.55	19.8	8.9	-1.85	10	Yes
SO2	2224.8	1130	37.8	-1057	40	Yes
VOC	2.21	1.1	0.3	-0.81	40	Yes
Lead	0.58	0.292	0.01	-0.278	0.6	Yes
Sulfuric Acid Mist	10.04	8.5	0.2	-1.34	7	Yes

Table 3.
Phase III Net Emission Changes

Pollutant	Baseline Actual Emissions, Boiler#1, Boiler#2, and Turbine	Boiler#1 and Boiler #2 Allowed Emissions	Turbine Allowable Emissions	Turbine Excludable Emissions tpy	Net Emissions Increase tpy	PSD Significant Increase TPY	Less Than Significance
CO	257.12	356	0.5	0.3	99.08	100	Yes
NOx	519.47	518	34.3	23.7	9.13	40	Yes
PM	4.28	28.3	1.6	1.1	24.52	25	Yes
PM10	31.36	45.2	1.7	1.1	14.44	15	Yes
PM2.5	30.55	39.6	1.7	1.1	9.65	10	Yes
SO2	2224.8	2260	3.5	2.4	36.3	40	Yes
VOC	2.21	32	0.06	0.04	29.81	40	Yes
Lead	0.58	0.584	0.002	0.001	0.005	0.6	Yes
Sulfuric Acid Mist	10.04	16.9	0.03	0.02	6.87	7	Yes

Key Permit Review Issues

Staff evaluated the proposed project to identify all state rules and federal regulations which are, or may be, applicable. The tables in Appendix 1 summarize these rules and regulations.

- **Minor Modification Determination for Attainment Pollutants** – The proposed project is not subject to PSD because the emission increases from the project are less than PSD significance levels.

- **Federal NSPS Regulations** – The proposed changes needed to convert the boilers will not subject them to NSPS Subpart Db (New Source Performance Standards for Industrial-Commercial-Industrial Steam Generating Units) because the necessary physical changes to the boilers will not constitute a reconstruction of the boilers. The applicant provided data which indicates the estimated cost to convert each boiler is approximately $6.2 million dollars, while the cost of building an entirely new boiler of the same size would be approximately $23 million dollars. A project is considered to be reconstruction if the cost of the modification is equal to or greater than 50% of the cost of replacing the boilers. Additionally, the proposed changes will not result in significant increases in pollutants previously regulated. The existing boilers are not subject to the NSPS standards since they were installed in 1958, which is before the NSPS regulations became effective.

- **Rule 224 T-BACT Analysis –** Michigan Rule 224 requires the application of 'best available control technology' for toxics (T-BACT analysis). The metallic hazardous air pollutants (HAPs) are generally in particulate form and are controlled by the existing cyclones and ESPs. The ESPs achieves very high removal efficiencies. The HAPs which are volatile organic compounds are controlled by good combustion, which is achieved by optimized combustion control. The VOCs are subject to BACT under Michigan Rule 702 and thus not subject to T-BACT.

- **Rule 225 Toxics Analysis –** The DNRE Rules for Air Pollution Control require the ambient air concentration of toxic air contaminants (TACs) be compared against health-based screening levels. AQD staff reviewed the applicants air quality modeling and evaluation of TAC impacts. The review found that all TACs show impacts less than 75% of their respective established health-based screening levels and will comply with the requirements of Rule 225. See Appendix 2 for a listing of each individual TAC and the predicted ambient impact.

- **Rule 702 BACT Analysis –** There are two methods for controlling VOC emission from a combustion process. These include using good combustion practices and add-on control devices, such as catalytic oxidizers.

  Good combustion practices were implemented in the design of the furnace box of each existing boiler. Good combustion practices efficiently utilize the three basic fundamentals of combustion, which include proper temperature to maintain oxidation of organics in the fuel and products of incomplete combustion, turbulence that provides for contact between organics and oxygen available in the combustion air, and sufficient residence time to allow for the reaction of organics and oxygen to be completed as much as possible. Each boiler will maximize these three components so that the oxidation efficiency of organics from fuels is as thorough as possible. No combustor can obtain 100% oxidation of organics available

in the fuels and organics generated from incomplete combustion. The proposed VOC emission limit of 3.65 lb/hr (0.17 lb/MMBtu) represents BACT for the proposed process equipment.

The use of add on control equipment (catalytic oxidation) would be located downstream of the furnace box for each boiler in a temperature zone adequate to allow the catalyst to perform in an optimum manner. Given the low expected concentration of VOC emission levels achieved through good combustion practices, only marginal additional control of VOCs can be expected with the use of an oxidation catalyst.

- **Criteria Pollutants Modeling Analysis -** Computer dispersion modeling was performed to predict the impacts of air emissions for the criteria pollutants. In performing the modeling demonstration, it was first determined whether the predicted ambient impacts would be significant when compared to federally established significant impact levels. If the emissions are determined to not exceed the federally established significant impact levels, no further dispersion modeling is required.

  Table 4 shows the results of determining the significance of the predicted ambient concentrations from the modified boilers.

Table 4 - Preliminary Modeling Impacts

Pollutant	Averaging Time	PSD Significant Impact Level ($\mu g/m^3$)	Predicted Impact ($\mu g/m^3$)	Additional Modeling?
PM10	Annual	1	0.026	No
PM10	24-hr	5	0.318	No
PM2.5	Annual	1.2	0.017	No
PM2.5	24-hr	5.62	0.213	No
SO_2	Annual	1	0.073	No
SO_2	24-hr	5	0.883	No
SO_2	3-hr	25	2.258	No
SO_2	1-hr	7.9	2.43	No
CO	8-hr	500	3.75	No
CO	1-hr	2,000	6.026	No
NO_2	Annual	1	0.071	No
NO_2	1-hr	7.6	2.37	No

Key Aspects of Draft Permit Conditions

- **Emission Limits (By Pollutant) –** The draft permit includes emission limits for visible emissions, PM, PM10, PM2.5, NO_x, CO, SO_2, VOC, Chromium VI, and sulfuric acid mist. The limits contained in the permit will keep the emission of criteria pollutants below PSD significance levels.

- **Usage Limits -** The draft permit includes limits on the use of No. 2 oil for the turbine generator. The limit in Phase III returns the turbine to the original restrictions on oil usage.

- **Process/Operational Restrictions –** The boilers are required to have a Malfunction Abatement Plan. The permittee is required to develop the plan to include a preventative

maintenance program and corrective procedures in the event of an equipment malfunction or failure.

- **Federal Regulations** – The existing boilers are not subject to New Source Performance Standards since the proposed modification is not a reconstruction.

- **Testing & Monitoring Requirements** – The draft permit includes the following testing and monitoring requirements:
  - Verify PM, PM10, PM2.5, Chromium VI, lead, Sulfuric Acid Mist, and VOC emission rates through performance testing.
  - Install Continuous Emission Monitoring Systems for NOx, CO, either oxygen or carbon dioxide, and exhaust flow rate.
  - Install a Continuous Opacity Monitor for recording visible emissions from the boilers.

Conclusion

Based on the analyses conducted to date, staff concludes that the proposed project would comply with all applicable state and federal air quality requirements. Based on these conclusions, staff has developed draft permit terms and conditions which would ensure that the proposed facility design and operation are enforceable and that sufficient monitoring, recordkeeping, and reporting would be performed by the applicant to determine compliance with these terms and conditions. If the permit application is deemed approvable, the delegated decision maker may determine a need for additional or revised conditions to address issues raised during the public participation process.

If you would like additional information about this proposal, please contact Mr. John Vial AQD, at 517-241-7468.

Appendix 1

STATE AIR REGULATIONS

State Rule	Description of State Air Regulations
R 336.1201	Requires an Air Use Permit for new or modified equipment that emits, or could emit, an air pollutant or contaminant. However, there are other rules that allow smaller emission sources to be installed without a permit (see Rules 336.1279 through 336.1290 below). Rule 336.1201 also states that the Department can add conditions to a permit to assure the air laws are met.
R 336.1205	Outlines the permit conditions that are required by the federal Prevention of Significant Deterioration (PSD) Regulations and/or Section 112 of the Clean Air Act. Also, the same types of conditions are added to their permit when a plant is limiting their air emissions to legally avoid these federal requirements. (See the Federal Regulations table for more details on PSD.)
R 336.1224	New or modified equipment that emits toxic air contaminants must use the Best Available Control Technology for Toxics (T-BACT). The T-BACT review determines what control technology must be applied to the equipment. A T-BACT review considers energy needs, environmental and economic impacts, and other costs. T-BACT may include a change in the raw materials used, the design of the process, or add-on air pollution control equipment. This rule also includes a list of instances where other regulations apply and T-BACT is not required.
R 336.1225 to R 336.1232	The ambient air concentration of each toxic air contaminant emitted from the project must not exceed health-based screening levels. Initial Risk Screening Levels (IRSL) apply to cancer-causing effects of air contaminants and Initial Threshold Screening Levels (ITSL) apply to non-cancer effects of air contaminants. These screening levels, designed to protect public health and the environment, are developed by Air Quality Division toxicologists following methods in the rules and U.S. EPA risk assessment guidance.
R 336.1279 to R 336.1290	These rules list equipment to processes that have very low emissions and do not need to get an Air Use permit. However, these sources must meet all requirements identified in the specific rule and other rules that apply.
R 336.1301	Limits how air emissions are allowed to look at the end of a stack. The color and intensity of the color of the emissions is called opacity.
R 336.1331	The particulate emission limits for certain sources are listed. These limits apply to both new and existing equipment.
R 336.1370	Material collected by air pollution control equipment, such as dust, must be disposed of in a manner, which does not cause more air emissions.
R 336.1401 and R 336.1402	Limit the sulfur dioxide emissions from power plants and other fuel burning equipment.
R 336.1601 to R 336.1651	Volatile organic compounds (VOCs) are a group of chemicals found in such things as paint solvents, degreasing materials, and gasoline. VOCs contribute to the formation of smog. The rules set VOC limits or work practice standards for existing equipment. The limits are based upon Reasonably Available Control Technology (RACT). RACT is required for all equipment listed in Rules 336.1601 through 336.1651.
R 336.1702	New equipment that emits VOCs is required to install the Best Available Control Technology (BACT). The technology is reviewed on a case-by-case basis. The VOC limits and/or work practice standards set for a particular piece of new equipment cannot be less restrictive than the Reasonably Available Control Technology limits for existing equipment outlined in Rules 336.1601 through 336.1651.
R 336.1801	Nitrogen oxide emission limits for larger boilers and stationary internal combustion engines are listed.
R 336.1901	Prohibits the emission of an air contaminant in quantities that cause injurious effects to human health and welfare, or prevent the comfortable enjoyment of life and property. As an example, a violation may be cited if excessive amounts of odor emissions were found to be preventing residents from enjoying outdoor activities.
R 336.1910	Air pollution control equipment must be installed, maintained, and operated properly.
R 336.1911	When requested by the Department, a facility must develop and submit a malfunction abatement plan (MAP). This plan is to prevent, detect, and correct malfunctions and equipment failures.
R 336.1912	A facility is required to notify the Department if a condition arises which causes emissions that exceed the allowable emission rate in a rule and/or permit.
R 336.2001 to R 336.2060	Allow the Department to request that a facility test its emissions and to approve the protocol used for these tests.

STATE AIR REGULATIONS

State Rule	Description of State Air Regulations
R 336.2801 to R 336.2804 Prevention of Significant Deterioration (PSD) Regulations **Best Available Control Technology (BACT)**	The PSD rules allow the installation and operation of large, new sources and the modification of existing large sources in areas that are meeting the National Ambient Air Quality Standards (NAAQS). The regulations define what is considered a large or significant source, or modification. In order to assure that the area will continue to meet the NAAQS, the permit applicant must demonstrate that it is installing the BACT. By law, BACT must consider the economic, environmental, and energy impacts of each installation on a case-by-case basis. As a result, BACT can be different for similar facilities. In its permit application, the applicant identifies all air pollution control options available, the feasibility of these options, the effectiveness of each option, and why the option proposed represents BACT. As part of its evaluation, the Air Quality Division verifies the applicant's determination and reviews BACT determinations made for similar facilities in Michigan and throughout the nation.
R 336.2901 to R 336.2903 and R 336.2908	Applies to new "major stationary sources" and "major modifications" as defined in R 336.2901. These rules contain the permitting requirements for sources located in nonattainment areas that have the potential to emit large amounts of air pollutants. To help the area meet the NAAQS, the applicant must install equipment that achieves the Lowest Achievable Emission Rate (LAER). LAER is the lowest emission rate required by a federal rule, state rule, or by a previously issued construction permit. The applicant must also provide emission offsets, which means the applicant must remove more pollutants from the air than the proposed equipment will emit. This can be done by reducing emissions at other existing facilities. As part of its evaluation, the AQD verifies that no other similar equipment throughout the nation is required to meet a lower emission rate and verifies that proposed emission offsets are permanent and enforceable.

FEDERAL AIR REGULATIONS

Citation	Description of Federal Air Regulations or Requirements
Section 109 of the Clean Air Act – National Ambient Air Quality Standards (NAAQS)	The United States Environmental Protection Agency has set maximum permissible levels for seven pollutants. These NAAQS are designed to protect the public health of everyone, including the most susceptible individuals, children, the elderly, and those with chronic respiratory ailments. The seven pollutants, called the criteria pollutants, are carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), and sulfur dioxide. Portions of Michigan are currently non-attainment for either ozone or PM2.5. Further, in Michigan, State Rules 336.1225 to 336.1232 are used to ensure the public health is protected from other compounds.
40 CFR 52.21 – Prevention of Significant Deterioration (PSD) Regulations **Best Available Control Technology (BACT)**	The PSD regulations allow the installation and operation of large, new sources and the modification of existing large sources in areas that are meeting the NAAQS. The regulations define what is considered a large or significant source, or modification. In order to assure that the area will continue to meet the NAAQS, the permit applicant must demonstrate that it is installing BACT. By law, BACT must consider the economic, environmental, and energy impacts of each installation on a case-by-case basis. As a result, BACT can be different for similar facilities. In its permit application, the applicant identifies all air pollution control options available, the feasibility of these options, the effectiveness of each option, and why the option proposed represents BACT. As part of its evaluation, the Air Quality Division verifies the applicant's determination and reviews BACT determinations made for similar facilities in Michigan and throughout the nation.
40 CFR 60 – New Source Performance Standards (NSPS)	The United States Environmental Protection Agency has set national standards for specific sources of pollutants. These New Source Performance Standards (NSPS) apply to new or modified equipment in a particular industrial category. These NSPS set emission limits or work practice standards for over 60 categories of sources.

FEDERAL AIR REGULATIONS

Citation	Description of Federal Air Regulations or Requirements
Section 112 of the Clean Air Act **Maximum Achievable Control Technology (MACT)** **Section 112g**	In the Clean Air Act, Congress listed 189 compounds as Hazardous Air Pollutants (HAPS). For facilities which emit, or could emit, HAPS above a certain level, one of the following two requirements must be met: 1) The United States Environmental Protection Agency has established standards for specific types of sources. These Maximum Achievable Control Technology (MACT) standards are based upon the best-demonstrated control technology or practices found in similar sources. 2) For sources where a MACT standard has not been established, the level of control technology required is determined on a case-by-case basis.

Notes: An "Air Use Permit," sometimes called a "Permit to Install," provides permission to emit air contaminants up to certain specified levels. These levels are set by state and federal law, and are set to protect health and welfare. By staying within the levels set by the permit, a facility is operating lawfully, and public health and air quality are protected.

The Air Quality Division does not have the authority to regulate noise, local zoning, property values, off-site truck traffic, or lighting.

These tables list the most frequently applied state and federal regulations. Not all regulations listed may be applicable in each case. Please refer to the draft permit conditions provided to determine which regulations apply.

Appendix 2
Toxic Air Contaminant Impacts

Toxic Air Contaminant	Emissions (lb/hr)	PAI ($\mu g/m^3$)	Screening Level ($\mu g/m^3$)	Averaging Period ($\mu g/m^3$)	Basis	Percent of Screening Level	Pass/Fail
Acenaphthene	4.09E-04	3.96E-05	210	24 hr	ITSL	0.0%	PASS
Acenaphthylene	2.15E-03	2.08E-04	35	24 hr	ITSL	0.0%	PASS
Acetaldehyde	3.57E-01	3.45E-02	9	24 hr	ITSL	0.4%	PASS
	3.57E-01	2.86E-03	0.5	annual	IRSL	0.6%	PASS
Acetone	1.63E-01	2.71E-02	5900	8 hr	ITSL	0.0%	PASS
Acetophenone	1.59E-03	2.64E-04	490	8 hr	ITSL	0.0%	PASS
Acrolein	1.72E+00	1.38E-02	0.02	annual	ITSL	69.0%	PASS
		4.58E-01	5	1 hr	2nd ITSL	9.2%	PASS
Ammonia	2.71E+01	2.62E+00	100	24 hr	ITSL	2.6%	PASS
Ammonia	1.33E+01	1.29E+00	100	24 hr	ITSL	1.3%	PASS
Anthracene	1.29E-03	1.25E-04	1000	24 hr	ITSL	0.0%	PASS
Antimony	5.73E-03	5.55E-04	0.2	24 hr	ITSL	0.3%	PASS
Arsenic	9.46E-03	7.59E-05	0.0002	annual	IRSL	37.9%	PASS
Barium	7.31E-02	1.21E-02	5	8 hr	ITSL	0.2%	PASS
Benzaldehyde	4.73E-02	3.79E-04	0.4	annual	IRSL	0.1%	PASS
Benzene	1.81E+00	1.75E-01	30	24 hr	ITSL	0.6%	PASS
		1.45E-02	0.1	annual	IRSL	14.5%	PASS
Combined Carcinogenic[1] PAHs	1.13E-03	9.09E-06	0.0005	annual	IRSL	1.8%	PASS
Benzo (e) pyrene	2.21E-06	1.77E-08	0.1	annual	TRACE*	0.0%	PASS
Benzo (g,h,i) perylene	4.00E-05	3.87E-06	12	24 hr	ITSL	0.0%	PASS
Benzoic acid	4.73E-02	3.79E-04	0.1	annual	TRACE*	0.4%	PASS
Beryllium	2.45E-03	2.37E-04	0.02	24 hr	ITSL	1.2%	PASS
		1.97E-05	0.0004	annual	IRSL	4.9%	PASS
Cadmium	2.58E-03	2.07E-05	0.0006	annual	IRSL	3.4%	PASS
Carbazole	8.12E-04	6.51E-06	0.02	annual	IRSL	0.0%	PASS
Carbon tetrachloride	1.94E-02	1.55E-04	0.07	annual	IRSL	0.2%	PASS
Chlorine	3.40E-01	5.63E-02	15	8 hr	ITSL	0.4%	PASS
Chlorobenzene	1.42E-02	1.37E-03	70	24 hr	ITSL	0.0%	PASS
Chloroform	2.02E-02	1.62E-04	0.4	annual	IRSL	0.0%	PASS
2-Chloronaphthalene	1.03E-06	8.28E-09	0.1	annual	TRACE*	0.0%	PASS
2-Chlorophenol	5.59E-05	5.41E-06	18	24 hr	ITSL	0.0%	PASS
Chromium	9.03E-03	1.50E-03	5	8 hr	ITSL	0.0%	PASS
Chromium (VI)	2.15E-03	2.08E-04	0.008	24 hr	ITSL	2.6%	PASS
		1.72E-05	0.00083	annual	SRSL	2.1%	PASS
Cobalt	2.80E-03	4.63E-04	0.2	8 hr	ITSL	0.2%	PASS
Copper	2.11E-02	3.49E-03	2	8 hr	ITSL	0.2%	PASS
Cresol (mixed isomers)	2.39E-03	3.95E-04	100	8 hr	ITSL	0.0%	PASS
Crotonaldehyde	4.73E-03	3.79E-05	0.1	annual	TRACE*	0.0%	PASS
Decachlorobiphenyl	1.16E-07	9.31E-10	0.1	annual	TRACE*	0.0%	PASS
Dichlorobiphenyl	3.87E-07	3.10E-09	0.1	annual	TRACE*	0.0%	PASS
Dichloromethane	1.25E-01	1.00E-03	2	annual	IRSL	0.1%	PASS

Toxic Air Contaminant	Emissions (lb/hr)	PAI ($\mu g/m^3$)	Screening Level ($\mu g/m^3$)	Averaging Period ($\mu g/m^3$)	Basis	Percent of Screening Level	Pass/Fail
2,4-Dinitrophenol	6.02E-04	5.83E-05	7	24 hr	ITSL	0.0%	PASS
Dioctyl phthalate	4.73E-05	3.79E-07	0.2	annual	IRSL	0.0%	PASS
Ethylbenzene	1.37E-02	1.33E-03	1000	24 hr	ITSL	0.0%	PASS
		1.10E-04	3	annual	IRSL	0.0%	PASS
1,2-Ethylene dibromide	2.48E-02	1.99E-04	0.1	annual	TRACE*	0.2%	PASS
Ethylene dichloride	1.25E-02	1.00E-04	0.04	annual	IRSL	0.3%	PASS
Fluoranthene	7.84E-05	7.58E-06	140	24 hr	ITSL	0.0%	PASS
Fluorene	1.46E-03	1.41E-04	140	24 hr	ITSL	0.0%	PASS
Formaldehyde	2.49E+00	2.00E-02	0.08	annual	IRSL	25.0%	PASS
Heptachlorobiphenyls, total	2.84E-08	2.28E-10	0.1	annual	TRACE*	0.0%	PASS
Total PCDD/PCDF[1]	6.13E-08	4.92E-10	2.30E-08	annual	IRSL	2.1%	PASS
Hexachlorobiphenyls, total	3.44E-07	2.76E-09	0.1	annual	TRACE*	0.0%	PASS
Hexanal	3.15E-03	2.53E-05	2	annual	ITSL	0.0%	PASS
Hydrogen chloride	8.17E+00	7.91E-01	20	24 hr	ITSL	4.0%	PASS
Iron	4.26E-01	3.41E-03	0.1	annual	TRACE*	3.4%	PASS
Isobutyraldehyde	5.16E-03	4.99E-04	160	24 hr	ITSL	0.0%	PASS
Lead	2.06E-02	4.36E-04	0.15	3 month	NAAQS	0.3%	PASS
Manganese	6.88E-01	5.52E-03	0.05	annual	ITSL	11.0%	PASS
Mercury	1.51E-03	1.46E-04	0.3	24 hr	FALSE	0.0%	PASS
Methyl bromide	6.75E-03	6.53E-04	5	24 hr	ITSL	0.0%	PASS
Methyl chloride	6.45E-01	6.24E-02	90	24 hr	ITSL	0.1%	PASS
		5.17E-03	1.6	annual	IRSL	0.3%	PASS
Methyl ethyl ketone	8.60E-03	8.32E-04	5000	24 hr	ITSL	0.0%	PASS
2-Methyl Naphthalene	3.23E-03	2.59E-05	10	annual	ITSL	0.0%	PASS
Molybdenum	9.03E-04	1.50E-04	30	8 hr	ITSL	0.0%	PASS
2-Monochlorobiphenyl	9.46E-08	7.59E-10	0.1	annual	TRACE*	0.0%	PASS
Naphthalene	2.11E-01	2.04E-02	3	24 hr	ITSL	0.7%	PASS
		1.69E-03	0.08	annual	IRSL	2.1%	PASS
Nickel	1.42E-02	1.14E-04	0.0042	annual	IRSL	2.7%	PASS
2-Nitrophenol	4.17E-04	3.35E-06	0.1	annual	TRACE*	0.0%	PASS
4-Nitrophenol	4.95E-02	3.97E-04	0.7	annual	ITSL	0.1%	PASS
Pentachlorobiphenyls, total	7.74E-07	6.21E-09	0.1	annual	TRACE*	0.0%	PASS
Pentachlorophenol (PCP)	2.19E-05	2.12E-06	100	24 hr	ITSL	0.0%	PASS
		1.76E-07	0.03	annual	IRSL	0.0%	PASS
Perchloroethylene	1.63E-02	1.31E-04	1.7	annual	IRSL	0.0%	PASS
Perylene	4.20E-07	3.37E-09	0.1	annual	TRACE*	0.0%	PASS
Phenanthrene	3.01E-03	2.41E-05	0.1	annual	ITSL	0.0%	PASS
Phenol	2.29E-02	6.11E-03	600	1 hr	ITSL	0.0%	PASS
Phosphorus (yellow or white)	6.88E-02	1.14E-02	1	8 hr	ITSL	1.1%	PASS
Potassium[2]	8.39E-02	6.72E-04	0.1	annual	TRACE*	0.7%	PASS
Propionaldehyde	2.75E-02	2.66E-03	8	24 hr	ITSL	0.0%	PASS
Propylene dichloride	1.42E-02	1.37E-03	4	24 hr	ITSL	0.0%	PASS
Pyrene	1.59E-03	1.54E-04	100	24 hr	ITSL	0.0%	PASS

Toxic Air Contaminant	Emissions (lb/hr)	PAI ($\mu g/m^3$)	Screening Level ($\mu g/m^3$)	Averaging Period ($\mu g/m^3$)	Basis	Percent of Screening Level	Pass/Fail
Selenium	2.80E-03	4.63E-04	2	8 hr	ITSL	0.0%	PASS
Silver[2]	3.66E-03	6.06E-04	0.1	8 hr	ITSL	0.6%	PASS
Sodium	1.55E-01	1.24E-03	0.1	annual	TRACE*	1.2%	PASS
Strontium	4.50E-03	3.61E-05	0.1	annual	TRACE*	0.0%	PASS
Styrene	8.52E-01	8.25E-02	1000	24 hr	ITSL	0.0%	PASS
Sulfuric Acid	3.87E+00	6.41E-01	10	8 hr	IRSL	6.4%	PASS
Tetrachlorobiphenyls, total	1.46E-06	1.17E-08	0.1	annual	TRACE*	0.0%	PASS
Tin	1.68E-02	2.78E-03	20	8 hr	ITSL	0.0%	PASS
Titanium	8.60E-03	6.90E-05	0.1	annual	TRACE*	0.1%	PASS
o-Tolualdehyde	5.59E-02	4.48E-04	0.1	annual	TRACE*	0.4%	PASS
p-Tolualdehyde	4.95E-03	4.79E-04	440	24 hr	ITSL	0.0%	PASS
Toluene	3.96E-01	3.83E-02	5000	24 hr	ITSL	0.0%	PASS
2,4,4'-Trichlorobiphenyl	2.37E-06	1.90E-08	0.1	annual	TRACE*	0.0%	PASS
1,1,1-Trichloroethane	7.31E-02	7.07E-03	6000	24 hr	ITSL	0.0%	PASS
Trichloroethylene	1.89E-02	1.52E-04	0.6	annual	IRSL	0.0%	PASS
Trichlorofluoromethane	1.76E-02	4.70E-03	56200	1 hr	ITSL	0.0%	PASS
2,4,6-Trichlorophenol	4.73E-04	3.79E-06	0.3	annual	IRSL	0.0%	PASS
Vanadium	4.41E-04	3.54E-06	0.1	annual	TRACE*	0.0%	PASS
Vinyl chloride	7.74E-03	7.49E-04	100	24 hr	ITSL	0.0%	PASS
		6.21E-05	0.11	annual	IRSL	0.1%	PASS
o-Xylene	1.51E-02	1.46E-03	100	24 hr	ITSL	0.0%	PASS
Yttrium	1.35E-04	1.09E-06	0.1	annual	TRACE*	0.0%	PASS
Zinc	9.95E-01	1.65E-01	50	8 hr	ITSL[3]	0.3%	PASS

PERMIT TO INSTALL

Table of Contents

Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	Btu	British thermal unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	Cr (VI)	Hexavalent chromium
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
EPA	Environmental Protection Agency	gr	Grains
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallon of Applied Coating Solids	H_2S	Hydrogen Sulfide
GC	General Condition	hp	Horsepower
HAP	Hazardous Air Pollutant	lb	Pound
HVLP	High Volume Low Pressure *	m	Meter
ID	Identification	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	ng	Nanogram
MDNRE	Michigan Department of Natural Resources and Environment (Department)	NO_x	Oxides of Nitrogen
MIOSHA	Michigan Occupational Safety & Health Administration	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM10	PM less than 10 microns diameter
NESHAP	National Emission Standards for Hazardous Air Pollutants	PM2.5	PM less than 2.5 microns diameter
NSPS	New Source Performance Standards	pph	Pound per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonably Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	THC	Total Hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TAC	Toxic Air Contaminant	µg	Microgram
TEQ	Toxicity Equivalence Quotient	VOC	Volatile Organic Compounds
VE	Visible Emissions	yr	Year
TDF	Tire Derived Fuel		

* 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).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Natural Resources and Environment, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install 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 this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit 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 R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Natural Resources and Environment. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. 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 Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department 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 condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

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

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. 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 R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EUBOILER#1	Spreader stoker biomass/tire derived fuel/solid fuel-fired Boiler #1 rated at 125,000 pounds per hour of steam for electric power generation. Boiler #1 has a heat input capacity of approximately 215 million BTU per hour, and serves an electrical generator with a nameplate rating of 12.5 megawatts. Boiler is equipped with combustion controls as well as multi-cyclones and electrostatic precipitators for particulate matter control.	FGGENERATORS, FGBOILERS, FGFACILITY
EUBOILER#2	Spreader stoker biomass/tire derived fuel/solid fuel-fired Boiler #2 rated at 125,000 pounds per hour of steam for electric power generation. Boiler #2 has a heat input capacity of approximately 215 million BTU per hour, and serves an electrical generator with a nameplate rating of 12.5 megawatts Boiler is equipped with combustion controls as well as multi-cyclones and electrostatic	FGGENERATORS, FGBOILERS, FGFACILITY
EUFUELHANDLING	Fuel receiving; fuel storage piles and pile management activities; system of conveyors and handling to transfer fuel to the fuel feed system, including conveyors and "transfer house"; and surge bin and equipment to feed fuel to each boiler. An outdoor storage pile will be maintained for periods when winter weather conditions occur that prevent fuels from being delivered on a consistent basis, which is typical for northern Michigan fuel deliveries.	FGMTRLHANDLING, FGFACILITY
EUASHHANDLING	Ash collected in the boiler and the boiler's electrostatic precipitator is transported to the ash silo. The ash silo emissions are controlled by a fabric filter. Ash to be removed from the silo will be wetted before being loaded into trucks. Haul trucks will be tarped before removing ash from the site.	FGMTRLHANDLING, FGFACILITY
EUTURBINE1	18 MW No. 2 fuel oil-fired turbine peaking generator with water injection system.	FGFACILITY
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

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
FGGENERATORS	Two existing coal fired boilers being converted to biomass/TDF/solid fuel-fired boilers and one 18 MW No. 2 fuel oil-fired turbine generator with water injection system.	EUBOILER#1, EUBOILER#2, EUTURBINE1
FGBOILERS	Two biomass/TDF/solid fuel-fired boilers	EUBOILER#1, EUBOILER#2
FGMTRLHANDLING	All material handling operations at the facility	EUFUELHANDLING, EUASHHANDLING
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	EUBOILER#1, EUBOILER#2, EUTURBINE1, EUFUELHANDLING, EUASHHANDLING

DEFINITIONS: For purposes of defining specific emission limitations during the conversion of the two existing boilers from coal to biomass/tire derived fuel (TDF) the following definitions will be used:

Phase I: Phase I is defined as the period of time commencing with modifications to EUBOILER#1 for conversion from coal to Biomass/TDF/solid fuel through trial operation of the boiler after the modifications have been completed. During Phase I, EUBOILER#1 will produce no steam or generate electricity except during trial operation after the physical modifications have been completed. EUTURBINE1 operates using up to 10,650,000 gallons of fuel oil per 12-month rolling time period.

Phase II: Phase II is defined as that period of time commencing with modifications to EUBOILER#2 for conversion from coal to Biomass/TDF/solid fuel. During Phase II, EUTURBINE1 operates using up to 10,650,000 gallons of fuel oil per 12-month rolling time period. Upon initiation of Phase II, Phase I emission limits are no longer applicable

Phase III: Phase III is defined as the period of time commencing after modifications have been completed for both EUBOILER#1 and EUBOILER#2 and both boilers have completed trial operation and are producing electricity for sale to the grid. Upon initiation of Phase III, both Phase I and Phase II emission limits are no longer applicable.

Trial operation: Trial operation is defined as the period of time after boiler modifications have been completed and the boiler(s) have been converted from coal to biomass/TDF/solid fuel until the boilers are capable of producing electricity for sale to the grid. Trial operation shall last no longer than 3 months.

DESCRIPTION: Two identical boilers (EUBOILER#1 and EUBOILER#2) burning biomass, tire derived fuel (TDF) and other solid fuels consistent with the Fuel Procurement and Management Plan (FPMP), to generate electric power. The nominal total heat input rate for each boiler is 215 MMBtu per hour. One fuel oil fired combustion turbine generator (EUTURBINE1) with a maximum electrical generating output capacity of 18 MW.

POLLUTION CONTROL EQUIPMENT:
1. Multiple cyclones installed on EUBOILER#1 and EUBOILER#2
2. ESP installed on EUBOILER#1 and EUBOILER#2
3. Combustion controls installed on EUBOILER#1 and EUBOILER#2
4. Water injection installed on EUTURBINE1

PHASE I SPECIAL CONDITIONS:

I. EMISSION LIMITS, (Phase I)

Pollutant	Project Phase	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	I	20% opacity on a six-minute average, except for one six-minute average per hour of not more than 27% opacity	Six-minute average	EUBOILER#2	SC VI.1	R 336.1301(1)(c)
2. Visible Emissions	I	10% opacity on a six-minute average, except for one six-minute average per hour of not more than 27% opacity	Six-minute average	EUTURBINE1	SC V.2	R 336.1301(1)(c)
3. Particulate Matter	I	0.30 pounds per 1,000 pounds of exhaust gases, corrected to 50% excess air	Test Protocol	EUBOILER#2	GC13	R336.1331(1)(a)
4. CO	I	42.3 lbs/hour	Test Protocol	EUBOILER#2	GC13	R 336.1205(2)
5. CO	I	12.9 lbs/hour	Test Protocol	EUTURBINE1	GC13	R 336.1205(2)
6. NOx	I	81.5 lbs/hour	Test Protocol	EUBOILER#2	GC13	R 336.1205(2)
7. NOx	I	41.7 lbs/hour	Test Protocol	EUTURBINE1	GC13	R 336.1205(2)
8. PM-10	I	5.1 lbs/hour	Test Protocol	EUBOILER#2	GC13	R 336.1205(2)
9. PM-10	I	2.0 lbs/hour	Test Protocol	EUTURBINE1	GC13	R 336.1205(2)
10. PM-2.5	I	5.0 lbs/hour	Test Protocol	EUBOILER#2	GC13	R 336.1205(2)
11. PM-2.5	I	2.0 lbs/hour	Test Protocol	EUTURBINE1	GC13	R 336.1205(2)
12. SO2	I	397.5 lbs/hour	Test Protocol	EUBOILER#2	GC13	R 336.1205(2)
13. SO2	I	8.7 lbs/hour	Test Protocol	EUTURBINE1	GC13	R 336.1205(2)
14. VOC	I	0.40 lbs/hour	Test Protocol	EUBOILER#2	GC13	R 336.1205(2)
15. VOC	I	0.07 lbs/hour	Test Protocol	EUTURBINE1	GC13	R 336.1205(2)
16. Lead	I	0.10 lbs/hour	Test Protocol	EUBOILER#2	GC13	R 336.1205(2)
17. Lead	I	2.2E-3 lbs/hour	Test Protocol	EUTURBINE1	GC13	R 336.1205(2)
18. Sulfuric Acid	I	1.9 lbs/hour	Test Protocol	EUBOILER#2	GC13	R 336.1205(2)
19. Sulfuric Acid	I	0.05 lbs/hour	Test Protocol	EUTURBINE1	GC13	R 336.1205(2)

II. MATERIAL LIMITS, Phase I

Material	Construction Phase	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Coal	I	64,969 tons	12 month rolling time period	EUBOILER#2	SC VI.8	R 336.1205(2)
2. Coal	I	1.41 % sulfur by weight	12 month rolling time period	EUBOILER#2	SC VI.11	R 336.1205(2)
3. Distillate Oil	I	0.05% sulfur by weight	12 month rolling time period	EUTURBINE1	SC VI.7	R 336.1205(2)
4. Distillate Oil	I	10,650,000 gallons	12 month rolling time period	EUTURBINE1	SC VI.8	R 336.1205(2)

III. PROCESS/OPERATIONAL RESTRICTIONS, (Phase I)

1. The permittee shall operate the Continuous Opacity Monitor (COM) on EUBOILER#2 during all required periods. Data recorded during monitoring malfunctions, repair activities and QA/QC operations shall not be used for 40 CFR Part 64 compliance. **(40 CFR 64.4(c)(3))**

2. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, a fuel oil meter to monitor and record the fuel oil usage for EUTURBINE1 on a daily basis. **(R 336.1205(3), R 336.1213(3)(a))**

3. The permittee shall install, maintain, and operate in a satisfactory manner, the water injection system for EUTURBINE1. **(R336.1910)**

4. The permittee shall equip and maintain each transformer-rectifier set of each electrostatic precipitator (ESP) associated with each boiler in FGBOILERS with a saturable core reactor, silicon-controlled rectifier linear reactor, or equivalent type automatic control system approved by the Air Quality Division. Each automatic controller shall be set to provide maximum power, or optimal power if operating in a sparking mode from its respective transformer-rectifier set. **(R336.1330)**

IV. DESIGN/EQUIPMENT PARAMETERS, Phase I

1. The permittee shall not burn solid fuels in EUBOILER#2 unless the multiple cyclone and ESP are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the multiple cyclone and ESP includes maintaining all operational parameters within the ranges identified in the approved MAP as constituting satisfactory operation. **(R 336.1205(1), R 336.1224; R 336.1301(1); R 336.1331(1); R 336.1910)**

2. The permittee shall install, calibrate, maintain and operate a COM to monitor and record visible emissions from EUBOILER#2 on a continuous basis. **(R 336.1213(3)(b), 40 CFR 64.6(c)(1)(iii), Paragraph 11 Consent Order AQD No. 13-2009)**

3. The procedures under 40 CFR 60.13 and Performance Specification 1 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation and operation of the COM. **(R 336.1213(3)(b), Paragraph 11 Consent Order AQD No. 13-2009)**

4. The permittee shall install calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the visible emissions from EUBOILER#2 on a continuous basis. **(R 336.1301(1))**

5. The permittee shall equip and maintain EUBOILER#2 with devices to monitor the operational parameters identified in the approved MAP as being used to determine whether the multiple cyclone and ESP are operating in a satisfactory manner. **(R 336.1205(1), R 336.1910)**

6. The permittee shall equip and maintain each transformer-rectifier set of the ESP with a saturable core reactor, silicon-controlled rectifier linear reactor, or equivalent type of automatic control system approved by the AQD. Each automatic controller shall be set to provide maximum power, or optimal power if operating in a sparking mode from is respective transformer-rectifier set. **(R 336.1330)**

V. TESTING/SAMPLING, Phase I

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall conduct an analysis of the coal, in a manner acceptable to the AQD, to determine the sulfur content and higher heating value. The analysis shall be performed at least once per calendar year or more frequently upon request from the AQD. **R 336.1213(3)(a), R 336.1401(1))**

2. The permittee shall conduct USEPA Method 9 visible emissions observations at least once per calendar year to demonstrate compliance with the limit in Condition I.2 for EUTURBINE1. (R336.1301(c), R336.1213(3)(a)).

VI. MONITORING/RECORDKEEPING, Phase I

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall continuously monitor and record, in a satisfactory manner, the visible emissions from EUBOILER#2. The permittee shall operate the continuous opacity monitoring system (COMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the COMS data for determining compliance with SC I.1. **(R 336.1301(1), R 336.1331(1))**

2. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, records of the occurrence and duration of each start-up, shutdown, or malfunction of EUBOILER#2, any malfunction of the air pollution control equipment, and any periods during which a continuous monitoring system or monitoring device is inoperative. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1))**

3. The permittee shall monitor, in a manner acceptable to the AQD District Supervisor, the process variables described in the approved MAP. The permittee shall monitor the process variables at the respective frequencies described in the approved MAP. **(R 336.1205(1), R 336.1910)**

4 The permittee shall keep, in a manner acceptable to the AQD District Supervisor, all records of process variables for EUBOILER#2, as required by the approved MAP, on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1910)**

5. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, monthly and 12-month rolling time period emission calculation records for CO, NO_X, PM, PM-10, PM-2.5, SO2, VOC, Lead, and Sulfuric Acid emissions from EUBOILER#2. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1))**

7. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling SO_2 and sulfuric acid mass balance emission calculation records for EUTURBINE1. **(R336.1205(3))**

8. The permittee shall keep, in a satisfactory manner, the following records for each fuel oil shipment:[2] **(R 336.1205(3), R 336.1213(3)(b))**
   a. Name of the fuel oil supplier;
   b. Sulfur content, in percent by weight;
   c. Higher heating value of the fuel oil;
   d. Quantity of fuel oil received.

9. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling fuel oil and coal use records for EUTURBINE1 and EUBOILER#2. **(R 336.1205(3), R 336.1213(3)(b)).**

10. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling SO_2 mass balance emission calculation records for EUTURBINE1.[2] **(R 336.1205(3), R 336.1213(3)(b))**

11. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling NO_x, CO, SO_2, VOC, PM, PM-10, PM-2.5, VOC, and sulfuric acid emission calculation records using emission factors derived from the most recent performance test for EUTURBINE1 or the appropriate AP-42 emission factors.[2] **(R 336.1205(3), R 336.1213(3)(b))**

12 The permittee shall obtain a laboratory analysis of the sulfur content and higher heating value for each shipment of coal received from the coal supplier. **(R 336.1213(3)(b), R 336.1401(1))**

13. The permittee shall use the COM to assure compliance with the particulate matter emission limits listed for EUBOILER#2. Excursions for particulate matter for EUBOILER#2 shall be two consecutive one hour block average opacity values established during the most recent performance test. This condition does not affect compliance with R 336.1331. **(40 CFR 64.6(c)(2))**

14. Upon detecting an excursion of the monitored parameters pursuant to 40 CFR Part 64, the permittee shall restore operation of EUBOILER#2 to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. The date, time, and duration of any excursion and corrective actions shall be recorded. **(40 CFR 64.7(d))**

15. The permittee shall properly maintain the monitoring systems, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**

16. The permittee shall perform an annual audit of the COM using the procedures set forth in US EPA Proposed Procedure 3 – Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources. **(R 336.1213(3)(b), Paragraph 12 Consent Order AQD No. 13-2009)**

17. The permittee shall maintain accurate records of all COM maintenance activities. **(R 336.1213(3), Paragraph 11 Consent Order AQD No. 13-2009)**

VII. REPORTING, Phase I

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the fuel conversion for EUBOILER#1 in FGBOILERS. Completion of the installation, construction, reconstruction, relocation, or modification for a boiler is considered to occur not later than commencement of trial operation of a boiler in FGBOILERS. **(R 336.1201(7)(a))**

2 The permittee shall provide written notification to the District Supervisor, Air Quality Division, upon initiation and completion of Phase I of the boiler conversion project. Written notification shall be by certified U.S. mail and shall specify the permit number, and the initiation and completion dates of each Phase of the Project. **(R336.1201(7))**

VIII. STACK/VENT RESTRICTIONS, Phase I

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 Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSTACK1	79	150	R 336.1225, R 336.2803, R 336.2804
2. SVSTACK2	79	150	R 336.1225, R 336.2803, R 336.2804

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
3. SVTURBINE	105 X 131	26.61	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS, Phase I

1. Until EUBOILER#2 has been converted, the requirements contained in Renewable Operating Permit MI-ROP-B1573-2010 apply. **(R 336.201(3))**

2. The permittee shall implement and maintain a MAP approved by the AQD District Supervisor. If the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall revise the MAP within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment and add-on air pollution control device during similar malfunction events, and a program for corrective action for such events. **(R 336.1910, R 336.1911)**

The following conditions apply Source-Wide to FGFACILITY

POLLUTION CONTROL EQUIPMENT: As described for specific emission units

I. EMISSION LIMITS, Phase I

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
NA					
NA					
* 12-month rolling time period as determined at the end of each calendar month.					

II. MATERIAL LIMITS, Phase I

NA

III. PROCESS/OPERATIONAL RESTRICTIONS, Phase I

1. The permittee shall not operate FGFACILITY unless the approved program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material handling operations has been implemented and is maintained. **(R 336.1205(1), R 336.1910, R 336.2803, R 336.2804)**

IV. DESIGN/EQUIPMENT PARAMETERS, Phase I

NA

V. TESTING/SAMPLING, Phase I

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING, Phase I

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VII. REPORTING, Phase I

NA

VIII. STACK/VENT RESTRICTIONS, Phase I

NA

IX. OTHER REQUIREMENTS, Phase I

NA

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

PHASE II SPECIAL CONDITIONS

I. EMISSION LIMITS, Phase II

Pollutant	Project Phase	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	II	20% opacity on a six-minute average, except for one six-minute average per hour of not more than 27% opacity	Six-minute average	EUBOILER#1	SC VI.1	R 336.1301(1)(c)
2. Visible Emissions	II	10% opacity on a six-minute average, except for one six-minute average per hour of not more than 27% opacity	Six-minute average	EUTURBINE1	SC V.2	R 336.1301(1)(c)
3. CO	II	178 tons/year	12 month rolling time period	EUBOILER#1	SC VI.2 SC VI.11	R 336.1205(2)
4. CO	II	64.5 lbs/hr	30 day rolling average	EUBOILER#1	SC VI.2 SC VI.11	R 336.1205(2)
5. CO	II	56.2 tons/year	12 month rolling time period	EUTURBINE1	SC VI. 12	R 336.1205(2)
6. CO	II	12.8 lbs/hr	Test protocol	EUTURBINE1	GC 13	R 336.1205(2)
7. NOx	II	259 tons/year	12 month rolling time period	EUBOILER#1	SC VI.2 SC VI.11	R 336.1205(2)
8. NOx	II	80.7 lbs/hr	30 day rolling average	EUBOILER#1	SC VI.2 SC VI.12	R 336.1205(2)
9. NOx	II	182.7 tons/year	12 month rolling time period	EUTURBINE1	SC VI.13	R 336.1205(2)
10. PM	II	14.1 tons/year	12 month rolling time period	EUBOILER#1	SC VI.12	R 336.1205(2)
11. PM	II	3.25 lbs/hr	Test Protocol	EUBOILER#1	SC V.1	R 336.1205(2)
12. PM	II	3.2 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
13. PM	II	0.73 lbs/hr	Test Protocol	EUTURBINE1	GC 13	R 336.1205(2)
14. PM-10	II	22.6 tons/year	12 month rolling time period	EUBOILER#1	SC VI.12	R 336.1205(2)
15. PM-10	II	5.2 lbs/hr	Test Protocol	EUBOILER#1	SC V.1	R 336.1205(2)
16. PM-10	II	8.9 tons/year	12 month rolling time period	EUTURBINE1	SC V.1 SC VI.13	R 336.1205(2)
17. PM-10	II	2.0 lbs/hr	Test Protocol	EUTURBINE1	GC 13	R 336.1205(2)
18. PM-2.5	II	19.8 tons/year	12 month rolling time period	EUBOILER#1	SC VI.12	R 336.1205(2)
19. PM-2.5	II	4.5 lbs/hr	Test Protocol	EUBOILER#1	SC V.1	R 336.1205(2)
20 .PM-2.5	II	8.9 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
21. PM-25	II	2.0 lbs/hour	Test Protocol	EUTURBINE1	GC 13	

Pollutant	Project Phase	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
22. SO2	II	1130.5 tons/year	12 month rolling time period	EUBOILER#1	SC VI.2 SC VI.12	R 336.1205(2)
23. SO2	II	258 lbs/hour	Test Protocol	EUBOILER#1	SC VI.2	R 336.1205(2)
24. SO2	II	37.8 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
25. SO2	II	8.6 lbs/hour	Test Protocol	EUTURBINE1	GC 13	R 336.1205(2)
26. VOC	II	16 tons/year	12 month rolling time period	EUBOILER#1	SC VI.12	R 336.1205(2)
27. VOC	II	3.7 lbs/hour	Test Protocol	EUBOILER#1	SC V.1	R 336.1205(2)
28. VOC	II	0.3 tons/year	12 month rolling time period	EUTURBINE1	GC13	R 336.1205(2)
29. VOC	II	0.1 lbs/hour	Test Protocol	EUTURBINE1	GC 13	R 336.1205(2)
30. Lead	II	0.428 tons/year	12 month rolling time period	EUBOILER#1	SC VI.12	R 336.1205(2)
31. Lead	II	0.098 lbs/hour	Test Protocol	EUBOILER#1	SC V.1	R 336.1205(2)
32. Lead	II	0.01 tons/year	12 month rolling time period	EUTURBINE1	SC VI.13	R 336.1205(2)
33. Sulfuric Acid	II	8.5 tons/year	12 month rolling time period	EUBOILER#1	SC VI.12	R 336.1205(2)
34. Sulfuric Acid	II	1.95 lbs/hour	Test Protocol	EUBOILER#1	SC V.1	R 336.1205(2)
35. Sulfuric Acid	II	0.2 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
36. Chromium (VI)	II	0.0023 lb/hour	Test protocol	EUBOILER#1	SC V.1	R 336.1225

II. MATERIAL LIMITS, Phase II

Material	Construction Phase	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Distillate Oil	II	0.05% sulfur by weight	12 month rolling time period	EUTURBINE1	SC VI.9	R 336.1205(2)
2. Distillate Oil	II	10,650,000 gallons	12 month rolling time period	EUTURBINE1	SC VI.10	R 336.1205(2)

III. PROCESS/OPERATIONAL RESTRICTIONS, Phase II

1. The permittee shall submit an acceptable plan that describes how emissions from EUBOILER#1 will be minimized during all startups, shutdowns and malfunctions (SSM) to the AQD District Supervisor and receive approval of the plan prior to startup of each boiler after its fuel conversion has been completed. The SSM plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. **(R 336.1205(1), R 336.1911, R 336.1912)**

2. Upon initiation of Phase II, the only fuels which may be combusted in EUBOILER#1 are wood, TDF, and solid fuels as defined by the Fuel Procurement and Monitoring Plan (FPMP). Fuel oil and propane fuels are also permitted. **(R 336.1205**

IV. DESIGN/EQUIPMENT PARAMETERS, Phase II

1. The permittee shall not burn solid fuels in EUBOILER#1 unless the multiple cyclone and ESP are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the multiple cyclones and ESP includes maintaining all operational parameters within the ranges identified in the approved MAP as constituting satisfactory operation. **(R 336.1205(1), R 336.1224; R 336.1301(1); R 336.1331(1); R 336.1910)**

2. The permittee shall install, calibrate, maintain and operate a COM to monitor and record visible emissions from EUBOILER#1 on a continuous basis. **(R 336.1213(3)(b), 40 CFR 64.6(c)(1)(iii), Paragraph 11 Consent Order AQD No. 13-2009)**

3. The procedures under 40 CFR 60.13 and Performance Specification 1 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation and operation of the COM. **(R 336.1213(3)(b), Paragraph 11 Consent Order AQD No. 13-2009)**

4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the emissions of NO_X, CO, SO_2, and either oxygen or carbon dioxide, and the exhaust temperature and flow rate from EUBOILER#1 on a continuous basis. **(R 336.1205(1))**

5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the visible emissions from EUBOILER#1 on a continuous basis. **(R 336.1331(1))**

6. The permittee shall equip and maintain EUBOILER#1 with devices to monitor the operational parameters identified in the approved MAP as being used to determine whether the multiple cyclones and ESP are operating in a satisfactory manner. **(R 336.1205(1), R 336.1910)**

7. The permittee shall equip and maintain each transformer-rectifier set of each ESP with a saturable core reactor, silicon-controlled rectifier linear reactor, or equivalent type of automatic control system approved by the AQD. Each automatic controller shall be set to provide maximum power, or optimal power if operating in a sparking mode from is respective transformer-rectifier set. **(R 336.1330)**

V. TESTING/SAMPLING, Phase II

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of trial operation EUBOILER#1, the permittee shall verify PM, PM10, PM2.5, Cr (VI), lead, sulfuric acid mist, and VOC emission rates from EUBOILER#1 by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test for each boiler. **(R 336.1205(1), R 336.1702(a); R 336.2001; R 336.2003; R 336.2004)**

2. The permittee shall conduct USEPA Method (9 visible emission observations at least once per calendar year to demonstrate compliance with the limit in Condition I.2 for EUTURBINE1. **(R336.1301(c), R336.1213(3)(a)))**

VI. MONITORING/RECORDKEEPING, Phase II

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall continuously monitor and record, in a satisfactory manner, the visible emissions from EUBOILER#1. The permittee shall operate the continuous opacity monitoring system (COMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the COMS data for determining compliance with SC I.1. **(R 336.1301(1), R 336.1331(1))**

2. The permittee shall continuously monitor and record, in a satisfactory manner, the emissions of NO_X, CO, SO_2, and either oxygen or carbon dioxide, and the exhaust temperature and flow rate, from EUBOILER#1. The permittee shall operate the Continuous Emission Rate Monitoring System (CERMS) to meet the timelines, requirements and reporting detailed in Appendix B and shall use the CERMS data for determining compliance with SC I.3, I.4, I.7, I.8, I.22 and I.23. **(R 336.1205(1))**

3. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, records of the occurrence and duration of each start-up, shutdown, or malfunction of EUBOILER#1, any malfunction of the air pollution control equipment, and any periods during which a continuous monitoring system or monitoring device is inoperative. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.2810)**

4. The permittee shall maintain all monitoring and recordkeeping requirements outlined in the approved FPMP. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1224; R 336.1702)**

5. The permittee shall monitor, in a manner acceptable to the AQD District Supervisor, the process variables described in the approved MAP. The permittee shall monitor the process variables at the respective frequencies described in the approved MAP. **(R 336.1205(1), R 336.1910)**

6. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, all records of process variables for EUBOILER#1, as required by the approved MAP, on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1910)**

7. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling SO_2 mass balance emission calculation records for EUTURBINE1. (R336.1205(3)

8. The permittee shall keep, in a satisfactory manner, the following records for each fuel oil shipment:[2] **(R 336.1205(3), R 336.1213(3)(b))**
   e. Name of the fuel oil supplier;
   f. Sulfur content, in percent by weight;
   g. Higher heating value of the fuel oil;
   h. Quantity of fuel oil received.

9. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling fuel oil use records for EUTURBINE1. **(R 336.1205(3), R 336.1213(3)(b)).**

10. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling SO_2 mass balance emission calculation records for EUTURBINE1.[2] **(R 336.1205(3), R 336.1213(3)(b))**

11. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling NO_x, CO, SO_2, VOC, PM, PM-10, PM-2.5, VOC, and sulfuric acid emission calculation records using emission factors derived from the most recent performance test for EUTURBINE1 or the appropriate AP-42 emission factors.[2] **(R 336.1205(3), R 336.1213(3)(b))**

12. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling NO_x, CO, SO_2, PM, PM-10, PM-2.5, VOC, Lead, and sulfuric acid emission calculation records using emission factors derived from the most recent tests for EUBOILER#1 and EUTURBINE1. In calculating the first 12 month rolling value, the monthly limit shall be $1/12^{th}$ of the specified annual limit. **(R 336.1205(3), R 336.1213(3)(b))**

13. The permittee shall use the COM to assure compliance with the particulate matter emission limits listed for EUBOILER#1. Excursions for particulate matter for EUBOILER#1 shall be two consecutive one hour block average opacity values established during the most recent performance test. This condition does not affect compliance with R 336.1331. **(40 CFR 64.6(c)(2))**

14. Upon detecting an excursion of the monitored parameters pursuant to 40 CFR Part 64, the permittee shall restore operation of EUBOILER#1 to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include

minimizing the period of startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. The date, time, and duration of any excursion and corrective actions shall be recorded. **(40 CFR 64.7(d))**

15. The permittee shall properly maintain the monitoring systems, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**

16. The permittee shall perform an annual audit of the COM using the procedures set forth in US EPA Proposed Procedure 3 – Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources. **(R 336.1213(3)(b), Paragraph 12 Consent Order AQD No. 13-2009)**

17. The permittee shall maintain accurate records of all COM maintenance activities. **(R 336.1213(3), Paragraph 11 Consent Order AQD No. 13-2009)**

VII. REPORTING, Phase II

1. The permittee shall submit all quarterly "Excess Emissions and Monitoring Systems Performance Report" and "Summary Report" records for EUBOILER#1, as required by Appendix A and Appendix B, to the AQD District Supervisor in an acceptable format within 30 days following the end of the calendar quarter in which the records were collected. **(R 336.1205(3))**

2. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to install the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the fuel conversion for EUBOILER#2. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER#2. **(R 336.1201(7)(a))**

3. The permittee shall provide written notification to the District Supervisor, Air Quality Division, upon initiation and completion of Phase II. Written notification shall be by certified U.S. mail and shall specify the permit number, and the initiation and completion dates of each Phase of the Project. **(R336.1201(7))**

VIII. STACK/VENT RESTRICTIONS, Phase II

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 Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSTACK1	79	150	R 336.1225, R 336.2803, R 336.2804
2. SVSTACK2	79	150	R 336.1225, R 336.2803, R 336.2804
3. SVTURBINE	105 X 131	26.61	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS, Phase II

1. The requirements contained in this permit only apply to boilers within FGBOILERS that has successfully completed its solid fuel conversion. Until a boiler has been converted, the requirements contained in Renewable Operating Permit MI-ROP-B1573-2010 apply. **(R 336.201(3))**

2. The permittee shall implement and maintain a MAP approved by the AQD District Supervisor. If the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall revise the MAP within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment and add-on air pollution control device during similar malfunction events, and a program for corrective action for such events. **(R 336.1910, R 336.1911)**

The following conditions apply to FG-MTRLHANDLING, Phase II

DESCRIPTION: All material handling operations at the facility

Emission Units: EUFUELHANDLING, EUASHHANDLING

POLLUTION CONTROL EQUIPMENT:
1. Fabric filter(s) for ash and fuel handling.
2. Wetting system to wet collected ash before transfer to trucks
3. Ash trucks will be tarped prior to leaving the site.

I. EMISSION LIMITS, Phase II

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Particulate matter	0.10 pounds per 1,000 pounds of exhaust gases	NA	EUASHHANDLING	IX.1	R336.1331(a)(a)

II. MATERIAL LIMITS, Phase II

NA

III. PROCESS/OPERATIONAL RESTRICTIONS, Phase II

NA

IV. DESIGN/EQUIPMENT PARAMETERS, Phase II

1. The permittee shall not operate EUASHHANDLING unless the baghouse, bin vent, spray system, and conveyor enclosures are installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1), R 336.1910)**

2. The permittee shall not load trucks with ash unless the ash wetting system is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1), R 336.1910)**

3. The permittee shall cover each ash haul truck prior to the truck leaving the plant site. **(R 336.1205(1), R 336.1910)**

V. TESTING/SAMPLING, Phase II

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING, Phase II

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor all outdoor fuel storage piles to ensure the effectiveness of fugitive dust control activities by performing non-certified visible emissions observations for the fuel storage piles a minimum of

once per calendar day, or an alternate schedule as approved by the AQD District Supervisor. If visible emissions are observed, the permittee shall immediately take measures to reduce visible emissions from the fuel storage piles. **(R 336.1301)**

2. The permittee shall keep, in a satisfactory manner, records of all visible emissions observations for FGMTRLHANDLING. At a minimum, records shall include the date, time, name of observer, and whether visible emissions were observed. For any periods that all visible emissions observations listed in SC VI.1 were not performed, the permittee shall record the reason. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1910)**

3. The permittee shall keep, in a satisfactory manner, records of all actions taken in response to visible emission observations for FGMTRLHANDLING: collector inspections, collector maintenance, fugitive emissions control activities, and any other actions. At a minimum the records shall include the date and time of the visible emissions observation triggering such action; the results of the collector inspection, if applicable; the collector maintenance performed, if applicable; and the measures taken to reduce visible emissions from the seasonal outdoor fuel storage piles, if applicable. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1910)**

VII. REPORTING, Phase II

NA

VIII. STACK/VENT RESTRICTIONS, Phase II

NA

IX. OTHER REQUIREMENTS, Phase II

1. The permittee shall implement and maintain a Malfunction Abatement Plan (MAP) approved by the AQD District Supervisor. If the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall revise the MAP within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment and add-on air pollution control device during similar malfunction events, and a program for corrective action for such events. **(R 336.1910, R 336.1911)**

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

The following conditions apply Source-Wide to FGFACILITY

POLLUTION CONTROL EQUIPMENT: As described for specific emission units

I. EMISSION LIMITS, Phase II

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Any individual HAP	9.9 tpy	12-month rolling time period*	FGFACILITY	SC VI.1	R 336.1205(1)
2. Total HAPs	24.9 tpy	12-month rolling time period*	FGFACILITY	SC VI.1	R 336.1205(1)
* 12-month rolling time period as determined at the end of each calendar month.					

II. MATERIAL LIMITS, Phase II

NA

III. PROCESS/OPERATIONAL RESTRICTIONS, Phase II

1. The permittee shall not operate FGFACILITY unless the approved program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material handling operations has been implemented and is maintained. **(R 336.1205(1), R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETERS, Phase II

NA

V. TESTING/SAMPLING, Phase II

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING, Phase II

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, monthly and 12-month rolling time period emission calculation records for individual HAPs and total HAPs for FGFACILITY. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1))**

VII. REPORTING, Phase II

NA

VIII. STACK/VENT RESTRICTIONS, Phase II

NA

IX. OTHER REQUIREMENTS, Phase II

NA

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

PHASE III SPECIAL CONDITIONS

I. EMISSION LIMITS, Phase III

Pollutant	Project Phase	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	III	20% opacity on a six-minute average, except for one six-minute average per hour of not more than 27% opacity	Six-minute average	EUBOILER#1 EUBOILER#2	SC VI.1	R 336.1301(1)(c)
2. Visible Emissions	III	10% opacity on a six-minute average, except for one six-minute average per hour of not more than 27% opacity	Six-minute average	EUTURBINE1	SC V.3	R 336.1301(1)(c)
3. CO	III	356 tons/year	12 month rolling time period	FGBOILERS	SC VI.2 SC VI.7	R 336.1205(2)
4. CO	III	64.5 lbs/hr for each boiler	30 day rolling average	EUBOILER#1 EUBOILER#2	SC VI.2	R 336.1205(2)
5. CO	III	0.50 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
6. NOx	III	518 tons/year	12 month rolling time period	FGBOILERS	SC VI.2 SC VI.7	R 336.1205(2)
7. NOx	III	80.7 lbs/hr for each boiler	30 day rolling average	EUBOILER#1, EUBOILER#2	SC VI.2	R 336.1205(2)
8. NOx	III	34.3 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
9. PM	III	28.3 tons/year	12 month rolling time period	FGBOILERS	SC VI.12	R 336.1205(2)
10. PM	III	3.25 lbs/hour for each boiler	Test Protocol	EUBOILER#1 EUBOILER#2	SC V.1 SC V.2	R 336.1205(2)
11. PM	III	1.6 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
12. PM-10	III	45.2 tons/year	12 month rolling time period	FGBOILERS	SC VI.12	R 336.1205(2)
13. PM-10	III	5.2 lbs/hr for each boiler	Test Protocol	EUBOILER#1 EUBOILER#2	SC V.1 SC V.2	R 336.1205(2)
14. PM-10	III	1.7 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
15. PM-2.5	III	39.6 tons/year	12 month rolling time period	FGBOILERS	SC VI.12	R 336.1205(2)
16. PM-2.5	III	4.5 lbs/hr for each boiler	Test Protocol	EUBOILER#1 EUBOILER#2	SC V.1 SC V.2	R 336.1205(2)
17. .PM-2.5	III	1.7 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
18. SO2	III	2260 tons/year	12 month rolling time period	FGBOILERS	SC VI.2	R 336.1205(2)
19. SO2	III	258 lbs/hour per boiler	Test Protocol	EUBOILER#1 EUBOILER#2	SC VI.2	R 336.1205(2)

Pollutant	Project Phase	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
20. SO2	IIII	3.5 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
21. VOC	III	32 tons/year	12 month rolling time period	FGBOILERS	SC VI.12	R 336.1205(2)
22 VOC	III	3.65 lbs/hour for each boiler	Test Protocol	EUBOILER#1 EUBOILER#2	SC V.1 SC V.2	R 336.1205(2)
23. VOC	III	0.06 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
24. Lead	III	0.58 tons/year	12 month rolling time period	FGBOILERS	SC VI.12	R 336.1205(2)
25. Lead	III	0.067 lbs/hour per boiler	Test Protocol	EUBOILER#1 EUBOILER#2	SC V.1 SC V.2	R 336.1205(2)
26. Lead	III	0.002 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
27. Sulfuric Acid	III	16.9 tons/year	12 month rolling time period	FGBOILERS	SC VI.12	R 336.1205(2)
28. Sulfuric Acid	III	1.95 lbs/hour for each boiler	Test Protocol	EUBOILER#1 EUBOILER#2	SC V.1 SC V.2	R 336.1205(2)
29. Sulfuric Acid	III	0.03 tons/year	12 month rolling time period	EUTURBINE1	SC VI.11	R 336.1205(2)
30. Chromium (VI)	III	0.0023 lb/hour	Test protocol	EUBOILER#1	SC V.1	R 336.1225

II. MATERIAL LIMITS, Phase III

Material	Construction Phase	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
8. Distillate Oil	III	2,000,000 gallons	12 month rolling time period	EUTURBINE1	SC VI.9	R 336.1205(2)

III. PROCESS/OPERATIONAL RESTRICTIONS, Phase III

1. The permittee shall submit an acceptable plan that describes how emissions from EUBOILER#2 will be minimized during all startups, shutdowns and malfunctions (SSM) to the AQD District Supervisor and receive approval of the plan prior to startup of each boiler after its fuel conversion has been completed. The SSM plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. **(R 336.1205(1), R 336.1911, R 336.1912)**

2. The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER#2 to the AQD District Supervisor. The initial MAP and any future amended MAP shall be subject to review and approval, as provided in Rule 911. The permittee shall not operate FGBOILERS unless the MAP, amended as necessary according to the procedures of Rule 911, is implemented and maintained. The MAP shall include procedures for maintaining and operating equipment in a satisfactory manner, including during malfunction events, and a program for corrective action for such events. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval.
    a. The permittee shall submit an initial MAP to the AQD District Supervisor before beginning operation of the first boiler that has completed its fuel conversion.

b. No later than 270 days after commencing operation of both boilers in FGBOILERS, the permittee shall amend the MAP, based on equipment operating history and the results of the emission testing, and submit the amended MAP to the AQD District Supervisor.

(R 336.1911)

3. The permittee shall not burn any solid, liquid, and/or gaseous fuels other than those described within the FPMP. The FPMP shall, at a minimum, specify the following:
   a. A description of the fuel to be burned.
   b. Odor minimization measures to be taken, if required.

   The permittee shall amend the FPMP within 45 days if any changes are deemed necessary or upon request by the AQD District Supervisor. The permittee shall submit the FPMP and any amendments to the AQD District Supervisor for review and approval. **(R 336.1205(1), R 336.1224; R 336.1702)**

4. The permittee shall equip and maintain each transformer-rectifier set of each electrostatic precipitator (ESP) associated with each boiler in FGBOILERS with a saturable core reactor, silicon-controlled rectifier linear reactor, or equivalent type automatic control system approved by the Air Quality Division. Each automatic controller shall be set to provide maximum power, or optimal power if operating in a sparking mode from its respective transformer-rectifier set. **(R336.1330)**

5. Upon initiation of Phase III, the only fuels which may be combusted in EUBOILER#1 and EUBOILER#2 are wood, TDF, and other solid fuels as specified in the Fuel Procurement and Monitoring Plan (FPMP). Fuel oil and propane fuels may also be used. **(R 336.1205(1))**

IV. DESIGN/EQUIPMENT PARAMETERS, Phase III

1. The permittee shall not burn solid fuels in FGBOILERS unless the multiple cyclones and ESP are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the multiple cyclones and ESP includes maintaining all operational parameters within the ranges identified in the approved MAP as constituting satisfactory operation. **(R 336.1205(1), R 336.1224; R 336.1301(1); R 336.1331(1); R 336.1910)**

2. The permittee shall install calibrate, maintain and operate a COM to monitor and record visible emissions from EUBOILER#1 and EUBOILER#2 on a continuous basis. **(R 336.1213(3)(b), 40 CFR 64.6(c)(1)(iii), Paragraph 11 Consent Order AQD No. 13-2009)**

3. The procedures under 40 CFR 60.13 and Performance Specification 1 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation and operation of the COM. **(R 336.1213(3)(b), Paragraph 11 Consent Order AQD No. 13-2009)**

4. The permittee shall install calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the emissions of NO_X, CO, SO_2, and either oxygen or carbon dioxide, and the exhaust temperature and flow rate from each boiler in FGBOILERS on a continuous basis. **(R 336.1205(1))**

5. The permittee shall install calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the visible emissions from each boiler in FGBOILERS on a continuous basis. **(R 336.1331(1)))**

6. The permittee shall equip and maintain FGBOILERS with devices to monitor the operational parameters identified in the approved MAP as being used to determine whether the multiple cyclones and ESP are operating in a satisfactory manner. **(R 336.1205(1), R 336.1910)**

7. The permittee shall equip and maintain each transformer-rectifier set of each ESP with a saturable core reactor, silicon-controlled rectifier linear reactor, or equivalent type of automatic control system approved by the AQD. Each automatic controller shall be set to provide maximum power, or optimal power if operating in a sparking mode from is respective transformer-rectifier set. **(R 336.1330)**

V. TESTING/SAMPLING, Phase III

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of trial operation EUBOILER#2, the permittee shall verify PM, PM10, PM2.5, Cr (VI), lead, sulfuric acid mist, and VOC emission rates from the converted boiler by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test for each boiler. **(R 336.1205(1), R 336.1702(a); R 336.2001; R 336.2003; R 336.2004)**

2. Upon completion of the testing required by SC V.1, the permittee shall complete stack testing every year thereafter for PM, PM10, PM2.5, lead, sulfuric acid mist and VOC emission rates from each boiler in FGBOILERS at owner's expense, in accordance with Department requirements unless an alternative testing frequency is approved in writing by the District Supervisor. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205(1), R 336.1331(1); R 336.1702(a); R 336.2001; R 336.2003; R 336.2004)**

3. The permittee shall conduct USEPA Method 9 visible emission observations at least once per calendar year to demonstrate compliance with the limit in Condition I.2 for EUTURBINE1. **(R336.1301(c), R336.1213(3)(a)))**

4. The permittee shall establish a two hour block average opacity, which will define an excursion for particulate matter pursuant to 40 CFR Part 64, for each boiler during the performance tests required by Condition V.1. **(40 CFR 64.6(d))**

VI. MONITORING/RECORDKEEPING, Phase III

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall continuously monitor and record, in a satisfactory manner, the visible emissions from each boiler in FGBOILERS. The permittee shall operate each continuous opacity monitoring system (COMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the COMS data for determining compliance with SC I.1. **(R 336.1301(1), R 336.1331(1))**

2. The permittee shall continuously monitor and record, in a satisfactory manner, the emissions of NO_X, CO, SO_2, and either oxygen or carbon dioxide, and the exhaust temperature and flow rate, from each boiler in FGBOILERS. The permittee shall operate each Continuous Emission Rate Monitoring System (CERMS) to meet the timelines, requirements and reporting detailed in Appendix B and shall use the CERMS data for determining compliance with SC I.5, I.6, I.7, I.8, I.9 and I.10. **(R 336.1205(1))**

3. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, records of the occurrence and duration of each start-up, shutdown, or malfunction of each boiler in FGBOILERS, any malfunction of the air pollution control equipment, and any periods during which a continuous monitoring system or monitoring device is inoperative. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.2810)**

4. The permittee shall maintain all monitoring and recordkeeping requirements outlined in the approved FPMP. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1224; R 336.1702)**

5. The permittee shall monitor, in a manner acceptable to the AQD District Supervisor, the process variables described in the approved MAP. The permittee shall monitor the process variables at the respective frequencies described in the approved MAP. **(R 336.1205(1), R 336.1910)**

6. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, all records of process variables for FGBOILERS, as required by the approved MAP, on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1910)**

7. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, monthly and 12-month rolling time period emission calculation records for CO, NO_X, and SO_2, from FGBOILERS. In calculating the first 12 month rolling value, the monthly limit shall be $1/12^{th}$ of the specified annual limit. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1))**

8. The permittee shall keep, in a satisfactory manner, the following records for each fuel oil shipment:[2] **(R 336.1205(3), R 336.1213(3)(b))**
   a. Name of the fuel oil supplier;
   b. Sulfur content, in percent by weight;
   c. Higher heating value of the fuel oil;
   d. Quantity of fuel oil received.

9. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling fuel oil use records for EUTURBINE1. **(R 336.1205(3), R 336.1213(3)(b)).**

10. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling SO_2 mass balance emission calculation records for EUTURBINE1.[2] **(R 336.1205(3), R 336.1213(3)(b))**

11. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling NO_x, CO, SO_2, VOC, PM, PM-10, PM-2.5, VOC, Lead and sulfuric acid emission calculation records using emission factors derived from the most recent performance test for EUTURBINE1 or the appropriate mass balance (for SO_2) or AP-42 emission factors.[2] **(R 336.1205(3), R 336.1213(3)(b))**

12. The permittee shall keep, in a satisfactory manner, daily, monthly and 12 month rolling PM, PM-10, PM-2.5, VOC, Lead, and sulfuric acid emission calculation records using emission factors derived from the most recent tests for EUBOILER#1 and EUBOILER#2. **(R 336.1205(3), R 336.1213(3)(b))**

13 The permittee shall obtain a laboratory analysis of the sulfur content and higher heating value for each shipment of coal received from the coal supplier. **(R 336.1213(3)(b), R 336.1401(1))**

14. The permittee shall use the COM to assure compliance with the particulate matter emission limits listed for EUBOILER#1 and EUBOILER#2. Excursions for particulate matter for EUBOILER#1 and EUBOILER#2 shall be two consecutive one hour block average opacity values established during the most recent performance test. This condition does not affect compliance with R 336.1331. **(40 CFR 64.6(c)(2))**

15. Upon detecting an excursion of the monitored parameters pursuant to 40 CFR Part 64, the permittee shall restore operation of EUBOILER#1 and EUBOILER#2 to their normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. The date, time, and duration of any excursion and corrective actions shall be recorded. **(40 CFR 64.7(d))**

16. The permittee shall properly maintain the monitoring systems, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**

17. The permittee shall perform an annual audit of the COM using the procedures set forth in US EPA Proposed Procedure 3 – Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources. **(R 336.1213(3)(b), Paragraph 12 Consent Order AQD No. 13-2009)**

18. The permittee shall maintain accurate records of all COM maintenance activities. **(R 336.1213(3), Paragraph 11 Consent Order AQD No. 13-2009)**

VII. REPORTING, Phase III

1. The permittee shall submit all quarterly "Excess Emissions and Monitoring Systems Performance Report" and "Summary Report" records for FGBOILERS, as required by Appendix A and Appendix B, to the AQD District Supervisor in an acceptable format within 30 days following the end of the calendar quarter in which the records were collected. **(R336.1205(2))**

2. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the fuel conversion for each boiler in FGBOILERS. Completion of the installation, construction, reconstruction, relocation, or modification for each boiler is considered to occur not later than commencement of trial operation of each boiler in FGBOILERS. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS, Phase III

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 Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSTACK1	79	150	R 336.1225, R 336.2803, R 336.2804
2. SVSTACK2	79	150	R 336.1225, R 336.2803, R 336.2804
3. SVTURBINE	105 X 131	26.61	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS, Phase III

1. The requirements contained in this permit only apply to a boiler within FGBOILERS that has successfully completed its solid fuel conversion. Until a boiler has been converted, the requirements contained in Renewable Operating Permit MI-ROP-B1573-2010 apply. **(R 336.201(3))**

2. The permittee shall implement and maintain a MAP approved by the AQD District Supervisor. If the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall revise the MAP within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment and add-on air pollution control device during similar malfunction events, and a program for corrective action for such events. **(R 336.1910, R 336.1911)**

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

The following conditions apply to FG-MTRLHANDLING

DESCRIPTION: All material handling operations at the facility

Emission Units: EUFUELHANDLING, EUASHHANDLING

POLLUTION CONTROL EQUIPMENT:
1. Fabric filter(s) for ash and fuel handling.
2. Wetting system to wet collected ash before transfer to trucks
3. Ash trucks will be tarped prior to leaving the site.

I. EMISSION LIMITS, Phase III

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Particulate matter	0.10 pounds per 1,000 pounds of exhaust gases	NA	EUASHHANDLING	IX.1	R336.1331(a)(a)

II. MATERIAL LIMITS, Phase III

NA

III. PROCESS/OPERATIONAL RESTRICTIONS, Phase III

NA

IV. DESIGN/EQUIPMENT PARAMETERS, Phase III

1. The permittee shall not operate EUASHHANDLING unless the baghouse, bin vent, spray system, and conveyor enclosures are installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1), R 336.1910)**

2. The permittee shall not load trucks with ash unless the ash wetting system is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1), R 336.1910)**

3. The permittee shall cover each ash haul truck prior to the truck leaving the plant site. **(R 336.1205(1), R 336.1910)**

V. TESTING/SAMPLING, Phase III

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING, Phase III

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor all outdoor fuel storage piles to ensure the effectiveness of fugitive dust control activities by performing non-certified visible emissions observations for the fuel storage piles a minimum of once per calendar day, or an alternate schedule as approved by the AQD District Supervisor. If visible

emissions are observed, the permittee shall immediately take measures to reduce visible emissions from the fuel storage piles. **(R 336.1301)**

2. The permittee shall keep, in a satisfactory manner, records of all visible emissions observations for FGMTRLHANDLING. At a minimum, records shall include the date, time, name of observer, and whether visible emissions were observed. For any periods that all visible emissions observations listed in SC VI.1 were not performed, the permittee shall record the reason. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1910)**

3. The permittee shall keep, in a satisfactory manner, records of all actions taken in response to visible emission observations for FGMTRLHANDLING: collector inspections, collector maintenance, fugitive emissions control activities, and any other actions. At a minimum the records shall include the date and time of the visible emissions observation triggering such action; the results of the collector inspection, if applicable; the collector maintenance performed, if applicable; and the measures taken to reduce visible emissions from the seasonal outdoor fuel storage piles, if applicable. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1), R 336.1910)**

VII. REPORTING, Phase III

NA

VIII. STACK/VENT RESTRICTIONS, Phase III

NA

IX. OTHER REQUIREMENTS, Phase III

1. The permittee shall implement and maintain a Malfunction Abatement Plan (MAP) approved by the AQD District Supervisor. If the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall revise the MAP within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment and add-on air pollution control device during similar malfunction events, and a program for corrective action for such events. **(R 336.1910, R 336.1911)**

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

The following conditions apply Source-Wide to FGFACILITY

POLLUTION CONTROL EQUIPMENT: As described for specific emission units

I. EMISSION LIMITS, Phase III

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Any individual HAP	9.9 tpy	12-month rolling time period*	FGFACILITY	SC VI.1	R 336.1205(1)
2. Total HAPs	24.9 tpy	12-month rolling time period*	FGFACILITY	SC VI.1	R 336.1205(1)
* 12-month rolling time period as determined at the end of each calendar month.					

II. MATERIAL LIMITS, Phase III

NA

III. PROCESS/OPERATIONAL RESTRICTIONS, Phase III

1. The permittee shall not operate FGFACILITY unless the approved program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material handling operations has been implemented and is maintained. **(R 336.1205(1), R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETERS, Phase III

NA

V. TESTING/SAMPLING, Phase III

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING, Phase III

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a manner acceptable to the AQD District Supervisor, monthly and 12-month rolling time period emission calculation records for individual HAPs and total HAPs for FGFACILITY. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1))**

VII. REPORTING, Phase III

NA

VIII. STACK/VENT RESTRICTIONS, Phase III

NA

IX. OTHER REQUIREMENTS, Phase III

NA

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

APPENDIX A
Continuous Opacity Monitoring System (COMS) Requirements

1. Within 30 calendar days after completing the fuel conversion of a boiler in FGBOILERS, the permittee shall submit two copies of a Monitoring Plan for the converted boiler to the AQD for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required COMS.

2. Within 150 calendar days after completing the fuel conversion of a boiler in FGBOILERS, the permittee shall submit two copies of a complete test plan for the converted boiler for the COMS to the AQD for approval.

3. Within 180 calendar days after completing the fuel conversion of a boiler in FGBOILERS, the permittee shall complete the installation and testing of the COMS for the converted boiler.

4. Within 60 days of completion of testing for the converted boiler, the permittee shall submit to the AQD two copies of the final report demonstrating the COMS complies with the requirements of Performance Specification (PS) 1.

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.

6. The COMS for the converted boiler shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 1 of Appendix B, 40 CFR Part 60.

7. Until such time as the US EPA promulgates quality assurance requirements for COMS under Appendix F to 40 CFR Part 60, the permittee shall perform an annual audit for the converted boiler of the COMS using the procedures set forth in USEPA Publication 450/4-92-010, "Performance Audits Procedures for Opacity Monitors", or a procedure acceptable to AQD. The results of the annual audit shall be submitted to the AQD within the quarterly EER for the quarter in which the annual audit is conducted. Upon promulgation of COMS quality assurance requirements under Appendix F of Part 60, the permittee shall follow such procedures.

8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report for the converted boiler in an acceptable format to the Air Quality Division 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 the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
   b) A report of all periods of COMS downtime and corrective action.
   c) A report of the total operating time of EU-BOILER during the reporting period.
   d) If no exceedances or COMS downtime occurred during the reporting period, the permittee shall report that fact.

   The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

APPENDIX B
NO_X, CO, SO_2, and Either Oxygen or Carbon Dioxide Monitoring Continuous Emission Rate Monitoring System (CERMS) Requirements

1. Within 30 calendar days after completing the fuel conversion of a boiler in FGBOILERS, the permittee shall submit two copies of a Monitoring Plan for the converted boiler to the AQD for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CERMS.

2. Within 150 calendar days after completing the fuel conversion of a boiler in FGBOILERS, the permittee shall submit two copies of a complete test plan for the converted boiler for the CERMS to the AQD for approval.

3. Within 180 calendar days after completing the fuel conversion of a boiler in FGBOILERS, the permittee shall complete the installation and testing of the CERMS for the converted boiler.

4. Within 60 days of completion of testing for the converted boiler, the permittee shall submit to the AQD two copies of the final report demonstrating the CERMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table.

Pollutant	Applicable PS
NO_X	2
CO	4
SO_2	2
Oxygen or Carbon Dioxide	3
CERMS	6

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.

6. The CERMS for the converted boiler shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 2, 3, 4, and 6 of Appendix B to 40 CFR Part 60.

7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CERMS set forth in Appendix F of 40 CFR Part 60 for the converted boiler. Within 30 days following the end of each calendar quarter, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F).

8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report for the converted boiler 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 the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
   b) A report of all periods of CERMS downtime and corrective action.
   c) A report of the total operating time of EU-BOILER during the reporting period.
   d) A report of any periods that the CERMS exceeds the instrument range.
   e) If no exceedances or CERMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

NOTICE of AIR POLLUTION COMMENT PERIOD and PUBLIC HEARING

The Michigan Department of Natural Resources and Environment (DNRE) is holding a public comment period from March 9, 2011, until April 8, 2011, and a public hearing, if requested, on April 12, 2011, on Escanaba Generating Station's revisions to their existing coal-fired boilers allowing the use of biomass, tire derived fuel (TDF), and railroad ties as a fuel source. The facility is located at 2000 Power Plant Road, Escanaba, Michigan. The public comment period and hearing, if requested, are to allow all interested parties the opportunity to comment on the Department's proposed conditional approval of a Permit to Install (PTI). It has been preliminarily determined that the installation and operation of the co-generation facility will not violate any of the Department's rules nor the National Ambient Air Quality Standards.

Additionally, the revisions to the existing coal-fired boilers will require revisions to Renewable Operating Permit (ROP) No. MI-ROP-B1573-2004 (SRN B1573). This public comment period meets the public participation requirements for a future administrative amendment to the ROP.

Copies of the Department staff's analysis and proposed permit conditions are available for inspection at the following locations, or you may request a copy be mailed to you by calling 517-335-4607. Please reference PTI Application Number 143-10.

AQD Internet Home Page - http://www.michigan.gov/air

UPPER PENINSULA DISTRICT OFFICE: DNRE, Air Quality Division, 420 Fifth Street, Gwinn (Phone: 906-346-8300)

LANSING: DNRE, Air Quality Division, Constitution Hall, 3rd Floor, North Tower, 525 West Allegan Street (Phone: 517-335-4607)

ESCANABA: City Hall, 410 Ludington Street (Phone: 906-786-1194)
County Clerk, 310 Ludington Street, Suite 109 (Phone: 906-789-5105)

The public is encouraged to present written views on the proposed permit action. Written comments or a hearing request should be sent to Ms. Mary Ann Dolehanty, Permit Section Supervisor, DNRE, Air Quality Division, P.O. Box 30260, Lansing, Michigan, 48909-7760. All statements received by April 8, 2011, will be considered by the decision-maker prior to final permit action. If a hearing is requested, the comment period will be extended until the close of the hearing.

If requested in writing by April 8, 2011, the public hearing will be held on April 12, 2011, starting at 11:00 a.m. in the Lillian Hatcher Conference Room, Constitution Hall, 3rd Floor North Tower, 525 West Allegan, Lansing, Michigan. Those interested may contact the Air Quality Division at 517-241-7468 on April 11, 2011, to determine if a hearing was requested and will be held.

The sole purpose of the public hearing will be to take formal testimony on the record. During testimony, questions will not be answered; however, staff will be available to answer questions outside the hearing room.

Individuals needing accommodations for effective participation at the hearing should contact Ms. Cari DeBruler at 517-335-4607 one week in advance to request mobility, visual, hearing, or other assistance.

MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT

_____

Mary Ann Dolehanty, Permit Section Supervisor

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT
LANSING

March 9, 2011

Mr. Mike Reid
Escanaba Generating Station
2000 Power Plant Road
Escanaba, Michigan 49829

Dear Mr. Reid:

This letter is in reference to your Permit to Install application, identified as No. 143-10, State Registration Number B1573. The application which was received on July 13, 2010 is for modifications to two existing coal fired boilers located at 2000 Power Plant Road, Escanaba, Michigan. The modifications include replacing coal usage with biomass, tire derived fuel, and railroad ties.

Review of your application is complete. We have announced a 30-day public comment period as required by state and federal regulations, on the intent of the Michigan Department of Natural Resources and Environment (DNRE) to approve the permit. The public comment period began on March 9, 2011, and will end on April 8, 2011. A public hearing has been scheduled on April 12, 2011; however, it will be held only if requested by April 8, 2011. If a hearing is requested, the comment period will be extended until the close of the hearing. You may submit comments during the comment period and are encouraged to appear at the public hearing, if held, on behalf of your Permit to Install application.

After resolving any issues raised during the public comment period and/or the hearing, a final decision will be made on your permit application.

By law, construction of the proposed process should not begin until you receive an approved Permit to Install. *This letter is not an approved permit to install* and only references a proposed action on your application.

Enclosed are copies of the "Notice of Air Pollution Comment Period and Public Hearing," the "Fact Sheet," and the draft conditions regarding our analysis of your proposed project.

If you have any questions, please feel free to contact me. You may call me on April 11, 2011, to determine if a hearing was requested.

Sincerely,

D. John Vial, Sr. Environmental Engineer
Air Quality Division
Permit Section
517 241-7468

Enclosures
cc/enc: Mayor Gilbert X. Cheves, City of Escanaba
Ms. Nancy Kolich, Delta County Clerk
Ms. Pamela Blakley, U.S. Environmental Protection Agency, Region 5
Mr. Constantine Blathras, U.S. Environmental Protection Agency, Region 5
Mr. Chris Hare, DNRE