Appendix A

The following are AQD's responses to pertinent comments received during the July 26, 2017 public hearing and comment period for the draft ROP No. MI-ROP-B4260-20XX.

EPA Comments

EPA Comment 1:
EPA requested the draft ROP be revised to include applicable requirements, including the associated monitoring, recordkeeping, and reporting requirements, that apply to the emission units and activities at the Fuel Aggregation Facility (FAF), in accordance with 40 CFR Sections 70.6(a)(1) and (a)(3).

AQD Response 1:
AQD agrees. With the incorporation of the conditions from PTI No. 128-18, the associated monitoring, recordkeeping and reporting requirements were added to FGFUEL. FGFUEL covers all the fuel handling, processing and storage equipment, road(s), and storage pile(s) located at the LWEC Generating Station and the FAF. The Fuel Procurement Management Plan (FPMP), Preventative Maintenance/Malfunction Abatement Plan (PM/MAP) and Fugitive Emissions Control Plan (FECP) address in detail the associated monitoring, recordkeeping, and reporting necessary for FGFUEL. The most recent copies of these plans are available for review at: http://www.deq.state.mi.us/aps/downloads/ROP/pub_ntce/B4260/

Condition Changes:
The conditions in PTI No. 128-18, for FGFUEL and FGFACILITY (Source-Wide Conditions in the draft ROP) combine and update the conditions for all fuel handling activities and associated monitoring, recordkeeping, and reporting.

EPA Comment 2:
Evaluate provisions in "Fugitive Emissions Control Plan" and revise permit to include monitoring and recordkeeping necessary to assure compliance with the opacity and particulate matter limits for EUFUEL and EUASH

AQD Response 2:
The permit includes the required monitoring such as daily visible emissions monitoring and recordkeeping necessary to assure compliance with the opacity and particulate matter limits for EUFUEL. LWEC has updated as necessary the FECP which includes the daily observation logs at the generating station and FAF.

EUASH was removed from the draft permit. The facility reconfigured the ash handling system, converting it to a wet ash removal system and disconnected the ash silo with baghouse control.

Condition Changes:
Special Condition (SC) VI.3 in FGFUEL requires the facility to perform and document daily visible emissions observations when operating.

EPA Comment 3:
Supplement the Staff Report to verify the COMS is the appropriate compliance indicator because there is a correlation between the applicable PM limits and the COMS sufficient to assure

compliance with the PM limits. In addition, include any operational requirements applicable to the ESP, pursuant to 40 CFR Part 64, and/or to assure compliance with the Section I. PM limits and Section IV.1. requirements to operate the control in a satisfactory manner.

AQD Response 3:
The COMS recorded opacity of the visible emissions from the ESP is used as an indicator of the proper operation of the ESP. There is not a direct linear relationship between opacity and PM, though it can be assumed that if opacity is low, then PM emissions are low. Opacity readings indicate optimal performance of the ESP. A properly operating ESP will provide good control of particulate matter emissions. High opacity indicates particulate matter emissions are increased. The opacity indicator ranges were selected because they are instantaneous indicators of whether the ESP is performing normally. LWEC's PM/MAP Tables 2-6 and 2-8, list ESP Operational Variables and Corrective Procedures to ensure compliance with the PM limits.

EPA Comment 4:
Provide additional information regarding facility-wide PTE for aggregate and individual HAPs

AQD Response 4:
The facility has accepted source-wide emission limits for individual and aggregate HAPs, to be a synthetic minor. The highest individual HAP emitted at the facility is HCl, with an annual emission limit of 9.5 tons per year. The other HAPs emitted in descending quantities are styrene, benzene, toluene, cresol isomers, and acetaldehyde (which are VOCs), and other mainly metallic HAPs with annual emissions significantly less than one ton per year. If total VOC emissions are less than 9.0 tpy, and HCl emissions are below the 9.5 tpy limit, then the total HAPs emissions from the facility will be less than the 20.0 tpy aggregate HAP limit. For determining compliance with the individual and aggregate HAP limits, LWEC is required to verify HCl, lead (Pb), arsenic, manganese, nickel, creosol isomers, and VOC emission rates, from EUBOILER#1, at a minimum of once every five (5) years and calculate monthly and 12-month rolling time period emissions.

In addition, if VOC testing shows the total annualized emissions are greater than 9.0 tons per year, the facility shall perform additional testing to determine styrene, benzene, acetaldehyde, and toluene emission rates, for comparison to the facility's HAP emission limits. VOC emissions shall be calculated by multiplying VOC emissions in pounds per hour by 8200 hours per year, as identified in the Testing/Sampling conditions of EUBOILER#1.

Finally, the permit requires LWEC to calculate both individual and total HAPs on a monthly and a 12-month rolling time period basis. Those records are to be kept on file and made available to the AQD upon request.

EPA Comment 5:
Revise permit to include the specific monitoring, recordkeeping, and calculations (including emissions factors) necessary to assure compliance with the individual and aggregate HAP emission limits in EUBOILER#1.

AQD Response 5:
AQD agrees. The current FPMP, includes emission factors and equations used to calculate monthly and annual emissions. In Part B. Source-Wide Conditions, the monitoring and recordkeeping requirements are spelled out in a basic list (Section VI. Monitoring/Recordkeeping)

that are necessary to assure compliance with the individual and aggregate Source-Wide HAP emission limits.

Condition Changes:
The emission limits for HAPs, testing, monitoring, and recordkeeping necessary to assure compliance with the individual and aggregate HAP emission limits were consolidated in Part B. Source-Wide Conditions. Appendix 7 contains additional detail on the emission calculations used to demonstrate compliance.

EPA Comment 6:
Update the Staff Report to comprehensively address the CISWI applicability requirements, including the percentage amount of natural gas in order to qualify for the small power production exemption and also the definition of solid waste provisions in 40 CFR Part 241 (RCRA).

AQD Response 6:
The regulations for CISWI were first proposed in 1999 and became effective in 2000. In 2007 the company stated that the facility was not subject to the CISWI regulations because they were recovering useful energy from the combustion of biomass and the then current regulations exempted such facilities from CISWI applicability. The AQD agreed with that determination based upon the regulations in effect at the time.

Subsequent revisions to the CISWI regulations removed the blanket exemption for recovering energy from the fuel stream. CISWI applicability is now based upon the use of materials designated as "solid waste." Railroad ties are considered a non-hazardous secondary waste and considered solid waste under the CISWI regulations.

The non-hazardous secondary material (NHSM) regulations define solid waste and therefore, what is subject to the CISWI regulation. The finalized NHSM regulations exclude the applicability of the CISWI regulations under the following conditions:

- The unit qualifies as a small power-production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)).
- The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity.
- The facility submits documentation to the Administrator notifying the Agency that the qualifying small power production facility is combusting homogenous waste.

On August 27, 2014, the company provided documentation to USEPA and the AQD that they meet the exemption criteria listed above, and the facility is not subject to CISWI regulations.

Within the definition of Section 796(17)(C) it states: "*including requirements respecting fuel use…*". The definition of "fuel use" is found in Title 18 Conservation of Power and Water Resources, Part 292, Subpart B, Section 292.204(b)(2) and states: "*Use of oil, natural gas and coal by a facility, under section 3(17)(B) of the Federal Power Act, is limited to the minimum amounts of fuel required for ignition, startup, testing, flame stabilization, and control uses, and the minimum amounts of fuel required to alleviate or prevent unanticipated equipment outages, and emergencies, directly affecting the public health, safety, or welfare, which would result from electric power outages. Such fuel use may not, in the aggregate, exceed 25 percent of the total energy input of the facility during the 12-month period beginning with the date the facility first produces electric energy and any calendar year subsequent to the year in which the facility first produces electric energy*."

AQD has evaluated the fuel use as reported by the permittee to the Michigan Air Emissions Reporting System. Based upon LWEC reported fuel usages, the natural gas usage/heat input compared to the annual heat input of all other biomass fuels from 2012 through 2015 were 0.16 percent, 0.20 percent, 1.13 percent and 0.14 percent, respectively.

Further, the AQD has changed the natural gas material limit to read “Less than 25% of annual heat input” and added Underlying Applicable Requirements (UARS): R336.1205, and 18 CFR 292.204(b)(2).

Based upon the above, the AQD has determined that LWEC is not currently subject to the CISWI regulations. That determination could change in the future if LWEC changes how they operate the plant and/or the CISWI regulations change again.

EPA Comment 7:
Revise PM/MAP and FECP and the permit conditions in EUFUEL, EUBOILER#1, and EUASH to clearly identify the relationship of these documents to one another and to the applicable permit requirements to operate in accordance with the PM/MAP.

AQD Response 7:
LWEC updated all of their plans to clearly identify the relationship of these documents to one another and the applicable permit requirements. AQD has reviewed and approved each plan. The plans are available for review at: http://www.deq.state.mi.us/aps/downloads/ROP/pub_ntce/B4260/.

NOTE: EUASH has been removed from the draft ROP, as the ash removal system has been converted to a wet, drag chain removal and the silo and associated baghouse are no longer in use.

EPA Comment 8:
EUFUEL, sections III.2 and VI.2, and EUASH, sections III.2, VI.2, and VII.5 include requirements referred to as the "Program for Continuous Fugitive Emissions Control." Verify whether these applicable requirements should also include permit conditions specifically requiring these units to be operated in accordance with LWEC‘s FECP and revise the permit conditions as appropriate to ensure that the permit clearly identifies the plans that apply to these units.

AQD Response 8:
AQD modified the specified conditions identifying the FECP and the requirement for LWEC to operate in accordance with their FECP.

Condition Changes:
The requirement for the FECP was consolidated in Part B. Source-Wide Conditions, SC III.1.

EPA Comment 9:
Emission table of EUBOILER#1 in section I, conditions 1-5, and 8-10 do not reference specific associated monitoring/testing methods. Revise the permit as appropriate to include the specific monitoring, recordkeeping, and calculations (including emission factors) necessary to assure compliance with the PM, sulfur dioxide, nitrogen oxides, volatile organic compounds, and lead emission limits.

AQD Response 9:
There were typographical errors in the Draft ROP that incorrectly referenced monitoring/testing conditions for several of the emission limits in EUBOILER#1. This has been corrected.

The permit references specific monitoring/testing methods for each emission limit in Section I. Additional conditions for compliance are located in the Monitoring/Recordkeeping Section but are not specifically called out in the Emission Limit Table.

Condition Changes:
The emission limits for HAPs, testing, monitoring, and recordkeeping necessary to assure compliance with the individual and aggregate HAP emission limits were consolidated in Part B. Source-Wide Conditions. For EUBOILER#1, the emission limits for visible emissions, PM, PM10, SO_2, NOx, CO, VOC, lead, and HCl reference the correct testing, monitoring, and recordkeeping necessary to assure compliance. Appendix 7 contains additional detail on the emission calculations used to demonstrate compliance.

EPA Comment 10:
EUBOILER#1. Evaluate the provisions of the FPMP and revise the permit as appropriate to include monitoring and recordkeeping necessary to assure compliance with the fuel limits

AQD Response 10:
Material limits for natural gas and engineered fuel pellets were added and hourly material limits were adjusted to daily. The monitoring and recordkeeping conditions referenced in EUBOILER#1 ensure compliance with the fuel limits identified in Section II. The monitoring and recordkeeping provisions in the FPMP have been revised as appropriate.

Condition Changes:
See EUBOILER#1, Section II and Section VI specifically SC VI.3 and 4.

EPA Comment 11:
It appears the FPMP states that compliance with the hourly material limits and annual material limits will be based on the monthly fuel usage divided by the total number of hours in a month. The permit would be clearer if it defined the time frame for the calculation as hours of operation per month.

AQD Response 11:
AQD agrees and LWEC has updated the FPMP to address this concern. In addition, with the issuance of PTI No. 128-18, the hourly material limits were revised to calendar daily limits and recordkeeping of daily hours of operation for EUBOILER#1 were added. The fuel feed system at LWEC was not designed to accurately record a ton per hour feed rate, with the changes to a daily limit and requirement to record the hours of boiler operation on a daily basis, this allows the company to more accurately record on a daily, monthly and 12-month rolling basis.

Condition Changes:
With PTI No. 128-18, adjustments were made to conditions in EUBOILER#1, Section II and Section VI specifically SC VI.3, 4 and 9.

EPA Comment 12:

FPMP includes an incorrect hourly material usage limit for railroad ties listed in Section 2.3.1, Table I -Acceptable Fuel and Material Limits, and Table 1-1 of Appendix A.

AQD Response 12:
The permittee has corrected the material usage limit in the FPMP, and it is available for review as described above.

EPA Comment 13:
EUBOILER#1, Section V.1 includes broad references to federal test methods, but does not specify the test methods for determining compliance with the emission limits in section I.

AQD Response 13:
Within EUBOILER#1, SC V.1, the general testing method references are listed for each pollutant. SC V.1 also requires LWEC to submit a test protocol in advance of the testing for AQD review and approval. The test protocol will include the specific reference test methods which will be used when the testing is performed. The AQD specifies the general test method in a permit, rather than specific test methods because test methods are often updated or changed. Doing so avoids the need for a new permit when test methods change.

Environmental Integrity Project (EIP)

EIP Comment 1:
The ROP fails to require monitoring sufficient to assure LWEC's compliance with applicable Clean Air Act Requirements. The ROP improperly relies on monitoring specified in off-permit plans that are not incorporated by reference into the permits and can be revised without public comment and without AQD approval.

AQD Response 1:
The Facility has updated the Fuel Procurement and Monitoring Plan (FPMP), Fugitive Emissions Control Plan (FECP), and Preventative Maintenance/Malfunction Abatement Plan (MAP). The AQD has reviewed and approved these plans and they are available for review at: http://www.deq.state.mi.us/aps/downloads/ROP/pub_ntce/B4260/.

The AQD considers the plans to be free-standing documents that do not get incorporated into the ROP to allow flexibility for necessary changes by submitting plan revisions to the AQD for review and approval without going through a more formal and time-consuming process to incorporate future revisions into the ROP. It should be noted, if plans were to be included in the ROP and required revisions at a future date, the facility would have to submit an ROP minor modification application to make the change in the ROP, and minor modifications do not go through public comment. All required monitoring is referenced properly in the permit.

EIP Comment 2:
The draft ROP provides that the EUFUEL emission unit is subject to an opacity limit of 5%, 6-minute average. However, the draft ROP does not specify any monitoring associated with assuring compliance with this limit.

AQD Response 2:
AQD agrees and added SC VI.3 in FGFUEL. Refer to LWEC's Fugitive Emissions Control Plan, Appendix A, Example Daily Observation Logs, for the emission points to be monitored.

Condition Changes:
Daily visible emissions monitoring has been added in FGFUEL, SC VI.3.

EIP Comment 3:
The work practice standard in the FECP regarding roadways is too vague to be enforceable. Does not identify climactic conditions that would dictate sweeping, does not indicate what constitutes "the presence of materials that could generate fugitive dust."

AQD Response 3:
AQD agrees and explains the term climatic conditions is understood to mean, during the winter months of late October through April, daily snowfalls in excess of several inches is a common event for the area, and may prevent the observation and/or sweeping of spilled material. AQD requested the company to revise their FECP which is now available for review (see web address above).

EIP Comment 4:
No indication of how compliance with trucks delivering fuel must be completely enclosed or covered by a tarp.

AQD Response 4:
State Transportation Laws require all open trailers to be covered with a tarp or other suitable covering when transporting material.

EIP Comment 5:
No method provided for assuring fuel unloading is conducted at a slow rate (approximately 1-2 tons per hour).

AQD Response 5:
The conveyor system at the Facility acts as a "bottle-neck" and limits the rate of speed a driver can unload fuel onto the conveyor. A higher rate of speed would overwhelm the capacity of the conveyor belt causing spillage of fuel and causing a shutdown in the system. The blower system has been disconnected per conditions of Consent Order AQD No. 35-2016.

EIP Comment 6:
The permittee must be required to document daily observations of the hopper building seams and flashing.

AQD Response 6:
This requirement is included in the Fugitive Emissions Control Plan (FECP), Appendix A, "Generating Station Daily Fugitive Emission Inspection and Observation Logs," Item #1 Fuel Handling Area and is enforceable through FGFUEL, SC III.1.

EIP Comment 7:
No indication of how compliance with keeping hopper curtain (door) closed when blower/conveyor system is operating.

AQD Response 7:
As mentioned in #5 above the blower system has been disconnected.

EIP Comment 8:
Commenter states in several areas the requirement to take action in a "timely manner" is too vague to be enforceable, in this statement, specifically if fuel escapes from an enclosed conveyor and requests permit to specify regular inspections.

AQD Response 8:
AQD agrees. The FECP has been updated and is available for review (see above), in addition see Response #6 above regarding requirement to keep "Daily Fugitive Emission Inspection and Observation Logs."

EIP Comment 9:
MDEQ needs to explain how compliance with the continuous 5% opacity requirement is assured when woody fuel is stockpiled outside the enclosed storage area.

AQD Response 9:
The Fuel Procurement and Monitoring Plan (FPMP) states the material will be covered with a tarp to control fugitive emissions. In addition, the FECP states the permittee will keep "Daily Fugitive Emission Inspection and Observation Logs" to ensure compliance.

EIP Comment 10:

To ensure the Fuel Storage Building doors are kept closed except when necessary, permit must include some sort of regular daily inspection or other mechanism to document compliance.

AQD Response 10:
The FECP requires the permittee to keep "Daily Fugitive Emission Inspection and Observation Logs" to ensure and document that the doors are kept closed.

EIP Comment 11:
To be enforceable, the permit must be more specific regarding the FAF when wet suppression is required, the method used, and the areas covered.

AQD Response 11:
AQD agrees and the FECP has been updated to include these details.

EIP Comment 12:
To assure the facility's compliance of visually monitoring the stockpiled fuel for dust generation, fuel moisture content must be monitored proactively to prevent fugitive dust.

AQD Response 12:
Typically, only two types of fuel are stockpiled at the FAF, wood chips and railroad ties. Wood chips are "green" and have a high moisture content (15-35% moisture) and are in the 1-2-inch size range. Railroad ties are stored whole, after processing, the material is immediately moved into the Processed Railroad Tie Storage Building or loaded into semi-trailers for transfer to the Generating Station. The FECP states the permittee will keep "Daily Fugitive Emission Inspection and Observation Logs" to ensure compliance.

EIP Comment 13:
Commenter states any visible fugitive dust emissions that occur, from unloading of fuel on the truck dumper, that lasts for more than a couple of minutes likely represents a violation of the opacity standard and must be reported as such. The provision to avoid dumping ground railroad ties will be avoided on windy days is too vague. Dumped material will be "timely" transferred from the concrete pad to the Processed Railroad Tie Storage Building or loaded into delivery trucks.

AQD Response 13:
The AQD agrees and the permittee has updated the FECP. The facility states in the FECP the use of the truck dumper is limited to a maximum wind speed of 25 mph, which limits the likelihood of fugitive dust leaving the property. Based on AQD observations, it takes significantly less than six (6) minutes to unload a truck on the dumper and the possibility of recording a 5% visible emission over the six minutes is unlikely due to the moisture content and size of the fuel, as stated in # 13, and the short amount of time needed to unload the truck.

EIP Comment 14:
The permit must specify when a water spray is needed as a precautionary measure to prevent fugitive dust.

AQD Response 14:
AQD agrees and has included the water spray bar as pollution control equipment in FGFUEL. Also refer to LWEC's FECP.

EIP Comment 15:
To make the condition of adding sidewalls to the fuel loading bin if operation of the blower/conveyor system is resumed enforceable, the permit must clarify that sidewalls be added prior to resumption of the blower/conveyor.

AQD Response 15:
The AQD has determined the company cannot restart the blower/conveyor system without first applying for a Permit to Install, at which time this condition will be addressed.

EIP Comment 16:
Commenter claims the statement in the FECP: "in the event dust generation is observed associated with the doors being open on the Ash Storage Building, LWEC will repair or reconstruct a new door system," is drafted as a reaction to a violation and AQD must explain why LWEC is expected to comply with the opacity standard. The measure to remove spilled ash material in a timely manner commensurate with the climatic conditions is unenforceable as written and lacks monitoring, recordkeeping and reporting.

AQD Response 16:
As mentioned above in EPA response number 2, EUASH has been removed from the draft ROP. However, in response to the comment, EUASH did not contain an opacity standard except for as identified in General Condition #11, however, the FECP does contain the requirement to maintain "Daily Fugitive Emission Inspection and Observation Logs" to ensure compliance. In addition, the ash has a high moisture content (15-30%) and is not considered to be a likely source of fugitive emissions. As discussed above, the permittee has updated their plans to address the definition of "timely manner" and define "climatic conditions." "Climatic conditions" was initially approved due to the number of days and large amounts of snowfall the area receives.

EIP Comment 17:
MDEQ must modify the permit as necessary to clarify that LWEC is responsible for ensuring any third-party contractor's compliance with permit requirements, and for identifying and reporting any deviations from permit requirements that occur under a third party's watch.

AQD Response 17:
AQD agrees and has added EUFAF and FGFUEL to the draft ROP to ensure compliance of the fuel handling activities occurring at the Fuel Aggregation Facility. In addition, LWEC's Fuel Procurement and Monitoring Plan explains the contract terms between the fuel aggregation contractors and LWEC, and identifies procedures for inspecting and rejecting fuel due to non-conformance with fuel specifications.

EIP Comment 18:
Commenter identifies, in EUBOILER#1, PM Limits that identify monitoring requirements that are inadequate. A once per permit term stack test does not constitute "periodic" monitoring and must be supplemented with other monitoring that will be performed on an on-going basis.

AQD Response 18:
The COMS recorded opacity of the visible emissions from the ESP is used as an indicator of the proper operation of the ESP. There is not a direct linear relationship between opacity and PM, though it can be assumed that if opacity is low, then PM emissions are low. Opacity readings indicate optimal performance of the ESP. A properly operating ESP will provide good control of PM emissions. High opacity indicates particulate matter emissions are increased. The opacity indicator ranges were selected because they are instantaneous indicators whether the ESP is performing normally. LWEC's PM/MAP Tables 2-6 and 2-8, list ESP Operational Variables and Corrective Procedures to ensure compliance with the PM limits.

The AQD agrees it is appropriate to require more frequent testing in those situations where there have been compliance issues. The permittee's prior emission test results for PM indicates compliance with permit limits, with actual emissions well below allowable permit limitations. The frequency of testing for PM is appropriate based on previous testing results.

EIP Comment 19:
SO_2 limit does not require a specific testing method; the ROP does not incorporate by reference a specific version of the FPMP; and fuel analysis procedures are insufficient to assure compliance is properly monitored.

AQD Response 19:
The AQD has evaluated its policy on referencing specific test methods. See response to EIP Comment #1 above, in reference to the FPMP. The allowed decrease in fuel analysis is based on years of sampling data that show little variance in sulfur content of the various fuels used by LWEC.

EIP Comment 20:
NOx, VOC and lead limits only identify a once per permit term stack test as the only monitoring.

AQD Response 20:
LWEC is required to keep records of the sulfur, lead and chlorine content of each fuel burned in EUBOILER#1, to monitor VOC and lead emissions. Also, LWEC operates a CEMS for CO that can be used as a surrogate for VOC emissions. In this instance, CO concentration is used as a surrogate for VOC because CO is a product of incomplete combustion and elevated levels of CO indicate incomplete combustion and an elevation in VOC emissions. The facility cannot operate EUBOILER#1 unless the boiler overfired air system is installed and operating in a satisfactory manner (SC IV.1). The overfired air system is designed to reduce NOx emissions. Lastly, past NOx, VOC and lead emission tests of the boiler have shown the emissions are typically one-half, one-tenth, and one-fifth of the permitted emission limits, respectively.

EIP Comment 21:
HCl quarterly and semiannual testing events.

AQD Response 21:
This condition was the result of a Consent Order between the AQD and LWEC. The company has successfully satisfied all of testing requirements of the Consent Order (four quarterly, two semi-annual and one within 3 years of last semi-annual test), except the final test which must be conducted within three years of the second semi-annual test, which occurred in June 2018.

EIP Comment 22:
Material Limits. The permit must specifically identify how the facility is required to track each of the parameters at issue and what must be included in the facility's records.

AQD Response 22:
AQD agrees and EUBOILER#1, SC VI.3. was modified in PTI No. 128-18:

The permittee shall monitor and keep records, in a satisfactory manner, of the following:

a. The amount and type of each fuel combusted in EUBOILER#1 on a daily, monthly and 12-month rolling basis, as determined at the end of each calendar month.
b. The heat input of each fuel combusted in EUBOILER#1 on a monthly and 12-month rolling basis, as determined at the end of each calendar month.
c. The permittee shall keep, in a satisfactory manner, hourly and 24-hour rolling average CO emission records for EUBOILER#1, as required by SC I.6 and I.7.

The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1224, R 336.1225, R 336.2810, 40 CFR 52.21(c), (d), and (j))**

Condition Changes:
EUBOILER#1, SC VI.3

EIP Comment 23:
Material Limits. Limit on the chlorine content of railroad ties. Condition VI.3 is inadequate for purposes of assuring the facility's compliance with the chlorine limit because it instructs the permittee to obtain and keep records of chlorine content without specifying how chlorine content is to be determined.

AQD Response 23:
This condition evolved out of LWEC's failed HCl hourly stack test result, in September 2015, from its use of pentachlorophenol (PCP) railroad ties as a fuel. The 400-ppm chlorine limit is to show compliance that the company has discontinued its use of PCP-treated railroad ties. An EPA document identifies any tie with a chlorine content greater than 400 ppm is assumed to be treated with PCP. The reference of SC VI.3 as a monitoring/testing method was a typo in the draft ROP, the Monitoring/Testing Methods were updated in PTI No. 128-18. The Fuel Procurement and Monitoring Plan provides details on analyzing and monitoring the chlorine content of railroad ties.

Condition Changes:
EUBOILER#1, SC III.2,4,5,7, V.4 and VI.4

EIP Comment 24:
Maximum annual heat input (SC III.1, p. 16): The ROP must be amended to include an enforceable condition specifying exactly how the permittee must track and calculate heat input to demonstrate compliance with this requirement.

AQD Response 24:
See AQD Response 22 above. The maximum annual heat input is calculated by multiplying the BTU value of each fuel by the amount burned on a 12-month rolling time period. In order to show compliance with the daily and annual fuel usage limits contained in the permit, as well as the annual heat release to the boiler on an annual basis, LWEC is required to keep daily records on the amount of each fuel combusted and its heat content.

All records collected and produced must be done so in a format acceptable to the AQD and are audited/reviewed at least every two years by the AQD when the facility is inspected. Additionally, under their Renewable Operating Permit, LWEC is required to report any emission excursions to the AQD.

Condition Changes:
EUBOILER#1, SC VI.1 and 3

EIP Comment 25:
The permittee shall fire natural gas followed by other fuels during startup (Condition III.3, p. 16): The language of this condition needs to be amended to make it clear that only natural gas may be burned during startup. Requiring the permittee to "start with natural gas" and then follow with other fuels is ambiguous regarding when it is appropriate to switch to other fuels.

AQD Response 25:
During start-up, the boiler is fired on natural gas for approximately 4 to 6 hours to bring it up to temperature at which time additional fuel types can be added to bring the boiler up to operating temperature. The boiler cannot reach operating temperature on natural gas alone. In addition, the permittee shall not operate EUBOILER#1 unless an acceptable plan that describes how emissions will be minimized during all startups, shutdowns and malfunctions has been submitted

to the AQD District Supervisor. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices.

Condition Changes:
EUBOILER#1, SC III.4

EIP Comment 26:
Operate Boiler According to FPMP (SC III.4, p. 17): This provision requires the permittee to operate EUBOILER#1 "according to the FPMP" and specifically instructs the permittee to utilize the FPMP to ensure that only fuel as defined in the "material limits" is burned. To assure compliance with the applicable material limits, the ROP must specifically identify the various procedures that the permittee must implement to demonstrate compliance with the material limits.

AQD Response 26:
AQD Policy is supplemental plans to the ROP are considered free-standing documents that are not incorporated into the ROP to allow flexibility to submit plan revisions to the AQD for review and approval without going through a more formal and time-consuming process to incorporate future revisions into the ROP. If specific elements were to be included in the ROP and the plan(s) required revisions at a future date, the facility would have to submit an ROP minor modification application to make the change in the ROP. Note that minor modifications do not go through public comment.

EIP Comment 27:
Conditions pertaining to 40 CFR Parts 60 and Part 63 requirements: Throughout the draft ROP, permit conditions provide that the permittee shall apply with "applicable" requirements from Parts 60 and 63 without specifically identifying which of these provisions apply to the facility.

AQD Response 27:
To clarify conditions from 40 CFR Part 63, Subpart JJJJJJ, the flexible group FGBOILERMACT-6J was added. AQD made every attempt to include all conditions the facility is subject to; however, these conditions are added to ensure no applicable requirements were omitted.

Condition Changes:
Requirements from 40 CFR Part 63, Subpart JJJJJJ were added to the ROP in FGBOILERMACT-6J.

EIP Comment 28:
The sole emission limitation identified in the permit as being applicable to emission unit EUASH is a PM limit of 0.10 lb per 1000 lbs of exhaust gases. AQD must amend the permit to add monitoring designed to demonstrate compliance with this limit and explain in the narrative material accompanying the permit why the selected monitoring approach is sufficient to assure the facility's compliance with this limit at all times.

AQD Response 28:
The permittee has changed to a wet method for the disposal of ash from EUBOILER#1 and the ash silo and baghouse have been disconnected from the system. The PM limit for EUASH is now obsolete and was removed

EIP Comment 29:

EUASH, SC VI.2 requires the permittee to keep records and information as required by the Program for Continuous Fugitive Emissions Control. The requirements set forth in the Fugitive Dust Control Plan regarding ash handling lack sufficient specificity and monitoring to make them enforceable.

AQD Response 29:
EUASH was removed from the draft permit. The facility reconfigured the ash handling system, converting it to a wet ash removal system and disconnected the ash silo with baghouse control.

Olson, Bzdok & Howard comments

Olson Comment 1:
Undefined Terms: The CO emissions rate and VOC concentration allowed under the permit do not apply during "start-up" and "shut down." Those two terms are undefined, creating the possibility that the exception may be exploited for longer periods of time than intended. Similarly, Condition III.4 of the ROP discusses the identification and removal of "unacceptable" fuels but does not describe "unacceptable."

AQD Response 1:
The terms start-up and shutdown are defined in Act 451 of 1994, as Amended, Natural Resources and Environmental Protection Act and Air Pollution Control Rules, Part 1, R336.1119 Definitions; S.
Rule 119. As used in these rules:

(d) "Shutdown" means the cessation of operation of a source for any purpose.
(p) "Start-up" means the setting in operation of a process or process equipment for any purpose.

“Unacceptable fuels” are those materials not described in EUBOILER#1, Special Condition II. Material Limits and wood fuel treated with pentachlorophenol. The condition was modified in PTI No. 128-18 EUBOILER#1, SC III.5.

Olson Comment 2:
Missing and/or unenforceable limits: The description of EUBOILER#1 under EUBOILER#1 Emission Unit Conditions states that the maximum heat input is 324 million Btu/hr. However, the maximum heat input in the Process/Operational Restriction(s) section is only expressed as an annual limitation of 2,656,800 MMBTU per year. Without an explicit hourly heat input restriction, LWEC may comply with the annual limit but exceed a corresponding hourly limit, while creating conditions that may lead to emissions exceedances or other violations.

AQD Response 2:
Descriptions are not an enforceable condition. Although EUBOILER#1 has a nameplate rated capacity of 324 MMBTU/hour, it has an enforceable annual restriction on the maximum heat input to the boiler (2,656,800 MMBTU/year). The maximum heat input to EUBOILER#1 is 324 MMBTU/hour times 8,760 hours per year which calculates to 2,838,240 MMBTU/year. EUBOILER#1 is restricted to less than 94% of maximum heat input capacity.

Olson Comment 3:
In the 2015 comments, FOLK discussed at length the lack of enforceability of the area source provisions, stating that “It is not clear how the applicant will ensure compliance with the 20 tons/year limit for aggregate HAPs. It appears that this involves calculations, using emission factors.” The comment went on to apply EPA’s AP-42 emissions factors for various HAPs, which demonstrated potential HAPs levels of nearly 54 tons per year, more than double the amount suggested by LWEC’s analysis. This comment too remains valid, and with the addition of fuel pellets to the mix without set limits or conditions for the combustion of those fuels, calculations concerning aggregate HAPs become even more unreliable.

AQD Response 3:
To demonstrate compliance with the 20 tons/year limit for aggregate HAPs, LWEC is required to continuously monitor and record process parameters necessary to determine HCl emissions, in tons per year, using a compliance monitoring system (CMS). Also, stack testing is required for HCl, arsenic, lead, manganese, nickel, cresol isomers and VOC. If VOC emissions are greater than 9.0 tpy, emissions testing for styrene, benzene, acetaldehyde, and toluene is also required. Finally, the permit requires LWEC to calculate aggregate HAPs on a monthly and a 12-month rolling time period basis. These records are to be kept on file and made available to the AQD upon request.

Olson Comment 4:

Indefensible SO_2 and NOx emissions limits: Using the permitted emission limits for SO_2 and NOx, FOLK calculated annual allowable emissions for these pollutants in its 2015 comments (Ex. A) and compared those annual rates to other Michigan power generating facilities, and determined that, despite the company's efforts to cast its operations as a green biomass plant, LWEC is one of the worst offenders in Michigan with SO_2 and NOx emissions. Considering its relatively small size and output, such limits cannot be defended. Nevertheless, the same limits are again allowed in the current draft renewal.

AQD Response 4:
The commenter makes an assumption that LWEC continuously operates and emits pollutants at their permitted limit. Stack test results consistently show the facility's SO_2 and NOx emissions are well below their permitted emission limits. The most recent stack test results (September 2015) showed both pollutants were being emitted at less than half of the permitted limit.

Olson Comment 5:
No clear PM and PM2.5 limits: As pointed out in the 2015 comments, the draft ROP specifies limits for PM and PM10, but does not state whether those numbers include filterable and condensable fractions. Further, there are no specified limits for PM2.5, a critical criteria pollutant. These vague limits are unenforceable on their face.

AQD Response 5:
At the time AQD was reviewing PTI No. 168-07 there were no standards for PM2.5. EPA promulgated the final rules for PM2.5 on January 15, 2013. The AQD does not have authority to add emission limits through the ROP review. Also, the emission limit for PM is filterable only and PM10 includes both filterable and condensable particulate matter.

Olson Comment 6:
HCl emissions are an on-going concern.

AQD Response 6:
Pentachlorophenol-treated railroad ties were removed from the fuel mixture in late 2015, as part of an agreement between LWEC and the AQD, prior to entering a Consent Order and the issuance of PTI No. 67-16. Since the December 2015 memo the commenter quotes from, LWEC has conducted all but one of the stack tests required in the Consent Order to determine the HCl emission rate from the boiler, while firing a RR tie to wood chip ratio of 2:1. The results from the stack tests shows the company has returned to compliance by reducing their HCl emission rate to below the permitted limit. In addition, LWEC has installed a dry sorbent injection system as additional HCl control while burning engineered fuel pellets.

Olson Comment 7:
We note that except for CO, which is monitored using CEMS, none of the other major pollutants are monitored using CEMS. This is particularly egregious for SO_2 and NOx. These pollutants are routinely monitored using CEMS (and have been for at least that [sic] 20+ years) at most power plants including gas fired power plants, with emission[s] that are considerably smaller than what is allowed under the draft ROP for EUBOILER#1.

AQD Response 7:
Stack test history for SO_2 and NOx emission rates from the boiler has indicated compliance with the emission limits. In addition, the AQD has the regulatory authority to request additional testing and set the performance test criteria, per Rule 1003.

R 336.2003 Performance test criteria.

Rule 1003. (3) All performance tests shall be conducted while the source of air contaminant is operating at maximum routine operating conditions, or under such other conditions, within the capacity of the equipment, as may be requested by the department. Other conditions may include source operating periods of startup, shutdown, or such other operations, excluding malfunction, specific to certain sources. Routine operating conditions shall also include those specified within a permit to install or a permit to operate. The owner or operator shall make available to the department such records as may be necessary to determine the conditions of source operation that occurred during the period of time of the performance test.

Olson Comment 8:
Opacity limits are incongruent. In its 2015 comments, FOLK pointed out that sources covered under EUFUEL are subject to a 5% opacity limit (6-minute average) but the EUBOILER#1 is subject to a much weaker 20% opacity limit (with a 27% allowed exception). The same provisions are again stated in the current draft ROP. EUBOILER#1 is the largest source of emissions at LWEC, and no explanation is provided for this apparent leniency towards the greater offender.

AQD Response 8:
The AQD does not have the authority to change conditions from New Source Review (NSR) during the ROP renewal.

Olson Comment 9:
Testing occurs at less than full operating capacity. This issue was also raised in PFPI's 2016 comments: "*HCl and PM stack tests are invalid because they were conducted at less than maximum operating conditions "* Stack tests should be conducted under maximum operating conditions allowed under the air permit to ensure that the facility can comply with permit limits." LWEC has never been required to demonstrate compliance through testing at maximum operating conditions, and this remains a valid concern.

AQD Response 9:
Emission testing should be conducted at the maximum routine operating condition (see Rule 1003, above) of the process being tested or at a load representative of the operating capacity of the emission unit. In some situations, it is not possible to run emission tests at the maximum rated capacity of the emission unit because of process variables such as the physical age of the emission unit. The company has stated the boiler is not capable of operating at the production levels contained in the previous permit. A maximum throughput rate of 17 tons per hour of railroad ties has been added to the permit to better reflect the boiler capacity. The latest comprehensive emission testing done at LWEC, in July 2016, was required by the USEPA. The USEPA approved the boiler load and fuel feed rates in the test protocol. One of the items evaluated as part of the testing protocol was the load at which the boiler was operating, and the ratio of the different fuels being fed into the boiler during the test. The throughput rates and operating load were determined by the USEPA to be representative of normal operation for purposes of showing compliance with permit limits.