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TECHNICAL SUPPORT DOCUMENT
For
DRAFT/PROPOSED AIR EMISSION PERMIT NO. 05301187-001

This Technical Support Document (TSD) is intended for all parties interested in the draft/proposed permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft/proposed permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 4911)
Midtown Eco Energy LLC 433 South 7th Street Minneapolis, MN 55415	2850 20th Avenue South Minneapolis Hennepin County
Contact: Michael Krause Phone: 612-229-7702	

1.2. Description of the Permit Action

The Midtown Eco Energy project will be a 24.5 MW gross generation biomass plant, located in Minneapolis. It will be located at what is currently a solid waste transfer station. The facility will consist of a 358.6 MMBtu/hr wood-fired Main Boiler, an emergency generator, a cooling tower and wood handling equipment. The facility will generate power that can be sold to the grid; the facility also could produce steam to supply steam heating needs in the area. For the fuel for the Main Boiler, the facility will use wood residue, such as wood chips and tree trimmings, which would otherwise be landfilled. Control equipment for the boiler will include a baghouse to control Particulate Matter (PM) emissions and a Selective Noncatalytic Reduction (SNCR) system for Nitrogen Oxides (NO_x) control. PM emissions from the wood handling equipment will be controlled by baghouses.

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	36	65	40	160	160	27	30	56

Table 2. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	X		
Part 70 Permit Program	X		
Part 63 NESHAP	X		

2. Regulatory and/or Statutory Basis

New Source Review

The facility will be a major source under New Source Review regulations. The facility is a new major stationary source, and is a listed source, specifically, a fossil fuel fired steam electric plant of more than 250 MMBtu/hr, under the Prevention of Significant Deterioration (PSD) rules. The threshold to be considered a major source for listed sources is 100 tpy of any PSD pollutant. An applicability analysis, Best Available Control Technology (BACT) analysis, ambient air impacts analysis, and additional impacts analysis were performed as required by the PSD rules.

Part 70 Permit Program

The facility will be a major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

The facility will have emission units subject to NSPS. The Main Boiler will be subject to NSPS Subpart Db for Industrial-Commercial-Institutional Steam Generating Units; and the Emergency Generator will be subject to NSPS Subpart IIII for Stationary Compression Ignition Internal Combustion Engines.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility will be a major source of Hazardous Air Pollutants (HAP). The Main Boiler will be subject to NESHAP Subpart DDDDD, for Industrial, Commercial, and Institutional Boilers and Process Heaters. *(Note: at the time of the public notice for this permit, the NESHAP is still effective. There has been a recent U.S. Court of Appeals (No. 04-1385) decision pertaining to U.S. Environmental Protection Agency's (EPA) rules based on Sections 112 and 129 of Clean Air Act. It is possible that the NESHAP will be vacated prior to the time the permit is issued.)*

The Emergency Back-up Generator is subject to NESHAP Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines.

Clean Air Interstate Rule (CAIR)

On March 10, 2005, the EPA adopted a new rule to address the interstate transport of air pollutants known as the Clean Air Interstate Rule (CAIR). CAIR is a cap and trade program that will permanently cap emissions of SO_2 and NO_X in the eastern United States and achieves large reductions of SO_2 and/or NO_X emissions across 28 eastern states and the

District of Columbia. In Minnesota, CAIR applies for fine PM only, and not for ozone. Affected sources are all fossil fuel-fired electric generating units with a nameplate capacity of greater than 25 MW. The Midtown nameplate capacity is less than 25 MW.

Compliance Assurance Monitoring (CAM)

The Main Boiler is subject to CAM. The boiler is considered a large Pollutant Specific Emissions Unit (PSEU), i.e. it is an emission unit with potential *controlled* emissions equal to or greater than 100 percent of the major source threshold for any given regulated pollutant. The potential controlled emissions from the boiler for PM, PM_{10} and NO_x are all over 100 tpy, and thus could be subject to CAM. The table below describes CAM applicability for each of the pollutants and limits.

The remaining emissions units at the facility are not considered large PSEU, since controlled emissions are less than 100 tpy. Thus, they may be subject to CAM at time of reissuance of the permit, but not at this time.

Emission Unit	**Pollutant and control equipment type**	**Source of limit**	**Subject to CAM?**	**CAM monitoring**
EU 001 Main Boiler	PM, controlled by baghouse	NESHAP	Exempt from CAM	
	PM, controlled by baghouse	NSPS	Subject to CAM	Use of COMS
	PM, controlled by baghouse	BACT	Subject to CAM	Use of COMS
	PM_{10}, controlled by baghouse	BACT	Subject to CAM	Bag leak detector; use of COMS
	NO_x, controlled by SNCR	NSPS	Exempt from CAM due to requirement to use CEMS	
	NO_x, controlled by SNCR	BACT	Exempt from CAM due to requirement to use CEMS	

Environmental Review

This project is not subject to an Environmental Assessment Worksheet (EAW) under Minn. R. 4410.4300. The project does not increase the emissions of any air pollutant by 250 tons per year or more which would trigger a mandatory EAW under Minn. R. 4410.4300, subp. 15. The applicant was directed to perform an Air Emissions Risk Analysis because air emissions of at least one criteria pollutant are expected to be greater than 100 tons per year after the use of control equipment.

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Table 3. Regulatory Overview of Facility

EU, GP, or SV	Applicable Regulations	Comments:
EU 001 Main Boiler	40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set for PM, PM_{10}, VOC, CO, NO_x, and SO_2. Modeling was performed for PM_{10}, CO, NO_x and SO_2; modeled parameters are included in Appendix C of the permit, and must be maintained.
	40 CFR pt. 63, subp. DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. The boiler is a new, large, solid-fuel boiler, and has heat input capacity > 100 MMBtu/hr. Therefore, the standard requires CO CEMS and continuous opacity monitoring system (COMS). Fuel analysis and/or performance tests to measure mercury and HCl are also required. However, the Permittee may choose to demonstrate eligibility for the health-based compliance alternative for the HCl limit. The facility is choosing to use PM rather than TSM; thus the PM limit from the NESHAP standard, and requirement to do annual testing, are incorporated into the permit.
	40 CFR pt. 60, subp. Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. The boiler is subject to this standard; the heat input capacity is greater than 100 mmBtu/hr and the fuels combusted are natural gas and wood. There are PM, opacity and NO_x emission limits applicable to the boiler. The NSPS requires a NO_x CEMS and a COMS. Due to the fuel type, there is not a numeric SO_2 emission limit, but just a requirement to keep record of fuel types burned.
EU 003	40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set for PM,

Emergency Back-up Generator		PM_{10}, VOC, CO, NO_x, and SO_2.
	40 CFR pt. 60, subp. IIII	NSPS Subpart IIII for Stationary Compression Ignition Internal Combustion Engines
	40 CFR pt. 63, subp. ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The only applicable requirement from this standard is to submit an initial notification., since the generator will operate exclusively as an emergency generator.
EU 005, 006, 007, 008 Nuisance Dust Systems	40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set for PM and, PM_{10}.

The language 'This is a state-only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act' refers to permit requirements that are mandated by state law rather than by the federal Clean Air Act. The language is to clarify the distinction between permit conditions that are required by federal law and those that are required by state law. State law requirements are not enforceable by EPA or by citizens under the federal Clean Air Act, but are fully enforceable by the MPCA and citizens under provisions of state law.

3. Technical Information

3.1 Prevention of Significant Deterioration Analysis

3.1.1 *Applicability Analysis*

The Midtown facility will be a new major stationary source under New Source Review regulations. The facility is a new major stationary source, and is a listed source, specifically, a fossil fuel fired steam electric plant of more than 250 MMBtu/hr, under the PSD rules. The threshold to be considered a major source for listed sources is 100 tpy of any PSD pollutant. Therefore, the project is subject to a PSD analysis. A PSD analysis consists of several parts: an Applicability Analysis, a BACT Analysis, an Ambient Air Quality Analysis, and an Additional Impacts Analysis.

An Applicability Analysis is performed to compare project emissions increases with the PSD thresholds to determine which pollutants are subject to further review. The analysis is done by comparing the facility potential to emit for each pollutant to its associated significant emission rate threshold. Pollutants with emissions equal to or greater than the threshold are subject to further PSD review.

This table shows that emissions of PM, PM_{10}, SO_2, NO_x, and CO are at or over the thresholds and subject to further PSD review.

PSD Pollutant	Projected PTE	PSD Significant Emission Rate
PM	36	25
PM_{10}	65	15
SO_2	40	40
NO_x	160	40
CO	160	100
VOC	27	40
Lead	7.7E-03	0.6
H_2SO_4	0.6	7

3.1.2 *Best Available Control Technology Analysis*

The PSD analysis requires that a BACT Analysis be performed for each of the pollutants over the threshold shown in the table above, and for each of the emission units in the project. The emission units and its associated PSD pollutants evaluated in the BACT analysis are:

Main Boiler – PM, PM_{10}, NO_x, CO and SO_2

Emergency Back-Up Diesel Generator – PM, PM_{10}, NO_x, CO and SO_2

Nuisance Dust Ventilation System – PM and PM_{10}

The selected BACT control technology and emission limits are summarized below:

Emission Unit	Pollutant	Emission Limit	Control Technology
EU 001 Main Boiler	PM	0.019 lb/mmBtu	Fabric Filter (baghouse)
	PM_{10}	0.038 lb/mmBtu	Fabric Filter (baghouse)
	NO_x	0.10 lb/mmBtu on a 24-hr rolling average	Selective Non-Catalytic Reduction, low NO_x burners and Flue Gas Recirculation
	CO	0.10 lb/mmBtu on a 24-hr rolling average	Good Combustion Practices
	SO_2	0.20 lb/mmBtu	Use of low-sulfur fuels (natural gas, wood)
EU 003 Emergency Back-Up Diesel Generator	PM and PM_{10}	0.00044 lb/kW-hr	Good combustion practices; equipment design
	NO_x	0.014 lb/kW-hr	Good combustion practices; equipment design
	CO	0.0077 lb/kW-hr	Good combustion practices;

			equipment design
EU 005 –EU 008 Fuel handling and processing equipment	PM and PM_{10}	0.0035 gr/dscf	Fabric Filter

The fabric filter, selected as BACT control for PM and PM_{10} for the boiler, is the top technically feasible option. SNCR was selected as BACT. Selective catalytic reduction (SCR) was also considered, but was determined to not be technically feasible. Controls considered for Carbon Monoxide (CO) included catalytic oxidation, which was not considered technically feasible, and thermal oxidation, which was determined to be not cost effective; thus, good combustion control with a limit of 0.10 lb/mmBtu was selected as BACT. Midtown also evaluated absorbers for SO_2 control, which were considered technically feasible, but which were determined to not be cost effective. Use of low-sulfur fuels, i.e. natural gas and wood, along with a limit of 0.20 lb/mmBtu, was selected as the SO_2 BACT. Separate BACT analyses for natural gas combustion were not conducted; natural gas combustion will take place in igniters and will generally be limited to boiler startup.

The EPA RACT/BACT/LAER Clearinghouse (RBLC) was surveyed to identify control technologies for the emergency back-up generator. The results indicated that BACT was identified as good combustion practices or that there was no feasible control. No additional search for control technologies was conducted, due to the fact that the cost of employing control technology would be obviously excessive in relation to the removal, since the annual emissions are expected to be low, given the limited number of hours of operation of the generator.

The BACT analyses are attached to this document.

3.1.3 *Ambient Air Quality Analysis*

Based on the results of the applicability analysis, air impacts analysis was required for NO_x, CO, and PM_{10}. The analysis is conducted to evaluate whether emissions from the facility would cause or contribute to a violation of the Minnesota and National Ambient Air Quality Standards (MAAQS and NAAQS). Modeling is first conducted to determine whether emissions from the facility alone would predict ambient concentrations above the PSD Significant Impact Levels (SIL). The predicted maximum concentrations from the modeling are less than the SILs and therefore no further ambient air quality analyses were required.

The results of the preliminary analysis indicated that the SO_2 annual results are below the respective SIL; therefore, no additional modeling was needed for the SO_2 annual analysis. Full analysis was required for NO_x, and for SO_2 for 1-hour, 3-hour, and 24-hour averaging periods. A summary of the National Ambient Air Quality Standards (NAAQS) and Minnesota Ambient Air Quality Standards (MAAQS) modeling results for NO_x, and SO_2 are given below:

Pollutant	Averaging Period	Maximum Predicted Impacts ($\mu g/m^3$)	PSD Significant Ambient Impact Level ($\mu g/m^3$)
NO_x	Annual	0.71	1
PM_{10}	24-Hour	3.5	5
	Annual	0.72	1
CO	1-Hour	18	2000
	8-Hour	11	500

3.1.4 *Additional Impact Analysis*

An Additional Impacts Analysis was required to be performed as part of the PSD process. The impacts from the project and associated growth to soils, vegetation, and visibility are evaluated in the analysis. There are not expected to be significant impacts to growth or construction associated with the facility. There will be an increase in employment associated with the construction, and there will be a need for approximately 20 full-time employees to operate the facility. It is expected that the labor needs can be satisfied from the local workforce. The site where the facility will be located is currently an industrial site which is essentially free of vegetation. There is not expected to be an adverse effect on soils and vegetation in the area due to this project. Visibility was considered in the Additional Impact Analysis. There are no Class 1 areas within 200 kilometers of the facility and the ambient air analysis showed that the predicted impacts from the facility are below the PSD significant impact level; thus, the facility would not be anticipated to have an adverse impact on visibility. Traffic was also addressed in the Additional Imacts Analysis. Although the vehicle type will differ from what exists with the current operations, the traffic volume and overall impact is expected to decrease.

3.2 Air Emissions Risk Analysis

The Permittee was required to perform an Air Emissions Risk Analysis (AERA) for the project. Although an environmental assessment was not required for the project, air emissions are expected to be greater than 100 tons per year of at least one criteria pollutant after the use of control equipment; thus an AERA was required as required by MPCA policy.

The AERA is a standardized screening to assess risk to human health from air emissions from a facility. The AERA examines the risk of potential health effects from air emissions from an individual industrial facility and includes both a quantitative and a qualitative facility review. The quantitative analysis consists of evaluating emission rates, toxicity data, and air dispersion modeling to generate a risk estimate. The qualitative analysis focuses on issues such as the facility's proximity to local residences, safety factors used in emission calculations, hours of operation, and actions the company will take to minimize risk (e.g. fencing a property boundary to restrict public access or changing out equipment to less polluting units). The quantitative and qualitative elements of a project are considered together in developing a picture of the facility's operating scenario and its potential to pose risk to human health. An AERA generates a risk estimate based on exposure to

chemicals, toxicity of chemicals, the amount and types of chemicals emitted, and the location of the facility in relation to nearby residences.

The AERA results in a MPCA staff conclusion as to whether or not the analysis is adequate and a recommendation as to whether permitting should include any actions to assure protection of the public health. The managers then use this information to make "risk management" decisions that are addressed in an EAW or a permit.

The AERA Impact Analysis Summary and the Risk Managers Decision Document are attached to this document. The Permittee completed the AERA in accordance with MPCA guidance and the risks calculated are considered acceptable. Acute and chronic noncancer risks are within the acceptable ranges. The farmer cancer risk is above the usually accepted range; however, the farmer exposure path is not likely to be realized in Midtown's urban setting so actual risks may be lower than this estimate. The AERA included components in addition to those normally evaluated in an AERA, specifically the mercury fish consumption risk modeling and the comparison of nearby monitoring data and mobile source emissions. Further analysis is not likely to provide conclusive additional information at this time. The Risk Managers recommended that the permit include requirements for stack testing of dioxins, mercury, and PAHs, and fuel analysis for mercury, to confirm emission estimates used in the AERA and because limited data is currently available for combustion of biofuels.

3.3 Calculations of Potential to Emit

Attached to this TSD are a summary of the PTE of the Facility, and the spreadsheets showing the PTE calculations. Criteria PTE calculations were primarily based on permit limits, which in turn were derived from BACT, NSPS or NESHAP limits. In cases where the calculations were not based on permit limits, they were based on AP-42 emission factors.

Emission rates for the air toxics were generally calculated using AP-42 emission factors and the maximum operating capacity of the emission units. For metals, the effect of dry control, i.e. electrostatic precipitators and fabric filters, was considered. The consultant looked at the background data used to develop the AP-42 emission factors, and calculated the 95 percent Upper Confidence Level (UCL) value using the dry control data subset of background data. For pollutants with less than 4 data points, the maximum was evaluated in place of the 95 percent UCL. The emission factor used in calculating emission estimates was the lower of the AP-42 value or the 95 percent UCL value.

In addition to AP-42, the California Air Toxics Emission Factor (CATEF) Database was surveyed by the consultant for emission factors for acrolein, dioxins, and furans for wood-fired boilers. Also, acrolein data presents a challenge due to the general uncertainty associated with the test method, therefore the consultant gathered additional data from technical bulletins from the National Council for Air and Stream Improvement (NCASI) for emission factors for acrolein

for wood-fired boilers. The data from CATEF and NCASI were used in addition to the AP-42 data to determine the 95 percent UCL emission factor.

3.2 Periodic Monitoring

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 4. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
EU 001 Main Boiler	PM ≤ 0.019 lb/mmBtu (BACT limit;) PM ≤ 0.030 lb/mmBtu (NSPS Subp. Db limit) PM: ≤ 0.025 lb/mmBtu (NESHAP Subp. DDDDD limit)	Annual performance testing for PM Baghouse O&M Opacity monitoring can be used as indicator	The NESHAP requires annual testing for PM, which is regulated as an alternative to total selected metals). EU 001 is a large PSEU for PM, with a baghouse as control equipment, and thus is subject to continuous monitoring. This is accomplished through use of COMS. An excursion value for the opacity as measured by the COMS has been established and is listed at CE 001; an excursion is not considered a deviation.
	PM_{10} ≤ 0.038 lb/mmBtu (BACT limit; limits used in modeling)	Annual performance testing for PM10 Baghouse O&M Opacity monitoring can be used as indicator	Annual testing is required to be consistent with the PM NESHAP requirement, and because limit is a BACT limit. EU 001 is a large PSEU for PM_{10}, with a baghouse as control equipment, and thus is subject to continuous monitoring. This is accomplished through use of bag leak detector and COMS.
	Opacity: ≤ 20% with exception (NSPS Subp. Db) Opacity: ≤ 10%, 1-hr average	COMS	Both the NSPS and the NESHAP require COMS. In addition, the COMS will also be used as part of the CAM for the PM and PM_{10} emission limits.
	NO_x ≤ 0.10 lb/mmBtu, 24-hr ave. (BACT limit; limits used in modeling) NO_x ≤ 0.20 lb/mmBtu, 30-day rolling ave) (NSPS Subp. Db limit)	CEMS Control equipment (SNCR) O&M	The NSPS requires CEMS for NO_x monitoring. Use of a CEMS exempts the emission unit from CAM for NO_x.

CO ≤ 0.10 lb/mmBtu, 24-hr rolling ave. (BACT limit) CO ≤ 400 ppm; (NESHAP Subp. DDDDD)	CEMS	The NESHAP requires CEMS for CO monitoring for large, solid-fueled boilers.
SO_2 ≤ 0.20 lb/mmBtu (BACT limit, NSPS limit)	Performance testing	An initial performance test is required, and then a Testing Frequency Plan will be submitted to set the frequency for continued testing. The fuel type, i.e. wood, generally does not produce high amounts of SO_2 emissions.
Hg ≤ 0.000003 lb/mmBtu (NESHAP Subp. DDDDD)	Performance testing and/or fuel analysis	The NESHAP gives the facility the option of conducting an initial performance test or a fuel analysis. If the Permittee chooses the performance test option, testing is done on an annual basis; the fuel analysis is done every 5 years. In addition the Permittee must only burn the fuel types and mixtures used to demonstrate compliance. The Risk Manager decision for the AERA, requires Midtown to perform both the initial performance test and initial fuel analysis.
HCl ≤ 0.02 lb/mmBtu (NESHAP Subp. DDDDD)	Performance testing, fuel analysis, or health-based compliance alternative (HBCA)	The NESHAP gives 3 options for demonstrating compliance with the HCl limit. If the Permittee chooses the performance test option, testing is done on an annual basis; the fuel analysis is done every 5 years. In addition the Permittee must only burn the fuel types and mixtures used to demonstrate compliance. If the HBCA is used, specific permit conditions would be set based on the review of the HBCA.
Ammonia Slip ≤25 ppm	Annual performance testing	

	Fuels Allowed: The fuels are limited to natural gas, and wood residue and wood products (e.g. trees, tree stumps, tree limbs, bark, lumber, sawdust, sanderdust, chips, scraps, millings and shavings); and silvicultural materials, such as logging residues (slash) and orchard prunings.	Recordkeeping	Initially, the intent was to allow Midtown to also burn unadulterated wood (defined as wood products that have not been painted, pigment-stained or pressure treated with compounds such as chromate copper arsenate, pentachlorophenol, and creosote. Plywood, particle board, and oriented strand board, and other types of wood products bound by glues and resins are included in this definition of unadulterated wood). However, the permit limits fuel types to exclude the unadulterated wood as defined here although the permitting analysis did originally consider these fuel types. The permit also allows for a process to conduct stack tests to evaluate other fuel types.
EU 003 Emergency Generator	PM ≤ 0.00044 lb/kW-hr (BACT limit, NSPS subp. IIII)	Fuel type restriction; O&M; monitoring of hours of operation	Equipment vendors must test and certify that the engines they sell meet the standards. Permittees must follow vendor specifications on O&M.
	PM_{10} ≤ 0.00044 lb/kW-hr (BACT limit; limits used in modeling)	Fuel type restriction; O&M; monitoring of hours of operation	Midtown is required to obtain certification from the equipment vendor that engine will meet the limit
	CO ≤ 0.0077 lb/kW-hr NO_x ≤ 0.014 lb/kW-hr (BACT limit, limits used in modeling; NSPS subp. IIII)	Fuel type restriction; O&M; monitoring of hours of operation	Midtown is required to obtain certification from the equipment vendor that engine will meet the limit
	SO_2 ≤ 0.5 lb/mmBtu; Opacity ≤ 20% (Minn. R. 7011.2300)		
EU 005, EU 006, EU	PM, PM_{10} ≤ 0.0035 gr/dscf	Daily pressure drop measurement and	

007, EU 008 (Silo 1 & 2, Chipper, Metering Bins, Receiving Hopper)	(BACT limits; limits used in modeling) Opacity ≤ 20% (Minn. R. 7011.0715)	visibility emission recording. Initial performance test; testing frequency plan to be submitted to set additional testing needs.	
EU 008	Operating Hours ≤12 hr/day, 6 days/week (limits used in modeling)	Recordkeeping	

3.3 Insignificant Activities

The only operation which would be classified as an insignificant activity is a cooling tower. This is listed in Appendix B to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activity at this Facility is only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities.

Table 5. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Individual units with actual emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity ≤ 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.0610)	The calculated PTE is quite low, and is unlikely to exceed the rule limit. Also, testing from the cooling tower would not be feasible.

3.4 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. The emission unit specific requirements are listed at the Emission Unit (EU) level. Associated control equipment and continuous monitor equipment requirements are listed at the applicable CE and MR. There are three appendices to the permit, which are fully enforceable parts of the permit. The appendices include a list of insignificant activities, a list of modeled parameters used in the PSD modeling, and a list of parameters used in the modeling for the AERA.

3.8 Endangered Species Act (ESA) Consultation

Because this project is subject to PSD review, consultation under Section 7 of the Endangered Species Act is also required. Construction authorization and the final permit will not be issued until the MPCA has been informed that the consultation process between the EPA and the U.S. Fish & Wildlife Service has been completed.

3.5 Comments Received

Public Notice Period: <start date> - <end date>
EPA 45-day Review Period: <start date> - <end date>

4. Conclusion

Based on the information provided by Midtown Eco Energy, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit
No. 05301187-001, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Paula Connell (permit writer/engineer)
Suzanne Venem (enforcement)
Curt Stock (stack testing)
Bruce Braaten (peer reviewer)

AQ File No. 4335; DQ 1320

Attachments:
1. PTE Summary and Calculation Spreadsheets
2. Facility Description and CD-01 Forms
3. BACT Analyses
4. AERA Impact Analysis Summary and the Risk Managers Decision Document
5. CAM Plan