

**ANALYSIS AND PRELIMINARY DETERMINATION FOR THE CONSTRUCTION PERMIT  
FOR THE PROPOSED MODIFICATION  
OF FOUR EXISTING NATURAL GAS-FIRED COMBUSTION TURBINESAND**

**ANALYSIS AND PRELIMINARY DETERMINATION FOR THE  
SIGNIFICANT REVISION OF OPERATION PERMIT 246004000-P20**

**FOR  
WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES-PORT WASHINGTON,  
LOCATED AT  
146 S WISCONSIN ST,  
PORT WASHINGTON, OZAUKEE COUNTY, WISCONSIN**

Construction Permit No.: 15-RSG-102  
Significant Operation Permit Revision No.: 246004000-P21  
Facility ID No.: 246004000

This review was performed by the Wisconsin Department of Natural Resources, Southeast Region Air Program, Sturtevant Service Center in accordance with Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code.

Reviewed by: Steve Dunn by SDD Date: 12/22/15

Peer review conducted by: SDD for POY Date: 12/

<b>Preliminary Determination Approved by:</b>	<b>Signature</b>	<b>Date</b>
Regional Supervisor or Central Office Designee:	Dan Schramm (DS 12/22/15)	12/22/15
Stationary Source Modeling Team Leader:	SDD for EH	12/22/15
Compliance Engineer (reviewed/approved):	SDD for Ron Dillahunt	12/22/15

cc: Ronald Dillahunt - Southeast Region Air Program, Plymouth Service Center

## INTRODUCTION

Stationary sources that are not specifically exempt from the requirement to obtain a construction permit under s. 285.60(5), Wis. Stats. or ch. NR 406, Wis. Adm. Code may not commence construction, reconstruction, replacement, relocation or modification unless a construction permit for the project has been issued by the Department of Natural Resource's (DNR's) Air Management Program. Owners or operators subject to the construction permit requirements must submit a construction and operation permit application to the DNR. The application is reviewed following the provisions set forth in ss. 285.60 to 285.67, Wis. Stats. The criteria for permit issuance vary depending on whether the source is major or minor and whether the source is or proposed to be located in an attainment or nonattainment area.

Subject sources are to be reviewed with respect to the equipment and facility description provided in the application and for the resulting impact upon the air quality. The review ensures compliance with all applicable rules and statutory requirements. The preliminary determination will show why the source(s) should be approved, conditionally approved, or disapproved. It will encompass emission calculations and an air quality analysis using US EPA models, if applicable. Emissions from volatile organic compound (VOC) sources and small sources whose emissions are known to be insignificant are normally not modeled. As a precautionary note, the emission estimates are based on US EPA emission factors (AP-42) or theoretical data and can vary from actual stack test data.

A final decision on the construction permit and significant operation permit revision will not be made until the public has had an opportunity to comment on the Department's analysis, preliminary determination and draft permit. A final decision on the revision will not be made until the public has had an opportunity to comment on the Department's analysis, preliminary determination and draft permit. After all comments have been considered, a proposed permit will be drafted and sent to the United States Environmental Protection Agency (US EPA) for a 45-day review period. Any person may petition the US EPA under 40 CFR part 70.8(d) within 60 days after the expiration of the 45-day review period to make an objection to the permit. Unless the US EPA objects in writing to the issuance of the permit as proposed within that 45-day period, the Department will issue the final permit as proposed. The conditions proposed in the draft permit may be revised in any final permit issued based on comments received or further evaluation by the Department.

## GENERAL APPLICATION INFORMATION

Owner/Operator: Wisconsin Electric Power Company D/B/A We Energies-Port Washington  
146 S Wisconsin St  
Port Washington, WI 53074-2222

Responsible Official: Terry Hoffman  
Asset Manager Pw

Application Contact Person: Bob Greco, Manager, Air Quality

Application Submitted By: Bob Greco, Manager, Air Quality

Application submittal date: June 30, 2015

Additional Information Submitted: November 19, 2105; November 20, 2015 and December 19, 2015

Date of Complete Application: July 20, 2015

**PROJECT DESCRIPTION**

The Port Washington Generating Station is a nominal 1,090-megawatt natural gas-fired electric generating station consisting of two similar electric generating units. Each unit consists of two combustion turbine generators (CTG) and one steam turbine electric generator. Each CTG is equipped with a heat recovery steam generator (HRSG) which provides steam to the steam turbine common to that unit. Each HRSG is equipped with duct burners for supplemental natural gas firing, oxidation catalysts for the control of carbon monoxide (CO) and organic compound (VOC) emissions, and selective catalytic reduction (SCR) systems for the control of nitrogen oxides (NOx) emissions.

We (WE) Energies is proposing two projects, the Advanced Gas Path (AGP) Project and the Duct Burner Pyro- Bloc Project. The work proposed for the AGP will provide improved materials, design, and extended component life of the CTGs by replacing the existing turbine components exposed to hot combustion gases with new, improved components. The new turbine components are expected to allow for increased firing temperatures and result in improved turbine efficiency and increased electric output. At design conditions, the output of each CTG is expected to increase from approximately 169 MW to approximately 180 MW, and the overall power block heat rate is expected to improve by about 0.9%. The Duct Burner Pyro-Bloc Project will include changes to the HRSG insulation downstream of the duct burner to prevent insulation problems from limiting utilization of the duct burners. The Pyro-Bloc insulation is a ceramic fiber system designed for high temperature furnaces.

**Other Actions:**

This construction permit will also be processed as a significant revision to operation permit 246004000-P20.

**SOURCE DESCRIPTION**

The Port Washington Power plant is located in Port Washington, WI at 146 South Wisconsin St. on the west shore of Lake Michigan. The site includes the plant proper which houses the boilers, turbines, and electrical switching equipment. West of the plant proper is the electrical substation which connects the plant to the electrical distribution system. The plant is bounded by farming areas on the south, residential areas on west, Lake Michigan on the east, and a commercial area and harbor on the north. An unnamed creek runs through the property from the southwest to the harbor. Sauk Creek runs east, parallel to the north property line, to the harbor. The Port Washington Power Plant is located in an attainment area for all criteria pollutants.

**Description of New or Modified Units.**

**Emission Unit Information.**

Boiler/furnace number [or process line, etc.]:	P11, P12, P21, P22
Unit description:	Combustion turbines
Control technology status:	SCR and oxidation catalyst
Maximum continuous rating (mmBTU/hr):	2,250 for each turbine and 371 for each duct burner
Date of construction or last modification:	2/12/2002
Construction Permit Requirements:	

**Stack Information.**

**Stack Information.**

Stack identification number:	S11, S12, S21 and S22
Exhausting unit(s):	P11; P12; P21 and P22
This stack has an actual exhaust point:	Y
Discharge height above ground level (ft):	210
Inside dimensions at outlet (ft):	19
Exhaust flow rate (normal) (ACFM):	1,141,000
Exhaust flow rate (maximum) (ACFM):	1,352,900
Exhaust gas temperature (normal) (°F):	180
Exhaust gas temperature (maximum) (°F):	180
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

**Fuels and Firing Conditions.**

	Fuel name	Higher heating value	Max. sulphur content (wt%)	Max. ash content (wt%)	Max. hourly consumption	Actual yearly consumption
Primary Fuel	Natural gas	1020 Btu/scf	Neg.	Neg.		

**Stack Parameter Summary For Stacks Included in Permit 15-RSG-102.**

Stack ID	Actual Exhaust Point or Fugitive	Circular or Rectangular	Discharge Direction	Exhaust Obstacle	Diameter or Width (if rect.)	Length (if rect.)	Height	Temp.	Normal Flow Rate	Maximum Flow Rate
			U, D, H	Yes/No	ft (m)	ft (m)	ft (m)	°F	ACFM	ACFM
S11	Actual	Circular	U	No	19	N/A	210	180	1,141,000	1,352,900
S12	Actual	Circular	U	No	19	N/A	210	180	1,141,000	1,352,900
S21	Actual	Circular	U	No	19.00 (5.79)	N/A	210	180.00	1,141,000	1,352,900
S22	Actual	Circular	U	No	19.00 (5.79)	N/A	210	180.00	1,141,000	1,352,900

**Insignificant Emissions Units**

None added under this permitting action.

**CROSS MEDIA IMPACTS**

None expected.

**EMISSION CALCULATIONS.**

Baseline emissions for the turbines were calculated as follows:

CO: CEM data

NO<sub>x</sub>: CEM data

PM/PM<sub>10</sub>/PM<sub>2.5</sub>: WE has suggested using the highest PM rate measured for one of the turbines in recent stack tests as the baseline emissions. While this could overstate baseline emissions, as long as it is used for estimating future actual emissions, the highest figure yields the highest increase in emissions versus using a lower figure. Thus, this will be acceptable.

SO<sub>2</sub>: 40CFR Part 75 reporting

Lead: AP-42 emission factor

VOC: highest measured emissions.

Sulfuric acid mist: sulfur dioxide reported rate times 1.5 to account for difference in molecular weight.

GHG: emission factors for natural gas combustion

Using these methodologies, the applicant has calculated baseline emission for each pollutant for the 12/11-11/13 period. The emissions are as follows for each unit:

P11, S11

Pollutant	Baseline emissions (tons/year)
CO	18.2
NO <sub>x</sub>	40.6
PM	17.9
PM <sub>10</sub>	17.9
PM <sub>2.5</sub>	17.9
SO <sub>2</sub>	2.2
VOC	2.9
Sulfuric acid mist	3.3
Lead	0.0018
GHG	434,169

P12, S12

Pollutant	Baseline emissions (tons/year)
CO	14.4

NO <sub>x</sub>	38.6
PM	18.1
PM <sub>10</sub>	18.1
PM <sub>2.5</sub>	18.1
SO <sub>2</sub>	2.2
VOC	2.9
Sulfuric acid mist	3.3
Lead	0.0018
GHG	438,311

P21, S21

Pollutant	Baseline emissions (tons/year)
CO	23.5
NO <sub>x</sub>	46.7
PM	18.7
PM <sub>10</sub>	18.7
PM <sub>2.5</sub>	18.7
SO <sub>2</sub>	2.3
VOC	3.3
Sulfuric acid mist	3.5
Lead	0.0019
GHG	452,854

P22, S22

Pollutant	Baseline emissions (tons/year)
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CO	22.1
NO <sub>x</sub>	44.1
PM	18.9
PM <sub>10</sub>	18.9
PM <sub>2.5</sub>	18.9
SO <sub>2</sub>	2.3
VOC	3.3
Sulfuric acid mist	3.5
Lead	0.0019
GHG	458,255

In the projection of future actual emissions, the applicant has run the PROMOD model to determine how the units are projected to operate with the project in-place and without the project in-place. PROMOD is a commercial model used by electric utilities to project the operation of their generation units. The Department believes this is a reasonable method of projecting future actual usage of the turbines.

The model has projected the following higher total heat inputs to each turbine with and without the proposed project for the next 10 years:

Unit	Projected heat input without project (MMBtu/year)	Projected heat input with project (MMBtu/year)	Difference in heat input (MMBtu/year)
P11	12,684,560	13,169,148	484,588
P12	12,684,560	13,169,148	484,588
P21	10,525,704	10,934,464	408,760
P22	10,525,704	10,934,464	408.760

For calculating future actual emissions, the ratio of past heat input to future heat input will be used. This is based on future emission being equal to past emissions on a pounds/MMBtu basis

Unit	baseline heat input (MMBtu/year)	Projected heat input with project (MMBtu/year)	Future heat input to baseline heat input
P11	7,298,301	13,169,148	1.8
P12	7,367,905	13,169,148	1.79
P21	7,613,436	10,934,464	1.44
P22	7,703,302	10,934,464	1.42

Assuming emission rates for each pollutant will be the same in the future as they were during the baseline period, the future emission may be calculate by ratioing these heat input numbers and multiplying by the actual baseline emissions. For each turbine those emissions are as follows:

P11, S11

Pollutant	Future actual (tons/year)
CO	32.8
NO <sub>x</sub>	73.1
PM	32.2
PM <sub>10</sub>	32.2
PM <sub>2.5</sub>	32.2
SO <sub>2</sub>	4
VOC	5.2
Sulfuric acid mist	5.9
Lead	0.0032
GHG	781,504

P12, S12

Pollutant	Future actual (tons/year)
CO	25.6



NO <sub>x</sub>	68.7
PM	32.2
PM <sub>10</sub>	32.2
PM <sub>2.5</sub>	32.2
SO <sub>2</sub>	3.9
VOC	5.2
Sulfuric acid mist	5.9
Lead	0.0032
GHG	780,194

P21, S21

Pollutant	Future actual(tons/year)
CO	33.8
NO <sub>x</sub>	67.2
PM	26.9
PM <sub>10</sub>	26.9
PM <sub>2.5</sub>	26.9
SO <sub>2</sub>	3.3
VOC	4.8
Sulfuric acid mist	5
Lead	0.0027
GHG	652,110

P22, S22

Pollutant	Future actual (tons/year)
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CO	31.4
NO <sub>x</sub>	62.6
PM	26.8
PM <sub>10</sub>	26.8
PM <sub>2.5</sub>	26.8
SO <sub>2</sub>	3.3
VOC	4.7
Sulfuric acid mist	5.0
Lead	0.0027
GHG	650,722

The next step is to calculate the difference between future actual emissions and past actual (baseline) emissions. For each turbine the result is as follows:

P11, S11

Pollutant	Actual less baseline (tons/year)
CO	14.6
NO <sub>x</sub>	32.5
PM	14.3
PM <sub>10</sub>	14.3
PM <sub>2.5</sub>	14.3
SO <sub>2</sub>	1.8
VOC	2.3
Sulfuric acid mist	2.6
Lead	0.0014
GHG	347,335

P12, S12

Pollutant	Actual less baseline (tons/year)
CO	11.2
NO <sub>x</sub>	30.1
PM	14.1
PM <sub>10</sub>	14.1
PM <sub>2.5</sub>	14.1
SO <sub>2</sub>	1.7
VOC	2.3
Sulfuric acid mist	2.6
Lead	0.0014
GHG	341,883

P21, S21

Pollutant	Actual less baseline (tons/year)
CO	8.3
NO <sub>x</sub>	30.5
PM	8.2
PM <sub>10</sub>	8.2
PM <sub>2.5</sub>	9.2
SO <sub>2</sub>	1
VOC	1.3

Sulfuric acid mist	1.5
Lead	0.0008
GHG	199,256

P22, S22

Pollutant	Actual less baseline (tons/year)
CO	9.2
NO <sub>x</sub>	18.5
PM	7.9
PM <sub>10</sub>	7.9
PM <sub>2.5</sub>	7.9
SO <sub>2</sub>	1
VOC	1.4
Sulfuric acid mist	1.5
Lead	0.0008
GHG	192,497

The sum of the increases is:

All turbines combined:

Pollutant	Total increase (tons/year)
CO	43.3
NO <sub>x</sub>	111.6
PM	44.5
PM <sub>10</sub>	44.5
PM <sub>2.5</sub>	44.5
SO <sub>2</sub>	5.5
VOC	7.3

Sulfuric acid mist	8.2
Lead	0.0044
GHG	1,080,971

The applicant has requested to exclude emissions that the units were capable of accommodating and are unrelated to the project. The PROMOD model has yielded the increase in usage compared to not undertaking the project. Thus, all emissions under the base case (no project) could have been accommodated and are unrelated to the project. Thus, the net emission increase will be calculated by subtracting the percentage of the increase that would have occurred without the project from the emissions increase calculated for the project. In this case, this will be calculated by multiplying the increase by the fraction of the increase caused by the project itself. That calculation is contained in the following Tables:

Fraction of increase due to project for each turbine:

Unit	Total increase (MMBtu/year)	Increase due to project above without project (MMBtu/year)	Fraction increase due to project
P11	5,870,847	484,588	0.0825
P12	5,801,243	484,588	0.0835
P21	3,321,028	408,760	0.123
P22	3,231,162	408,760	0.127

For ease of calculation and simplicity, it is assumed that all increases are at the highest fraction (0.127) for calculating the net emissions increase. That calculation yields increase of:

Pollutant	Total increase (tons/year)
CO	5.5
NO <sub>x</sub>	14.2
PM	5.7
PM <sub>10</sub>	5.7
PM <sub>2.5</sub>	5.7
SO <sub>2</sub>	0.7
VOC	0.92

Sulfuric acid mist	1.0
Lead	0.0006
GHG	137,283

Based on these calculations, the only pollutant with a significant increase in emissions is GHG. However, without a significant increase in a second pollutant, GHG emissions are not subject to BACT requirements. Thus, no BACT or other PSD analyses are required for this proposed project.

#### **WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW**

The emissions units affected by this permit only combust natural gas. Hazardous air pollutant emissions from natural gas combustion are exempt from NR 445 control requirements. Thus, no further analysis is required.

#### **COMPLIANCE AND TECHNOLOGY REVIEW**

As a result of the proposed project, the facility is being subjected to a new NSPS standard for SO<sub>2</sub> and NO<sub>x</sub>. In addition, the permittee has requested a new, lower PM<sub>2.5</sub> emission limitation for the turbines. Each of these changes will be addressed separately.

NSPS for SO<sub>2</sub> – The NSPS limitation is either 0.9 pounds/MW-hr or 0.060 pounds/MMBtu heat input. At normal loads, both of these limitations are significantly higher than the existing 1.48 pound/hour SO<sub>2</sub> emission limitation. Thus, the Department does not believe there will be any issues in meeting these new emission limitations. The NSPS rules do specify compliance methods and these have been included in the draft permit.

NSPS for NO<sub>x</sub> – The NSPS emission limitation is either 15 ppm or 0.43 pounds/MW-hr. The existing BACT emission limitation for the turbines is 3 ppm NO<sub>x</sub>. The Department does not foresee any issue in meeting the new NSPS emission limitations. The NSPS rules do specify compliance methods and these have been included in the draft permit. In this case, compliance will continue to be demonstrated through use of a CEM.

Lower PM<sub>2.5</sub> limit – based on past stack tests, the Department has concluded that the facility has been and will continue to meet this emission limitation. Compliance will be demonstrated through stack testing.

The permittee will be required to conduct stack testing after completion of the projects to demonstrate compliance with the existing formaldehyde, ammonia and sulfuric acid mist emission limitations.

Compliance with the CO and VOC emission limitations will continue to be demonstrated by use of a CO CEM.

## AIR QUALITY REVIEW

An air quality analysis was completed by Emily Houtler – DNR. The results of that analysis are as follows.

## INTRODUCTION

A dispersion modeling analysis was completed on December 16, 2015, to assess the impact to ambient air of the particulate matter, sulfur dioxide, nitrogen oxide, and carbon monoxide emissions from WE Energies in Port Washington (Ozaukee County).

## MODELING ANALYSIS

- WE Energies Port Washington supplied the emission parameters used in this analysis. Building dimensions were determined using BPIP-PRIME with measurements taken on the plot plan provided with the application. Please refer to the source parameter table.
- Five years (2006-2010) of preprocessed meteorological data was used in this analysis. The surface data was collected in Sheboygan (SBM), and the upper air meteorological data originated in Green Bay.
- The AERMIC (AMS/EPA Regulatory Model Improvement Committee) Model (AERMOD) was also used in the analysis. The model used rural dispersion coefficients with the regulatory default options. These allow for calm wind and missing data correction, buoyancy induced dispersion, and building downwash including recirculation cavity effects.
- The 2,245 receptors used in this analysis consisted of a rectangular grid with 25-meter resolution extending 500 meters from the sources with a 50-meter resolution grid extending an additional 500 meters. Receptors on top of company-owned buildings, within the facility fence line, or areas otherwise not considered ambient air in relation to the facility were excluded. Receptor terrain elevations were derived from the AERMOD terrain processor (AERMAP) using National Elevation Dataset (NED) tiles.
- The PSD baselines in Ozaukee County for PM<sub>10</sub> and NO<sub>x</sub> were set 1986 and 1990 respectively. Any increase of PM<sub>10</sub> or NO<sub>x</sub> emission since that date consumes increment. All stacks at WE Energies Port Washington consume increment, but no other increment consuming sources exist in the area.
- Regional background concentrations were found to be as follows:

BACKGROUND CONCENTRATIONS (Concentrations are in $\mu\text{g}/\text{m}^3$ )		
Pollutant	Averaging Period	Concentration
SO <sub>2</sub>	3 hour	11.8
	24 hour	11.2
	Annual	5.4
NO <sub>2</sub>	Annual	8.0
CO	1 hour	950.5
	8 hour	904.7

PM <sub>2.5</sub>	24 hour Annual	19.8 7.3
PM <sub>10</sub>	24 hour	29.4

**MODEL RESULTS**

The results of the dispersion modeling analysis indicate that all air quality standards will be met assuming the emission rates and stack parameters listed in the source tables.

Modeling Analysis Results (All Concentrations in µg/m <sup>3</sup> )				
	PM <sub>2.5</sub> – 24 hour	PM <sub>2.5</sub> – Annual	PM <sub>10</sub> – 24 hour	PM <sub>10</sub> – Annual
New Source Impact	n/a	n/a	18.6	0.4
PSD Increment	n/a	n/a	30.0	17.0
% Increment Consumed	n/a	n/a	62.0	2.3
Facility Impact	14.5	1.9	36.5	n/a
Background Concentration	19.8	7.3	29.4	n/a
Total Concentration	34.3	9.2	65.9	n/a
NAAQS	35.0	15.0	150.0	n/a
% NAAQS	98.0	61.3	43.9	n/a

Modeling Analysis Results (All Concentrations in µg/m <sup>3</sup> )			
	NO <sub>x</sub> - Annual	CO – 1 hour	CO – 8 hour
New Source Impact	12.6	n/a	n/a
PSD Increment	25.0	n/a	n/a
% Increment Consumed	50.4	n/a	n/a
Facility Impact	12.7	717.7	563.0
Background Concentration	8.0	950.5	904.7
Total Concentration	20.7	1,668.2	1,467.7
NAAQS	100.0	40,000	10,000
% NAAQS	20.7	4.2	14.7

Modeling Analysis Results (All Concentrations in µg/m <sup>3</sup> )			
	SO <sub>2</sub> - 3 hour	SO <sub>2</sub> - 24 hour	SO <sub>2</sub> - Annual
Facility Impact	3.2	1.9	0.2
Background Concentration	11.8	11.2	5.4
Total Concentration	15.0	13.1	5.6



NAAQS	1,300.0	365.0	80.0
% NAAQS	1.2	3.6	7.0

WE ENERGIES PORT WASHINGTON Stack Parameters*						
ID	LOCATION (UTM83)	HEIGHT (M)	HEIGHT (FT)	DIAMETE R (M)	VELOCIT Y (M/S)	TEMP (K)
S06	429411, 4803847	7.620	25.00	0.152	50.97	374.8
S19	429575, 4804008	36.58	120.0	1.219	9.945	422.0
S11	429544, 4803782	64.01	210.0	5.791	20.44	355.4
S12	429563, 4803813	64.01	210.0	5.791	20.44	355.4
S21	429597, 4803876	64.01	210.0	5.791	20.44	355.4
S22	429614, 4803904	64.01	210.0	5.791	20.44	355.4
S16	429561, 4803825	153.9	505.0	3.658	17.41	427.4
S17	429594, 4803888	153.9	505.0	5.029	17.09	428.3
S18	429570, 4803796	6.096	20.00	5.791	8.890	740.7

WE ENERGIES PORT WASHINGTON Emission Rates					
ID	PM <sub>10</sub> RATE (lb/HR)	PM <sub>2.5</sub> RATE (lb/HR)	SO <sub>2</sub> RATE (lb/HR)	NO <sub>x</sub> RATE (lb/HR)	CO RATE (lb/HR)
S06	0.080	0.080	0.010	0.360	0.470
S19	0.740	0.740	0.060	13.70	7.770
S11	33.00	20.00	1.600	142.0	322.8
S12	33.00	20.00	1.600	142.0	322.8
S21	33.00	20.00	1.600	142.0	322.8
S22	33.00	20.00	1.600	142.0	322.8
S16	-64.43	n/a	n/a	-422.8	n/a
S17	-423.3	n/a	n/a	-1328	n/a
S18	-57.90	n/a	n/a	-2.350	n/a

**Notes**

\* The source parameters in the table were used for modeling purposes, based on conversion from English units. Refer to the permit application forms or submittals in support of the permit application for the original English unit parameters.

- All sources consume increment.
- Sources S16-S18 were used for increment analysis only.

**EMISSIONS FROM NEW EQUIPMENT OR MODIFICATION**

**TOTAL FACILITY EMISSIONS AFTER INSTALLATION OF NEW EQUIPMENT OR MODIFICATION**

The total facility potential emissions are unchanged as a result of this project. Please see the recent review for operation permit renewal 246004000-P20 for the facility emissions.

**EMISSIONS NETTING ANALYSIS**

None required

**FACILITY AND PROJECT CLASSIFICATION**

**1. Project Status.**

The facility is an existing major source under the part 70 and PSD Programs. The source is located in an area in attainment or unclassified for all pollutants and is not presently impacted by any non-attainment area permitting regulations.

**2. Facility Status After the Permit is Issued.**

The facility’s status will be unchanged as a result of this permit.

**3. EPA Class Code After the Permit is Issued.**

- “A”** [Means the source’s maximum theoretical emissions *and* potential to emit for one or more pollutants are greater than major source thresholds. The source is a major source (will have a FOP)];
- “SM80”** [Means the source’s maximum theoretical emissions of one or more pollutants are greater than major source thresholds and potential to emit is at least 80% but less than 100% of major source thresholds. The source is a non-major source (will have a FESOP)];
- “SM”** [Means the source’s maximum theoretical emissions of one or more pollutants are greater than major source thresholds but potential to emit for all pollutants is less than 80% of major source thresholds. The source is a non-major source (usually will have a FESOP)];
- “B”** [Means the source’s maximum theoretical emissions and potential to emit for all pollutants are less than major source thresholds. The source is a non-major source (will have a SOP)].

**. Summary.**

NSR Applicability	After Permit Issuance
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	Major	Minor
PSD	X	
Non-Attainment	N/A	
Federal HAP		X

Part 70 Applicability	Facility After Permit Issuance		
	Part 70	FESOP (Syn. Minor)	non-part 70
Status	X		

EPA Class Code	EPA Class Code After Permit Issuance			
	A	SM80	SM	B
Status	X			

**ENVIRONMENTAL ANALYSIS**

An air pollution control construction permit that does not require review under chs. NR 405 or 408, Wis. Adm. Code, is considered a minor action under s. NR 150.20(1m)(m), Wis. Adm. Code and does not require an environmental analysis.

**RULE APPLICABILITY**

This review will only examine new requirements and why other rule requirements were not triggered by the proposed project. Please see the review for operation permit 246004000-P20 for a complete review of all applicable requirements:

**Ch. NR 405** – No requirements were triggered due to the difference between projected actual emission and past actual emission being less than significant.

**Ch. NR 440** – New NSPS requirements under subpart KKKK were triggered as a result of the proposed project. Subpart KKKK becomes the only NSPS applicable to the turbines. Those requirements for SO<sub>2</sub> and NO<sub>x</sub> emissions have been placed in the permit.

**Ch. NR 404** – No new requirements were triggered in this chapter as a result of the proposed project. However, the applicant requested lower PM<sub>2.5</sub> emission limitations be included in the draft permit.

**Federal HAP requirements** – the facility’s potential to emit for federal HAP’s remains below the 10/25 tpy applicability threshold. Please see the emission calculations for further details.

**NEW SOURCE PERFORMANCE STANDARDS (NSPS) APPLICABILITY**

**For proposed construction of a source:**

- Is the proposed source in a source category for which there is an existing or proposed NSPS?  
 Yes  No  Not applicable. (If yes, identify the source category.)

2. Is the proposed source an affected facility?  
 Yes  No  Not applicable. (Explain if necessary to clarify.)

**For the proposed modification of an existing source:**

1. Is the existing source, which is being modified, in a source category for which there is an existing or proposed NSPS?  
 Yes  No  Not applicable. Subpart KKKK for combustion turbines
2. Is the existing source, which is being modified, an affected facility (prior to modification)?  
 Yes  No  Not applicable. The existing unit is subject to NSPS Subpart GG. The modified turbines will be subject to Subpart KKKK and no longer subject to Subpart GG.
3. Does the proposed modification constitute a modification **under NSPS** to the existing source?  
 Yes  No  Not applicable.
4. Will the existing source be an affected facility after modification?  
 Yes  No  Not applicable.

**NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) APPLICABILITY**

**Part 61 NESHAPS:**

1. Will the proposed new or modified source emit a pollutant controlled under an existing or proposed NESHAPS?  
 Yes  No (if yes, identify the pollutant).
2. Is the proposed new or modified source subject to an existing or proposed NESHAPS?  
 Yes  No (if yes, identify NESHAPS).

**Part 63 NESHAPS:**

1. Will the proposed new or modified source emit a pollutant controlled under an existing Part 63 NESHAPS?  
 Yes  No (if yes, identify the pollutant).
2. Is the proposed new or modified source subject to an existing Part 63 NESHAPS?  
 Yes  No (if yes, identify NESHAPS).
3. Is the proposed project subject to s. 112(g) of the Clean Air Act?  
 Yes  No.

The section 112(g) rules only apply to case-by-case MACT standards that are developed for new construction or reconstruction of sources that (by themselves) constitutes a new major source of federal hazardous air pollutants (for source categories not covered under an existing Part 63 MACT standard).

**CAM - COMPLIANCE ASSURANCE MONITORING.**

There is no change in allowed emission rates and no change in any monitoring for the recent operation permit renewal.

**CRITERIA FOR CONSTRUCTION PERMIT APPROVAL**

Section 285.63, Wis. Stats., sets forth the specific language for permit approval criteria. The Department

finds that:

1. The source will meet emission limitations.
2. The source will not cause nor exacerbate a violation of an air quality standard or ambient air increment.
3. The source is operating or seeks to operate under an emission reduction option. Not Applicable.
4. The source will not preclude the construction or operation of another source for which an air pollution control permit application has been received.

#### **CRITERIA FOR OPERATION PERMIT APPROVAL**

Since issuance of the construction permit will require revision of the facility's operation permit, the criteria for operation permit approval set forth in ss. 285.63 and 285.64, Wis. Stats. must be met. Revisions to the operation permit that require a construction permit shall meet the criteria for construction permit approval of s. 285.63, Wis. Stats., as outlined above.

The Department finds that:

1. The facility will meet applicable emission limits and other requirements.
2. The facility will not cause nor exacerbate a violation of an ambient air quality standard or ambient air increment.

#### **PRELIMINARY DETERMINATIONS FOR CONSTRUCTION PERMIT NO. 15-RSG-102 AND OPERATION PERMIT REVISION NO. 246004000-P21**

The Wisconsin Department of Natural Resources has reviewed the construction permit application and other materials submitted by Wisconsin Electric Power Company D/B/A We Energies-Port Washington and hereby makes a preliminary determination that this project, when constructed or modified and operated consistent with the application and subsequent information submitted, will be able to meet the emission limits and conditions included in the attached Draft Permit. Furthermore, the Department hereby makes a preliminary determination that a revised operation permit may be issued with the following Draft Applicable Limits and Draft Permit Conditions. A final decision regarding emission limits and conditions will be made after the Department has reviewed and evaluated all comments received during the public comment period. The proposed emission limits and other proposed conditions in the Draft Permit are written in the same form that they will appear in the construction permit and operation permit revision. These proposed conditions may be changed as a result of public comments or further evaluation by the Department. The United States Environmental Protection Agency will be given the opportunity to comment on the operation permit revision of any part 70 source prior to the Department making a final decision on the operation permit revision.

**PERMIT FEE CALCULATION**

**Basic Fees.**

PSD or NAA minor modification of a Part 70 major source. [\$7,500] \$7,500.00

**Total Basic Fees** \$7,500.00

**Additional Fees.**

The permit application is for a PSD or NAA minor source or minor modification to a major PSD or NAA source whose projected air quality impact requires a detailed air quality modeling analysis. [\$1,000] \$1,000.00

The construction permit requires emission testing. \$6,000.00

A public hearing on the application is held at the request of the permit applicant or its agent. [\$1,500] \$1,500.00

**Total Additional Fee** \$8,500.00

**Total Fees (Total Basic Fees + Total Additional Fees)** \$16,000.00

**Credit(s).**

The initial fee submitted with the application. [\$7,500] -\$7,500.00

**Total Credits** -\$7,500.00

**TOTAL AMOUNT DUE (Total Fee + Total Credit)** \$8,500.00