Source-Specific State Implementation Plan Revision for We Energies Oak Creek Site Natural Gas-Fired Generation Project

DRAFT FOR PUBLIC REVIEW

Developed By:
The Wisconsin Department of Natural Resources

June 2025

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1. Background

Wisconsin Department of Natural Resources (DNR) issued Air Pollution Control Construction Permit 24-JAM-065 to We Energies on June 17, 2025, to install five new simple cycle combustion turbine generators (CTGs) as part of the Oak Creek Site Natural Gas-Fired Electric Generation and Gas Storage Project in Oak Creek, Wisconsin. The DNR is submitting for approval this Source-Specific State Implementation Plan Revision (SSSR) in conjunction with the relevant elements of permit 24-JAM-065.

1.1. Project Description

We Energies' Oak Creek Site project will consist of five natural gas-fired General Electric Model 7F.05 simple cycle CTGs, a 2.0 billion standard cubic foot Liquified Natural Gas storage facility, natural gas dew point heaters, and ancillary support equipment including natural gas piping systems, electric substation equipment, and natural gas space heating equipment. These CTGs will operate primarily as peaking capacity which must start up quickly, ramp up rapidly to the electric power requirements of the grid, and then rapidly shut down when the generation is no longer required.

As part of this Project, We Energies is planning to also permanently retire and remove from operation the existing Oak Creek plant coal-fired units 5, 6, 7, and 8. In addition, this project will involve increasing the combustion of natural gas in the Elm Road Generating Station Units 1 and 2 (also located at the Oak Creek site) to the full rated heat input capacity of these units of 6,750 million British thermal units per hour (mmBtu/hr).

1.2. Legal Authority

Chapter NR 428 of the Wisconsin Administrative Code (Wis. Adm. Code) contains several nitrogen oxides (NOx) limits for certain categories of sources. The new CTGs included in the We Energies Oak Creek project are subject to s. NR 428.22 Wis. Adm. Code NOx Reasonably Available Control Technology (RACT) as well as NOx limits in s. NR 428.04 Wis. Adm. Code. As described in section 3.1 of this document, these applicable limits are not technically feasible for the CTGs in permit 24-JAM-065 due to the low-capacity operating conditions of the units.

Sections NR 428.055 and NR 428.25(3) Wis. Adm. Code provide the DNR authority to set a site-specific emission limit.

2. Applicable Limits for Combustion Turbines under NR 428 and Requirements for Alternative Site-Specific Emission Limitation

Chapter NR 428, Wis. Adm. Code, contains several NOx limits for certain categories of sources. Sections 2.1 and 2.2 of the SSSR describe the NOx limits in s. NR 428.04 and s. NR 428.22 that the new CTGs included in the We Energies Oak Creek Site project are subject to.

2.1. Performance Standards Under NR 428.04

Chapter NR 428, Wis. Adm. Code, includes requirements and performance standards for new or modified emissions units that are located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha and that are constructed after February 1, 2001. Section NR 428.04(2)(g)1.a. Wis. Adm. Code has the following emission limit for gaseous fuel-fired combustion turbines:

(g) *Combustion turbines*.

> 1. Gaseous fuel-fired units. Except as provided in subds. 3. and 4., no person may cause, allow or permit nitrogen oxides to be emitted from a gaseous fuel-fired combustion turbine in amounts greater than those specified in this subdivision.
> a. 12 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 30−day rolling average basis for a simple cycle combustion turbine with a maximum design power output of 85 MWe or greater.

This limit of 12 ppmdv, on a 30−day rolling average basis and including periods of startup and shutdown, is not technically feasible for these simple cycle combustion turbine peaking units, which will start up and shut down frequently (see section 3.1). Section NR 428.055 allows an owner or operator to request an alternative site-specific emission limitation. This section states that the owner or operator shall demonstrate that compliance with requirements under s. NR 428.04 is technologically or economically infeasible, and requires several criteria for the alternative, including that the owner or operator submit proposed alternative emission limitations.

2.2. RACT Performance Standards Under s. NR 428.22 Wis. Adm. Code

Subchapter IV of ch. NR 428, Wis. Adm. Code, includes NOx RACT requirements for facilities located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, or Waukesha and with maximum theoretical NOx emissions combined equal to or greater than 100 tons per year. The NOx RACT emission standard for natural gas-fired combustion turbines under s. NR 428.22(1)(g)1.a. is:

> (g) *Simple cycle combustion turbines.* For a simple cycle combustion turbine, one of the following exhaust outlet concentrations, corrected to 15% O2 and at ambient temperatures greater than 0°F, as applicable:
> 1. For a unit with a maximum design power output equal to or greater than 50 megawatts, one of the following, as applicable:
> a. If natural gas−fired, 25 parts per million dry volume.

This limit of 25 ppmdv, based on a 30−day rolling average basis and including periods of startup and shutdown, is also not technically feasible for these simple cycle peaking units which will start up and shut down frequently. Section NR 428.25 allows an owner or operator to request an alternative site-specific emission limitation for NOx RACT. This section states that the owner or operator of an emissions unit may request that the department establish an alternative emission limitation to the requirements in s. NR 428.22 if the owner or operator demonstrates that it is economically or technically infeasible to meet the requirements, and that the owner or operator of the emissions unit submits the request with the demonstration for an alternative RACT requirement.

3. Alternative Site-Specific Demonstration

We Energies provided a technical feasibility analysis and alternative NOx limit in their application for permit 24-JAM-065, as required under s. NR 428.055 and s. NR 428.25. The analyses and alternative limit are described below.

3.1. Determination of Technical Infeasibility

The five new CTGs at We Energies Oak Creek Site will be low utilization, with a capacity factor limit of 20%. The CTGs are designed to be “dispatchable,” meaning they can quickly and easily be turned on or off to fill gaps in renewable energy generation and/or meet peak energy demand. As a result, they are expected to startup and shutdown on a daily basis, and in some cases more than once per day.

Typical dispatch of these CTGs is expected to be from one to six hours on a daily basis. However, units would need 6 to 38 hours of normal operation to offset only one startup/shutdown event to meet the 12 ppmdv limit on a daily basis, and two to eight hours of normal operation to offset only one startup/shutdown event to meet the 25

ppm limit on a daily basis. Requiring these units to operate these additional hours for startup and shutdown events would not be technically feasible for these peaking units which will have low-capacity factors, and these additional hours of operation would also lead to additional, unnecessary emissions. See Appendices B and C for additional information for the demonstration of technical infeasibility (particularly, section 7.3.3 of Appendix B).

3.2. Alternative NOx Emission Limit

The emission limits for these new CTGs under ch. NR 428, Wis. Adm. Code, of 12 ppmdv and 25 ppmdv are not technically feasible because the CTGs would need to operate longer than necessary for each startup/shutdown event to achieve these NOx concentration emission limits. This operation is not possible for these peaking units which are expected to startup and shutdown on a daily basis, and which will also have a capacity factor limit for all five CTGs combined of no more than 20%.

The alternate NO_x emission limit for these new CTGs is as follows:

Nitrogen oxides (NO_x) emissions limits

1. During normal operation, NO_x emissions may not exceed 9 ppmdv, corrected to 15% oxygen, based on a 30-day average.
2. During periods of startup and shutdown, NO_x emissions may not exceed:
    a. 57.1 pounds per startup event, and
    b. 31.7 pounds per shutdown event.

See Appendix B (section 7.3.3) and Appendix C (item 12) for additional information for how this alternative NOx emission limit was established. The potential NOx emissions for all five CTGs combined, based on the proposed alternative emission limit and the proposed heat input and startup and shutdown limitations in this application, equal 463.4 tons per year. The potential NO_x emissions based on the performance standard in s. NR 428.04(2)(g)1.a. of 12 ppmdv is 469.2 tons per year. Furthermore, the potential NO_x emissions based on the RACT standard in s. NR 428.22(1)(g) of 25 ppmdv is 978 tons per year. Therefore, the proposed alternative NO_x emission limit will also result in a reduction in potential or allowable NOx emissions for these CTGs for both ch. NR 428, Wis. Adm. Code, limits.

3.3. Enforceable Requirements

The alternative site-specific NOx emission requirements under ch. NR 428, Wis. Adm. Code, for the We Energies Oak Creek Site are made permanent and federally enforceable through incorporation in permit 24-JAM-065 and Wisconsin's SIP. Permit 24-JAM-065 was issued and effective on June 17, 2025. A complete description of the emission requirements and compliance demonstration contained in this permit can be found in the "Analysis and Preliminary Determination" for permit 24-JAM-065 (Appendix D) as well as in the permit itself (Appendix E).

In summary, permit 24-JAM-065 establishes the following permanent limitations on the five new CTGs:

- During normal operation, NOx emissions may not exceed 9 ppmdv (30-day rolling average), equal to 0.0332 lb/mmBtu
- NOx emissions may not exceed 57.1 pounds per startup event and 31.7 pounds per shutdown event
- For each CTG, the total heat input may not exceed 4,246,000 mmBtu in any consecutive 12-month period The total number of combined startup and shutdown events for the five CTGs combined may not exceed 2,500 events in any consecutive 12-month period

The addition of these new NOx emission limitations and utilization limits will result in a decrease in the potential emissions of the five CTGs (see section 3.2).

Permit 24-JAM-065 also contains requirements to demonstrate compliance with the NOx emission limits, the heat input limit, and the startup and shutdown event limitations, among other requirements. See Appendices D and E for complete descriptions of compliance and recordkeeping requirements (particularly, section I.EA.2b of Appendix E).

Permit elements to be incorporated into Wisconsin's SIP

This section identifies the specific elements of permit 24-JAM-065 that the DNR requests the EPA incorporate into the Wisconsin SIP. These elements identify the NOx alternative emissions limitations and associated monitoring, recordkeeping, and reporting requirements in permit 24-JAM-065 for the five new CTGs at the We Energies Oak Creek Site needed to ensure compliance with the alternative NOx emission limitations:

- Emissions limitations: Conditions I.EA.2.a.(1)-(5)
- Compliance demonstration: Conditions I.EA.2.b.(1)-(10)
- Reference test methods, recordkeeping and monitoring requirements: Conditions I.EA.2.c.(1)-(9)

Permit elements to be excluded from Wisconsin's SIP

Any elements of permit 24-JAM-065 not specifically listed above are not proposed to be incorporated into Wisconsin's SIP.

3.4. Maintenance of Previous NAAQS and Section 110(l) Noninterference Requirements

Section 110(l) of the Clean Air Act (CAA) states that EPA cannot approve a SIP revision if the revision will interfere with any applicable requirement concerning the attainment of the National Ambient Air Quality Standards (NAAQS), rate of progress, reasonable further progress, or any other applicable requirement of the CAA. As previously described, the existing limits in s. NR 428.04 and s. NR 428.22 are technically infeasible for this project. Additional startup and shutdown events are allowed under the alternative limit in this SIP which can lead to small, short-term increases in CO and VOC emissions. However, as a result of this SIP revision, the CTGs are expected to operate fewer total hours and at a lower NOx limit during normal operations reducing the overall emissions for all pollutants. Below is a more detailed analysis of the emissions impacts of this SIP revision.

The potential NOx emissions for all five CTGs combined, based on the alternative emission limit and the heat input and startup and shutdown limitations in permit 24-JAM-065, equal 463.4 tons per year. The potential NO_x emissions based on the performance standard in s. NR 428.04(2)(g)1.a. of 12 ppmdv is 469.2 tons per year. Furthermore, the potential NOx emissions based on the RACT standard in s. NR 428.22(1)(g) of 25 ppmdv is 978 tons per year. Therefore, the federally enforceable alternative NOx emissions limit included in permit 24-JAM-065 will result in a reduction in allowable annual NOx emissions for these CTGs compared to the NOx limits in s. NR 428.04 and s. NR 428.22. As mentioned above, the permit limits the frequency of startup and shutdown events to 2,500 per year for all five CTGs combined, as well as NOx emissions per startup and shutdown event. The new CTGs will also be equipped with NOx continuous emissions monitoring systems to track total emissions.

Permit modeling for NOx shows that startup and shutdown emissions will not violate the 1-hour NO_2 standard (see section 5.1.4 and section 10 of Appendix D). The facility's additional modeling to analyze the project's potential NO_2 emissions evaluates two sets of background concentrations: the DNR recommended values for low population areas, and the highest-measured background concentrations from any monitor in Wisconsin. The use of these background concentrations, which is not truly representative of the location of the project, resulted in a conservative NAAQS impact analysis.

The alternative NOx limit outlined in this SIP will result in an overall reduction in annual CO and VOC emissions. The alternative also requires the units to operate for less time than would be required under the existing NOx limit, which results in less "normal operating time" emissions for these pollutants. The reduction in potential

annual emissions associated with normal operation under the alternative limit are expected to be significantly greater than any increases in potential emissions during startup/shutdown events.

As mentioned above, additional startup and shutdown events allowed under the alternative limit can lead to small, short-term increases in some pollutants. Permit modeling for CO shows that startup/shutdown emissions will not violate the 1-hour CO standard (see section 5.1.4 and section 10 of Appendix D). VOCs are only addressed on an annual basis, because there are no short-term ambient air quality standards for VOCs, and there is no approved dispersion model for predicting the impact VOC emissions from direct stationary sources will have on ozone concentrations (see section 10 of Appendix D). Therefore, emissions from this SIP revision should not impact the facility's ability to meet air quality standards in the short-term.

Particulate matter and SO_2 emission rates during startup and shutdown events are not expected to be elevated as compared to regular operating conditions (see section 3.3.2 of Appendix B). Therefore, this SIP revision will not result in an increase in particulate matter or SO_2 emissions and is likely to result in an overall decrease in particulate matter and SO_2 emissions.

The DNR will continue to enforce all control programs currently approved in the SIP and has authority and resources to actively enforce the rules and permit provisions. This SSSR does not include the relaxation of any existing requirements and will not interfere with the attainment or maintenance of NAAQS.

4. Public Participation

On June 27, 2025, the DNR published a notice of availability for this proposed SIP revision on its website, making this document available for public comment through July 29, 2025. This notice also provided notification that the DNR would hold a public hearing on this proposed SIP revision on July 28, 2025. The DNR will respond to any public comments received on this draft in the final SIP it submits to the EPA.

In addition, permit 24-JAM-065 was released for the required 30-day comment period on March 6, 2025 and issued on June 17, 2025. Comments received on the permit and the DNR's responses are included in Appendix A.

5. Conclusion

This SIP revision, when considered with the application materials submitted by We Energies and permit 24-JAM-065, is sufficient to meet requirements in s. NR 428.055 and s. NR 428.25 for alternative NOx limits.

Appendix A: Public Notice and Response to Comments for Construction Permit 24-JAM-065

Public Notice of an Air Pollution Control Permit Application Review

Facility Description

We Energies-Oak Creek Power Plant, located at 11060 S Chicago Rd, Oak Creek, Milwaukee County, Wisconsin, FID 241007690, submitted to the Department of Natural Resources (DNR) a permit application, including plans and specifications for revision of 24100769A-P37 for operation of a Electric Power Generation facility; and the construction and operation of: five (5) simple cycle combustion turbine electric generating units (CTGs) with a total electric generating capacity of approximately 1,200 MW; a 2.0 billion standard cubic foot Liquified Natural Gas (LNG) storage facility; and other equipment required to support this new generation. This Project will also increase the use of natural gas in the Elm Road Generating Station Units 1 and 2 to the full rated capacity of these units.

Air pollution control construction permit no. 24-JAM-065.

Air pollution control operation permit no. 24100769A-P43.

Application Review

DNR has prepared an analysis and made a preliminary determination that the application meets state and federal air pollution control requirements and that the permit may be approved. You can view the permit application, the DNR's analysis, preliminary determination and draft permit, and other materials considered by the department using the Air Permit Search Tool located at https://dnr.wisconsin.gov/topic/AirPermits/Search.html or by contacting Jordan Munson at (608) 733-0174 or by e-mail at jordan.munson@wisconsin.gov.

For questions about the permit application or the DNR's analysis, preliminary determination and draft permit please contact Jordan Munson at (608) 733-0174 or by e-mail at jordan.munson@wisconsin.gov.

An environmental analysis (EA) for the project was jointly prepared by the Public Service Commission of Wisconsin and DNR. The EA for this project can be found at the Public Service Commission website at: https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=531145 and https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=531153.

This is a preliminary determination and does not constitute a final approval from the Air Management Program or any other DNR sections which may also require a review of the project.

Public Comments

Interested persons wishing to submit written comments on the application or DNR's review of it should do so within 30 days of publication of this notice. Posting and Public Comment Deadline dates can also be found on "Air permit public notices" web page located at https://apps.dnr.wi.gov/warp_ext/public_notice.aspx. Comments or request for hearing should be sent to Jordan Munson at jordan.munson@wisconsin.gov or to:

Wisconsin Department of Natural Resources, Bureau of Air Management, 101 S. Webster Street, Box 7921, Madison, WI 53707-7921. Attn.: Jordan Munson.

NOTICE IS HEREBY GIVEN that, pursuant to ss. 285.13(1), 285.61(7), and 285.62(5) Wis. Stats., DNR will hold a public hearing to receive public comments on the air pollution control permit application(s) described herein.

The public hearing will be held on April 9, 2025 at 1 p.m.

This hearing will be held virtually. Participants can join the hearing via Zoom Remote Conferencing as described below.

Participants are encouraged to register for the hearing in advance using the link below:
https://us02web.zoom.us/j/81188388277
Participants can join the hearing online: https://us02web.zoom.us/j/81188388277
Meeting ID: 811 8838 8277

Participants can join the hearing via telephone: Call 929 205 6099
Enter 811 8838 8277 followed by #

All comments received by the DNR at the public hearing and prior to the close of the comment period, will be considered prior to making a final decision regarding the proposed project. After the close of the public comment period, a final decision will be made on whether to issue or deny the air pollution control permit. Information on the public commenting and hearing process is available at http://dnr.wi.gov/topic/AirPermits/Process.html.

Reasonable accommodation, including the provision of informational material in an alternative format, will be provided upon request.

For Part-70 sources, the revised operation permit will not be issued until after the United States Environmental Protection Agency (US EPA) has an opportunity to review a proposed permit for 45 days. A draft proposed permit has been provided to US EPA on the same date this notice was posted on the Internet. The start date of the US EPA review period is posted on the Internet at http://dnr.wi.gov/topic/AirPermits/Search.html. If significant comments are received during the 30-day public comment period, EPA requests sequential review, or DNR decides to proceed with sequential review, DNR will post a sequential proposed permit to the website listed above and start US EPA's 45-day review period after the 30-day public comment period. DNR's website will specify the start date of US EPA's 45-day review period. Unless US EPA objects in writing within the 45-day review period, DNR will issue the final operation permit revision as proposed. Any person may petition US EPA under 40 CFR Part 70.8(d) within 60 days after the expiration of US EPA's 45-day review period to make an objection to the operation permit revision.

Notice: Any information, including personal or contact information, submitted to the department may be considered a public record. Records may be publicly disclosed either in paper form or electronically and could be searchable on the Internet.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By Ronald Binzley

Ronald Binzley
Permits & Stationary Source Modeling
Section Manager

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: June 17, 2025 FID #: 241007690

TO: Michael Szabo

FROM: Jordan Munson

SUBJECT: Summary of Changes and Comments on the Draft Permit for We Energies-Oak Creek Power Plant, Permit 24-JAM-065 and 24100769A-P43.

Date of publication of public notice:	March 6, 2025
End of 30-day public comment period:	April 11, 2025
Date of public hearing:	April 9, 2025

The Department of Natural Resources (DNR) Air Management Program received a request for public hearing on the construction and operation permit application. Comments were received from the public. Comments were received from the applicant (i.e. the permittee). No comments were received from U.S. EPA Region V. No comments were received from affected states.[1]

The hearing notice, permit application materials, the DNR's preliminary determination and draft permit, all written comments, and other information about this permit can be viewed on the DNR's website using the following instructions:

- Go to https://dnr.wisconsin.gov/topic/AirPermits/Search.html and click the **Air Permit Search** button
- In the window that opens, enter the FID: 241007690, click **Search**
- Select the **Permits and Permit Applications** tab to access permitting info. Click **Select** next to permit number 24-JAM-065, then download the desired document(s).

The information in this memo supplements the information in the preliminary determination and draft permit and will be considered by the department when making a final determination on the issuance of the permit(s).

1 Public Hearing Summary

The DNR held a public hearing on the construction and operation permit application on April 9, 2025, at 1 p.m., in accordance with s. 285.62(5), Wis. Stats. Twenty-one members of the public, two representatives from the facility, one member of the US EPA, and six members of the DNR attended the hearing. Mike Szabo, DNR Air Management Supervisor, opened the hearing and described hearing procedures. Jordan Munson, DNR permit writer, briefly described the draft permit. Following these introductory remarks by the DNR, ten individuals made oral statements during the hearing.

2 Summary of Oral and Written Comments and Responses by the Department

In addition to the comments received orally or in writing at the public hearing, the department received a number of written comments on its preliminary determination and the draft permit during the public comment period. Comments were received from the applicant and from members of the public.

A summary of all comments received, whether orally at the hearing or in writing during the public comment

[1] An affected state is any state that is within 50 miles of the stationary source and any state that is contiguous to Wisconsin and whose air quality is affected by emissions from the stationary source. Affected states include tribes that have received approval for treatment as a state under sec. 505(a)(2) of the Clean Air Act. Whenever the term "affected state" is used it includes tribes approved for treatment as a state.

period, are provided below. Comments that are quoted verbatim are identified by italicized text.

Department responses in this section are organized as follows:
- Response to Comments from the general public
- Response to Comments from the applicant

For the sake of reducing the length of this document, the department has summarized the content of a number of the comments it received. The substance of all the comments is addressed in the department responses given below. All written comments received on this project are posted to the DNR's website and can be viewed there (see instructions above).

2.1 Comments from the general public

General public comment 1:

A number of commenters requested that the DNR deny the permits for Oak Creek due to climate change and health related impacts and costs with several of these commenters referencing a study from Healthy Climate Wisconsin and the Union of Concerned Scientists. Commenters also stated that the permit would worsen air quality in a nonattainment area.

Response to general public comment 1:

The commenters did not provide a copy of the study from Healthy Climate Wisconsin and the Union of Concerned Scientists, but it appears that the report that they are referring to is the PSE Healthy Energy report available here: https://blog.ucs.org/wp-content/uploads/2025/01/Health-Equity-and-Economic-Impacts-of-Proposed-Gas-Power-Plants-in-Wisconsin-Oak-Creek-and-Paris-Projects.pdf.

The department is subject to statutorily defined processes and requirements when making a determination on the approvability of an air pollution control permit. Section 285.63, Wis. Stats., identifies the criteria that the department must consider when approving air pollution control construction permits. The criteria applicable to the proposed project include:

- The source will meet all applicable emission limitations and other requirements promulgated under ch. 285, Wis. Stats., standards of performance for new stationary sources under s. 285.27(1), Wis. Stats. and emission standards for hazardous air contaminants under s. 285.27(2), Wis. Stats.

- The source will not cause or exacerbate a violation of any ambient air quality standard or ambient air increment under s. 285.21(1) or (2).

- The source will not preclude construction or operation of other sources: The source will not degrade the air quality in the area sufficiently to prevent the construction, reconstruction, replacement, modification or operation of another source for which the department has received a permit application.

The air pollution control permitting requirements contained in the Wisconsin statutes and code have been adopted to protect Wisconsin's air resources. The criteria for permit approval in s. 285.63 and 285.64, Wis. Stats., help assure that permitted sources in areas of the state where the National Ambient Air Quality Standards (NAAQS) are being met will not cause significant deterioration of the air quality and that permitted sources in areas of the state where a standard is not being met will not exacerbate nonattainment. As explained in the preliminary determination document, the department has made a preliminary finding that the permit application is approvable as the criteria in s. 285.63 and 285.64, Wis. Stats., will be satisfied provided that WEC constructs and operates the proposed emission units in accordance with the draft permit conditions.

The DNR does not have authority to consider criteria other than those specified in 285.63 and 285.64, Wis. Stats. when determining whether to approve an air pollution control permit. The air pollution control permits do not constitute approval from any other DNR programs or other state, local or federal agencies from which review may be required.

Regarding climate change, Wisconsin, as a member of the United States Climate Alliance and through Governor Evers' Executive Orders #38 and #52 and Task Force on Climate Change, has established goals and commitments designed to meet the GHG emission targets of the 2015 Paris Climate Accord. Executive Order #38 created the Office of Sustainability and Clean Energy, which is charged with achieving climate change related goals, such as ensuring all electricity consumed in Wisconsin is 100 percent carbon free by 2050, ensuring the state is fulfilling the carbon reduction goals of the 2015 Paris Climate Accord, and developing a clean energy plan to mitigate the harm from climate change by using clean energy resources and technology. The Task Force on Climate Change, which was created by Executive Order #52, issued a report in December 2020 that proposes policy options and implementation strategies to address climate change. A link to the department's Climate Solutions web page provides more information: https://dnr.wisconsin.gov/climatechange.

While the Task Force has developed recommendations for mitigating climate change, and the Office of Sustainability and Clean Energy is working on more comprehensive recommendations, these efforts have not altered Wisconsin law on the approvability of air pollution control permits. All state or federal requirements for limiting greenhouse gas emissions that apply to the proposed project are included in the permit.

General public comment 2:

Many commenters maintain that the *PSC and DNR should analyze the Oak Creek, Elm Road and LNG projects as a new, major pollution source rather than a "minor modification" to an existing plant*. One commenter argues that since the Wisconsin rules implementing the Nonattainment New Source Review (NNSR) program do not define "stationary source," the department may rely on the definition of stationary source in 285.01(31), Wis. Stats. to treat the proposed project as a new and separate source from the existing Oak Creek facility.

Response to general public comment 2:

When determining whether a proposed project is part of an existing stationary source for the purposes of air pollution control permitting, the department considers not only the definition of stationary source in s. 285.01(31), Wis. Stats, but also the relevant definitions in the chapters of the administrative code that cover the major New Source Review (NSR) permit programs (chapters NR 405 and 408 Wis. Adm. Code) and the chapter that covers operation permits (chapter NR 407 Wis. Adm. Code). The relevant definitions in these chapters include "stationary source," "building, structure, facility or installation" and "facility" (see ss. NR 405.02(8) & (28), NR 407.02(4) and NR 408.02(5), Wis. Adm. Code). These various definitions are consistent in identifying the same three criteria for determining whether distinct emission generating activities or units constitute a single stationary source or facility. These criteria are (1) whether the activities belong to the same industrial grouping, (2) are located on one or more contiguous or adjacent properties, and (3) are under common control.

The department has determined that the proposed project is part of the existing Oak Creek Plant because the project and the existing facility satisfy the three criteria for defining a single stationary source. The existing Oak Creek facility and proposed project will belong to the same industrial grouping, will be located on one or more contiguous or adjacent properties, and will be under common control. Therefore, this project has been properly treated under the NSR regulations as a modification of the existing Oak Creek facility rather than as a new stationary source. The department notes that the existing Oak Creek facility is a major stationary source under the Prevention of Serious Deterioration (PSD) and NNSR regulations, which are codified in chapters NR 405 and 408 Wis. Adm. Code respectively.

Under the major NSR rules, the process for determining whether the modification of an existing major stationary source requires a major permit is typically a two-step process.[2] Step 1 requires a determination of whether the proposed project, by itself, results in an emissions increase of any NSR-regulated pollutant over its pollutant-specific significant emissions rate (SER). If project emissions are projected to exceed any SER, the major NSR applicability process moves to Step 2. Under Step 2, an evaluation is made as to whether the project results in a net emissions increase of any NSR-regulated pollutant over its pollutant-specific SER. A net emissions increase includes the project emissions and any other increases and decreases in actual emissions at the stationary source that are contemporaneous with the proposed project. If the net emissions increase from the stationary source exceeds any SER, then the project requires a major NSR permit, and Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) must be applied, as applicable.

As discussed in section 6 of the preliminary determination, the project emissions increase or net emissions increase of each regulated NSR air contaminant is less than the PSD and NNSR SERs. Therefore, the project is not subject to review under the PSD or NNSR programs.

General public comment 3:

Many commenters contend that because the retirements of the existing coal-fired boilers have been considered in the major NSR applicability analysis, the proposed project has been incorrectly treated as a minor NSR project. *This is new gas infrastructure. We Energies announced the plan to retire the Oak Creek/Elm Road coal units five years prior to proposing this new infrastructure. Additionally, some of the coal turbines were built as early as the 1960s and some have come offline, so there has been a gap in the amount of generation from coal to the proposed gas. As such, this new gas infrastructure should be treated separately from the existing coal plants. The gas infrastructure is being built to meet new demand from massive data centers and We Energies is manipulating the timing of overdue coal retirements to avoid accounting for the impacts of these new plants on surrounding communities.*"

Response to general public comment 3:

The department has properly included the emissions decrease from the shutdown of the existing boilers in its major NSR applicability analysis, as these emission decreases are "creditable." As noted in the department's response to general public comment 2, if the modification of an existing major source results in a net emissions increase from the stationary source below the applicable SERs, then such a project is not a major modification. The calculation of a net emission increase includes the emissions from the proposed project as well as any other creditable increases or decreases in actual emissions at the source that are contemporaneous with the project. Pursuant to s. NR 405.02(24)(b) and NR 408.02(23)(a), Wis. Adm. Code, to be treated as creditable, a decrease must be contemporaneous (occur sometime between the 5 years prior to commencing construction and the date that the increase from the change occurs) and must not have been relied on by the department to issue a PSD or NNSR permit. Because the emission decreases due to the shutdown of the existing boilers satisfies both of these criteria, these decreases are creditable and included in the department's netting analysis.

As discussed in section 6 of the preliminary determination, the project emissions and/or the net emissions increase due to the proposed project are below every applicable SER and therefore the project is not a major modification nor required to obtain a PSD or NNSR permit.

Regarding the matter of whether the proposed project should be treated as a separate stationary source from the Oak Creek Power Plant, please see the department's response to general public comment 2.

[2] While major NSR applicability is typically based on a 2-step process, NNSR applicability in a Serious or Severe ozone nonattainment area is an exception to this general rule. In such areas, NNSR applicability is determined based solely on the net emissions increase from the stationary source that are contemporaneous with the proposed project. See section s. NR 408.02(32)(c), Wis. Adm. Code.

General public comment 4:

Many commenters suggest that the department should deny issuing the permit because the proposed project is intended to meet an increase in power demand that is only speculative. *The increased demand is speculative. The need for additional megawatts of power has been attributed to the development of proposed data centers in the region, which are not a guarantee. For example, Microsoft has announced a pause in its development of the data center in the region, and since the introduction of these dockets, new, more efficient methods for data centers to operate have already been introduced.*

Response to general public comment 4:

As mentioned in the response to general public comment 1, the DNR is subject to statutorily defined process and requirements when making a determination on the approvability of an air pollution control permit. Section 285.63, Wis. Stats., identifies the criteria that the DNR must consider when approving an air pollution control permit.

The DNR does not have authority to consider other criteria when determining whether to approve an air pollution control permit. An evaluation of the electrical demand in the area of the project is outside the scope of the department's review of the sources of air pollution associated with the proposed project. The air pollution control permits do not constitute approval from any other DNR programs or other state, local or federal agencies from which review may be required.

For permits 24-JAM-065 and 24100769A-P43, the DNR made a preliminary finding that the draft air pollution control construction and operation permits meet the criteria for permit approval in ss. 285.63 and 285.64, Wis. Stats., as explained in the DNR's Preliminary Determination.

General public comment 5:

One commenter states that the application materials for this project have conflicting documentation. The commenter notes that the application submitted to the PSC for a certificate of public convenience and necessity (CPCN) states that the project is for turbines combined up to 1,100 megawatts while the application submitted to the DNR for air permitting state that the project is for turbines combined up to 1,200 megawatts. This commenter also noted that an Environmental Impact Statement (EIS) was prepared for a project in Wisconsin where the entire project was just over 100 megawatts, but that for this much larger project only an Environmental Assessment (EA) has been prepared.

Response to general public comment 5:

As the commenter notes, there is an apparent discrepancy in the characterization of the combined electrical output for the project in the application materials submitted to the DNR (a 1,200-megawatt project) as compared to those submitted to the PSC (1,100-megawatt project).

The executive summary of the air permit application characterizes the proposed CTs as having a combined electrical output of approximately 1,200 megawatts. This 1,200-megawatt characterization was carried over into the department's preliminary determination, project description and draft permit preamble. Notwithstanding the 1,200-megawatt characterization in the executive summary, the technical information in the permit application states that each turbine will have a net electric output of 220 megawatts. With 5 turbines at 220 megawatts, this equates to 1,100 megawatts.

Based on a conversation the department had with the applicant after reviewing the comment, the likely reason for the discrepancy between the executive summary and the technical information in the air permit application is the difference in turbine performance under ideal conditions (i.e., extremely cold conditions) as opposed to standard International Standard Organization (ISO) conditions. While at ideal conditions each proposed General Electric 7F.05 turbine could theoretically have a net electric output of approximately 240 megawatts, at ISO conditions each turbine is rated at approximately 220 megawatts. Therefore, the more accurate characterization of the power output of the project is approximately 1,100 megawatts.

The 1,200 megawatt characterization in the executive summary had no effect on emissions estimates or the department's assessment of rule applicability or application approvability. In both its air permit application and its CPCN application, the applicant proposes the installation of five General Electric 7F.05 simple cycle turbines. The 1,200-megawatt characterization in the draft permit preamble has been changed to 1,100-megawatt.

Regarding the EA completed by PSC, as discussed in response to comment 7, the DNR followed the rules and procedures contained in chapter NR 150, Wis. Adm. Code for meeting its obligations under the Wisconsin Environmental Policy Act (WEPA).

General public comment 6:

Several commenters mentioned the costs that the project will incur on We Energies rate payers.

Response to general public comment 6:

As mentioned in the response to general public comment 1, the DNR is subject to statutorily defined process and requirements when making a determination on the approvability of an air pollution control permit. Section 285.63, Wis. Stats., identifies the criteria that the DNR must consider when approving an air pollution control permit.

The DNR does not have authority to consider other criteria when determining whether to approve an air pollution control permit. The costs associated with the proposed project are outside the purview of the department's review of the sources of air pollution proposed to be located at the electric generation facility. The air pollution control permits do not constitute approval from any other DNR programs or other state, local or federal agencies from which review may be required.

For permits 24-JAM-065 and 24100769A-P43, the DNR made a preliminary finding that the draft air pollution control construction and operation permits meet the criteria for permit approval in ss. 285.63 and 285.64, Wis. Stats., as explained in the DNR's Preliminary Determination.

General public comment 7:

Several commenters state that the *DNR and PSC should complete a full Environmental Impact Statement that includes a comparison to no project and to new clean energy generation and battery storage.* These commenters also state that the *DNR was wrong in its draft finding of no significant impact.* A number of other commenters also argue in general terms that an Environmental Impact Statement (EIS) should be performed by the DNR to make its Wisconsin Environmental Policy Act (WEPA) compliance determination.

Response to general public comment 7:

WEPA sets forth the state's environmental policy and created section 1.11, Wis. Stats. Under WEPA, all state agencies must analyze, consider and disclose the anticipated environmental impacts of certain proposed actions, along with reasonable alternatives to those actions. Chapter NR 150, Wis. Adm. Code, codifies how the DNR meets its obligations under s. 1.11, Wis. Stats., and requires the DNR to evaluate the effects of DNR actions, including air permit decisions, on the human and natural environment.

This air permit decision is for an air pollution control construction permit that does not require review under chs. NR 405 or 408, Wis. Adm. Code, and is considered a minor action under s. NR 150.20(1m)(o), Wis. Adm. Code. As such, no additional environmental analysis is required for the department to comply with s. 1.11(2)(c), Wis. Stats.

This air permit decision is also for the issuance of an operation permit other than an initial operation permit and is considered a minor action under s. NR 150.20(1m)(o), Wis. Adm. Code. As such, no additional environmental analysis is required for the department to comply with s. 1.11(2)(c), Wis. Stats.

Following its own separate WEPA procedures, the Public Service Commission prepared two environmental assessments (EAs), in cooperation with the DNR as required by s. 196.025(2m), Wis. Stats., which assessed the social and environmental impacts of the LNG and combustion turbine portions of the project. Both EAs were finalized in January 2025 and resulted in a finding of no significant impact of the projects.

In its review and issuance of construction permit 24-JAM-065, the DNR has met its obligations under WEPA.

General public comment 8:

Several commenters stated concerns about the impact on local water resources due to water used for cooling leaching pollutants back into the local water as well as this water use competing with population and agricultural use.

Response to general public comment 8:

As mentioned in the response to general public comment 1, the DNR is subject to separate statutory process and requirements when making a determination on an air pollution control permit. Section 285.63, Wis. Stats., identifies the criteria that the DNR must consider when approving an air pollution control permit.

The DNR does not have authority to consider other criteria when determining whether to approve an air pollution control permit. The water impacts associated with the proposed project are outside the purview of the department's review of the sources of air pollution proposed to be located at the electric generation facility. The air pollution control permits do not constitute approval from any other DNR programs or other state, local or federal agencies from which review may be required.

For permits 24-JAM-065 and 24100769A-P43, the DNR made a preliminary finding that the draft air pollution control construction and operation permits meet the criteria for permit approval in ss. 285.63 and 285.64, Wis. Stats., as explained in the DNR's Preliminary Determination.

General public comment 9:

Commenters expressed concerns regarding environmental justice and how the project may have disproportionate impacts on different groups of people. Commenters mentioned specifically that there would be disproportionate impacts on *people of color and people of low income*.

Response to general public comment 9:

As discussed in the response to general public comment 1, the department is subject to statutorily defined processes and requirements when making a determination on the approvability of an air pollution control permit. Sections 285.63 and 285.64, Wis. Stats., identify the criteria that the department must consider when approving air pollution control construction and operation permits. The department has made a preliminary finding that the draft air pollution control construction and operation permits meet the criteria for permit approval in ss. 285.63 and 285.64, Wis. Stats., as explained in the department's Preliminary Determination.

Sections 3.3 and 3.4 of the EAs that were prepared by the PSC following its own separate WEPA procedures but in cooperation with the DNR as required by s. 196.025(2m), Wis. Stats.,[3] address environmental justice. The EAs conclude that *"Through a review of the population details available, there are no disproportionately high minority populations or low-income populations identified near the proposed*

[3] https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=531153

project that would be adversely impacted by the proposed project. In addition, the analysis in this EA finds there are no significant adverse impacts expected to occur to human health or communities, and therefore no disproportionate impacts to minority or low-income populations are anticipated."

General public comment 10:

Commenters expressed concerns that this project has had minimal public involvement and that the DNR has not done enough to engage the public to solicit comments and input.

Response to general public comment 10:

As required under s. 285.61 and 285.62, Wis. Stats., the department published notice of the preliminary determination online and in the newspaper and accepted comments for at least 30 days. At the request of members of the public, and with the agreement of the applicant, the department extended the comment period, which lasted a total of 36 days. The department also held, at the request of the applicant, a public hearing on its preliminary determination.

The permit application, preliminary determination, draft permit and all other documents supporting the preliminary permit decision are posted for public review on the DNR's website. The public notice is mailed or emailed to a statutorily required list of recipients and to interested parties that have asked to be included on such mailings. Materials in alternate formats are made available upon request.

To enhance opportunities for public engagement, the department also maintains an Air Permit Public Involvement webpage (Link: https://dnr.wisconsin.gov/topic/AirPermits/PublicInvolvement). This webpage lists air permit applications received, air permit public notices and air permit final decisions. The webpage also includes links to a number of documents intended to help the public understand the air permitting process and encourage meaningful engagement. This includes Public's Guide to the Air Permit Process (AM-338), Air Permit Decisions – Right to Appeal (AM-638), Notification Procedures for Air Permit Actions (AM-619), flowcharts of the air construction permit and air operation permit processes which identify opportunities for public involvement, an air permits glossary, and a list of commonly used acronyms.

The application for the proposed project at Oak Creek was first posted on the Air Permit Public Involvement webpage in April of 2024.

2.2 Comments from the applicant

Applicant comment 1: *"In the Department's analysis and preliminary determination (PD), page 6, the Department states "After completion of the project associated with construction permit 24-JAM- 065, the OCPP boilers will be removed." Please note that this should say "…removed from service." The OCPP boilers will be retired and permanently decommissioned after construction is completed, however the boilers will not be physically removed at this time."*

Response to applicant comment 1: The draft proposed permit requires that the units be *"…permanently and physically inoperable…"* under condition I.YYYa.5.a.(1). The statement in the PD that the units will be removed is an error. The department's preliminary determination is a final document on the date it is signed. The information in this summary of changes and comments document supplements the information in the preliminary determination and will be considered by the department when making a final determination on the issuance of the permits.

Applicant comment 2: "*In the PD, also on page 6, the Department states "Coal is delivered to the site by rail car, mechanically dumped, and mechanically conveyed to either of the power plants, active storage (inside storage piles), or inactive storage (outside storage piles)." Please note that this should say "Coal is delivered to the site by rail car, mechanically dumped, and mechanically conveyed to either of the power plants, ~~active storage (~~inside storage piles~~)~~, or ~~inactive storage (~~outside storage piles~~)~~."*

Response to applicant comment 2: The applicant provided a comment clarifying the source description in the PD. This clarification does not impact the approvability of the project. The department's preliminary determination is a final document on the date it is signed. The information in this summary of changes and comments document supplements the information in the preliminary determination and will be considered by the department when making a final determination on the issuance of the permits.

Applicant comment 3: *"Please note the following corrections to Table 4-1 in the PD:*

- *Processes P411 to P414, the four LNG vaporizer heaters, will not be equipped with low NOx burners as a control device.*

- *Process P418, LNG Facility Commissioning, will utilize a flare as a control device (C418)."*

Response to applicant comment 3: Processes P411 to P414 in the original permit application were proposed to use low NO_X burners, however updates to the application changed process P411 and P414 such that low NO_X burners would no longer be equipped with said technology. The emissions calculations use the correct emission factors for the proposed processes, therefore this is a typographical error. Similarly, omitting flare C418 in table 4-1 was a typographical error. The department's preliminary determination is a final document on the date it is signed. The information in this summary of changes and comments document supplements the information in the preliminary determination and will be considered by the department when making a final determination on the issuance of the permits.

Applicant comment 4: "*We would like to provide clarification on the potential nitrogen oxide (NOx) emissions from the five combustion turbines (CTs), identified as Processes P401 to P405. Under NR 428.04(2)(g), Wisconsin Administrative Code, the CTs will be subject to a NOx limit of 12 parts per million (ppm), corrected to 15% oxygen, on a 30-day rolling average. This limit includes normal operation and startup and shutdown events. Each CT will have a heat input limit of 4,246,000 MMBtu in any 12 consecutive month period. Based on the 12 ppm and heat input limits, this equates to 469.2 tons per year of NOx emissions for the five CTs combined. The CTs will also be limited to 2,500 startup and shutdown events combined, equal to 111.0 tons per year of NOx emissions. However, the 111.0 tons per year from startup and shutdown events are included in the 469.2 tons per year based on the NR 428 limit of 12 ppm on a 30 day rolling average, not in addition to it.*

In Table 5-4, page 14 of the PD, the Department lists 469.2 tons per year of NOx emissions under the "Normal Operation" column and the 111.0 tons per year in the "Startup / Shutdown" column. Footnote 21 for Table 5-4 correctly states that the 12 ppm NOx limit (469.2 tons) includes startup and shutdown; however, in the "Potential to Emit" column the Department has added the 469.2 and 111.0 tons together, and shows 580.2 tons per year for NOx emissions. This value equates to 14.8 ppm, corrected to 15% oxygen, based on the above noted heat input limit the CTs will be subject to.

In addition to Table 5-4, the potential NOx emission rate of 580.2 tons per year for the CTs is listed or incorporated in several other tables the PD:

- *Tables 6-9 and 6-10 on pages 47 and 48, respectively. The correct "New Units" NOx emissions are 500 tons per year.*

- *Table 6-15 on page 55. The correct "New Project Emission Units and B18/B19" NOx emissions are 500 tons per year and the resulting "Net Emissions Increase (Decrease)" is (1,074.2) tons per year.*

- *Tables 11-1 and 11-2 on page 107. The correct "Five (5) Combustion Turbines Processes P401 – P405" NOx value is 469.2 tons per year. Subsequently, the correct "Total Project" NOx emissions on Table 11-2 is 500 tons per year."*

Response to applicant comment 4: The applicant has correctly identified an error regarding NO_X emissions

in the preliminary determination.

With respect to NO_X emissions, the allowable emissions are based on the performance standard in s. NR 428, Wis. Adm. Code of 12 ppmdv at 15% O_2, which includes periods of startup and shutdown. Therefore, NOx emissions are based on only the normal operation emission rate of 12 ppmdv at 15% O_2. In other words, the calculated 110.0 NO_X tons per year emitted from the CTs is included already in the 469.2 NO_X tons per year calculation of normal operation. The department inadvertently added the 110.0 tons per year of NO_X to the 469.2 tons per year of NO_X, effectively double counting emissions from startup and shutdown. Accordingly, the following tables should correctly read:

- Table 5-4, Potential to Emit ton/year for NO_X, 469.2
- Table 6-9, New Units NO_X, 500
- Table 6-10, Step 1 Emissions Increase (ton/yr) NO_X, 500
- Table 6-16, New Project Emission Units and B18/B19" NOx emissions are 500 tons per year and the resulting "Net Emissions Increase (Decrease)" is (1,074.2) tons per year
- Table 11-1, Five (5) Combustion Turbines Processes P401 – P405, NOx value is 469.2 tons per year.
- Table 11-2, Total Project, NOx emissions is 500 tons per year."

As this error meant a more conservative emissions estimate, using the correct number does not impact permit approvability or applicability. The department's preliminary determination is a final document on the date it is signed. The information in this summary of changes and comments document supplements the information in the preliminary determination and will be considered by the department when making a final determination on the issuance of the permits.

Applicant comment 5: *"In the preamble to the draft permit, section BA, we are requesting a change to the descriptions of the Elm Road Units 1 and 2, Boilers B18 and B19. In the last sentence of each unit's description, we request the following be added: "The boiler was modified under construction permit 12-SDD-047 to add subbituminous coal and was also modified under construction permit 22-JAM- 039 to use natural gas as a primary or supplemental fuel.""*

Response to applicant comment 5: This change is acceptable and will be made as requested. This change has no impact on rule applicability, permit conditions or permit approvability.

Applicant comment 6: *"We are requesting the following changes to draft permit conditions:*

- *I.BA.1.c.(9): The permittee shall comply with the following requirements for the bag leak detector:*
    - *(a) Do a built-in self-check by powering down the active head unit on a monthly basis or;*
    - *(b) As new bag leak detectors are installed, complete a check of the sensor's internal error status on a monthly basis, this will take the place of powering down the unit to perform a self-check;*

  There are no requested changes to I.BA.1.c.(9)(c), (d), or (e).

- *I.DD.1.a.(3)(a): The fly ash shall be unloaded inside an enclosure with at least three side ~~with~~ walls that are at least eight (8) feet tall.*
- *I.EA.1.a.(1): Except during periods of startup and shutdown, CO emissions may not exceed 15*

parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 24-hour rolling average.

- *I.EA.1.b.(4) and I.EA.2.b.(3): Y = the measured average volumetric oxygen concentration as determined using the diluent gas CEMS.*

- *I.EA.1.b.(8): The permittee shall submit a Quality Assurance and Quality Control (QA/QC) Plan for the carbon monoxide and diluent gas CEMS to the department for review within 120 days after implementing the operating scenario in section I.EA.1.*

- *I.EA.1.b.(9): The permittee shall follow the QA/QC Plan for the carbon monoxide and diluent gas CEMS prior to department approval of the QA/QC Plan, and as approved by the department.*

- *We are requesting the deletion of condition I.EA.2.b.(5)(c) as it is not applicable for 30- day rolling average limits under NR 439.*

- *I.EA.5.b.(3)(a):The permittee shall monitor VOC emissions during operation as determined by the equation:*

  VOC actual = VOClimit x (COactual / COlimit)

  where:

  VOCactual = VOC emission rate, lb/hr

  VOClimit = 4.8 lb/hr

  COactual = CO actual emission rate, ppmdv at 15% O2 as determined by the CEMS required in condition I.EA.1.b.(2)

  COlimit = 15 ppmdv at 15% O2

- *I.FC.1.b.(1): The recordkeeping requirements methods under I.FC.1.c.(1) shall serve as the compliance demonstration methods for the ~~visible~~ emissions limitation in I.FC.1.a.(1)."*

Response to applicant comment 6: The applicant submitted a comment to clarify some permit conditions and correct minor typographical errors. Excepting the requested edits to condition I.BA.1.c.(9), these suggestions are acceptable and the changes will be made as described above. Condition I.BA.1.c.(9) will be edited to read as follows:

I.BA.1.c.(9): The permittee shall comply with the following requirements for the bag leak detector:

(a) Do a built-in self-check by powering down the active head unit on a monthly basis or;

(b) ~~As new bag leak detectors are installed,~~ complete a check of the sensor's internal error status on a monthly basis~~, this will take the place of powering down the unit to perform a self-check;~~

Applicant comment 7: *"Section I.EA.8 of the draft permit includes applicable requirements for the five new CTs under 40 CFR Part 60, Subpart TTTTa: Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units. On March 12, 2025, the United States Environmental Protection Agency (EPA) announced that they will reconsider this rule. Due to the ongoing reconsideration of this rule, we are requesting language be added to clarify that this section of the permit*

would not apply if Subpart TTTTa is stayed, overturned, withdrawn, or otherwise made legally ineffective. We are requesting the following statement be added to the title section of the permit table as shown below:

> *8. 40 CFR 60, Subpart TTTTa – Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units [40 CFR part 60, subpart TTTTa, as published in the Federal Register May 9, 2024]*

The permit condition numbers in this section of the permit are the associated provision numbers from the relevant standard as they appear in the above referenced Part and Subpart of Title 40 of the Code of Federal Regulations. References to provisions of Title 40 of the Code of Federal Regulations contained within the permit conditions reference permit conditions with the same number as the referenced provision. This section of the permit only applies while Subpart TTTTa is in effect. If Subpart TTTTa is overturned, stayed, withdrawn, or is no longer in effect, this section of the permit would not apply."

Response to applicant comment 7: 40 CFR part 60 subpart TTTTa was published in the federal register May 9, 2024. The applicant requests that a qualifying sentence be included in the header to the permit table for this subpart that states the subpart will not apply if it is overturned, stayed, withdrawn, or is no longer in effect. This is true for any federal standard, and it is not department policy to include such qualifying statements in permits.

Applicant comment 8: "*Several of the proposed new sources will be subject to 40 CFR Part 63, Subpart DDDDD: National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. For consistency among the applicable Subpart DDDDD requirements that are incorporated into the permit, we are requesting the following be added to Conditions I.EC.3.a. and I.FB.4.a.:*

***(63.7540)** Continuous compliance demonstration*

***(a)** You must demonstrate continuous compliance the work practice standards in Table 3 to this subpart.*

> ***(1)-(9)** [Intentionally left blank]*
>
> ***(10)** If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in § 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.*
>
> > ***(i)** As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;*
> >
> > ***(ii)** Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;*
> >
> > ***(iii)** Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next*

scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;

(iv) *Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOX requirement to which the unit is subject;*

(v) *Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and*

(vi) *Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,*

(A) *The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;*

(B) *A description of any corrective actions taken as a part of the tune-up; and*

(C) *The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.*

(11)-(12) *[Intentionally left blank]*

(13) *If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup*

(14)-(19) *[Intentionally left blank]*

(b)-(d) *[Intentionally left blank]"*

Response to applicant comment 8: The change as the applicant has proposed is acceptable because the boilers are subject to work practice standards under Table 3 to 40 CFR part 63 subpart DDDDD and are equal to or greater than 10 MMBtu/hr. Therefore, the compliance demonstration requirements under 40 CFR 63.7540(a)(10) apply. The draft permit will be updated as requested.

3 Reconsideration of Background Concentrations used in Air Quality Analysis

In response to the May 15, 2025 Wisconsin Court of Appeals decision in the case *Sierra Club v. Wisconsin Department of Natural Resources*, the Department has reconsidered background concentrations used in the air quality analysis performed in support of approval for air permit 24-JAM-065.

Background concentrations are included in air quality analyses to account for emissions sources not explicitly modeled, such as distant industries, mobile sources, and residences. We Energies Oak Creek Power Plant is located in the City of Oak Creek, Milwaukee County, Wisconsin. The city has a population of about 36,500 people, so background concentrations were determined by examining State of Wisconsin ambient air monitoring data from similar locations. Background concentrations for nitrogen dioxide (NO_2) were determined using data collected in the City of Milwaukee.

Using background concentrations determined as described above, the impact of the source on ambient concentrations of NO_2 is the same as the impact described in the preliminary determination for permit 24-

JAM-065. Therefore, the department's finding that the source will not cause or exacerbate a violation of the ambient air quality standards or ambient air increments is unchanged. No changes will be made to the draft permit due to the reconsideration of background concentrations.

4 Proposed Permit for U.S. EPA Review

DNR will prepare a proposed operation permit, and U.S. EPA will have a sequential 45-day period to review the proposed permit before DNR makes a final decision on permit issuance. U.S. EPA can object to the issuance of a Part 70 operation permit during their 45-day review period. There is a 60-day period after the end of U.S. EPA's 45-day review period, during which time individuals who commented on a Part 70 operation permit may petition U.S. EPA to object to the issuance of the permit. For more information on U.S. EPA's Title V petition process visit: Title V Petitions | US EPA. To determine the U.S. EPA Title V petition deadline visit DNR's Public Notices (wi.gov) webpage, search for We Energies-Oak Creek Power Plant, permit number 24-JAM-065 in the table, and find the Title V petition period end date. For more information on U.S. EPA's role in protecting air quality visit: Air Topics | US EPA. For more information on the air pollution control permit process see the Citizen's Guide to the Air Permit Process (AM-338 [pdf]).

Appendix B: Application for Construction Permit 24-JAM-065 (Sections 3.3 and 7.1-7.3)

3.3 Air Emissions Analysis.

Potential emissions for the General Electric Model 7F.05 simple cycle combustion turbine generators are based on GE's design data in Table 3-1. Each combustion turbine has a maximum net electric generating capacity of 220 megawatts (MW) at ISO standard conditions when firing natural gas at ISO standard conditions. Potential emissions are also based on the use of dry low NO_x lean premix combustion systems. The following are the major bases for hourly emissions in this analysis:

1. Maximum design nominal fuel flow of 2,424 mmBtu/hr based on the higher heating value (HHV) of natural gas at a minimum design ambient temperature of -15.5 °F.
2. Combustion of pipeline natural gas with a sulfur dioxide (SO_2) emission rate of 0.0006 lb SO_2/mmBtu from the Acid Rain Program in 40 CFR Part 75.
3. During normal operation, an allowable CO emission rate of 15 ppmdv at 15% O_2, equal to 0.0335 lb/mmBtu.
4. During normal operation, an allowable NO_x emission rate of 12 ppmdv at 15% O_2, equal to 0.0442 lb NO_x/mmBtu.
5. During normal operation, an allowable VOC emission rate of 4.8 pounds per hour, equal to 2.1 ppmdv at 15% O_2 and 0.0020 lb/mmBtu.
6. An allowable PM emission rate of 25 pounds per hour, equal to 0.01 lb/mmBtu at 100% load.
7. All filterable plus condensable PM emissions are also assumed to be PM_{10} and $PM_{2.5}$ emissions.
8. Startup/shutdown (SU/SD) emissions data for CO, NO_x, and VOC emissions are from General Electric and include the combined emissions for one startup and one shutdown.
9. The emission factors for greenhouse gases including carbon dioxide (CO_2), nitrous oxide (N_2O) and methane (CH_4) are from 40 CFR 98, Tables C-1 and C-2. The CO_2e factors are from 40 CFR 98, Subpart A, Table A-1.

3.3.1 Emissions During Normal Operation.

Normal operations include all operation that is not startup and shutdown operation. During normal operation, the combustion turbines are operating in full premix mode. And while the combustion turbines may be changing load, the combustion conditions are essentially stable. The normal operation emissions for each CTG, based on the above bases and proposed allowable emission rates, are summarized in Table 3-2.

TABLE 3-2. Maximum potential emission rates for each GE Model 7F.05 CTG during normal operation.

Pollutant		Heat Input	Emission Rate		
		mmBtu/hr	lb/mmBtu	ppm @ 15% O_2	lb/hr
Carbon Monoxide	CO	2,424	0.0335	15	81.2
Nitrogen Oxides	NO_x	2,424	0.0422	12	107.1
Particulate Matter	PM	2,424	0.010		25.0
Particulate Matter	PM_{10}	2,424	0.010		25.0
Particulate Matter	$PM_{2.5}$	2,424	0.010		25.0
Sulfur Dioxide	SO_2	2,424	0.0006		1.45
Vol. Org. Compounds	VOC	2,424	0.0020	2.1	4.8
Sulfuric Acid Mist	H_2SO_4	2,424	0.0003		0.727
Fluorides (F)	F	2,424	0.0000		0.000
Lead	Pb	2,424	0.0000005		0.0012
Carbon Dioxide	CO_2	2,424	117.0		283,500
Greenhouse Gases	CO_2e	2,424	117.1		283,793

Footnotes

1. CO and NO_x emissions during normal operation are calculated based on concentrations of 15 and 12 ppmdv corrected to 15% excess oxygen according to the following equations from 40 CFR Part 60, Appendix A, Reference Method 19, Eq. 19-1 and 40 CFR Part 75, Appendix F, Eq. F-5:

$$E_{NOx} = K_{NOx}\, C_d\, F_d\, \frac{20.9}{20.9 - \%O_{2d}} \qquad E_{CO} = K_{CO}\, C_d\, F_d\, \frac{20.9}{20.9 - \%O_{2d}}$$

Where, E = Pollutant emission rate, lb/mmBtu
C_d = Pollutant concentration during unit operation, ppmdv
F_d = 8,710 dscf/mmBtu for natural gas
$\%O_2$ = Oxygen concentration, percent by volume, dry basis, = 15%
K_{CO} = 7.237×10^{-8} lb/dscf-ppm CO
K_{NOx} = 1.194×10^{-7} lb/dscf-ppm NO_x

2. PM emissions are based on a proposed emission rate of 25.0 pounds per hour, equal to 0.01 lb/mmBtu at 100% load.
3. All filterable plus condensable PM_{10} emissions are also assumed to be $PM_{2.5}$ emissions.
4. Sulfur dioxide (SO_2) emissions are based on the emission factor for the combustion of pipeline natural gas from the Acid Rain Program in 40 CFR Part 75 of 0.0006 lb SO_2/mmBtu.
5. VOC emissions during normal operation are calculated based on a proposed emission rate of 4.8 pounds per hour, equal to a concentration of 2.1 ppmdv corrected to 15% excess oxygen and reported as methane.
6. Lead (Pb) emissions are based on the emission factor from the U.S. EPA's *AP-42*, Table 1.4-2.
7. The emission factors for greenhouse gases including CO_2, N_2O and CH_4 are from 40 CFR 98, Tables C-1 and C-2. The CO_2e factors are from 40 CFR 98, Subpart A, Table A-1.

3.3.2 Emissions During Startup and Shutdown.

The combustion turbine dry low NO_x combustion systems used to control NO_x emissions are by necessity not in the full premix mode during startup. As a result, CO, NO_x, and VOC emission rates may be elevated during periods of startup and shutdown as compared to the steady-state rates. However, the emission rates for PM, PM_{10}, and $PM_{2.5}$ emissions, SO_2, sulfuric acid mist, lead (Pb), CO_2, and GHG emissions, expressed in pounds per million Btu of heat input (lb/mmBtu), are not affected by the premix mode and are therefore not expected to be elevated during periods of startup and shutdown. The potential to emit for these pollutants, expressed in tons per year, are instead only a function of the allowable heat input to the CTGs, expressed in mmBtu per year.

Table 3-3 is a summary of the startup and shutdown duration, the expected fuel consumption, expressed as mmBtu, and the PSD regulated air pollutant emissions. As noted above, the emission rates for PM, PM_{10}, and $PM_{2.5}$ emissions, as well as SO_2, sulfuric acid mist, Pb, CO_2, and GHG emissions, expressed in lb/mmBtu, are not expected to be elevated during periods of startup and shutdown. For this reason, the highest mass emission rate for these pollutants, expressed in pounds per hour, occur during normal operation at 100% of the rated capacity of the CTs. ***Further, the total mass emissions of PM, PM_{10}, $PM_{2.5}$, SO_2, sulfuric acid mist, Pb, CO_2, and GHG emissions, expressed in tons per year, are accumulated based only on heat input and the respective pollutant emission rate, expressed in lb/mmBtu. With respect to NO_x emissions, the allowable emissions are based on the performance standard in NR 428, Wis. Adm. Code of 12 ppmdv at 15% O_2, which has been interpreted to include periods of startup and shutdown. Therefore, NO_x emissions are based on only the normal emission rate of 12 ppmdv at 15% O_2.***

TABLE 3-3. Maximum potential emission rates for each GE Model 7F.05 CTG during startup and shutdown.

Pollutant		Startup			Shutdown			TOTAL SU/SD EMISSIONS	
		Duration	Heat Input	Emissions	Duration	Heat Input	Emissions		
		minutes	mmBtu	lb	minutes	mmBtu	lb	lb/mmBtu	lb/event
Carbon Monoxi	CO	21	99.9	310.0	13	133.2	167.1	2.047	477.1
Nitrogen Oxides	NO_x	21	99.9	57.1	13	133.2	31.7	0.381	88.8
Part. Matter	PM	21	99.9	1.03	13	133.2	1.37	0.010	2.4
Part. Matter	PM_{10}	21	99.9	1.03	13	133.2	1.37	0.010	2.4
Part. Matter	$PM_{2.5}$	21	99.9	1.03	13	133.2	1.37	0.010	2.4
Sulfur Dioxide	SO_2	21	99.9	0.06	13	133.2	0.08	0.0006	0.1
Vol. Org. Cmpd	VOC	21	99.9	37.6	13	133.2	15.4	0.227	53.0
Sulf. Acid Mist	H_2SO_4	21	99.9	0.030	13	133.2	0.040	0.0003	0.070
Fluorides (F)	F	21	99.9	0.000	13	133.2	0.000	0.000	0.000
Lead	Pb	21	99.9	0.00005	13	133.2	0.00007	.0000005	0.00012
Carbon Dioxide	CO_2	21	99.9	11,686	13	133.2	15,581	117.0	27,267
Greenhouse Gas	CO_2e	21	99.9	11,698	13	133.2	15,597	117.1	27,295

3.3.3 Proposed Voluntary Emission Limits and Potential to Emit.

With this application, We Energies is proposing the following emission limits which are designed to limit the potential emissions for each new Model 7F.05 simple cycle CTG, and for all five (5) CTGs combined, as well as the emissions units for the LNG facility below the federal New Source Review and Prevention of Significant Deterioration (PSD) significant net emissions increase levels. Table 3-4 is a summary of the potential PSD regulated emissions for each new Model 7F.05 simple cycle CTG, and for all five (5) CTGs combined based on these proposed emission limits.

3.3.3.1 Carbon monoxide (CO) emission limits.

1. During normal operation, carbon monoxide (CO) emissions may not exceed 15 parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 24-operating hour average. Compliance with this limit will be with the use of a CO continuous emissions monitoring system.
2. During periods of startup and shutdown, CO emissions may not exceed:
   a. 310 pounds per startup event, and
   b. 167.1 pounds per shutdown event.

3.3.3.2 Nitrogen oxides (NO_x) emissions limits.

1. Nitrogen oxides (NO_x) emissions may not exceed 12 parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 30-day average including periods of startup and shutdown. Compliance with this limit will be with the use of a NO_x continuous emissions monitoring system.
2. During periods of startup and shutdown, NO_x emissions may not exceed:
   a. 57.1 pounds per startup event, and
   b. 31.7 pounds per shutdown event.

3.3.3.3 Particulate matter (PM), PM_{10}, and $PM_{2.5}$ emission limits.

1. Particulate matter (PM) emissions may not exceed 25.0 pounds per hour, based on a 3-hour average.

3.3.3.4 Volatile organic compound (VOC) emission limits.

1. During normal operation, volatile organic compound (VOC) emissions may not exceed 4.8 pounds per hour, based on a 3-hour rolling average.
2. During periods of startup and shutdown, CO emissions may not exceed:
   a. 37.6 pounds per startup event, and
   b. 15.4 pounds per shutdown event.

3.3.3.5 Operational Limits.

1. The total heat input to the combustion turbine units P401, P402, P403, P404, and P405 combined may not exceed 21,231,000 mmBtu in any consecutive 12-month period.
2. The total number of combined startup and shutdown (SU/SD) events for the combustion turbine units P401, P402, P403, P404, and P405 combined may not exceed 2,500 SU/SD events in any consecutive 12-month period.

TABLE 3-4. Potential emissions for each new Model 7F.05 simple cycle CTG and for all five (5) CTGs combined based on the proposed emission limits in this application.

Pollutant		Each Combustion Turbine					Five (5) Combustion Turbines Combined				
		Heat Input	Normal Operation			Startup / Shutdown	Normal Operation		Startup / Shutdown		Potential to Emit
		mmBtu / hour	lb / mmBtu	ppm @ 15% O_2	lb/hr	lb / event	mmBtu / year	ton / year	event / year	ton / year	ton / year
Carbon Monoxide	CO	2,424	0.0335	15	81.2	477.1	21,231,000	355.6	2,500	596.4	952.0
Nitrogen Oxides	NO_x	2,424	0.0442	12	80.5	88.8	21,231,000	469.2	2,500	111.0	469.2
Particulate Matter	PM	2,424	0.010		25.0	2.4	21,231,000	109.5	2,500	3.0	109.5
Particulate Matter	PM_{10}	2,424	0.010		25.0	2.4	21,231,000	109.5	2,500	3.0	109.5
Particulate Matter	$PM_{2.5}$	2,424	0.010		25.0	2.4	21,231,000	109.5	2,500	3.0	109.5
Sulfur Dioxide	SO_2	2,424	0.0006		1.45	0.14	21,231,000	6.4	2,500	0.2	6.4
Vol. Org. Cmpds	VOC	2,424	0.0020	2.1	4.8	53.0	21,231,000	21.0	2,500	66.3	87.3
Sulfuric Acid Mist	H_2SO_4	2,424	0.0003		0.727	0.070	21,231,000	3.2	2,500	0.1	3.2
Fluorides (F)	F	2,424	0.0000		0.000	0.0000	21,231,000	0.0000	2,500	0.000	0.0
Lead	Pb	2,424	0.0000005		0.0012	0.00012	21,231,000	0.0053	2,500	0.00015	0.005
Carbon Dioxide	CO_2	2,424	117.0		283,500	27,267	21,231,000	1,241,760	2,500	34,083.9	1,241,760
Greenhouse Gases	CO_2e	2,424	117.1		283,793	27,295	21,231,000	1,243,042	2,500	34,119.1	1,243,042

Footnotes

1. Potential CO emissions are based on a limit of 15 ppmdv corrected to 15 percent oxygen, based on a rolling, 24-operating hour average.
2. Potential NO_x emissions are based on a limit of 12 ppmdv corrected to 15 percent oxygen, based on a 30-day average including startup and shutdown.
3. Potential PM, PM_{10}, or $PM_{2.5}$ emissions are based on a limit of 25 lbs/hr, based on a rolling, 3-hour average.
4. Potential VOC emissions are based on a limit of 4.8 lbs/hr, based on a rolling, 3-hour average.
5. Potential emissions are based on a proposed heat input limit to all five CTGs combined of 21,231,000 mmBtu in any consecutive 12-month period.
6. Potential emissions are based on a total number of combined startup and shutdown (SU/SD) events of 2,500 events in any consecutive 12-month period.

Chapter 7. Proposed Emission Limits.

The following is a summary of the proposed emission limits for each emissions unit in this application.

7.1 Combustion Turbines, Process P401 to P405.

7.1.1 Carbon monoxide (CO) emission limits.

1. During normal operation, carbon monoxide (CO) emissions may not exceed 15 parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 24-operating hour average. Compliance with this emission limit shall be demonstrated using a CO continuous emissions monitoring system (CO CEMS).
2. During periods of startup and shutdown, CO emissions may not exceed:
    a. 310 pounds per startup event, and
    b. 167.1 pounds per shutdown event.

7.1.2 Nitrogen oxides (NO_x) emissions limits.

1. Nitrogen oxides (NO_x) emissions may not exceed 12 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 30-day rolling average basis. Compliance with this emission limit shall be demonstrated using a NOx continuous emissions monitoring system (NOx CEMS).

7.1.3 Alternative nitrogen oxides (NO_x) emission limits.

1. During normal operation, nitrogen oxides (NO_x) emissions may not exceed 9 parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 30-day rolling average.
2. During periods of startup and shutdown, NO_x emissions may not exceed:
    a. 57.1 pounds per startup event, and
    b. 31.7 pounds per shutdown event.

7.1.4 Particulate matter (PM), PM_{10}, and $PM_{2.5}$ emission limits.

1. Particulate matter (PM) emissions may not exceed 25.0 pounds per hour, based on a 3-hour rolling average.

7.1.5 Volatile organic compound (VOC) emission limits.

1. During normal operation, volatile organic compound (VOC) emissions may not exceed 4.8 pounds per hour, based on a 3-hour rolling average.
2. During periods of startup and shutdown, CO emissions may not exceed:
    a. 37.6 pounds per startup event, and
    b. 15.4 pounds per shutdown event.

7.1.6 Operational Limits.

1. The total heat input to the combustion turbine units P401, P402, P403, P404, and P405 combined may not exceed 21,231,000 mmBtu in any consecutive 12-month period.
2. The total number of combined startup and shutdown (SU/SD) events for the combustion turbine units P401, P402, P403, P404, and P405 combined may not exceed 2,500 SU/SD events in any consecutive 12-month period.

7.2 LNG Facility Emissions Units.

1. The operation of the LNG vaporizer heaters, Processes P411, P412, P413, and P414, combined may not exceed 8,760 hours in any consecutive 12-month period.
2. The operation of the LNG process startup and maintenance venting, Process P416, may not exceed 500 hours in any consecutive 12-month period.
3. The total amount of gas vented from the LNG facility commissioning, Process P417, may not exceed 2,600,000 pounds in any consecutive 12-month period.
4. The gases vented from the LNG facility commissioning, Process P418, shall be vented to an enclosed temporary or mobile flare with a VOC destruction efficiency of at least 95%.

7.3 Proposed alternative site-specific emission limitation for the combustion turbines under NR 428, Wis. Adm. Code.

7.3.1 Performance standards under NR 428.04.

Chapter NR 428, Wis. Adm. Code, includes requirements and performance standards for new or modified emissions units that are located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha and that are constructed after February 1, 2001. NR 428.04(2)(g)1.a. has the following emission limit for gaseous fuel-fired combustion turbines:

a. 12 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 30–day rolling average basis for a simple cycle combustion turbine with a maximum design power output of 85 MWe or greater.

We Energies has concluded that a limit of 12 ppmdv corrected to 15% oxygen, on a 30–day rolling average basis, and including periods of startup and shutdown, is not technically feasible for these simple cycle combustion turbine peaking units. NR 428.055 allows an owner or operator to request an alternative site-specific emission limitation. This section states:

NR 428.055 Alternatives.

(1) ALTERNATIVE AUTHORITY. The owner or operator of a NOx emissions source may submit a request to the department requesting approval to establish an alternative site-specific emission limitation to one or more of the requirements under s. NR 428.04 or 428.05. The owner or operator shall demonstrate that compliance with requirements under s. NR 428.04 or 428.05 are technologically or economically infeasible. Application for an alternative to any emission limitation under this subchapter does not become effective until approved by the department and the administrator as a site-specific SIP revision and shall be subject to requirements under subs. (2) to (5).

(2) ALTERNATIVE CRITERIA. The department may not approve an alternative site-specific emission limitation under sub. (1) unless:

(a) The alternative will not delay attainment or prevent maintenance of any ambient air quality standard, as determined by methods acceptable to the department.

(b) The owner or operator of the air contaminant source for which an alternative is requested demonstrates that all other direct or portable sources that it owns or operates in the state are in compliance with all applicable requirements under chs. NR 400 to 499 or are on a schedule for compliance with the requirements.

(c) The owner or operator submits to the department information concerning the conditions or special circumstances that demonstrate, to the department's satisfaction, that the applicable requirements from which variance is sought are technologically or economically infeasible. In addition, all of the following conditions are applicable:

1. The owner or operator shall submit proposed emission limitations to the department in writing.

2. The responsible official shall sign the request for alternatives on behalf of the owner or operator.

3. The owner or operator shall submit other relevant information as required by the department.

(3) PROCEDURES FOR ISSUANCE OF ALTERNATIVES. The department, in acting upon any request for an alternative site-specific emission limitation under this section, shall do all of the following:

(a) Act on requests for alternatives within 3 months of the filing of a completed request.

(b) Offer, through public notice, the opportunity for public comments including, where requested, a public hearing.

(c) State in writing the reasons for denying, granting, or for granting in modified form any request.

7.3.2 RACT Performance standards under NR 428.22.

Subchapter IV of NR 428 includes NO_x Reasonably Available Control Technology (RACT) requirements for facilities located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, or Waukesha and with maximum theoretical NO_x emissions combined equal to or greater than 100 tons per year. The NO_x RACT emission standards for natural gas-fired combustion turbines under NR 428.22(1)(g) are:

> (g) *Simple cycle combustion turbines.* For a simple cycle combustion turbine, one of the following exhaust outlet concentrations, corrected to 15% O_2 and at ambient temperatures greater than 0°F, as applicable:
>
> 1. For a unit with a maximum design power output equal to or greater than 50 megawatts, one of the following, as applicable:
>
> a. If natural gas–fired, 25 parts per million dry volume.

This limit also based on a 30–day rolling average basis and including periods of startup and shutdown.

We Energies has also concluded that the limit of 25 ppmdv corrected to 15% oxygen, on a 30–day rolling average basis, and including periods of startup and shutdown, is not technically feasible emission limits for these simple cycle, peaking units which will startup and shutdown frequently. NR 428.055 allows an owner or operator to request an alternative site-specific emission limitation. This section states:

> **NR 428.25 Alternative compliance methods and approaches.**
>
> **(3)** ALTERNATIVE RACT REQUIREMENT. (a) The owner or operator of an emissions unit may request that the department establish an alternative emission limitation or alternative compliance deadline to the requirements in s. NR 428.22 if the owner or operator demonstrates that it is economically or technically infeasible to meet the requirement.
>
> (b) The owner or operator of the emissions unit shall submit the request with the demonstration for an alternative RACT requirement by the following deadlines:
>
> 1. By May 1, 2008 for an emissions unit subject to a compliance date of May 1, 2009.
>
> 2. By May 1, 2011 for an emissions unit subject to a compliance date of May 1, 2013.
>
> 3. By May 1 of the year following the calendar year in which an emissions unit first becomes subject to an emission limitation in s. NR 428.22, if the emissions unit first becomes subject to an emission limitation in s. NR 428.22 after December 31, 2007.
>
> (c) Any request for an alternative RACT requirement made under this subsection shall be subject to the requirements and procedures of s. NR 436.05 and written approval of the administrator.

7.3.3 Technical Feasibility Analysis.

This technical feasibility analysis is being conducted to demonstrate that both the NO_x performance standard in NR 428.04(2)(g)1.a. and the NOx RACT requirement in NR 428.22(1)(g) are technically infeasible for these proposed CTGs.

As discussed in Chapter 2, WEC is implementing a clean energy blueprint to reduce carbon emissions 80% below 2005 levels by the end of 2030. As part of its Generation Reshaping Plan, WEC plans to retire over 1,600 MW of older, less efficient coal-fired generation from its fleet within the next few years and build 3,800 MW of renewable generation and battery storage This substantial shift to renewable generation significantly changes the electric power production curve and makes it more difficult to provide continuous energy production and the reliability that customers require. This Project provides the capacity, base load, and peaking generation WEC will need at the lowest cost, and provides additional benefits such as ramping, dynamic voltage control, system inertia, and frequency response necessary for electric system stability.

This change to the electric energy supply portfolio to include large amounts of wind, solar, and storage generating capacity will require the addition of continuous supply or firm electric generating capacity with the ability to quickly ramp up and down generation. These proposed CTGs will be a part of this new continuous supply or firm electric generating capacity. These CTGs will operate primarily as peaking capacity which must startup quickly, ramp up rapidly to the electric power requirements of the grid, and then rapidly shutdown when the generation is no longer required. Typical dispatch of these CTGs is expected to be from one to six hours on a daily basis. In some instances, the CTGs may be called upon to startup and shutdown several times each day.

The applicable emission limit for these new CTGs under NR 428.04(2)(g)1.a., Wis. Adm. Code is 12 ppmdv corrected to 15% oxygen based on a 30-day rolling average. The Department has interpreted this emission standard to include all periods of operation, including periods of startup and shutdown. In accordance with NR 428.23(2)(a), Wis. Adm. Code, the average emission rate shall be the average of the hourly average emissions for the hours the emissions unit operated during the averaging period, and the 30-day rolling period shall consist of the day of monitoring and the previous 29 consecutive calendar days.

The combustion turbine dry low NO_x combustion systems used to control NO_x emissions are not in the full premix mode during startup and shutdown. As a result, NO_x emissions are elevated during periods of startup and shutdown. The expected duration, NO_x concentration, and NO_x mass emissions for a conventional startup, a peak startup, and a shutdown for the proposed GE 7F.05 CTGs are summarized in Table 7-1.

TABLE 7-1. Expected duration, NO_x concentration, and NO_x mass emissions for a conventional startup, a peak startup, and a shutdown for the GE 7F.05 CTGs.

Startup/Shutdown Operation	Duration minutes	NO_x Concentration ppmdv @ 15% O_2	Emissions lb
Conventional Start	16.4	69.1	57.1
Peak Start	7.4	72.6	25.9
Shutdown	5.1	64.6	31.7
Maximum Combined SU/SD Event	21.5		88.8
Maximum, Normal Operation	60	9	72.2

These CTGs will be dispatched by the Midcontinent Independent System Operator (MISO). Electric generating units are dispatched by MISO when needed to meet power supply requirements. As a result, We Energies cannot control when these units may be dispatched. Compliance with the NR 428 limit is based on hourly average emissions which are then averaged per day to create a 30-day rolling average. The worst-case scenario for a startup is when the unit starts near the end of an hour so that the entire hour is a startup hour with a NO_x concentration of 69.1 ppm. The best case startup hour would occur when the unit starts at the beginning of the hour. In this case, the unit would operate for 16.4 minutes in startup with an average NO_x concentration of 69.1 ppm, and then operate for the remainder of the hour, or 43.6 minutes, at the normal emission rate of 9 ppmdv at 15% O_2. This best-case startup hour concentration would be:

$$ER_{Best\ Case} = \frac{(69.1\ \text{ppm} \times 16.4\ \text{min}) + (9\ \text{ppm} \times 43.6\ \text{min})}{60\ \text{min}} = 25.4\ \text{ppm}$$

The best case shutdown hour would occur when the unit is shut down near the end of an operating hour so that the unit would operate for 5.1 minutes in shutdown with an average NO_x concentration of 64.6 ppm, and then operate for the remainder of the hour, or 54.9 minutes at the normal operation emission rate of 9 ppm. This best-case shutdown hour would have an average NO_x concentration of 13.7 ppm.

Table 7-2 shows the normal operating hours which would be required to achieve a daily average NO_x emission rate of less than 12 ppmdv at 15%O_2 for these CTGs ***when including just one (1) startup and shutdown event per day***. From Table 7-2, for the worst-case scenario startup and shutdown hours, the CTGs would need to operate for 38 hours to achieve a rate 12 ppmdv at 15% O_2. And even in the best case scenario, the CTGs would need to operate for at least 6 hours of normal operation, ***or a total of 8 hours of operation***, to achieve the limit of 12 ppmdv at 15% O_2. Because these CTGs are expected to startup and shutdown on a daily basis, and in some cases more than once per day, the emission rates in Table 7-2 would also represent the daily and longer term 30-day rolling average rates. Requiring these units to operate from 6 to 38 hours for one conventional startup and shutdown event would not be technically feasible for these peaking units which will have low capacity factors.

TABLE 7-2. Normal operating hours required to achieve a daily average NO_x emission rate of less than 12 ppmdv at 15%O_2 when including one (1) startup and shutdown event.

Startup/Shutdown Scenario		Startup Hour Rate ppmdv	Shutdown Hour Rate ppmdv	Normal Hour Rate ppmdv	Normal Operation Required hours
Conventional Start	Worse-Case Scenario	69.1	64.6	9	38
	Best Case Scenario	25.4	13.7	9	6
Peak Start	Worse-Case Scenario	72.6	7.4	9	19
	Best Case Scenario	16.8	13.7	9	3

With respect to the peak start operating mode, this startup mode is normally reserved for grid conditions which require dispatching of the units as soon as possible to avoid unstable or emergency grid conditions. Dispatching the CTGs at the peak startup mode results in additional stress and wear on the CTGs which will increase the operating and maintenance costs of the CTGs. But even with the peak startup operating mode, the CTGs would need to operate from 3 to 19 hours per startup/shutdown event to ensure compliance with the NR 428 limit. Because these CTs are expected to startup and shutdown on a frequent, daily basis, and in some cases more than once per day, requiring these units to operate from 3 to 19 hours for one peak startup and shutdown event would also not be technically feasible for these peaking units.

Table 7-3 shows the normal operating hours which would be required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O_2 for these CTGs, again based on including just one (1) startup and shutdown event per day. From Table 7-3, for the worst-case scenario startup and shutdown hours, the CTGs would need to operate for 6 hours at normal operating conditions, or a total of 8 hours of operation to achieve a rate 25 ppmdv at 15% O_2. In the best case scenario, the CTGs would need to operate for two (2) hours to achieve the limit of 25 ppmdv at 15% O_2.

TABLE 7-3. Normal operating hours required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O_2 when including one (1) startup and shutdown event.

Startup/Shutdown Scenario		Startup Hour Rate ppmdv	Shutdown Hour Rate ppmdv	Normal Hour Rate ppmdv	Normal Operation Required hours
Conventional Start	Worse-Case Scenario	69.1	64.6	9	6
	Best Case Scenario	25.4	13.7	9	0
Peak Start	Worse-Case Scenario	72.6	7.4	9	2
	Best Case Scenario	16.8	13.7	9	0

Table 7-4 shows the normal operating hours which would be required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O_2 for these CTGs, but in this case based on including two (2) startup and shutdown event per day (i.e., 4 hours in startup and shutdown). For a day with 2 startup and shutdown events, the CTGs would need to operate from 0 to 11 hours at normal operating conditions, or a total of 4 to 15 hours of total operation to achieve a rate 25 ppmdv at 15% O_2.

Requiring these units to operate from 2 to 8 hours for one conventional startup and shutdown event, and from 4 to 15 hours for two conventional startup and shutdown events would not be technically feasible for these peaking units which will have low capacity factors.

TABLE 7-4. Normal operating hours required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O_2 when including two (2) startup and shutdown events.

Startup/Shutdown Scenario		Startup Hour Rate ppmdv	Shutdown Hour Rate ppmdv	Normal Hour Rate ppmdv	Normal Operation Required hours
Conventional Start	Worse-Case Scenario	69.1	64.6	9	11
	Best Case Scenario	25.4	13.7	9	0
Peak Start	Worse-Case Scenario	72.6	7.4	9	4
	Best Case Scenario	16.8	13.7	9	0

7.3.4 Proposed Alternative Emission Limit.

Based on the above technical feasibility analysis, the emission limit for these new CTGs under NR 428.04(2)(g)1.a., Wis. Adm. Code of 12 ppmdv corrected to 15% oxygen based on a 30-day rolling average, and the RACT emission limit for these CTGs under NR 428.22(1)(g), Wis. Adm. Code of 25 ppmdv corrected to 15% oxygen based on a 30-day rolling average is not technically feasible because the CTGs would need to operate from 6 to 38 hours for one conventional SU/SD event to achieve an average NO_x concentration of 12 ppm. Further, these CTGs would be required to operate from 2 to 8 hours for one conventional startup and shutdown event, and from 4 to 15 hours for two conventional startup and shutdown events to meet the RACT limit of 25 ppm. This operation is not possible for these peaking units which are expected to startup and shutdown on a daily basis and which will also have a capacity factor limit for all five (5) CTGs combined of no more than 20%. Therefore We Energies proposes the following as an alternate NO_x emission limit for these new GE 7F.05 CTs:

Nitrogen oxides (NO_x) emissions limits.

1. During normal operation, nitrogen oxides (NO_x) emissions may not exceed 9 parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 30-day average.
2. During periods of startup and shutdown, NO_x emissions may not exceed:
   a. 57.1 pounds per startup event, and
   b. 31.7 pounds per shutdown event.
3. Startup begins at the first firing of fuel in the CTG. Startup ends when the CTG has reached stable operation or after 1 hour, whichever is less.
4. Shutdown begins when the CTG drops below the minimum stable load. Shutdown ends when fuel firing stops.

Under 40 CFR § 63.6175, *Startup* begins at the first firing of fuel in the stationary combustion turbine. For simple cycle turbines, startup ends when the stationary combustion turbine has reached stable operation or after 1 hour, whichever is less. We propose this same definition for the alternative limit.

Note that the potential NO_x emissions for all five CTGs combined, based on the proposed alternative emission limit and based on the proposed heat input and startup and shutdown limitations in this application equal 463.4 tons per year. The potential NO_x emissions based on the performance standard in NR 428.04(2)(g)1.a. of 12 ppmdv corrected to 15% oxygen based on a 30-day rolling average is 469.2 tons per year. Furthermore, the potential NO_x emissions based on the RACT standard in NR 428.22(1)(g) of 25 ppmdv corrected to 15% oxygen is 978 tons per year. Therefore, the proposed alternative NO_x emission limit will also result in a reduction in potential or allowable NO_x emissions for these CTGs for both NR 428 limits.

Appendix C: Response to Request for Additional Information for Construction Permit 24-JAM-065 (Item 12 and Attachment 4)

12. Additional information supporting Section 7.3 "Proposed alternative site-specific emission limitation for the combustion turbines under NR 428, Wis. Adm. Code" (pages 60-66 of the application)

A. For permit proposed emission limit 7.1.6 (Operational Limits) which says that "[t]he total number of combined startup and shutdown (SU/SD) events for the combustion turbine units P401, P402, P403, P404, P405 combined may not exceed 2,500 SU/SD events in any consecutive 12-month period":

RESPONSE.

- Please clarify that SU + SD = one event. Yes, our analysis is based on the combination of one (1) startup and one (1) shutdown equals one startup/shutdown "event".
- Please clarify that the permit sets a limit of 2,500 SU/SD events for all five new turbines, which could equal approximately 500 SU/SD events per turbine. You are correct; We Energies is proposing that the total number of SU/SD events for all five (5) CTs *combined* be limited to no more than 2,500 SU/SD events per year. And you are also correct, this proposed limit could equal approximately 500 SU/SD events per year per CT; however, please note that We Energies is not requesting a limit on the number of events for each CT due to the operational variability of peaking units.

12. Additional information supporting Section 7.3 "Proposed alternative site-specific emission limitation for the combustion turbines under NR 428, Wis. Adm. Code" (pages 60-66 of the application)

B. Please provide calculations showing how the following values were calculated:

- The "Normal Operation Required (hours)" values for the "Conventional Start" scenarios in TABLES 7-2, 7-3 and 7-4.
- The "potential NOx emissions" values listed in section 7.3.4:
  - 463.4 tpy for the proposed limit of 9 ppmv
  - 469.2 tpy for the existing 12 ppmv limit
  - 978 tpy for the existing 25 ppmv limit

For every calculation you make, please explain any assumptions made, such as operation of the turbines, and include any other information relied upon to perform the calculation.

RESPONSE.

- The "Normal Operation Required (hours)" values for the "Conventional Start" scenarios in TABLES 7-2, 7-3 and 7-4.

  Attachment 4 includes Tables 7-2A and 7-3A that show the clock hour calculation of the operating hours required to achieve a daily average NO_x emission rate of less than 12 and 25 ppmdv at 15%O2 for one (1) startup and shutdown event. Table 7-4A, also included in Attachment 4, shows the clock hour calculation of the operating hours required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O2 for two (2) startup and shutdown events.

Please note that in the current Tables 7-2, 7-3, and 7-4, the worse-case shutdown NO_x emission rate for the peak start scenarios is incorrect. These tables show a worse-case shutdown emission rate of 7.4 ppm; the correct value should be 64.6 ppm. Attachment 4 also includes corrected Tables 7-2, 7-3, and 7-4 and the permit application pages 63, 64, and 65.

The "potential NOx emissions" values listed in section 7.3.4:

- 463.4 tpy for the proposed limit of 9 ppmv
- 469.2 tpy for the existing 12 ppmv limit
- 978 tpy for the existing 25 ppmv limit

RESPONSE. The potential NO_x emissions for the proposed alternate emission limit are based on a normal operation NO_x emission rate of 9 ppmdv at 15% O_2, equal to an emission rate of 0.0332 lb/mmBtu, a proposed heat input limit for all five (5) CTs combined of 21,231,000 mmBtu per year, a proposed combined startup/shutdown "event" emission rate of 88.8 pounds per event, and a proposed total combined startup/shutdown event operating limit of 2,500 events per year. The calculations are as follows:

$$\text{Normal Operation Emissions} = \left(\frac{0.0332 \text{ lb NOx}}{\text{mmBtu}}\right)\left(\frac{21{,}231{,}000 \text{ mmBtu}}{\text{yr}}\right)\left(\frac{\text{ton NOx}}{2{,}000 \text{ lb NOx}}\right) = 352.4\frac{\text{ton}}{\text{yr}}$$

$$\text{Startup/Shutdown Emissions} = \left(\frac{88.8 \text{ lb NOx}}{\text{event}}\right)\left(\frac{2{,}500 \text{ events}}{\text{yr}}\right)\left(\frac{\text{ton NOx}}{2{,}000 \text{ lb NOx}}\right) = 111.0\frac{\text{ton}}{\text{yr}}$$

$$\text{Total Emissions} = \text{Normal Operation} + \text{Startup/Shutdown Emissions}$$

$$\text{Total Potential Emissions} = 352.4 + 111.0 = 463.4\ \frac{\text{ton}}{\text{yr}}$$

Because the Department has interpreted that the NR 428 NO_x emission limits include all periods of operation, including periods of startup and shutdown, the potential NO_x emissions for these limits are based only on the NO_x emission rates of 12 and 25 ppm, equal to emission rates of 0.0442 and 0.0921 lb/mmBtu, respectively.

$$\text{Total Emissions, 12 ppm} = \left(\frac{0.0442 \text{ lb NOx}}{\text{mmBtu}}\right)\left(\frac{21{,}231{,}000 \text{ mmBtu}}{\text{yr}}\right)\left(\frac{\text{ton NOx}}{2{,}000 \text{ lb NOx}}\right) = 469.2\ \frac{\text{ton}}{\text{yr}}$$

$$\text{Total Emissions, 25 ppm} = \left(\frac{0.0921 \text{ lb NOx}}{\text{mmBtu}}\right)\left(\frac{21{,}231{,}000 \text{ mmBtu}}{\text{yr}}\right)\left(\frac{\text{ton NOx}}{2{,}000 \text{ lb NOx}}\right) = 977.7\ \frac{\text{ton}}{\text{yr}}$$

12. Additional information supporting Section 7.3 "Proposed alternative site-specific emission limitation for the combustion turbines under NR 428, Wis. Adm. Code" (pages 60-66 of the application)

C. The 2015 rulemaking update to EPA's SSM policy provides clarifications on creating an alternative emissions limit (see 80 FR 33914). The third of the seven alternative emission criteria requires that the frequency and duration of SU/SD events is minimized to the extent practicable. Please provide additional information demonstrating how this requirement is met, including additional details as appropriate on the process for units to be dispatched by MISO when needed to meet power supply requirements.

RESPONSE. The proposed CTGs are peaking units that are designed to startup and shutdown in approximately 20 minutes, providing the fast-ramping capability necessary to reliably serve load and quickly and seamlessly offset energy production changes, either forecasted or unexpected, from renewable resources. To limit the frequency of startup and shutdown events to the extent practicable, We Energies has proposed a permit limit of 2,500 startup and shutdown events per year for all five CTGs combined. To minimize the duration and amount of emissions during these startup and shutdown events, We Energies has also proposed limits of 57.1 pounds of NO_x per startup event and 31.7 pounds of NO_x per shutdown event. These limits are based on emission data provided by the manufacturer, GE. The CTGs will also be equipped with NO_x continuous emissions monitoring systems (CEMS) to track total emissions.

We Energies is Wisconsin's largest utility, serving nearly 1.2 million electric customers, and is a subsidiary of WEC Energy Group (WEC). The foremost objective of energy supply planning is to meet customer demand at all times. The proposed CTGs are a dispatchable resource, meaning they can provide energy at all hours of the day. These units will maintain and enhance reliability and resiliency while WEC reshapes their portfolio with a significant increase in intermittent, renewable generation. As discussed in greater detail in Section 2.2 (page 11) and Section 7.3.3 (page 61) of the application, given the rapid movement toward decarbonization, many of WEC's dispatchable coal-fired units have been or will shortly be retired and those remaining will be limited in their operation due to U.S. EPA regulations. The risk of not having energy available at all hours is not a future risk, but is recognized as a risk we are currently experiencing by Regional Transmission Organizations, North American Energy Reliability Corporation ("NERC"), and reliability organizations such as the Midwest Reliability Organization ("MRO"). The CTGs will be dispatched by the Mid-Continent Independent System Operator (MISO). In their 2023 Long Term Risk Assessment, NERC listed MISO as "High Risk" regarding potential future electricity supply shortfalls under extreme as well as normal conditions.

The CTGs will provide the peaking generation needed as 1,600 MW of older, less efficient coal-fired generation is retired from WEC's fleet and 3,800 MW of intermittent, carbon free wind and solar generation and battery storage is built over the next few years. The proposed CTGs will be limited to an annual capacity factor of 20% or less (each), based on net electric sales. The CTGs will be dispatched by MISO when needed to meet power supply requirements. As a result, We Energies cannot control when these units may be called to dispatch. MISO coordinates the dispatch of generation across a 15-state region based on a day-ahead and real-time energy market. The day-ahead market allows utilities to secure prices for electric energy

the day before the operating day. Utilities submit supply offers and demand bids for energy; these bids are applied by MISO to each hour of the day for each pricing location. Supply and demand can change throughout a day for variable reasons. The real-time market allows generators to meet actual energy needs within each hour of the operating day.

13. Section 8.6.1 of the application considers Contemporaneous Emissions increases and Decreases to be included in Step 2 of the major NSR applicability analysis. Among the contemporaneous projects considered in this analysis is the project to allow the use of natural gas as primary fuel in Units 1 and 2, which was authorized under construction permit 22-JAM-039. Please explain further We Energies reasons for considering the project authorized under construction permit 22-JAM-039 as a separate one from the currently proposal to increase natural gas usage in these boilers.

RESPONSE. As noted on pages 85 and 86 of the permit application, with respect to the Caledonia Landfill permit application, the U.S. EPA issued a final action regarding PSD and NANSR aggregation in a Federal Register notice dated November 15, 2018. This final action adopted the EPA's January 2009 policy "*Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Aggregation and Project Netting.*" This action called for sources and reviewing authorities to aggregate emissions from nominally-separate activities when they are "substantially related" for the purpose of determining whether they are a single modification resulting in a significant emissions increase under NSR at Step 1. In the Federal Register notice, EPA stated at page 57327, "[t]o be 'substantially related,' there should be an apparent interconnection—either technically or economically—between the physical and/or operational changes, or a complementary relationship whereby a change at a plant may exist and operate independently, however its benefit is significantly reduced without the other activity."

With this application, We Energies is planning to construct and operate a Natural Gas-Fired Electric Generation Project at the Oak Creek Power Plant consisting of five (5) General Electric (GE) Model 7F.05 simple cycle combustion turbine generators (CTG), a 2.0 billion standard cubic foot (BSCF) Liquefied Natural Gas (LNG) storage facility, natural gas-fired dew point heaters, and ancillary support equipment including natural gas piping systems, electric substation equipment, and emergency generators. We Energies also is proposing to make changes to Elm Road Units 1 and 2 to increase the heat input capacity when firing natural gas to 100% of the rating of the units. This change will require substantial physical changes to the Unit 1 and 2 boilers as identified on pages 56 and 57 of the application, as well as other significant changes to the Oak Creek site, including a larger natural gas pipeline and four (4) natural gas-fired natural gas conditioning heaters, identified as Processes P425 to P428. We Energies has conservatively treated all of these changes as being substantially related to one another.

As you note in your question, construction permit 22-JAM-039 authorized We Energies to use natural gas as a primary fuel in Units 1 and 2 at a heat input capacity of up to 4,050 mmBtu per hour. This heat input capacity is substantially less than the rated capacity of these units and was achieved by the existing equipment without significant physical changes to the Unit 1 and 2 boilers or other support equipment at the Oak Creek site.

Attachment 4

Supporting documents for response to Item 12.B – Tables 7-2A, 7-3A, and 7-4A and corrected Tables 7-2, 7-3, and 7-4 from original application.

TABLE 7-2A. Clock hours required to achieve a daily average NOx emission rate of less than 12 ppmdv at 15%O_2 for one (1) startup and shutdown event.

Operating Hours Required for Compliance	NOx Conc., ppmdv at 15% O_2 Conventional Start		NOx Conc., ppmdv at 15% O_2 Peak Start	
	Worse-Case Scenario	Best Case Scenario	Worse-Case Scenario	Best Case Scenario
1	69.1	25.4	72.6	16.8
2	9.0	9.0	9.0	9.0
3	9.0	9.0	9.0	9.0
4	9.0	9.0	9.0	9.0
5	9.0	9.0	9.0	13.7
6	9.0	9.0	9.0	
7	9.0	9.0	9.0	
8	9.0	13.7	9.0	
9	9.0		9.0	
10	9.0		9.0	
11	9.0		9.0	
12	9.0		9.0	
13	9.0		9.0	
14	9.0		9.0	
15	9.0		9.0	
16	9.0		9.0	
17	9.0		9.0	
18	9.0		9.0	
19	9.0		9.0	
20	9.0		9.0	
21	9.0		9.0	
22	9.0		9.0	
23	9.0		9.0	
24	9.0		9.0	
25	9.0		9.0	
26	9.0		9.0	
27	9.0		9.0	
28	9.0		9.0	
29	9.0		9.0	
30	9.0		9.0	
31	9.0		9.0	
32	9.0		9.0	
33	9.0		9.0	
34	9.0		9.0	
35	9.0		9.0	
36	9.0		9.0	
37	9.0		9.0	
38	9.0		9.0	
39	9.0		9.0	
40	64.6		64.6	
Average, One SU/SD Event	**11.9**	**11.6**	**12.0**	**11.5**

TABLE 7-3A. Clock hours required to achieve a daily average NOx emission rate of less than 25 ppmdv at 15%O_2 for one (1) startup and shutdown event.

Operating Hours Required for Compliance	NOx Conc., ppmdv at 15% O_2 Conventional Start		NOx Conc., ppmdv at 15% O_2 Peak Start	
	Worse-Case Scenario	Best Case Scenario	Worse-Case Scenario	Best Case Scenario
1	69.1	25.4	72.6	16.8
2	9.0	13.7	9.0	13.7
3	9.0		9.0	
4	9.0		9.0	
5	9.0		9.0	
6	9.0		9.0	
7	9.0		9.0	
8	64.6		64.6	
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
Average, One SU/SD Event	**23.5**	**19.6**	**23.9**	**15.3**

TABLE 7-4A. Clock hours required to achieve a daily average NOx emission rate of less than 25 ppmdv at 15%O_2 for two (2) startup and shutdown events.

Operating Hours Required for Compliance	NOx Conc., ppmdv at 15% O_2 Conventional Start		NOx Conc., ppmdv at 15% O_2 Peak Start	
	Worse-Case Scenario	Best Case Scenario	Worse-Case Scenario	Best Case Scenario
1	69.1	25.4	72.6	16.8
2	64.6	13.7	64.6	13.7
3	69.1	25.4	72.6	16.8
4	9.0	13.7	9.0	13.7
5	9.0		9.0	
6	9.0		9.0	
7	9.0		9.0	
8	9.0		9.0	
9	9.0		9.0	
10	9.0		9.0	
11	9.0		9.0	
12	9.0		9.0	
13	9.0		9.0	
14	9.0		9.0	
15	64.6		64.6	
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
Average, Two SU/SD Events	**24.4**	**19.6**	**24.9**	**15.3**

These CTGs will be dispatched by the Midcontinent Independent System Operator (MISO). Electric generating units are dispatched by MISO when needed to meet power supply requirements. As a result, We Energies cannot control when these units may be dispatched. Compliance with the NR 428 limit is based on hourly average emissions which are then averaged per day to create a 30-day rolling average. The worst-case scenario for a startup is when the unit starts near the end of an hour so that the entire hour is a startup hour with a NO_x concentration of 69.1 ppm. The best case startup hour would occur when the unit starts at the beginning of the hour. In this case, the unit would operate for 16.4 minutes in startup with an average NO_x concentration of 69.1 ppm, and then operate for the remainder of the hour, or 43.6 minutes, at the normal emission rate of 9 ppmdv at 15% O_2. This best-case startup hour concentration would be:

$$ER_{Best\ Case} = \frac{(69.1\ \text{ppm} \times 16.4\ \text{min}) + (9\ \text{ppm} \times 43.6\ \text{min})}{60\ \text{min}} = 25.4\ \text{ppm}$$

The best case shutdown hour would occur when the unit is shut down near the end of an operating hour so that the unit would operate for 5.1 minutes in shutdown with an average NO_x concentration of 64.6 ppm, and then operate for the remainder of the hour, or 54.9 minutes at the normal operation emission rate of 9 ppm. This best-case shutdown hour would have an average NO_x concentration of 13.7 ppm.

Table 7-2 shows the normal operating hours which would be required to achieve a daily average NO_x emission rate of less than 12 ppmdv at 15%O_2 for these CTGs ***when including just one (1) startup and shutdown event per day***. From Table 7-2, for the worst-case scenario startup and shutdown hours, the CTGs would need to operate for 38 hours to achieve a rate 12 ppmdv at 15% O_2. And even in the best case scenario, the CTGs would need to operate for at least 6 hours of normal operation, ***or a total of 8 hours of operation***, to achieve the limit of 12 ppmdv at 15% O_2. Because these CTGs are expected to startup and shutdown on a daily basis, and in some cases more than once per day, the emission rates in Table 7-2 would also represent the daily and longer term 30-day rolling average rates. Requiring these units to operate from 6 to 38 hours for one conventional startup and shutdown event would not be technically feasible for these peaking units which will have low capacity factors.

TABLE 7-2. Normal operating hours required to achieve a daily average NO_x emission rate of less than 12 ppmdv at 15%O_2 when including one (1) startup and shutdown event.

Startup/Shutdown Scenario		Startup Hour Rate ppmdv	Shutdown Hour Rate ppmdv	Normal Hour Rate ppmdv	Normal Operation Required hours
Conventional Start	Worse-Case Scenario	69.1	64.6	9	38
	Best Case Scenario	25.4	13.7	9	6
Peak Start	Worse-Case Scenario	72.6	64.6	9	38
	Best Case Scenario	16.8	13.7	9	3

With respect to the peak start operating mode, this startup mode is normally reserved for grid conditions which require dispatching of the units as soon as possible to avoid unstable or emergency grid conditions. Dispatching the CTGs at the peak startup mode results in additional stress and wear on the CTGs which will increase the operating and maintenance costs of the CTGs. But even with the peak startup operating mode, the CTGs would need to operate from 3 to 19 hours per startup/shutdown event to ensure compliance with the NR 428 limit. Because these CTs are expected to startup and shutdown on a frequent, daily basis, and in some cases more than once per day, requiring these units to operate from 3 to 38 hours for one peak startup and shutdown event would also not be technically feasible for these peaking units.

Table 7-3 shows the normal operating hours which would be required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O_2 for these CTGs, again based on including just one (1) startup and shutdown event per day. From Table 7-3, for the worst-case scenario startup and shutdown hours, the CTGs would need to operate for 6 hours at normal operating conditions, or a total of 8 hours of operation to achieve a rate 25 ppmdv at 15% O_2. In the best case scenario, the CTGs would need to operate for two (2) hours to achieve the limit of 25 ppmdv at 15% O_2.

TABLE 7-3. Normal operating hours required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O_2 when including one (1) startup and shutdown event.

Startup/Shutdown Scenario		Startup Hour Rate ppmdv	Shutdown Hour Rate ppmdv	Normal Hour Rate ppmdv	Normal Operation Required hours
Conventional Start	Worse-Case Scenario	69.1	64.6	9	6
	Best Case Scenario	25.4	13.7	9	0
Peak Start	Worse-Case Scenario	72.6	64.6	9	6
	Best Case Scenario	16.8	13.7	9	0

Table 7-4 shows the normal operating hours which would be required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O_2 for these CTGs, but in this case based on including two (2) startup and shutdown event per day (i.e., 4 hours in startup and shutdown). For a day with 2 startup and shutdown events, the CTGs would need to operate from 0 to 11 hours at normal operating conditions, or a total of 4 to 15 hours of total operation to achieve a rate of 25 ppmdv at 15% O_2.

Requiring these units to operate from 2 to 8 hours for one conventional startup and shutdown event, and from 4 to 15 hours for two conventional startup and shutdown events would not be technically feasible for these peaking units which will have low capacity factors.

TABLE 7-4. Normal operating hours required to achieve a daily average NO_x emission rate of less than 25 ppmdv at 15%O_2 when including two (2) startup and shutdown events.

Startup/Shutdown Scenario		Startup Hour Rate ppmdv	Shutdown Hour Rate ppmdv	Normal Hour Rate ppmdv	Normal Operation Required hours
Conventional Start	Worse-Case Scenario	69.1	64.6	9	11
	Best Case Scenario	25.4	13.7	9	0
Peak Start	Worse-Case Scenario	72.6	64.6	9	11
	Best Case Scenario	16.8	13.7	9	0

7.3.4 Proposed Alternative Emission Limit.

Based on the above technical feasibility analysis, the emission limit for these new CTGs under NR 428.04(2)(g)1.a., Wis. Adm. Code of 12 ppmdv corrected to 15% oxygen based on a 30-day rolling average, and the RACT emission limit for these CTGs under NR 428.22(1)(g), Wis. Adm. Code of 25 ppmdv corrected to 15% oxygen based on a 30-day rolling average is not technically feasible because the CTGs would need to operate from 6 to 38 hours for one conventional SU/SD event to achieve an average NO_x concentration of 12 ppm. Further, these CTGs would be required to operate from 2 to 8 hours for one conventional startup and shutdown event, and from 4 to 15 hours for two conventional startup and shutdown events to meet the RACT limit of 25 ppm. This operation is not possible for these peaking units which are expected to startup and shutdown on a daily basis and which will also have a capacity factor limit for all five (5) CTGs combined of no more than 20%. Therefore We Energies proposes the following as an alternate NO_x emission limit for these new GE 7F.05 CTs:

Nitrogen oxides (NO_x) emissions limits.

1. During normal operation, nitrogen oxides (NO_x) emissions may not exceed 9 parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 30-day average.
2. During periods of startup and shutdown, NO_x emissions may not exceed:
   a. 57.1 pounds per startup event, and
   b. 31.7 pounds per shutdown event.
3. Startup begins at the first firing of fuel in the CTG. Startup ends when the CTG has reached stable operation or after 1 hour, whichever is less.
4. Shutdown begins when the CTG drops below the minimum stable load. Shutdown ends when fuel firing stops.

Appendix D: Analysis and Preliminary Determination for Construction Permit Construction Permit 24-JAM-065 (Sections 7.1-7.1.4 and 10)

Source Obligation

The permit will require that the facility monitor the emissions of any regulated NSR air contaminant that could increase as a result of the project and that is emitted by any emissions unit associated with the project and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. This information shall be available for inspection, upon request by the department or the general public.

The permit will also require that the facility submit a report to the department within 60 days after the end of each year during setting out the annual emissions during the calendar year that preceded submission of the report for each electric utility steam generating unit involved in the project.

7 Applicable Requirements and Compliance Demonstration

This section describes the applicable requirements[5] as they apply to the emissions units covered by the permit. It includes emission unit and pollutant specific applicable requirements and associated compliance demonstration methods. Some pollutants subject to regulation under the Act do not currently have specific applicable emission limitations or standards, however they are considered when determining source status under programs, such as Part 70 and PSD, and when determining the applicability of requirements that are based on source status, such as CAM. One such pollutant is $PM_{2.5}$. Based on definitions in ss. NR 400.02(123m) and (124), Wis. Adm. Code, direct $PM_{2.5}$ emissions cannot exceed PM_{10} emissions. Since PM_{10} and $PM_{2.5}$ have the same major source thresholds, emission estimates of PM_{10} are sufficient for determining Part 70 and PSD source status and CAM applicability with respect to both $PM_{2.5}$ and PM_{10}. When determining Part 70 source status for particulate matter, a stationary facility is a Part 70 major source if it emits or has the potential to emit, 100 tpy or more of PM_{10} per s. NR 407.02(4)(b), Wis. Adm. Code.

Operation permits are required to contain compliance testing, monitoring, reporting and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit. Where an applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring, periodic monitoring or testing sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit shall be included in the operation permit. Monitoring may consist of recordkeeping sufficient to meet this requirement.

Some standards such as NSPS and NESHAP include compliance demonstration, monitoring and recordkeeping requirements within the standard. The compliance demonstration, monitoring and recordkeeping requirements that are part of a standard are included in the draft permit, as applicable. The compliance demonstration methods that are being changed or added as part of the revision are described below.

7.1 Combustion Turbines P401-P405

7.1.1 Voluntary Emission Limits.

We Energies has proposed the following emission limits which are designed to limit the potential emissions for this project below the federal New Source Review and Prevention of Significant Deterioration (PSD) significant net emissions increase thresholds:

7.1.1.1 Carbon monoxide (CO) emission limits.

1. Except during periods of startup and shutdown, carbon monoxide (CO) emissions may not exceed 15 parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 24- hour rolling average.

[5] "Applicable requirement" is defined in s. NR 400.02(26), Wis. Adm. Code and 40 CFR 70.2, and lists all of the types of requirements which are considered applicable requirements for the purpose of inclusion in an operation permit.

2. During periods of startup and shutdown, CO emissions may not exceed:

   c. 310 pounds per startup event, and
   d. 167.1 pounds per shutdown event.

The permittee is expected to demonstrate compliance with these limits through the use of a CO continuous emissions monitoring system.

7.1.1.2 Particulate matter (PM), PM_{10}, and $PM_{2.5}$ emission limits.

1. Particulate matter (PM) emissions may not exceed 25.0 pounds per hour (1-hr avg).

The permittee is expected to demonstrate compliance with this limit by combusting only pipeline quality natural gas and performing compliance emission testing.

7.1.1.3 Volatile organic compound (VOC) emission limits.

1. During normal operation, volatile organic compound (VOC) emissions may not exceed 4.8 pounds per hour, based on a 24-hour rolling average.
2. During periods of startup and shutdown, VOC emissions may not exceed:

   c. 37.6 pounds per startup event, and
   d. 15.4 pounds per shutdown event.

The permittee is expected to demonstrate compliance with these limits by combusting only pipeline quality natural gas, conducting compliance emission testing, and determining VOC emissions using an equation correlating VOC and CO emissions.

7.1.1.4 Operational Limits.

1. For each combustion turbine P401, P402, P403, P404, and P405, the total heat input may not exceed 4,246,000 mmBtu in any consecutive 12-month period.
2. The total number of combined startup and shutdown (SU/SD) events for the combustion turbine units P401, P402, P403, P404, and P405 combined may not exceed 2,500 SU/SD events in any consecutive 12-month period

The permittee is expected to demonstrate compliance with these limits by keeping records of heat input for each turbine, and the number of SU/SD events that occur for all turbines combined.

7.1.2 Particulate Matter/PM_{10}

7.1.2.1 Ch. NR 415, Wis. Adm. Code – Control of Particulate Matter Emissions

Turbines P401-P405 are fuel-burning installations of 250 million Btu per hour or more installed after April 1, 1972, and therefore are subject to the limitation under s. NR 415.06(2)(c), Wis. Adm. Code, which restricts particulate matter emissions from the processes to no more than 0.10 pounds per MMBtu of heat input. At the maximum rated heat input capacity of 2,424 MMBtu per hour, this NR 415 limit is equivalent to 242 pounds per hour. The permittee is electing a limit of 25.0 pounds per hour for these pollutants, which is less than the limitation under ch. NR 415 Wis. Adm. Code. The 25.0 pound per hour PM limitation is equivalent to an emission factor of 0.01 pounds per MMBtu. This emission factor is used to calculate both PTE and MTE. Compliance demonstration for particulate matter emissions is based on firing pipeline quality natural gas and stack testing.

7.1.3 Visible Emissions

7.1.3.1 Ch. NR 431, Wis. Adm. Code – Control of Visible Emissions

Because processes P401-P405 will be constructed or last modified after April 1, 1972, they are subject to a visible emission limitation of 20% opacity, pursuant to s. NR 431.05, Wis. Adm. Code. The compliance demonstration method shall be firing only pipeline quality natural gas.

7.1.4 Nitrogen Oxides

7.1.4.1 Ch. NR 428 Wis. Adm. Code.

s. NR 428.04 Wis. Adm. Code

As new natural gas simple cycle combustion turbines located in Milwaukee County with maximum design power output of 85 MWe or greater, processes P401-P405 are subject to the 12 parts per million dry volume (ppmdv) corrected to 15% oxygen, on a 30-day rolling average limitation under s. NR 428.04(2)(g)1.a. Wis. Adm. Code. To demonstrate compliance with this limitation, the permittee shall install, calibrate, maintain, and operate a CEMS on each turbine as described under s. NR 428.08(1)(c)2. Wis. Adm. Code.

This limit of 12 ppmdv, on a 30–day rolling average basis and including periods of startup and shutdown, is not technically feasible for these simple cycle combustion turbine peaking units, which will start up and shut down frequently. Section NR 428.055 Wis. Adm. Code allows an owner or operator to request an alternative site-specific emission limitation. The permittee has proposed an alternative site-specific emission limitation as is described below. If the alternate emission limitation under is approved into the Wisconsin State Implementation Plan by U.S. EPA, the limitation under s. NR 428.04 Wis. Adm. Code will not apply.

Subchapter IV – NO_X Reasonably Available Control Technology Requirements

As new natural gas simple cycle combustion turbines located in Milwaukee County at a facility with greater than 100 TPY NO_X emissions, and with maximum design power output of 50 megawatts or greater from each turbine, processes P401-P405 are subject to the 25 parts per million dry volume (ppmdv) corrected to 15% oxygen, on a 30-day rolling average limitation under s. NR 428.22(1)(g)1.a. Wis. Adm. Code. To demonstrate compliance with this limitation, the permittee shall install, calibrate, maintain, and operate a CEMS on each turbine as described under s. NR 428.23(1)(b)1. Wis. Adm. Code. Under s. NR 428.23(1)(a) Wis. Adm. Code the permittee is also required to submit certification of monitoring installation and operation, then begin and continue to monitor, measure and record all data necessary to determine emissions.

Because the permittee is following the monitoring and systems procedures under s. NR 428.23(1)(b)1., Wis. Adm. Code, processes P401-P405 are not subject to other compliance demonstration requirements under the section.

s. NR 428.24 Wis. Adm. Code contains recordkeeping and reporting requirements. Under (1)(a). of this section, the permittee is required to keep the 30-day rolling average emission rate on a daily basis as determined under s. NR 428.23 Wis. Adm. Code, and the annual and ozone season capacity utilization for each process as well as records of maintenance and malfunctions during the ozone season. Under (1)(b) of this section, in the reports submitted under s. NR 439.03(1)(b) Wis. Adm. Code, the permittee must: certify compliance with the emissions limitation under s. NR 428.22 Wis. Adm. Code, for each calendar month submit the highest 30-day rolling average emission rate, and submit each processes annual and ozone season total utilization.

The permittee states in their application that both the limit of 12 ppmdv corrected to 15% oxygen, on a 30–day rolling average basis, and including periods of startup and shutdown, and the limit of 25 ppmdv corrected to 15% oxygen, on a 30–day rolling average basis, and including periods of startup and shutdown, are not technically feasible emission limits for these simple cycle, peaking units which will startup and shutdown frequently. The five new CTGs at We Energies Oak Creek Site will be low utilization, with a capacity factor limit of 20 percent. The CTGs are designed to be "dispatchable," meaning they can quickly and easily be turned on or off to fill gaps in renewable energy generation and/or meet peak energy demand. As a result, they are expected to startup and shutdown on a daily basis, and in some cases more than once per day.

Typical dispatch of these CTGs is expected to be from one to six hours on a daily basis. However, units would need 6 to 38 hours of normal operation to offset only one startup/shutdown event to meet the 12 ppmdv limit on a daily basis, and two to eight hours of normal operation to offset only one startup/shutdown event to meet the 25 ppm limit on a daily basis. Requiring these units to operate these additional hours for startup and shutdown events would not be technically feasible for these peaking units which will have low-capacity factors.. Please see the permit application materials for more information, specifically section 7.3.3 of the application.

The department agrees that the emission limits for these new CTGs under ch. NR 428, Wis. Adm. Code, of 12 ppmdv and 25 ppmdv are not technically feasible because the CTGs would need to operate longer than necessary for each startup/shutdown event to achieve these NOx concentration emission limits. This operation is not possible for these peaking units which are expected to startup and shutdown on a daily basis, and which will also have a capacity factor limit for all five CTGs combined of no more than 20 percent. Pursuant to sections NR 428.055 and NR 428.25(3), Wis. Adm. Code, We Energies has proposed an alternate performance standard to both of the applicable standards in s. NR 428 Wis. Adm. Code for these CTs which is detailed below:

1. Except during periods of startup and shutdown, nitrogen oxides (NO_x) emissions may not exceed 9 parts per million dry volume (ppmdv), corrected to 15 percent oxygen, based on a 30-day rolling average.
2. During periods of startup and shutdown, NO_x emissions may not exceed:
    a. 57.1 pounds per startup event, and
    b. 31.7 pounds per shutdown event.

Please see the permit application materials (specifically, section 7.3 of the application and item 12 of the request for supplemental information) for additional information for how this alternative NOx emission limit was established. The potential NOx emissions for all five CTGs combined, based on the proposed alternative emission limit and the proposed heat input and startup and shutdown limitations in this application, equal 463.4 tons per year. The potential NO_x emissions based on the performance standard in s. NR 428.04(2)(g)1.a. Wis. Adm. Code of 12 ppmdv is 469.2 tons per year. Furthermore, the potential NO_x emissions based on the RACT standard in s. NR 428.22(1)(g) Wis. Adm. Code of 25 ppmdv is 978 tons per year. Therefore, the proposed alternative NO_x emission limit will also result in a reduction in potential or allowable NOx emissions for these CTGs for both ch. NR 428, Wis. Adm. Code, limits. The department may not approve an alternative site-specific emission limitation unless the criteria under s. NR 428.055 Wis. Adm. Code are satisfied. The department has determined that the alternative emission limitation meets these criteria and therefore proposes to approve the alternative limitation.

The alternative emission limitation will not become effective until the alternative has been approved by U.S. EPA as a site-specific SIP revision. The EPA will not approve alternative language until the language has gone through a EPA specific public comment period that is separate from the 30 day permit public comment period; therefore, the draft permit will include the limitations under ss. NR 428.04 and 428.22 Wis. Adm. Code, as well as the proposed alternative pursued under ss. NR 428.055 and 428.25(3) Wis. Adm. Code. If the site-specific SIP revision is approved by the department and the EPA, and all criteria under ss. NR 428.055 and 428.25(3) Wis. Adm. Code are met, the alternative limitation would apply in place of those under ss. NR 428.04 and 428.22 Wis. Adm. Code. It is the departments preliminary assessment that the criteria under ss. NR 428.055 and 428.25(3) Wis. Adm. Code are met.

7.1.5 Acid Rain Program (40 CFR Part 72 and ch. NR 409, Wis. Adm. Code)

7.1.5.1 Combustion Turbines P401-P405

Combustion turbines P401-P405 are affected acid rain units, subject to the requirements of the Acid Rain Program of 40 CFR Part 72 and ch. NR 409, Wis. Adm. Code because they are new utility units, pursuant to 40 CFR s. 72.6(a)(3)(i) and s. NR 409.01(1)(a)3.a., Wis. Adm. Code and do not meet any of the exceptions under 40 CFR s. 72.6(b) and s. NR 409.01(1)(b), Wis. Adm. Code.

Combustion turbines P401-P405 are utility units as defined in 40 CFR 72.2 and s. NR 409.02(87), Wis. Adm. Code because they are units owned by a utility that serves a generator that produces electricity for sale and do not

40 CFR s. 64.2(b)(1) exempts certain emission limitations or standards from CAM requirements for the pollutant regulated by the standard. Exempt emission limitations or standards include:

- Emission limitations or standards proposed by US EPA after November 15, 1990 pursuant to section 111 or 112 of the Clean Air Act. Section 111 includes NSPSs. Section 112 includes NESHAPs.
- Title VI stratospheric ozone protection requirements
- Acid Rain Program requirements
- Limitations or standards under an emissions trading program promulgated under the CAA that allows for trading emissions within a source or between sources.
- Emissions caps that meets the requirements specified in 40 CFR s.70.4(b)(12).
- Emission limitations or standards for which a Part 70 permit specifies a continuous compliance determination method, as defined in 40 CFR s. 64.1, with the exceptions in 40 CFR s. 64.2(b)(vi)

"Potential pre-control device emissions" has the same meaning as "potential to emit," except that emission reductions achieved by the applicable control device shall not be taken into account. The only emissions units as part of this project which have potential pre-control device emissions equal to or greater than 100 tons per year are the new CTs, Processes P401 – P405. And the only pollutants which may exceed the CAM plan applicability threshold and for which a control device is used to achieve compliance with the limit or standard are carbon monoxide (CO) and nitrogen oxides (NOx) emissions. Note that while total potential PM_{10} emissions for all five CTs combined is 109.5 tons per year, the CTs do not use a control device to meet any applicable PM_{10} or $PM_{2.5}$ requirement. WEC Energy is proposing to utilize a NOx continuous emissions monitoring system (CEMS) installed and operated in accordance with the Acid Rain Program requirements in 40 CFR Parts 72 – 75, and install a carbon monoxide (CO) CEMS installed in accordance with 40 CFR Part 60 to monitor CO emissions from these units. Emission limitations or standards for which a Part 70 permit specifies a continuous compliance determination method are exempted under 40 CFR s. 64.2(b)(1); therefore, processes P401-P405 are not subject to CAM requirements.

10 AIR QUALITY REVIEW

The Clean Air Act requires U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants that are common in outdoor air, considered harmful to public health and the environment, and that come from numerous and diverse sources. The criteria pollutants for which there are primary and secondary NAAQS include carbon monoxide (CO), particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}), particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3) and Lead (Pb). Primary standards provide protection of public health, including protecting the health of sensitive populations, with an adequate margin for safety. Secondary standards provide protection of public welfare, including protection against decreased visibility and damage to animals, crops, vegetation and buildings. U.S. EPA periodically reviews, revises and establishes new standards based on the latest available scientific information on the nature of and ambient exposure to pollutants. To learn more about NAAQS for criteria pollutants, visit https://www.epa.gov/criteria-air-pollutants.

The NAAQS is a maximum allowable concentration ceiling for a pollutant. An ambient air increment is the maximum allowable increase in concentration that is allowed to occur above a baseline concentration for a pollutant. The baseline concentration is defined for each pollutant and is the ambient concentration existing at the time the first Prevention of Significant Deterioration (PSD) permit application affecting the area is submitted. Significant deterioration is said to occur when the amount of new pollution would exceed the applicable PSD increment. It is important to note, that the air quality cannot be allowed to deteriorate beyond the concentration allowed by the NAAQS, even if not all the PSD increment is consumed. To learn more about ambient air increments, visit https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information.

In addition to the NAAQS which apply to criteria pollutants, Wisconsin has established ambient air standards for approximately 550 hazardous air contaminants that are known or suspected to cause cancer or other serious health impacts or adverse environmental effects.

Section 285.63(1)(b), Wis. Stats. allows the department to approve a permit application only if it finds the source will not cause or exacerbate a violation of any ambient air quality standard or ambient air increment. See the Preliminary Determination section for additional information and other criteria for permit approval. This section describes the department's finding under s. 285.63(1)(b), Wis. Stats.

Intermittent Sources: Emissions units P421 and P422 are intermittent sources because they do not have a set operating schedule, operate for short periods of time during the year (generally outside of the facilities' control) and do not contribute to the normal operation of the facility. These intermittent emissions units are not included in the dispersion modeling analysis described below.

Volatile Organic Compounds: The emissions units covered by this permit emit(s) and/or will be capable of emitting volatile organic compounds. Volatile organic compounds are precursors to ozone. Ozone is a regional pollutant which is formed in the atmosphere through complex chemical reactions. There is no approved dispersion model for predicting the impact VOC emissions from direct stationary sources will have on ozone concentrations. There are no ambient air quality standards specifically for VOCs. Therefore, dispersion modeling of VOC emissions from direct stationary sources is not performed.

$PM_{2.5}$: The emissions units covered by this permit emit(s) and/or will be capable of emitting $PM_{2.5}$. For the reasons described in Appendix B of the "Wisconsin Air Dispersion Modeling Guidelines", dated March 2018, the department has concluded that direct $PM_{2.5}$ emissions from existing sources, minor new sources, and minor modifications of sources do not cause or exacerbate violation of the $PM_{2.5}$ air quality standard or increment. This conclusion and the information contained in Appendix B of the "Wisconsin Air Dispersion Modeling Guidelines" serves as the department's finding pursuant to s. 285.63(1)(b), Wis. Stats for the $PM_{2.5}$ air quality standard and increment and sets forth the legal and factual basis for the draft permit conditions.

Nitrogen Oxides: Emissions unit(s) B18,B19 and P401-P405 are combustion unit(s) with a heat input rating of at least 250 MMBtu per hour. These types of units are considered large and comparatively steady sources of NO_x emissions. The dispersion modeling analysis described below assesses the impact of the facility on 1-hour and annual NO_2 concentrations.

The emissions units covered by this permit emit(s) and/or will be capable of emitting PM_{10}, SO_2, NO_x, and CO. The department performed a dispersion modeling analysis as part of the review for this permit to predict the project's potential impact on ambient concentrations of these pollutants. See the dispersion modeling analysis described below.

The results of the dispersion modeling are summarized in a memo dated December 9, 2024 and are shown below. The dispersion modeling predicts that the source impact will not cause or exacerbate a violation of the ambient air quality standards and ambient air increments, taking into consideration background concentrations. The assumptions used in the dispersion modeling, including emission rates and stack parameters are summarized below. In addition to the applicable limits the following additional requirements were assumed in the dispersion modeling and are included in the draft permit to assure the ambient air quality standards and increments will be protected.

10.1 Introduction

A revised dispersion modeling analysis was completed on February 14, 2025 to assess the impact to ambient air of the emissions of particulate matter (PM10), sulfur dioxide (SO2), carbon monoxide (CO), and nitrogen oxide (NOx) from sources at We Energies Oak Creek Power Plant, Milwaukee County. This analysis is in support of construction permit 24-JAM-065.

10.2 Modeling Analysis

- We Energies supplied the source parameters and emission rates used in this analysis via information provided by RTP Environmental. Building dimensions were determined using BPIP-PRIME with measurements taken on plot plans provided with the application. Please refer to the source tables.

- The analysis considered different operating load conditions for the proposed turbines and the liquified natural gas vaporizers. The worst-case impact from any load condition is presented.

- Five years (2016-2020) of processed meteorological data was used in this analysis. The surface data was collected in Milwaukee (KMKE), and the upper air meteorological data originated in Green Bay.

- The AERMIC (AMS/EPA Regulatory Model Improvement Committee) Model (AERMOD) was 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 receptors used in this analysis consisted of 14,907 points placed in a grid with 25-meter resolution extending 1.5 kilometers from the emission sources, surrounded by 50-meter spaced points extending to 2.0 kilometers, 100-meter spaced points extending to 3.5 kilometers, and 250-meter spaced points extending to 6.0 kilometers. Points within Oak Creek Power Plant fence lines, or otherwise not considered ambient air, were removed. Receptor elevations were derived from AERMAP using the National Elevation Dataset.

- Regional background concentrations included in the analysis can be found at the following link: https://dnr.wisconsin.gov/sites/default/files/topic/AirPermits/2021BackgroundConcentrations.pdf

- The Milwaukee County Prevention of Significant Deterioration (PSD) minor source baselines for PM_{10}, SO_2, and NO_x were set in 1986, 1991, and 1993, respectively, so an increment analysis was performed. After the completion of the proposed project, all remaining sources at We Energies Oak Creek consume increment. There are no other nearby increment consuming sources.

- This revision considered updated parameters for the turbine stacks and a revised layout.

10.3 Model Results

PM_{10}, SO_2, CO

For PM_{10}, SO_2, and CO emissions, the impact of the proposed project was compared to the Prevention of Significant Deterioration (PSD) significant impact levels (SILs). Each turbine load scenario was analyzed along with the other project emission sources. The highest result from any of the scenarios is provided.

Modeling Analysis Results (All Concentrations in µg/m³)								
	PM_{10} 24 Hour	PM_{10} Annual	SO_2 1 Hour	SO_2 3 Hour	SO_2 24 Hour	SO_2 Annual	CO 1 Hour	CO 8 Hour
Project Impact	1.01	0.080	1.46	1.11	0.54	0.056	272.3	152.8
SIL	5.0	1.0	7.8	25.0	5.0	1.0	2,000	500

NO_x/NO_2

For NO_x emissions, total facility and increment impacts were determined. No credit can be taken in the dispersion model due to the consideration of conversion of NO_x to NO_2. Emissions from the turbine load scenarios were modeled with the remainder of the facility, plus background, in comparison to NAAQS. Emissions from the turbine load scenarios were also modeled along with NO_2 increment emissions from the rest of the Oak Creek Power Plant in comparison to annual increment. The highest result from any scenario is provided.

Modeling Analysis Results (All Concentrations in µg/m³)		
	NO_2 – 1 Hour	NO_2 – Annual
New/Modified Source Impact	n/a	6.88
PSD Increment	n/a	25.0
% Increment Consumed	n/a	27.5
Total Concentration (Modeled plus Background)	175.5	51.3
NAAQS	188.0	100.0
% NAAQS	93.4	51.3

Note: Tier II Ambient Ratio Method 2 (ARM2) was applied to convert NO_x emissions into NO_2 using the U.S. EPA recommended minimum and maximum ratios

10.4 Conclusion

The results of the modeling analysis demonstrate that the applicable air quality and increment standards will be satisfied assuming the emissions rates and stack parameters listed in the source tables.

WE ENERGIES – Oak Creek (Milwaukee County) Stack Parameters[§§]					
Source ID	HEIGHT (M)	HEIGHT (FT)	TEMP (K)	VELOCITY (M/S)	DIAM (M)
For each load scenario, the five turbine stacks S401 thru S405 were included in a group with the other sources					
Turbine 100% Load	27.43	90	920.8	38.26	6.706
Turbine 75% Load	27.43	90	884.1	30.97	6.706
Turbine 50% Load	27.43	90	930.2	26.09	6.706
Turbine Minimum Load	27.43	90	930.2	25.69	6.706
Turbine Startup	27.43	90	930.2	25.69	6.706
Non-turbine project sources					
S411 LNG vaporizer boiler 1	19.81	65	402.44	11.73	1.1684
S412 LNG vaporizer boiler 2	19.81	65	402.44	11.73	1.1684
S413 LNG vaporizer boiler 3	19.81	65	402.44	11.73	1.1684
S414 LNG vaporizer boiler 4	19.81	65	402.44	11.73	1.1684
S415_1 amine boiler vent 1	4.572	15	810.78	1.552	0.6096
S415_2 amine boiler vent 2	4.572	15	810.78	1.552	0.6096
S410 regen heater	7.620	25	533.00	1.221	0.4572
S418 flare	9.144	30	1088.6	4.514	2.286
S423 fuel gas heater 1	5.486	18	421.89	1.889	0.7620
S424 fuel gas heater 2	5.486	18	421.89	1.889	0.7620
S425 natural gas heater 1	4.877	16	421.89	*4.328*	0.2530
S426 natural gas heater 2	5.791	19	421.89	*4.328*	0.2530
S427 natural gas heater 3	5.791	19	421.89	*4.328*	0.2530
S428 natural gas heater 4	4.877	16	421.89	*4.328*	0.2530
Oak Creek Power Plant existing sources					
S18	167.6	550	318.0	16.61	7.620
S19	167.6	550	318.0	16.61	7.620
S20	85.34	280	600.8	18.76	1.830

Note: Stacks S425 thru S428 have obstructed discharge modeled as POINTCAP source type

[§§] 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 application for the original English unit parameters.

WE ENERGIES – Oak Creek (Milwaukee County) Emission Rates				
Source ID	PM_{10} Rate (LB/HR)	NO_x Rate (LB/HR)	SO_2 Rate (LB/HR)	CO Rate (LB/HR)
For each load scenario, the five turbine stacks S401 thru S405 were included in a group with the other sources				
Turbine 100% Load	**25.0**	**856.8**	**1.45**	81.2
Turbine 75% Load	**19.3**	**661.6**	**1.12**	62.7
Turbine 50% Load	**14.9**	**512.0**	**0.87**	48.5
Turbine Minimum Load	**13.8**	**474.4**	**0.81**	45.0
Turbine Startup	**17.3**	**614.0**	**1.01**	1024.0
Non-turbine project sources				
S411 LNG vaporizer boiler 1	**0.051**	**7.84**	**0.059**	8.23
S412 LNG vaporizer boiler 2	**0.051**	**7.84**	**0.059**	8.23
S413 LNG vaporizer boiler 3	**0.051**	**7.84**	**0.059**	8.23
S414 LNG vaporizer boiler 4	**0.051**	**7.84**	**0.059**	8.23
S415_1 amine boiler vent 1	**0.0012**	**0.10**	**0.0050**	0.23
S415_2 amine boiler vent 2	**0.0012**	**0.10**	**0.0050**	0.23
S410 regen heater	**0.0016**	**0.11**	**0.0020**	0.25
S418 flare	**0.024**	**1.84**	**0.028**	14.3
S423 fuel gas heater 1	**0.0052**	**0.37**	**0.0060**	0.84
S424 fuel gas heater 2	**0.0052**	**0.37**	**0.0060**	0.84
S425 natural gas heater 1	**0.0016**	**0.036**	**0.0020**	0.26
S426 natural gas heater 2	**0.0016**	**0.036**	**0.0020**	0.26
S427 natural gas heater 3	**0.0016**	**0.036**	**0.0020**	0.26
S428 natural gas heater 4	**0.0016**	**0.036**	**0.0020**	0.26
Oak Creek Power Plant existing sources (only included for NO_2 analyses)				
S18	n/a	**828.9**	n/a	n/a
S19	n/a	**764.7**	n/a	n/a
S20	n/a	**29.40**	n/a	n/a

- **Notes:** Sources and emissions in **bold** (all sources) consume increment
- Turbine emission rates are for EACH turbine stack S401 thru S405
- Highest turbine startup PM_{10} and SO_2emissions based on 21 minutes startup, 39 minutes 100% load
- Highest turbine startup CO and NO_X emissions based on 21 min startup, 13 min shutdown, 26 min 100% load

Appendix E: Air Pollution Control Construction Permit 24-JAM-065 (NOx alternative conditions in section I.EA.2)

EA. Process P401, Stack S401 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)
Process P402, Stack S402 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)
Process P403, Stack S403 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)
Process P404, Stack S404 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)
Process P405, Stack S405 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)

2. Pollutant: Nitrogen Oxide (NO_x) Emissions

a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(1)(a) NO_x emissions may not exceed 12 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 30-day rolling average basis, until the alternate emission limitation under (2) is approved into the Wisconsin State Implementation Plan by U.S. EPA. **(b)** NO_x emissions may not exceed 25 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 30-day rolling average basis, until the alternate emission limitation under (2) is approved into the Wisconsin State Implementation Plan by U.S. EPA. [ss. NR 428.04(2)(g)1.a, 428.22(1)(g)1.a., and 428.055, Wis. Adm. Code; 24-JAM-065] **(2) (a)** Except during periods of startup and shutdown, NO_x emissions may not exceed 9 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 30-day rolling average basis. **(b)**During periods of startup and shutdown (SU/SD), NO_X emissions may not exceed: **(i)** 57.1 pounds per startup event, and **(ii)** 31.7 pounds per shutdown event. [s. NR 428.055, Wis. Adm. Code; 24-JAM-065][106] **(3)** For each combustion turbine unit P401, P402, P403, P404, and P405, the total heat input may not exceed 4,246,000 mmBtu in any consecutive 12-month period. [s. 285.65(7) Wis. Stats; 24-JAM-065][107]	**(1)(a)** The permittee shall demonstrate compliance with the NO_x emission limits in I.EA.2.a.(1) and (2) by installing, certifying, maintaining, and operating a continuous emission monitoring system (CEMS) on each combustion turbine in accordance with the requirements in 40 CFR 75.10 for a NO_x – diluent CEMS, except as provided in accordance with 40 CFR part 75 Subpart E. The permittee shall use the procedures specified in Appendix D to 40 CFR part 75 for determining hourly heat input. **(b)** In addition to the requirements in I.EA.2.b.(1)(a), the permittee shall operate and maintain the NOx CEMS as required in 40 CFR Part 60 Subpart KKKK, I.EA.7.a.60.4340(b) and as described under section I.YYYa.8. [ss. NR 428.08(1)(c)2. and 428.23(1)(b)1, Wis. Adm. Code; 40 CFR 60.4340(b); 24-JAM-065] **(2)** CEMS shall meet the following minimum frequency of operation requirements: NO_X and diluent monitors shall complete one cycle of sampling, analyzing, and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. 285.65(3), Wis. Stats., ss. NR 407.09(1)(a) and 439.09(9)(b) Wis. Adm. Code; 24-JAM-065] **(3)** The NO_X concentration shall be corrected 15 percent oxygen according to the following calculation: Ccorr = Cmeas * (21 - X) / (21 - Y) Where, Ccorr = the measured concentration corrected for oxygen	**(1)** The permittee shall retain on site, plans and specifications that indicate the design fuel burning capabilities of each combustion turbine. [s. NR 439.04(1)(d), Wis. Adm. Code; 24-JAM-065] **(2)** The permittee shall keep and maintain records of CEMS operation to demonstrate whether the CEMS is in use when each combustion turbine is in operation and during startup and shutdown. [s. NR 439.04(1)(d), Wis. Adm. Code; 24-JAM-065] **(3)** The permittee shall keep any records required by the quality control and quality assurance plan. [s. NR 439.04(1)(d), Wis. Adm. Code; 24-JAM-065] **(4)** The permittee shall certify the CEMS in accordance with 40 CFR 75, Appendices A to I, and as described under section I.YYYa.8. [s. NR 439.06(6)(b), Wis. Adm. Code; 24-JAM-065] **(5)** The permittee shall keep and maintain records of uncorrected NO_x ppm emissions data as recorded by the CEMs. [s. NR 439.04(1)(d), Wis. Adm. Code; 24-JAM-065] **(6)** The permittee shall keep and maintain the following records for each calendar month: **(a)** The actual heat input of each combustion turbine unit P401, P402, P403, P404, and P405. **(b)** The actual total heat input to each combustion turbine unit P401, P402, P403, P404, and P405 over the most recent 12-consecutive-month period.

[106] The permittee requested this limitation to limit the PTE from the emission units such that the project is a minor NAA and PSD permit.
[107] The permittee requested this limitation to limit the PTE from the emission units such that the project is a minor NAA and PSD permit.

EA. Process P401, Stack S401 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)
Process P402, Stack S402 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)
Process P403, Stack S403 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)
Process P404, Stack S404 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)
Process P405, Stack S405 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)

2. Pollutant: Nitrogen Oxide (NO_x) Emissions

a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(4)(a) The total number of combined startup and shutdown (SU/SD) events for the combustion turbine units P401, P402, P403, P404, and P405 combined may not exceed 2,500 SU/SD events in any consecutive 12-month period. **(b)** The duration of a startup event may not exceed 21 minutes. **(c)** The duration of a shutdown event may not exceed 13 minutes. **(d)** For purposes of determining the total number of combined SU/SD events for compliance with condition (a), when a startup or shutdown period exceeds the duration specified for the event in condition (b) or (c), the permittee shall count the additional time spent in startup or shutdown as an additional SU/SD event. [s. 285.65(7) Wis. Stats; 24-JAM-065][108] **(5)** *SU/SD Definitions:* For the purposes of conditions under I.EA.2. of this permit, the definitions of startup periods and shutdown are as described under I.EA.1.a.(5). [s. 285.65(7) Wis. Stats; 24-JAM-065][109] **(6)** *Cross State Air Pollution Rule (CSAPR):* The permittee shall comply with the Cross- State Air Pollution Rule (CSAPR) requirements for NO_x emissions in Part VI of this permit. [40 CFR ss. 97.406 and 97.506 and s. 285.65(13), Wis. Stats.]	(grains/dscf); Cmeas = the measured concentration uncorrected for oxygen (grains/dscf); X = the corrected volumetric oxygen concentration (15 percent); Y = the measured average volumetric oxygen concentration as determined using the diluent gas CEMS [s. 285.65(3), Wis. Stats., s. NR 407.09(1)(a) Wis. Adm. Code; 24-JAM-065] **(4)** The CEMS shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. 285.65(3), Wis. Stats., s. NR 439.09(9)(b) Wis. Adm. Code; 24-JAM-065] **(5)** The owner or operator of a continuous emissions monitoring system shall submit quarterly excess emission reports to the department within 30 days following the end of each calendar quarter in accordance with pars. (a) to (d). The owner or operator shall submit either a full excess emission report under par. (a) or a summary excess emission report under par. (d), as specified in writing by the department. **(a)** The full excess emission reports required under this subsection shall contain the following information: **(i)** The date and starting and ending times or duration of each period of excess emissions and the magnitude of the emissions. **(ii)** The periods of excess emissions that occur during startups, shutdowns, control equipment malfunction, process	[s. NR 439.04(1)(d), Wis. Adm. Code., s. NR 439.055(6), Wis. Adm. Code, 24-JAM-065] **(7)** The permittee shall keep and maintain the following records of startup periods and shutdown periods, as defined in I.EA.2.a.(4), for each calendar month: **(a)** For each combustion turbine unit P401, P402, P403, P404, and P405 the permittee shall keep and maintain the following records: **(i)** The date and time of each startup and each shutdown. **(ii)** The number of startups and shutdowns. **(iii)** The duration of each startup and shutdown event **(b)** For combustion turbine units P401, P402, P403, P404, and P405, combined, the permittee shall keep and maintain the following records: **(i)** The monthly total number of combined startup and shutdown (SU/SD) events. **(ii)** The total number of combined startup and shutdown (SU/SD) events over the most recent 12-consecutive-month period. [s. NR 439.04(1)(d), Wis. Adm. Code., 24-JAM-065] **(8)** The permittee shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created: **(a)** All emissions monitoring information. **(b)** Copies of all reports, compliance certifications and other submissions and all records made or required under the NO_x emissions performance program in ch. NR 428, Wis. Adm. Code. [s. NR 428.04(4)(a), Wis. Adm. Code; 24-JAM-065]

[108] The permittee requested this limitation to limit the PTE from the emission units such that the project is a minor NAA and PSD permit.
[109] The permittee requested this limitation to limit the PTE from the emission units such that the project is a minor NAA and PSD permit.

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Process P405, Stack S405 - Natural Gas-Fired Simple Cycle Turbine with a nominal maximum continuous rating of 2,424 MMBtu/hr higher heating value (HHV)

2. Pollutant: Nitrogen Oxide (NO_x) Emissions

a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
(7) The permittee shall comply with the limitations in 40 CFR Part 60, Subpart KKKK and the requirements contained in section I.EA.5. of this permit. See Table 1 to subpart KKKK of 40 CFR Part 60. [40 CFR 60, Subpart KKKK; s. 285.65(13), Wis. Stats.]	malfunction, fuel problems, other known causes or for unknown causes. The report shall identify the cause of any malfunction and the measures taken to reduce excess emissions. **(iii)** The date and starting and ending time of any period during which the monitoring system was inoperative for any reason or causes, including monitor malfunction or calibration, except for zero and span checks. The report shall identify the repairs or adjustments made to the system. **(iv)** The date and starting and ending time of any period during which the process being monitored was inoperative. **(v)** When no period of excess emissions occurred during the quarter and the monitoring system had no period of downtime, an excess emissions report shall be filed stating such information. **(b)** Unless otherwise specified by the department, in the reports required under this condition, periods of excess emissions shall be reported as any 30-day rolling average during which the average NO_X emissions exceed the applicable emission limitation. **(c)** The summary excess emission report shall be submitted on a form provided by the department or in a format approved by the department. [s. 285.65(3), Wis. Stats., s. NR 439.09(10) Wis. Adm. Code; 24-JAM-065] **(6)** The permittee shall install, calibrate, maintain and operate the continuous emission monitor in accordance with the performance specifications in 40 CFR part 60, Appendix B or, for affected units, the performance specifications in 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27), and the requirements in s. NR 439.09. The permittee shall submit a quality control and quality assurance plan for approval by the department. The monitor shall follow the plan, as approved by the department. [s. 285.65(3), Wis. Stats., s.	**(9)** The permittee shall submit a quarterly report for each calendar quarter, beginning with the calendar quarter in which the unit commences operation. Data shall be reported from the date and hour corresponding to when the unit commenced operation. The permittee shall submit each quarterly report to the department within 30 days following the end of the calendar quarter covered by the report and include all of the data and information required in subpart G of 40 CFR part 75. [s. NR 428.09(1), Wis. Adm. Code; 24-JAM-065]

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2. Pollutant: Nitrogen Oxide (NO_x) Emissions

a. Limitations	**b.** Compliance Demonstration	**c.** Reference Test Methods, Recordkeeping and Monitoring Requirements
	NR 439.095(6) Wis. Adm. Code; 24-JAM-065] **(7)** The permittee shall submit a Quality Assurance and Quality Control (QA/QC) Plan for the nitrogen oxide CEMS to the department for review within 120 days after implementing the operating scenario in section I.EA.2 [s. 285.65(3), Wis. Stats., s. NR 407.09(1)(a) Wis. Adm. Code; 24-JAM-065] **(8)** The permittee shall follow the QA/QC Plan for the nitrogen oxide CEMS prior to department approval of the QA/QC Plan, and as approved by the department. [s. 285.65(3), Wis. Stats., s. NR 439.09(8) Wis. Adm. Code; 24-JAM-065] **(9)** To demonstrate compliance with the heat input limitation in condition I.EA.2.a.(3), within 30 days after the end of each calendar month, the permittee shall: **(a)** Determine the total heat input to each combustion turbine unit P401, P402, P403, P404, and P405 for the just completed calendar month; and **(b)** Determine the total heat input to each combustion turbine unit P401, P402, P403, P404, and P405 over the most recent 12-consecutive-month period. [s. 285.65(3), Wis. Stats., 24-JAM-065] **(10)** The permittee shall keep operating records of all startups and shutdown events and track startup and shutdown time for each process. [s. 285.65(3), Wis. Stats.; 24-JAM-065]	