STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Eastern Region Office
4601 North Monroe St., Spokane, WA 99205-1295 • 509-329-3400

November 26, 2024

Matthew Wiley, Director of Operations
H5 Data Centers
1711 M Street N.E.
Quincy, WA 98848

Re: H5 Data Centers - Quincy
Approval Order No. 24AQ-E040
AQPID No. A0250282

Dear Matthew Wiley:

The Department of Ecology's Air Quality Program (Ecology) approves the changes in cooling towers and reduction of the number of generators and cooling towers at H5 Data Centers located at 1711 M Street N.E., Quincy, Washington in Grant County.

Ecology's approval is based on the Notice of Construction application and supplemental information submitted on May 22, 2024. The 15-day web notification required per Washington Administrative Code (WAC) 173-400-171, was completed. A request for a 30-day comment period was received. Response to comments is included in Appendix A of the Technical Support Document.

Enclosed is Approval Order No. 24AQ-E040 H5 Data Centers.

Thank you for your patience while we processed your application. If you have any questions, please contact me at jenny.filipy@ecy.wa.gov or 509-405-2487.

Sincerely,

Jenny Filipy, P.E.
Commercial/Industrial Unit
Regional Air Quality Program

JF:sg

Enclosures: Approval Order No. 24AQ-E040

Certified Mail: 9214 8901 9403 8384 6385 87

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Eastern Region Office
4601 North Monroe St., Spokane, WA 99205-1295 • 509-329-3400

November 26, 2024

Matthew Wiley, Director of Operations
H5 Data Centers
1711 M Street N.E.
Quincy, WA 98848

Re: H5 Data Centers - Quincy
Approval Order No. 24AQ-E040
AQPID No. A0250282

Dear Matthew Wiley:

The Department of Ecology's Air Quality Program (Ecology) approves the changes in cooling towers and reduction of the number of generators and cooling towers at H5 Data Centers located at 1711 M Street N.E., Quincy, Washington in Grant County.

Ecology's approval is based on the Notice of Construction application and supplemental information submitted on May 22, 2024. The 15-day web notification required per Washington Administrative Code (WAC) 173-400-171, was completed. A request for a 30-day comment period was received. Response to comments is included in Appendix A of the Technical Support Document.

Enclosed is Approval Order No. 24AQ-E040 H5 Data Centers.

Thank you for your patience while we processed your application. If you have any questions, please contact me at jenny.filipy@ecy.wa.gov or 509-405-2487.

Sincerely,

Jenny Filipy

Jenny Filipy, P.E.
Commercial/Industrial Unit
Regional Air Quality Program

JF:sg

Enclosures: Approval Order No. 24AQ-E040

Certified Mail: 9214 8901 9403 8384 6385 87

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the matter of approving an Air Containment Source for H5 DATA CENTERS – QUINCY	)))	Approval Order No. 24AQ-E040 AQPID No. A0250282

Project Summary

H5 Data Centers – Quincy (H5), herein referred to as the Permittee, is an existing data center located at 1711 M Street NE, Quincy, Washington in Grant County. H5 is classified as a synthetic minor source.

Equipment

H5 installed six MTU Detroit Diesel Model 16V4000 emergency generators, and four Evapco USS 312-454 cooling towers in 2007. An additional seven emergency generators, either MTU Detroit Diesel Model 16V4000DS2250 or Kolher KD Model 2250, and five Tower Tech TTXR-121975 Series cooling towers are included in this Approval Order. All generators are rated at 2.5 MWm (3353 BHP) and are EPA Tier II certified.

Table 1: Emergency Engine and Generator Serial Numbers

Unit ID	Manufacturer & Model No.	Capacity MWm (BHP)	Engine SN	Generator SN	Engine date
1	MTU – 16V4000	2.5 (3353)	527 105 153	150786-2-0208	2007
2	MTU – 16V4000	2.5 (3353)	527 200 2979	150679-2-0208	2007
3	MTU – 16V4000	2.5 (3353)	527 105 111	150679-1-0208	2007
4	MTU – 16V4000	2.5 (3353)	527 105 108	150787-2-0308	2007
5	MTU – 16V4000	2.5 (3353)	527 105 154	150786-1-0208	2007
6	MTU – 16V4000	2.5 (3353)	527 105 110	150787-1-0308	2007
7	MTU or Kohler	2.5 (3353)			
8	MTU or Kohler	2.5 (3353)			
9	MTU or Kohler	2.5 (3353)			
10	MTU or Kohler	2.5 (3353)			
11	MTU or Kohler	2.5 (3353)			
12	MTU or Kohler	2.5 (3353)			
13	MTU or Kohler	2.5 (3353)			

Table 2: Cooling Towers

Quantity	Make and Model	Cells
4	Evapco Model USS 312-454	3
5	Tower Tech TTXR-121975	1

Legal Authority

The emissions from the proposed project have been reviewed under the legal authority of RCW 70A.15.2210 and the applicable rules and regulations adopted thereunder. The proposed project, if operated as specified, will be in accordance with applicable rules and regulations, as set forth in Chapters 173-400 WAC and 173-460 WAC and the operation thereof, at the location proposed, will not result in ambient air quality standards being exceeded.

This Notice of Construction (NOC) Approval Order rescinds and replaces NOC Approval Order No. 22AQ-E005, NOC Approval Order No. 22AQ-E005 is no longer in effect.

Therefore, it is ordered that the project as described in the NOC application and/or in the plans, specifications, and other information submitted to the Washington State Department of Ecology (Ecology), is approved for construction and operation provided the following conditions are satisfied:

Approval Conditions

1. Equipment Restrictions

a. Any engine used to power the electrical generators must be operated in accordance with applicable 40 C.F.R. Part 60, Subpart IIII requirements including but not limited to: certification by the manufacturer to meet the 40 C.F.R. Part 89 EPA Tier 2 emissions levels as required by 40 C.F.R. 60.4202; and installed and operated as emergency engines, as defined in 40 C.F.R. 60.4219.

   i. At the time of the effective date of this permit, Tier 4 interim and Tier 4 final certified engines (as specified in 40 C.F.R. 1039.102 Table 7 and 40 C.F.R. 1039.101 Table 1, respectively), are not required for 2.5 MWm electrical generators used for emergency purposes as defined in 40 C.F.R. 60.4219 in attainment areas in Washington State. However, any engines installed at H5 Data Centers after Tier 4 or other limits are implemented by EPA for emergency generators, must meet the applicable specifications as required by EPA at the time the emergency engines are installed.

b. The only engines and electrical generating units approved for operation at H5 Data Centers are those listed by serial number in Table 1 of this Approval Order, which must have equal or less emissions than the engine/generator models specified in the equipment section of this Approval Order.

c. The installation of any new or replacement engines 18 months after issuance of this Approval Order, will require notification to Ecology that includes engine manufacturer's specification sheets. Ecology will decide whether new source review is required based on various factors including whether the new engines will have either an increased emission rate or result in an emission concentration that may increase community

impacts over those evaluated for this Approval Order, or if an update to Best Available Control Technology analysis is necessary.

d. In addition to meeting EPA Tier 2 certification requirements, the source must have written verification from the engine manufacturer that each engine of the same make, model, and rated capacity installed at the facility uses the same electronic Programmable System Parameters, i.e., configuration parameters, in the electronic engine control unit.

e. The 13 facility engines must meet the stack dimensions in Table 3.

Table 3: Engine Exhaust Stack Dimension Requirements

Quantity	Engine Year	Minimum Stack Height (feet)	Maximum Stack Diameter (engine – inches)
6	2007	40’	24”
7	2024-2025	43’	24”
9	Cooling Tower	19’	11.68”

2. Operating Limitations

a. The fuel consumption by all the engines that power the emergency backup generators will be limited to 421,612 gallons per year and 28,151 gallons per day of specification No. 2 distillate fuel oil (less than 0.00150 weight percent sulfur). Total annual fuel consumption by the facility must be averaged over a 12-month period using monthly rolling totals.

   i. While commissioning the seven new generator engines, the fuel consumption by the engines will be limited to 63,164 gallons per year. Annual fuel consumption must be averaged over a 12-month period using monthly rolling totals.

b. The six generators installed in 2007, must not be operated more than 400 hours per year each, including testing for reliability or maintenance and emergency operation. Fewer units may be operated longer than 400 hours a year as long as total engine fuel consumption remains in compliance with Approval Condition 3.e.

c. The seven generators installed in 2024 and after, must not be operated more than 18 hours per year each, including testing for reliability or maintenance operation. The 18 hours of operation per engine may be averaged over the seven generators. Total hours of operation must be averaged over a 12-month period using monthly rolling totals.

   i. While commissioning the seven new generators, each engine must not be operated more than 54 hours per year.

d. Total hours of operation for all engines must not exceed 2,582 hours averaged over a 12-month period using monthly rolling totals.

   i. During commissioning of the seven generators installed in year 2024 or after, total hours of operation for all facility engines must not exceed 2,778 hours averaged over a 12-month period using monthly rolling totals.

   ii. For any prolonged unplanned power outage that results in the above conditions being exceeded, Ecology must be notified, and a Notice of Construction may be required.

e. Operation of more than six generator-hours (combined) in any 24-hour period must not occur more than 15 times in any three calendar-year period.

f. The generators must only be operated for reliability or maintenance testing and to provide emergency backup electrical power to the H5 Data Centers in the case of failure of Grant Co. PUD hydroelectric power. Under no circumstances will the generators be utilized to satisfy a financial arrangement with Grant County PUD or any other entity (e.g. curtailment rate structures, load shedding, distributed power generation), or to provide electrical power to the Grant County PUD or any other electric power provider or user without first submitting a Notice of Construction application and receiving prior approval from Ecology.

   i. Cooling towers must comply with the following droplet drift rate percentage and recirculation rate in Table 4.

Table 4: Cooling Tower Requirements

Cooling Tower Make and Model	Droplet Drift rate percentage	Maximum recirculation rate (gallons/minute)
Evapco USS 312-454	0.001	7,230 (2,410 per cell)
Tower Tech TTXR-121975	0.0004	1,991

   ii. Any biocide or other cooling tower water additives must contain no HAPs or TAPs.

3. General Testing and Maintenance Requirements

a. H5 must follow engine-manufacturer's recommended diagnostic testing and maintenance procedures to ensure that each individual engine will conform to 40 C.F.R. 89 Tier II emission specifications throughout the life of each engine.

b. H5 must measure emissions of particulate matter (PM), volatile organic compounds (VOC), nitric oxide (NO), nitrogen dioxide (NO_2), and carbon monoxide (CO) from engine exhaust stacks in accordance with Approval Condition 3.c. This testing will serve to demonstrate compliance with the g/kWm-hr EPA Tier 2 average emission limits contained in Section 4, and as an indicator of proper operation of the engines. The selection of the engines(s) to be tested must be in accordance with Conditions 3.b.i, 3.b.ii and 3.b.iii and must be defined in a source test protocol submitted to Ecology no

less than 30 days in advance of any compliance-related stack sampling conducted by H5. Additional testing as described in 40 C.F.R. 60.8 (g) may be required by Ecology at their discretion.

i. For new engines, at least one representative engine from each manufacturer must be tested as soon as possible after commissioning and before it becomes operational.

ii. Every 60 months after the first testing performed in Condition 3.b.i, H5 must test at least one engine from each manufacturer, including the engine with the most operating hours as long as it is a different engine from that which was tested during the previous 60-month interval testing.

A. For the six engines installed in 2007, after the emission control warranty is expired, testing must be done for at least one engine from the batch of engines, and every 60 months thereafter one engine from the batch of engines must be tested as long as it is a different engine from that which was tested previously.

iii. The testing protocol must include the following information:

B. The location and unit ID of the equipment proposed to be tested.

C. The operating parameters to be monitored during the test.

D. A description of the source including manufacturer, model number, design capacity of the equipment and the location of the sample ports or test locations.

E. Time and date of the test and identification and qualifications of the personnel involved.

F. A description of the test methods or procedures to be used.

b. The following procedure must be used for each test for the engines as required by Condition 3.b unless an alternate method is proposed by H5 and approved in writing by Ecology prior to the test.

i. Periodic emissions testing should be combined with other pre-scheduled maintenance testing.

ii. PM (filterable fraction only), VOC, NO, NO_2, and CO emissions measurement must be conducted at five individual generator electrical loads of 100 percent 75 percent, 50 percent, 25 percent, and 10 percent using weighting factor averaging according to Table 2 of Appendix B to Subpart E of 40 C.F.R. Part 89.

iii. EPA Reference Methods and test procedures from 40 C.F.R. Part 60, 40 C.F.R. Part 51, and/or 40 C.F.R. Part 89 as appropriate for each pollutant must be used including Method 5 or 40 C.F.R. Part 1065 for PM. A test plan will be submitted for Ecology approval at least 30 days before any testing is conducted and must include the

criteria used to select the engine for testing, as well as any modifications to the standard test procedure contained in the above references.

iv. The F-factor method, as described in EPA Method 19, may be used to calculate exhaust flow rate through the exhaust stack. The fuel meter data, as measured according to Condition 3.e, must be included in the test report, along with the emissions calculations.

v. In the event that any source test shows non-compliance with the emission limits in Condition 4, H5 must repair or replace the engine and repeat the test on the same engine plus two additional engines of the same make and model as the engine showing non-compliance. Test reports must be submitted to Ecology as provided in Condition 8.e of this Order.

c. Each engine must be equipped with a properly installed and maintained non-resettable meter that records total operating hours.

d. Each engine (or the central fuel supply line if so equipped) must be equipped with a properly installed and maintained fuel flow monitoring system (either certified physical or generator manufacturer provided software) that records the amount of fuel consumed by that engine during operation.

4. Emission Limits

a. Engines must meet the emission rate limitations contained in Table 5. Unless otherwise approved by Ecology in writing, compliance with emission limits for those pollutants that are required to be tested under Conditions 3.b and 3.c must be based on emissions test data as determined according to those approval conditions.

b. To demonstrate compliance with 40 C.F.R. 89.112 and 89.113 g/kWm-hr EPA Tier 2 weighted average emission limits through stack testing, H5 must conduct exhaust stack testing as described in Conditions 3.b and 3.c according to Table 2 of Appendix B to Subpart E of 40 C.F.R. Part 89, or any other applicable EPA requirement in effect at the time the engines are installed.

Table 5: Emission Limits and Testing Requirements

Pollutant	Load Test	Test Method[(a)]	Emission Limits[(b)]
PM	Five-load weighted avg.	EPA Method 5 or 40 C.F.R. Part 1065	0.2 g/kW-hr
NO_X + NMHC/VOC	Five-load weighted avg.	EPA Method 7E, or 40 C.F.R. Part 1065	6.4 g/kW-hr
CO	Five-load weighted avg.	EPA Method 10, or 40 C.F.R. Part 1065	3.5 g/kW-hr

(a) In lieu of these requirements, H5 may propose an alternative test protocol to Ecology in writing for approval.

(b) For Compliance Test Frequency, See Approval Conditions 3.b.i and 3.b.ii.

c. Total annual facility-wide emissions must not exceed the 12-month rolling average emissions for PM_{10}, $PM_{2.5}$, CO, NO_X, VOC, SO_2, DEEP, and NO_2 as listed in Table 6.

Table 6: Criteria Pollutant and Toxic Air Pollutant Emission Limits for the Total Facility H5 Data Center – Quincy (Tons/Year)

Pollutant	Annual Emissions	Maximum Year
PM smaller than 10 microns in diameter (PM_{10})	0.94	1.4
PM smaller than 2.5 microns in diameter ($PM_{2.5}$)[(a)]	0.91	1.3
Carbon monoxide (CO)	7.5	8.7
Nitrogen oxides (NO_X)	50.2	54.9
Volatile organic compound (VOC)	0.29	0.56
Sulfur dioxide (SO_2)	0.046	0.049
Diesel Engine Exhaust Particulate (DEEP)[(a)]	0.57	0.73
Nitrogen Dioxide (NO_2)[(b)]	5.0	5.5

(a) All PM emissions from the generator engines are $PM_{2.5}$, and all filterable $PM_{2.5}$ from the generator engines is considered Diesel Engine Exhaust Particulate (DEEP).
(b) NO_2 is assumed to be equal to 10 percent of the total NOx emitted.

d. Visual emissions from each diesel generator exhaust stack must be no more than ten percent, with the exception of a two-minute period after unit start-up. Visual emissions must be measured by using the procedures contained in 40 C.F.R. Part 60, Appendix A, Method 9.

5. Operation and Maintenance Manuals (O&M)

A site-specific O&M manual for the H5 Data Center equipment must be developed and followed. Manufacturers' operating instructions and design specifications for the engines, generators, cooling towers and associated equipment must be included in the manual. The O&M manual must be updated to reflect any modifications of the equipment or its operating procedures. Emissions that result from failure to follow the operating procedures contained in the O&M manual or manufacturer's operating instructions may be considered proof that the equipment was not properly installed, operated, and/or maintained. The O&M manual for the diesel electric generation units and associated equipment must at a minimum include:

a. Manufacturer's testing and maintenance procedures that will ensure that each individual engine will conform to 40 C.F.R. 89 Tier II specifications throughout the life of the engine.

b. Normal operating parameters and design specifications.

c. Operating maintenance schedule.

6. Submittals

All notifications, reports, and other submittals must be sent to:

Washington State Department of Ecology
Air Quality Program
4601 N. Monroe Street
Spokane, WA 99205-1295

Annual reports may also be submitted electronically to: emissions.inventory@ecy.wa.gov

OR AS DIRECTED.

7. Recordkeeping

All records, O&M manual, and procedures developed under this Order must be organized in a readily accessible manner and cover a minimum of the most recent 60-month period except as required for stack testing in Condition 3. Any records required to be kept under the provisions of this Order must be provided within 30 days to Ecology upon request. The following records are required to be collected and maintained.

a. Fuel receipts with amount of diesel and sulfur content for each delivery to the facility.

b. Monthly and annual fuel usage.

c. Monthly and annual hours of operation for each diesel engine. The cumulative hours of operation for each engine must be maintained for the life of the engine while at H5, and must include which engines have been stack tested, and the report information from Condition 8.e.

d. Purpose, electrical load and duration of runtime for each diesel engine period of operation.

e. Annual gross power generated at the facility.

f. Upset condition log for each engine and generator that includes date, time, duration of upset, cause, and corrective action.

g. Any recordkeeping required by 40 C.F.R. Part 60 Subpart IIII.

h. Air quality complaints received from the public or other entity, and the affected emissions units and any actions taken to resolve issues.

8. Reporting

a. The serial number, manufacturer make and model, standby capacity, and date of manufacture must be submitted to Ecology prior to installation for each engine and generator.

b. The following information will be submitted to Ecology at the address in Condition 6 by January 31 of each calendar year. This information may be submitted with annual emissions information requested by Ecology's Air Quality Program (AQP).

i. Monthly and 12-month rolling annual total summary of fuel usage compared to Condition 2.a.

ii. Monthly and 12-month rolling annual total summary of the air contaminant emissions for pollutants above the WAC 173-400-110(5) and WAC 173-460-150 de minimis levels.

iii. Monthly and 12-month rolling hours of operation with annual rolling total.

iv. Monthly and 12-month rolling gross power generation with annual total as specified in Condition 7.e.

v. A listing of each start-up of each diesel engine that shows the purpose, fuel usage, and duration of each period of operation.

c. Any air quality complaints resulting from operation of the emissions units or activities must be promptly assessed and addressed. A record must be maintained by each tenant of the action taken to investigate the validity of the complaint and what, if any, corrective action was taken in response to the complaint. Ecology must be notified within three days of receipt of any such complaint.

d. H5 must notify Ecology by e-mail or in writing within 24 hours of any engine operation of greater than 60 minutes if such engine operation occurs as the result of a power outage or other unscheduled operation. This notification does not alleviate H5 from annual reporting of operations contained in any section of Condition 9.

e. Stack test reports of any engine must be submitted to Ecology within 60 days of completion of the test and must include, at a minimum, the following information:

i. Location, unit ID, manufacturer and model number of the engine(s) tested, including the location of the sample ports.

ii. A summary of test methods, results (reported in units and averaging periods consistent with the applicable emission standard or limit), field and analytical laboratory data, quality assurance/quality control procedures and documentation.

iii. A summary of operating parameters for the diesel engines being tested.

iv. Engine electronic operational data during testing.

v. Copies of field data and example calculations.

vi. Chain of custody information.

vii. Calibration documentation.

viii. Discussion of any abnormalities associated with the results.

ix. A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

e. The Permittee must notify Ecology within 30 days of the following events:

i. Commencement of construction of the project.

ii. Completion of the construction of the project.

iii. If construction or operation has been discontinued for more than 18 months.

f. The Permittee must notify Ecology within 60 days (or longer as approved by Ecology) of the following events:

i. Changes in operation contrary to information submitted in the NOC application.

ii. Discontinued facility operations. This notification must include a shutdown status maintenance plan containing the following information, at a minimum:

A. Maintenance that will be performed during the shutdown to allow startup in a timely manner with minimum amount of work and emissions, (allowable emission levels as of the date of shutdown cannot increase upon reopening).

iii. Reactivating the facility following discontinued operations of 18 months or more. This notification must include a start-up plan containing the following information, at a minimum:

A. Documentation that the shutdown maintenance was performed during shutdown to allow startup in a timely manner with minimum amount of work and emissions (allowable emission levels as of the date of shutdown cannot increase upon reopening).

B. Documentation of testing performed which demonstrates that units are still able to meet the parameters of this approval order after being inactive, or other documentation which demonstrates why testing in not necessary.

9. General Conditions

a. **Activities Inconsistent with this Order** – Any activity undertaken by the Permittee, or others, in a manner that is inconsistent with the data and specifications submitted as part of the NOC application or this NOC Approval Order, will be subject to Ecology enforcement under applicable regulations.

b. **Availability of Order** – Legible copies of this NOC Approval Order and any O&M manual(s) must be available to employees in direct operation of the equipment described in the NOC application and must be available for review upon request by Ecology.

c. **Compliance Assurance Access** – Access to the source by representatives of Ecology or the United States Environmental Protection Agency (EPA) must be permitted upon request. Failure to allow access is grounds for enforcement action under the federal Clean Air Act or the Washington State Clean Air Act and may result in revocation of this NOC Approval Order.

d. **Discontinuing Construction** – Approval to construct or modify a stationary source becomes invalid if construction is not commenced within eighteen months after receipt of the approval, or if construction is discontinued for a period of eighteen months or

more. The permitting authority may extend the 18-month period upon a satisfactory showing by the permittee that an extension is justified.

e. **Equipment Operation –** Operation of the facility must be conducted in compliance with all data and specifications submitted as part of the NOC application and in accordance with O&M manuals, unless otherwise approved in writing by Ecology.

f. **Registration –** Periodic emissions inventory and other information may be requested by Ecology. The requested information must be submitted within 30 days of receiving the request, unless otherwise specified. All fees must be paid by the date specified.

g. **Violation Duration –** If the Permittee violates an approval condition in this NOC Approval Order, testing, recordkeeping, monitoring, or credible evidence will be used to establish the starting date of the violation. The violation is presumed to continue until testing, recordkeeping, monitoring, or other credible evidence indicates compliance. A violation of an approval condition includes, but is not limited to, failure of air pollution control equipment, failure of other equipment resulting in increased emissions, or a failed source test indicating an exceedance of an emission limit.

h. **Obligations under Other Laws or Regulations –** Nothing in this NOC Approval Order excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

i. Maintaining Compliance – It will not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the operations in order to maintain compliance with the conditions of this NOC Approval Order.

j. **Visible Emissions –** No visible emissions from the source are allowed beyond the property line, as determined by 40 C.F.R. Part 60, Appendix A, Test Method 22.

k. **Changes in Operations –** Changes in operation, discontinued operation, or inadequate maintenance plans or re-start plans (see “Reporting” requirements), may require a new or amended NOC Approval Order.

Authorization may be modified, suspended, or revoked in whole or part for cause, including, but not limited to, the following:

- Violation of any terms or conditions of this authorization.
- Obtaining this authorization by misrepresentation or failure to disclose full all relevant facts.

The provisions of this authorization are severable and, if any provision of this authorization or application of any provision to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this authorization, will not be affected thereby.

Your Right To Appeal

You have a right to appeal this NOC Approval Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this NOC Approval Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of this NOC Approval Order:

- File your notice of appeal and a copy of this NOC Approval Order with the PCHB (see addresses below). "Filing" means actual receipt by the PCHB during regular business hours as defined in Chapter 371-08-305 WAC and -335. "Notice of appeal" is defined in Chapter 371-08-340 WAC.

- Serve a copy of your appeal and this NOC Approval Order on Ecology by mail, in person, or by email (see addresses below).

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Address and Information Location:

Filing with the PCHB
For the most current information regarding filing with the PCHB, visit https://eluho.wa.gov/ or call: 360-664-9160.

Service on Ecology

Street Address:
Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

Mailing Address:
Department of Ecology
Attn: Appeals Processing Desk
PO Box 47608
Olympia, WA 98504-7608

E-mail Address:
ecologyappeals@ecy.wa.gov

Americans with Disabilities Act Information

Accommodation Requests

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-7668 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

DATED at Spokane, Washington this 26th day of November 2024.

Prepared By:

Jenny Filipy, P.E.
Commercial Industrial Unit
Air Quality Program
Eastern Regional Office

Approved By:

Karin Baldwin
Section Manager
Air Quality Program
Eastern Regional Office

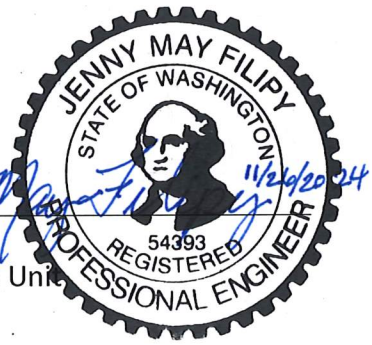
Americans with Disabilities Act Information

Accommodation Requests

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-7668 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

DATED at Spokane, Washington this 26th day of November 2024.

Prepared By:



Jenny Filipy, P.E.
Commercial Industrial Unit
Air Quality Program
Eastern Regional Office

Approved By:

Karin Baldwin
Section Manager
Air Quality Program
Eastern Regional Office

Technical Support Document
Notice of Construction Approval Order – 24AQ-E040

H5 Data Centers
AQPID No. A0250282
Quincy, WA

Prepared by: Jenny Filipy, P.E.

1. Project Summary

H5 Data Centers – Quincy (the source) is a data center with diesel emergency generators classified as a synthetic minor with six installed emergency generators and four cooling tower emissions unit(s). This review is for an extension request for the installation of new emergency generators and cooling units and changes to the number of emission units and the type of cooling towers that have yet to be installed. The source has requested to reduce the previously permitted number of emergency generators from 18 to 13 total for the facility and cooling towers from 12 to nine total for the facility. All permitted air emissions will be reduced by the changes requested.

An initial Notice of Construction (NOC) application dated May 22, 2024, was submitted by H5 Data Centers – Quincy for the expansion changes project. The Washington State Department of Ecology (Ecology) reviewed the initial application and found it complete per WAC 173-400-111 on May 22, 2024.

2. Application Processing

a. Public Notice

Receipt of the application was posted on Ecology's Public Involvement Calendar from June 17, 2024, through July 8, 2024, in both English and Spanish. An email regarding the project was provided to individuals that had expressed interest in Quincy Data Centers in the past. A 30-day comment period was requested and held July 22 through August 26, 2024. Response to Comments is included in Appendix A of this Technical Support Document.

Resources used to determine outreach:

Environmental Protection Agency: EJScreen (epa.gov)

Department Of Health Disparities map: Information by Location | Washington Tracking Network (WTN)

Washington GIS map: Limited English Proficiency Application (arcgis.com)

b. State Environmental Policy Act

City of Quincy issued a determination of nonsignificance (DNS) for the current building with emergency engines on April 25, 2007.

3. Applicable Regulations

a. State Regulations

i. Minor New Source Review Applicability

Per WAC 173-400-110, an NOC application and an order of approval must be issued by the permitting authority prior to the establishment of a new source or modification.

As stated in the NOC application and consistent with Ecology's review, the emergency generators are being constructed by this project and therefore are subject to minor new source review (NSR). This review is to make sure that the project as originally permitted, still meets BACT and tBACT and review of cooling tower changes since it was permitted two years ago.

ii. Other Applicable Requirements

In accordance with WAC 173-400-113, the proposed new sources must comply with all applicable emission standards adopted under Chapter 70A.15 RCW. The following applicable emission standards are associated with the proposed project:

A. WAC 173-400-040 General standards for maximum emissions: limits visible emissions from all sources to no more than three minutes of 20 percent opacity, in any hour, of an air contaminant from any emission unit.

B. WAC 173-400-050 and WAC 173-400-060 Emission standards for general process units and Combustion and Incineration Units: limits emissions of particulate matter from combustion and general process units to 0.23 gram per dry cubic meter at standard conditions (0.10 grains per dry standard cubic foot) of exhaust gas.

C. WAC 173-400-115 Standards of performance for new sources adopts by reference 40 C.F.R. Part 60, Subpart IIII. See more below.

b. Federal Regulations

In accordance with WAC 173-400-113, the proposed new sources must comply with all applicable new source performance standards (NSPS) included in 40 C.F.R. Part 60, national emission standards for hazardous air pollutants (NESHAPs) included in 40 C.F.R. Part 61, and NESHAPs for source categories included in 40 C.F.R. Part 63.

The following applicable emission standards are associated with the proposed project:

i. Standards of Performance for New Stationary Sources

The ICE NSPS (40 C.F.R. Part 60, Subpart IIII) applies to each emergency generator. The regulation specifies: criteria for classification as emergency engines; Tier-2 emission standards for the engines; and fuel, monitoring, compliance, and notification requirements for the Permittee.

ii. National Emission Standards for Hazardous Air Pollutants for Source Categories

The RICE NESHAP applies to each engine. However, each engine is also subject to the ICE NSPS (see above). At 40 C.F.R. 63.6590(c), the NESHAP specifies that compliance must be met by meeting the requirements of the NSPS; therefore, no further requirements apply to the engines.

4. Emissions

a. Emission Factors

Emission factors for the emergency generator engines were provided as Not-Exceed-Limits by the manufacturers MTU Detroit Diesel and Kohler for nitrogen oxides (NOx), carbon monoxide (CO), particulate matter (PM), and hydrocarbons (HC). The following was assumed for the emergency generators:

i. DEEP is assumed to be manufacturer-measured PM.

ii. HCs were assumed to be equivalent to VOC and non-methane HC.

iii. The sum of PM and HC (assumed to all condense) and be equivalent PM10 and PM2.5 for the engines.

The emission factor for SO2 was calculated based on sulfur content of the ultra-low sulfur fuel and an average heating value of diesel fuel. All sulfur was assumed to convert to SO2.

An additional factor was added for cold-start emissions (PM, CO, total VOC, and volatile TAPs). These factors are based on short-term concentration trends for VOC and CO emission observed immediately after startup of a large diesel backup generator. These observations were documented in the California Energy Commission's report "Air Quality Implications of Backup Generators in California" (Lents et al. 2005).

All the remaining emission rates for toxic air pollutants from the generators were calculated using the most conservative emission factors from the following sources: EPA's AP-42, Volume 1, Chapter 3.4, which provides emission factors for HAPs from

large internal combustion diesel engines (EPA 1995); Ventura County Air Pollution Control District AB 2588 emission factors for Diesel Internal Combustion; California Air Toxics Emission Factors (CATEF) for Internal Combustion Engines, Diesel Mean values using the average of each unique Mean EF.

Emission rates for PM from the cooling towers were determined by the manufacturer guaranteed drift droplet rate percent. The size distribution of the evaporated solid particles was calculated based on the liquid droplet size distribution and the assumption that the total dissolved solids (TDS) concentration inside the liquid droplets will be the same as the TDS concentration within the cooler recirculation water. TAPs from the water droplets were calculated based on worst case concentrations within samples of the City of Quincy's domestic water supply and well water samples (Cascade Analytical 2020).

b. Best Available Control Technology | Best Available Control Technology for Toxics

In the prior permitting effort, the consultant proposed and successfully demonstrated that Tier-4 engines are cost prohibitive and are likely to cause operational problems with the proposed engine use patterns. Therefore, the consultant proposed uncontrolled Tier-2 engines as BACT and tBACT. I have reviewed agree that the proposal still meets or exceeds: BACT for emissions of NOx, CO, VOC and PM; and tBACT for emissions listed in Table 2.

The proposed drift droplet rate of 0.0004 percent is presumptive BACT and tBACT or better for the evaporative cooling towers. Emissions for the cooling towers comes from the total dissolved solids in the water used in the cooling towers: PM and the PM based cooling tower TAPs listed in Table 2.

c. Allowable Emissions

The allowable emissions from the project, considering all emission and operational limits contained in the approval order, are shown in the tables below.

Table 1. Allowable emissions for pollutants listed under WAC 173-400-110(5)

Pollutant	OLD 22AQ-E005 (tons/year)	OLD 22AQ-E005 with commissioning (tons/year)	NEW 24AQ-E040 (tons/year)	NEW 24AQ-E040 with commissioning (tons/year)
Carbon Monoxide (CO)	9.1	11.2	7.5	8.7
Lead (Pb)	0.000023	0.000023	0.0000035	0.0000035
Nitrogen Oxides (NOX)	56.8	64.8	50.2	54.9
PM10	2.3	3.0	0.94	1.4
PM2.5	2.1	2.8	0.91	1.3

Pollutant	OLD 22AQ-E005 (tons/year)	OLD 22AQ-E005 with commissioning (tons/year)	NEW 24AQ-E040 (tons/year)	NEW 24AQ-E040 with commissioning (tons/year)
Total Suspended Particulates (TSP)	2.3	3.0	0.94	1.4
Sulfur Dioxide (SO2)	0.051	0.057	0.046	0.049
Volatile Organic Compounds, total (VOC)	0.66	1.1	0.29	0.56

Table 2. Toxic Air Pollutant (TAP) Facility-wide Emission changes

Pollutant	OLD 22AQ-E005 (ton/year)	OLD with commissioning (ton/year)	NEW 24AQ-E040 (ton/year)	NEW with commissioning (ton/year)
Generator Emissions	--	--	--	--
Nitrogen dioxide (NO2)	5.3	6.1	5.0	5.5
Diesel Engine Exhaust Particulate (DEEP)	0.69	0.96	0.57	0.73
Carbon monoxide (CO)	8.3	10.3	7.5	8.7
Sulfur dioxide	0.048	0.054	0.046	0.049
1,3-Butadiene	5.2E-02	5.8E-02	5.0E-02	5.3E-02
Acetaldehyde	1.9E-01	2.10E-01	1.8E-02	1.9E-02
Acrolein	8.1E-03	9.1E-03	7.7E-03	8.3E-03
Ammonia	1.16	1.30	1.10	1.18
Arsenic	3.8E-04	4.3E-04	3.6E-04	3.9E-04
Benzene	4.4E-02	5.0E-02	4.2E-02	4.6E-02
Benz(a)anthracene	2.6E-04	2.9E-04	2.5E-04	2.6E-04
Benzo(a)pyrene	2.1E-04	2.4E-04	2.0E-04	2.2E-04
Benzo(b)fluoranthene	4.2E-04	4.7E-04	4.0E-04	4.3E-04
Benzo(k)fluoranthene	4.1E-04	4.6E-04	3.9E-04	4.2E-04
Cadmium	3.6E-04	4.0E-04	3.4E-04	3.7E-04
Chlorobenzene	4.8E-05	5.4E-05	4.5E-05	4.9E-05
Chrysene	2.3E-04	2.6E-04	2.2E-04	2.4E-04
Copper	9.8E-04	1.1E-03	9.3E-04	1.0E-03
Dibenz(a,h)anthracene	2.2E-04	2.5E-04	2.1E-04	2.3E-04
Ethylbenzene	2.6E-03	2.9E-03	2.5E-03	2.7E-03
Formaldehyde	4.1E-01	4.6E-01	3.9E-01	4.2E-01
Hexavalent Chromium	2.37E-05	2.7E-05	2.3E-05	2.4E-05
Hydrogen Chloride	4.4E-02	5.0E-02	4.2E-02	4.6E-02

Pollutant	OLD 22AQ-E005 (ton/year)	OLD with commissioning (ton/year)	NEW 24AQ-E040 (ton/year)	NEW with commissioning (ton/year)
Indeno(1,2,3-cd)pyrene	2.2E-04	2.5E-04	2.1E-04	2.3E-04
Lead	2.0E-03	2.2E-03	1.9E-03	2.0E-03
Manganese	7.4E-04	8.3E-04	7.0E-04	7.6E-04
Mercury	4.8E-04	5.4E-04	4.5E-04	4.9E-04
Naphthalene	8.5E-03	9.5E-03	8.1E-03	8.7E-03
n-Hexane	6.4E-03	7.2E-03	6.1E-03	6.6E-03
Nickel	9.3E-04	1.1E-03	8.9E-04	9.5E-04
Propylene	1.1E-01	1.3E-01	1.1E-01	1.1E-01
Selenium	5.3E-04	5.9E-04	5.0E-04	5.4E-04
Toluene	2.5E-02	2.8E-02	2.4E-02	2.6E-02
Total Chromium	1.4E-04	1.6E-04	1.4E-04	1.5E-04
Xylenes	1.0E-02	1.1E-02	9.6E-03	1.0E-03
Cooling Tower TAPs	--	--	--	--
Arsenic	6.9E-06	6.9E-06	2.1E-06	2.1E-06
Beryllium	2.4E-07	2.4E-07	7.4E-08	7.4E-08
Cadmium	4.0E-07	4.0E-07	2.3E-07	2.3E-07
Chromiuma	3.6E-06	3.6E-06	3.3E-06	3.3E-06
Cobalt	7.3E-06	7.3E-06	2.2E-06	2.2E-06
Copper	6.4E-04	6.4E-04	8.8E-05	8.8E-05
Lead	2.3E-05	2.3E-05	3.5E-06	3.5E-06
Manganese	3.4E-05	3.4E-05	5.7E-06	5.7E-06
Mercury	5.9E07	5.9E-07	2.6E-07	2.6E-07
Selenium	4.2E-06	4.2E-06	1.3E-06	1.3E-06
Vanadium	1.5E-04	1.5E-04	4.5E-05	4.5E-05
Total Cyanide	2.4E-05	2.4E-05	7.4E-06	7.4E-06
Ammonia	1.7E-04	1.7E-04	5.2E-05	5.2E-05
Total Phosphorus	1.7E-04	1.7E-04	5.2E-05	5.2E-05

Appendix A – Response to Comments

H5 Data Centers – Ecology Response to Comments

Comments from Danna Dal Porto:

Comment 1:

I am not necessarily requesting a Public Hearing because you will, no doubt, have it virtually, and I do not find that type of meeting to meet the needs of the Quincy Community. I am, however, making comments on the H5 application. I do not consider the H5 application complete enough to meet the needs of the Quincy community. I will comment on specific sections of the application.

Part 1: General Information

1. Project name: H5 Quincy 18MW Expansion Tier I

I have a question about the Tier I. The document presented for consideration in this application does not specify any specifics about generator designation. Is this facility a Tier I? Reading the earlier application, the facility is listed as a Tier II. Is this just a mistake?

Response to Comment 1:

The project name "H5 Quincy 18MW Expansion Tier I" was provided by the facility and does not refer to the generator tier emission standards or Ecology's tiered review process for toxic air pollutants. The facility's previous expansion request in 2022 did go through a Second-Tier review for toxic air pollutants Diesel Engine Exhaust Particulate and Nitrogen Dioxide.

Comment 2:

In the same paragraph, I quote: "

The generators will be changed from 12 additional MTH-16V400 to seven additional Kohler KD model 2250. The manufacturers and model change complies with and is addresses in the existing approval order."

I would like clarification based on that paragraph. How many generators are going to be permitted at H5?

Response to Comment 2:

H5 Data Center has six generators installed in 2007 and requested an additional 12 diesel generators in their 2022 permitting effort. The 2022 permitting effort included an evaluation of two different potential generator models (MTU Detroit Diesel Model

16V4000DS2250 or Kolher KD Model 2250). Both generator models were evaluated in the application and worst-case emissions were included in that modeling effort. With this current application the facility is proposing to install seven Kolher KD Model 2250 generators. With this reduction in the number of proposed generators at the facility the total permitted facility generators will go down from 18 to 13 total generators.

Here is a link to Ecology's Data Center Webpage where you can find H5 Data Centers previous permitting effort documents.

Data centers - Washington State Department of Ecology

https://ecology.wa.gov/air-climate/air-quality/data-centers

Comment 3:

Section VI, Part 2: Technical Information

VI. Emissions Estimations of Toxic Air Pollutants

Does your project generate toxic air pollutant emissions? ____Yes ___X__No

After answering NO, you continue in the document to a list of toxic air pollutants.

I cannot give you a page number as the pages were not numbered. I am curious why you would declare not having Toxic air emissions and then make a list of those emissions. Please explain.

Response to Comment 3:

The cooling towers and the generators at the H5 Data Center do emit toxic air pollutants. With this application request all toxic air pollutants will be reduced from what is previously permitted. Please see pages 4, 5, and 6 of the Technical Support Document to see the changes from the last permitting effort to this one.

Comment 4:

The following H5 document is named "Narrative Description of Change to Existing Permit" does not have any page numbers as well. The following statement is in that document: "The Tower Tech cooling towers have the following emission rates, representing a significant improvement over the older Evapco cooling towers." The following chart does show the improved rates but I did not see any data documenting the Evapco rates for comparison. I cannot tell by the data presented if the Tower Tech coolers are any better without being able to compare rates of evaporation. You need to provide the Public that information to verify your statements in the document that Tower Tech coolers are better.

Response to Comment 4:

This comment was received during the 15-day web notification for this project. Updated tables were provided in the Notice of Construction application during the 30-day comment period showing the 2022 emissions versus the new 2024 proposed emissions, so that the decrease in emissions from the cooling towers could be seen more clearly. Total facility emission changes are provided in the Technical Support Document pages 4, 5, and 6.

Comment 5:

The paperwork contains numerous sections. The sections named Tower Tech Cooling Tower Data Report has the date as 11-8-23 made for H5 Quincy. Further down in a section named "Narrative Description of Change to Existing Permit" page 15640-4, I refer to section 2.3 Materials.

2.3 Materials

A Thermal Performance:

1. Peak Load Conditions:

a. Tower shall be capable of cooling _____gallons per minute of circulating water from ____ degrees F HWT, to

_____degrees FCWT, at _____F air entering wet bulb temperature, operating with a total fan motor power of

_____BHP maximum.

I read that paragraph with interest as those were numbers and facts that I understood. However, I do not know why this section of the document was left blank. The preceding page named H5 as the receptor of these units, why was this information not included? I have to conclude that the application from H5 is incomplete and does not satisfy the requirement that the Company inform the Public about the changes to their permit.

Response to Comment 5:

These values are listed in the Notice of Construction application on the Tech Tower – Cooling Tower Data Report (page 9). Each tower will be capable of cooling 1,991 gallons per minute of recirculating water. This is down from what the cooling towers were previously permitted at 7,352 gallons per minute per tower. The reduction of recirculation water for proposed five new cooling towers is captured in Table 4 Cooling Tower requirements, Approval Condition 2.f.i.

Here is all the missing data for this page: Tower shall be capable of cooling 1,991 gallons per minute of circulating water from 95 degrees F HWT to 85 degrees F CWT, at 75 F air entering web bulb temperature, operating with a total fan motor power of 47.5 BHP maximum.

Comment 6:

I am requesting a map showing the air dispersion of the emissions. The map I want is also called a Concentration Contour map. On that flow map, I want the schools, Senior Center, hospital and City Hall identified. I will require landmarks to make the map understandable.

Response to Comment 6:

No modeling was required for this project, as it was a reduction in all emissions for the facility. You can view the previous modeling done for the expansion request in 2022 in the 2nd Tier Recommendation for H5 Data Centers (pages 29 to 32) on Ecology's Data Center website.

https://ecology.wa.gov/getattachment/0d9612e2-f7ee-4ce9-9bb3-58b3250190fd/20211110H5Tier2Rec.pdf

Comment 7:

I am uncomfortable in expressing my negative observations about this H5 request. As a concerned citizen I have looked at each and every application made for data center construction in Quincy. Most applications are professional in appearance and helpful to the reader. The documents are always identified at the top with the company name, the title of the document, a date as well as a page number with useful information such as page 8 of 34. When I read through these long applications, the pages are often shifted and piled up haphazardly. Without some help I will not be able to assemble the paperwork properly. This H5 application has none of these professional identifiers. You are asking the Department of Ecology, State of Washington, for a permit to build a data center, not a barn. This poorly composed document does not show any respect for Ecology or the concerned citizens in the town you are requesting to expand this facility.

These are the observations and questions I have based on the limited documents available to me on the Ecology website for H5. I do not consider the H5 application complete and would welcome clarification of my questions.

Response to Comment 7:

Thank you for your comment.

Comments by Patricia Martin:

Comment 8:

Please accept my comments regarding the H5 Data Center modification, and my extreme disappointment in the obvious lack of transparency provided by the documents Ecology posted online. How is a concerned citizen to know that claims being made by both the applicant and Ecology are accurate, when no supporting documents have been provided? For this reason, I am requesting a Public Hearing.

Response to Comment 8:
This comment was received during the 15-day web notification, per WAC 173-400-171 (2), a comment period was not initially triggered, as the proposal was a reduction in emissions from what had been previously permitted. A request was made for a comment period, in which a virtual hearing was tentatively scheduled. No request for a hearing was received during the comment period. This commenter was contacted, to see if a hearing was still desired, no response was received during the request period and the hearing was cancelled.

Comment 9:
Let's begin with errors and omissions. Since the last H5 Data Center in 2022, the Vantage Data Center has been permitted to add an additional 44 engines. As part of the permitting process for a new or modified source, impacts from area sources must be considered. Has Ecology considered the impact of the H5 Data Center on air quality – both TAP and criteria pollutants - in light of these additional engines?

Response to Comment 9:
The H5 Data Centers facility is requesting changes to what has been previously permitted. Equipment modifications to the cooling tower units do not trigger modeling as all emission levels for all Toxic Air Pollutants are below de minimis and below particulate matter New Source Review thresholds (PM_{10} – 0.75 tons per year and $PM_{2.5}$ - 0.50 tons per year).

Both generator models (MTU Detroit Diesel Model 16V4000DS2250 and Kolher KD Model 2250) were previously evaluated for in the 2022 permitting effort and as this new request reduces the number of additional generators to be installed from 12 to seven. Permitted emissions will be reduced for the entire facility with these proposed changes.

An emission increase is required above New Source Review or Toxic Air Pollutant thresholds before new modeling is required or if the source would no longer be meeting a new standard. The generators and cooling tower equipment met current Best Available Control Technology, and the only standard that has changed since the order was last issued was $PM_{2.5}$ annual standard (went from 12 $\mu g/m^3$ to 9 $\mu g/m^3$). The

previous 2022 permitting effort showed that this standard was met at 6.6 µg/m^3 for cumulative impacts (2022 Notice Of Construction application page 62).

https://ecology.wa.gov/getattachment/e46d9094-d2ef-46d9-96c3-a4fc137c3ac5/20210715H5RevNOCapp.pdf

As this new application does not require new modeling, or an updated Health Impact Assessment, changes at other facilities do not trigger remodeling of the H5 Data Centers facility.

Comment 10:
Another error is Ecology erroneously stating that citizens can request a "comment period", rather than a "Public Hearing". For anyone not familiar with the difference, it could lead to someone requesting a comment period, and being denied a Public Hearing.

Response to Comment 10:
This comment was received during the 15-day web notification, per WAC 173-400-171 (2), a comment period was not initially triggered, as the proposal was a reduction in emissions from what had been previously permitted. A request was made for a comment period, in which a virtual hearing was tentatively scheduled. No request for a hearing was received during the comment period. This commenter was contacted, to see if a hearing was still desired, no response was received during the request period and the hearing was cancelled.

Comment 11:
In the NOC application Section VI. Emissions Estimations of Toxic Air Pollutants, representatives for H5 indicate that its data center does not generate toxic air pollutants. This is obviously in error – DPM, acrolein, PAHs and other toxic air pollutants are commonly found in diesel exhaust – and the requisite questions that follow an affirmative answer need to be addressed. Page 4 of 5. Specifically the information below should have been provided in the application, and therefore available to the public.

- The names of the toxic air pollutants emitted (specified in WAC 173-460-150
- Potential emissions of toxic air pollutants in pounds per hour, pounds per day, and pounds per year (include calculations)
- If there will be any fugitive toxic air pollutant emissions, clearly Identify the pollutant and quantity

Because the H5 Data Center is changing engine manufacturers and models, irrespective of a decrease in their numbers, this information needs to be provided in the NOC. The application implies that this information has been provided in the original permit, but engine makes and models operate differently and emission rates vary. Please provide a side-by-side comparison of the emissions permitted under the original permit from the twelve (12) MTU-16V400 engines, and the emissions permitted, but not disclosed to the public, from the seven (7) Kohler KD Model 2250 engines. Please include the emission rate tables, maximum rated capacity and

other engine manufacturing information from which the emissions that have been permitted under this NOC were derived.

Response to Comment 11:
The facility does produce toxic air pollutants. All emissions of toxic air pollutants and criteria air pollutants were reduced with this project from what the facility was previously permitted at in 2022. Please review the cooling tower emission changes in the current NOC application. The technical support document for this current project also shows the reduction of all pollutants from the last permitting effort on pages 4, 5, and 6.

The previous 2022 permitting effort did evaluate both generator models (MTU Detroit Diesel Model 16V4000DS2250 and Kolher KD Model 2250) and modeled worst case scenarios, so that the facility had the option of installing either generator model (pages 65 to 82). H5 Data Center NOC application (2021 – 2022).

https://ecology.wa.gov/getattachment/e46d9094-d2ef-46d9-96c3-a4fc137c3ac5/20210715H5RevNOCapp.pdf

Comment 12:
The box "Manufacturer specification sheets…" is marked as being included, but the engine manufacture specification sheets are missing. The box "Manufacturer specification sheets for pollution control equipment" has a handwritten note that indicates there is a "generator alteration" Id What does that mean, and what is its impact on air quality?

Response to Comment 12:
The manufacturer specification sheets were provided for the new cooling tower units. The "generator alteration" is due to the facility choosing to use Kohler generators (included in the prior 2022 permitting effort) over what they had originally installed at the facility in 2007, which were the MTU models. Please see the modeling impacts (pages 98 to 101) evaluated in 2022 on the data center website. H5 Data Center NOC application (2021 – 2022).

https://ecology.wa.gov/getattachment/e46d9094-d2ef-46d9-96c3-a4fc137c3ac5/20210715H5RevNOCapp.pdf

Also, you can view the previous modeling done and health impact analysis completed in 2022 in the 2nd Tier Recommendation for H5 Data Centers (pages 29 to 32).

https://ecology.wa.gov/getattachment/0d9612e2-f7ee-4ce9-9bb3-58b3250190fd/20211110H5Tier2Rec.pdf

Comment 13:
Are these Tier 2 engines without pollution controls to reduce DPM, VOCs and NOx? Are pollution controls being purchased for the engines to reduce DPM, VOCs and NOX? Other

questions that come to mind that I would like answers to include: What are the estimated ambient air quality levels for both criteria and TAP pollutants outside H5? Modeling is typically done to ensure compliance with WAC 173-400 and WAC 173-460. This seems to be even more important since the addition of 44 Vantage engines and Sabey's expansion. Has Ecology considered the combined impact of all the TAPs from the cooling towers and diesel exhaust? For example, since both the engine exhaust and cooling towers emit arsenic, has Ecology combined the arsenic emissions to assure that the total emitted from H5 is still below de minimis values? Does Ecology consider the total TAPs released over our community in its health assessments? How different would the permitting outcomes be had Ecology not gutted the more protective TAP regulations (WAC 173-460-150), and loosened the permitting requirements under WAC 173-460 in 2009?

Response to Comment 13:
The generators proposed are Tier 2 generators without additional controls. New modeling and a Health Impact Assessment were not triggered for this application. Please see response to comment 9. Please see Ecology's Data Center website for previous Notice of Construction application materials.

https://ecology.wa.gov/air-climate/air-quality/data-centers

Comment 14:
It is an egregious environmental injustice that our community is put in jeopardy for the "environmental benefit" of the state. WAC 173-460-100(3)(c) Please provide a copy of the water analysis used to support the contaminant concentrations for the cooling tower emissions. Is H5 planning to use reclaimed water from the City of Quincy? If so, has Ecology considered the Chemicals of Emerging Concern (CEC) that cannot be removed by the UV treatment the city plans to use for its reclamation project? What is the bactericide that H5 uses to prevent growth of pathogenic bacteria in its cooling towers? What other chemicals are used in cooling towers by H5? Please provide a complete list of them, and whether Ecology has considered the chemicals in them when conducting health assessments for H5 or other data centers. What is the health impact of each of these chemicals as aerosols on the surrounding community, and when combined with the aerosols from bactericides and other cooling tower chemicals used at other data centers? What other "inerts" are found in the bactericide, and/or other cooling tower chemicals, that have not been considered in the TAP analysis?

Response to Comment 14:
The water supply for the cooling towers will be a combination of water from the City of Quincy's domestic water supply and well water from an onsite well. Samples of both water sources were analyzed for potential TAPs (Cascade Analytical 2020). Because the specific mixture of well water and domestic water may vary depending on water availability, the worst-case concentration of chemicals from either water source was used to evaluate the worst-case emissions from the cooling towers. Reporting limits were conservatively used for analytes not detected in samples.

H5 Data Center Approval Order condition 2.f.ii prohibits the use of biocide or any cooling tower additives that have hazardous air pollutants or toxic air pollutants.

Comment 15:
Why hasn't another SEPA been required to be submitted to the City of Quincy for consideration? The City is talking about rationing water beginning next year. Perhaps H5's impact on a dwindling supply of water would result in something other than a DNS. The city should not be denied an opportunity to review, and if necessary, restrict this permit due to its impact on city resources.

Response to Comment 15:
The City of Quincy was contacted regarding this project: a reduction of air emissions due reductions in the number of generators and cooling towers and a change in cooling tower design that will also reduce air emissions and water use. After review of the current project and the prior determination for the facility, a new Environmental Checklist and SEPA determination was not required, as the changes would meet the current standards or better.

Comment 16:

Please list any changes in air quality standards, permitting requirements or other regulatory changes since H5's last permit that impact, or should impact, this NOC application.

Response to Comment 16:
The National Ambient Air Quality Standard for $PM_{2.5}$ (annual) has changed from 12 $\mu g/m^3$ to 9 $\mu g/m^3$. The previous 2022 permitting effort showed that this standard was met at 6.6 $\mu g/m^3$ for cumulative impacts (2022 NOC page 62).

https://ecology.wa.gov/getattachment/e46d9094-d2ef-46d9-96c3-a4fc137c3ac5/20210715H5RevNOCapp.pdf

Comment 17:
Finally, this application is so deficient in supporting documentation that I am requesting a Public Hearing. Concerned citizens should not need to ask to see all the documents submitted, whether they pertain to the original permit or to the modification. There seems to be a lack of transparency in this permit. Thank you for considering my comments.

Response to Comment 17:
Please see Response to Comment 8.

Comments from William Weiss:

Comment 18:
Requesting a public comment period about H5 Data Centers, Quincy!

> **Response to Comment 18:**
> A 30-day public comment period for H5 Data Centers was held from July 22, 2024 – August 26,
> 2024.

Comment 19:
Is this not EIS required?

> **Response to Comment 19:**
> The City of Quincy was contacted regarding this project: a reduction of air emissions due reductions in the number of generators and cooling towers and a change in cooling tower design that will also reduce air emissions and water use. After review of the current project and the prior determination for the facility, a new Environmental Checklist and SEPA determination was not required, as the changes would meet the current standards or better.

Comment 20:
Please examine your ethical obligations to the entrusting public. Exploitation – (colonization of resources) of naïve rural population (including unknown health consequences) by big money interests, abetted by Ecology, is unconscionable!

> **Response to Comment 20:**
> Please see Ecology's Data Center webpage for the Health Impact Assessment and 2nd Tier Recommendation for the larger scope H5 Data Centers 2022 permitting effort on the Data Center Web page. This current project only proposed reductions in equipment and emissions for all pollutants than what was previously permitted in 2022.
>
> Health Impact Assessment and 2nd Tier Recommendation:
>
> https://ecology.wa.gov/getattachment/0d9612e2-f7ee-4ce9-9bb3-58b3250190fd/20211110H5Tier2Rec.pdf
>
> Data Center Web Page:
>
> https://ecology.wa.gov/air-climate/air-quality/data-centers

Appendix B – Federal Rule Applicability

1. 40 C.F.R. Part 60, Subpart IIII

   The ICE NSPS (40 C.F.R. Part 60, Subpart IIII) applies to each engine. The applicable portions the rule appear to be:

Citation	Subject	Notes
60.4202(a)(2)	Manufacturer emission standards	Specifies that 2007 model year and later emergency stationary CI ICE with a maximum engine power ≥ 37 kW and ≤ 2,237 KW be certified to the emission standards specified in 40 C.F.R. 1039, Appendix I.
60.4205(b)	Owner/Operator emission standards	Directs owners and operators of 2007 model year and later emergency stationary CI ICE to comply with the emission standards for new nonroad CI engines in §60.4202.
60.4209(a)	Owner/Operator monitoring requirements	Requires installation install a non-resettable hour meter prior to startup of each engine, since the engines do not meet the standards applicable to non-emergency engines.
Table 8 to Subpart IIII of Part 60	Applicability of General Provisions to Subpart IIII	The table lists what portions of 40 C.F.R. 60 Subpart I are applicable, including notification and recordkeeping requirements.

2. 40 C.F.R. Part 63, Subpart ZZZZ

   The RICE NESHAP applies to each engine. Condition 1 of the Order requires general compliance with this regulation. However, each engine is also subject to the ICE NSPS (see above). At 40 C.F.R. 63.6590(c), the NESHAP specifies that compliance must be met by meeting the requirements of the NSPS; therefore, no further requirements apply to the engines.