Technical Support Document
Notice of Construction Approval Order No. Preliminary Determination
CyrusOne LLC – PNW1
AQPID No. A0250317
Quincy, WA

Prepared by: Jenny Filipy, P.E.

1. Project Summary

CyrusOne LLC – PNW1 (the source) is a data center classified as a synthetic minor source for nitrogen oxides with multiple existing emissions units. The source has requested to reduce the number of permitted emergency generators from 42 to a total of 22. This review is to remove approval conditions that limited operations of multiple generators use to one day per year on average. Modeling was performed for a worst-case scenario that allows hours of operation to extend for up to two days per year on an average of three years.

An initial Notice of Construction (NOC) application was submitted on August 9, 2025, by CyrusOne LLC – PNW1 for the Approval Order Update project. The Washington State Department of Ecology (Ecology) reviewed the initial application and found it incomplete per Washington Administrative Code (WAC) 173-400-111 on September 2, 2025. Amended NOC applications were received by Ecology on September 16, 2025, and found to be complete on October 14, 2025.

2. Application Processing

a. Public Notice

Due to anticipated public interest, Ecology scheduled a 30-day comment period October 21 through November 24, 2025. Legal notices were posted in English and Spanish on Ecology's website and The Quincy Valley Post Register. Response to comments is attached as appendix B.

Resources used to determine outreach:

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 (SEPA)

City of Quincy issued a Mitigated Determination of NonSignificance (MDNS) on July 27, 2017.

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 project proposes changes to approval conditions and a decrease in annual emissions for all pollutants due to the reduction of permitted emergency generators from 42 to a total of 22. Modeling was performed for a worst-case scenario that allows hours of operation to extend for up to two days per year on an average of three years. These project changes are not subject to minor new source review (NSR). However, modeling of the short-term emission changes has been completed to show compliance with the National Ambient Air Quality Standards.

A. Actual Emissions

The actual emissions from the emergency generator reduction are shown below in Table 1. Annual emissions decrease for all pollutants for this project for the reduction of permitted generators from 42 to a total of 22.

Table 1. Actual emissions decrease for pollutants tons per year

Pollutant	Emissions for 42 Generators (tons per year)	Emissions for 22 Generators (tons per year)	Change in Emissions (tons per year)
Carbon Monoxide (CO)	7.9	4.1	-3.8
Nitrogen oxides (NO_X)	36	19	-17
NO_2	3.6	1.9	-1.7
Particulate Matter, PM_{10}	2.3	1.2	-1.1
$PM_{2.5}$	2.3	1.2	-1.1
Sulfur Dioxide (SO_2)	0.027	0.014	-0.013
Diesel Engine Exhaust Particulate (DEEP)	0.62	0.33	-0.29

ii. Prevention of Significant Deterioration (PSD)

PSD does not apply, based on allowable emissions.

iii. Other Applicable Requirements

In accordance with WAC 173-400-113, the generator emission 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 an hour, of an air contaminant from any emission unit.

B. WAC 173-400-050 and -060 Emission standards for combustion and incineration units and general process 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 generator emission 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 or Tier 3 emission standards for the engines, depending on the power rating; 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-to-Exceed-Limits by the manufacturer MTU for NOx, CO, PM, hydrocarbons (HC). The following was assumed for the emergency generators:

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

ii. The sum of PM and HC (assumed to all condense) and be equivalent PM_{10} and $PM_{2.5}$ for the engines.

iii. Diesel Engine Exhaust Particulate (DEEP) is assumed to equal the manufacturer provided filterable PM.

The emission factor for SO_2 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 SO_2.

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 emissions 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).

b. The table below presents the potential emissions (based on 500 hours of operation per year) and allowable emissions (based on permitted limits) for the entire facility. The facility is a synthetic minor for Nitrogen Oxides.

Table 2. Potential and Allowable Emissions for Total Source

Pollutant	Total Source Potential Emissions (tons/year)	Total Source Allowable Emissions (tons/year)
Carbon Monoxide (CO)	54	4.1
Nitrogen Oxides (NO_X)	250	19
PM_{10}	16	1.2
$PM_{2.5}$	16	1.2
Total Suspended Particulates (TSP)	16	1.2
Sulfur Dioxide (SO_2)	0.18	0.014
Volatile Organic Compounds, total (VOC)	12	0.93
Greenhouse Gases (GHG)	19,632	1,492

5. Ambient Air Quality Standards

As specified in WAC 173-400-113, the proposed new or modified source(s) must not cause or contribute to a violation of any ambient air quality standard. This includes the ambient air quality standards for both criteria and toxic air pollutants.

a. Pollutants Listed Under WAC 173-400-110 (Except TAPs)

For PM_{10}, $PM_{2.5}$, modeling was performed to satisfy the requirements of Chapter 173-400-113(3) WAC and 173-400-035 WAC. The modeling demonstrates that the result of worst-case operating scenarios of greater up to two days per year on average will not

exceed the ambient air quality standards. The modeling results are included in the table below.

Table 4. Criteria Pollutant Modeling Results

Criteria Pollutant	Averaging Period	Maximum Modeled Concentration with background (µg/m³)	Ambient Air Quality Standard (µg/m³)
PM_{10}	24-hour	137	150
$PM_{2.5}$	24-hour	26	35

b. Toxic Air Pollutants (TAPs)

In accordance with WAC 173-460-040, TAP sources must meet the requirements of Chapter 173-460 WAC, unless they are exempt by WAC 173-400-110(5). There were no increases to TAP emissions over any regulated averaging period for this project.

Appendix A – Federal Rule Applicability

a. 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.

b. 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.

Appendix B – Response to Comments

This section will be updated following the public comment period.