



TECHNICAL SUPPORT DOCUMENT

**Air Discharge Permit ADP 24-3671
Air Discharge Permit Application L-748**

Issued: November 13, 2024

UNFI Centralia

SWCAA ID - 2811

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ABBREVIATIONS*List of Acronyms*

ADP	Air Discharge Permit	NSPS	New Source Performance Standard
AP-42	Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA	PSD	Prevention of Significant Deterioration
ASIL	Acceptable Source Impact Level	RCW	Revised Code of Washington
BACT	Best available control technology	SCC	Source Classification Code
CAM	Compliance Assurance Monitoring	SDS	Safety Data Sheet
CAS#	Chemical Abstracts Service registry number	SQER	Small Quantity Emission Rate listed in WAC 173-460
CFR	Code of Federal Regulations	Standard	Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
EPA	U.S. Environmental Protection Agency	SWCAA	Southwest Clean Air Agency
EU	Emission Unit	T-BACT	Best Available Control Technology for toxic air pollutants
MACT	Maximum Achievable Control Technologies	WAC	Washington Administrative Code
NOV	Notice of Violation/		

List of Units and Measures

µg/m ³	Micrograms per cubic meter	MMBtu	Million British thermal unit
µm	Micrometer (10 ⁻⁶ meter)	ppm	Parts per million
acfm	Actual cubic foot per minute	ppmv	Parts per million by volume
gpm	Gallon per minute	ppmvd	Parts per million by volume, dry
gr/dscf	Grain per dry standard cubic foot	ppmw	Parts per million by weight
hp	Horsepower	rpm	Revolution per minute
hp-hr	Horsepower-hour	scfm	Standard cubic foot per minute
kW	Kilowatt	tpy	Tons per year

List of Chemical Symbols, Formulas, and Pollutants

CO	Carbon monoxide	PM	Particulate Matter, aerodynamic diameter 100 µm or less
CO ₂	Carbon dioxide	PM ₁₀	PM, aerodynamic diameter 10 µm or less
CO _{2e}	Carbon dioxide equivalent	PM _{2.5}	PM, aerodynamic diameter 2.5 µm or less
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act	SO ₂	Sulfur dioxide
NO _x	Nitrogen oxides	TAP	Toxic air pollutant pursuant to Chapter 173-460 WAC
O ₂	Oxygen	VOC	Volatile organic compound
O ₃	Ozone		

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name: United Natural Foods, Inc. (UNFI)
Applicant Address: 4002 Galvin Road, Centralia, WA 98531

Facility Name: UNFI - Centralia
Facility Address: 4002 Galvin Road, Centralia, WA 98531
Facility Location: 46°43'57.39"N 123°0'34.29"W

SWCAA Identification: 2811

Contact Person: Stacy LaClair, EHS Manager

Primary Process: Refrigerated Food Storage
SIC/NAICS Code: 4222 / Refrigerated Warehousing and Storage
493120 / Refrigerated Warehousing and Storage

Facility Classification: Natural Minor

2. FACILITY DESCRIPTION

United Natural Foods (UNFI) operates a wholesale food storage and distribution center located in Centralia. A small vehicle maintenance facility is maintained onsite.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit application number L-748 (ADP Application L-748) dated September 19, 2024. UNFI submitted ADP Application L-748 requesting approval of the following:

- Installation of (8) new Generac MD600 emergency generators;
- Installation of (1) new Generac SD130 emergency generator;
- Approval of (1) existing Cummins 500DFEK emergency generator; and
- Removal of (1) existing Cummins C50D6C emergency generator.

This permitting action approves the equipment changes proposed in ADP Application L-748. This is the initial permitting action for this facility.

4. PROCESS DESCRIPTION

- 4.a. Emergency Power Generation. Multiple diesel engine driven generators will be used to provide electric power to facility operations during utility power outages. Generators will only be operated at manufacturer recommended exercise schedule/maintenance intervals and during periods of actual utility power interruption.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a. Diesel Engine 1 – Cummins 500DFEK Emergency Generator (*existing*). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model:	Cummins / QSX15-G9 (s/n TBD)
Power Rating:	755 bhp
Fuel Consumption/Type:	34.4 gal/hr (diesel)
Model Year:	2004
EPA Certification:	Tier 2
NSPS/MACT Applicable:	ZZZZ
Exhaust:	8" diameter, vertical at 8' above ground level
Generator Power Rating:	500 kW
Location:	46°43'56.59"N 123°0'38.06"W

5.b. Diesel Engine 2 – Generac SD130 Emergency Generator (*new*). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model:	FPT Industrial / F4GE9685A*J (s/n TBD)
Power Rating:	198 bhp
Fuel Consumption/Type:	9.6 gal/hr (diesel)
Model Year:	2024
EPA Certification:	Tier 3
NSPS/MACT Applicable:	III / ZZZZ
Exhaust:	4" diameter, vertical at 8.75' above ground level
Generator Power Rating:	130 kW
Location:	46°43'45.91"N 123°0'39.62"W

5.c. Diesel Engine 3 – Generac MD600 Emergency Generator 1 (*new*). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model:	Perkins / 2806C (s/n TBD)
Power Rating:	909 bhp
Fuel Consumption/Type:	41.4 gal/hr (diesel)
Model Year:	2024
EPA Certification:	Tier 2
NSPS/MACT Applicable:	III / ZZZZ
Exhaust:	8" diameter, vertical at 8.75' above ground level
Generator Power Rating:	600 kW
Location:	46°43'55.72"N 123°0'39.72"W

- 5.d. Diesel Engine 4 – Generac MD600 Emergency Generator 2 (new). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model: Perkins / 2806C (s/n TBD)
 Power Rating: 909 bhp
 Fuel Consumption/Type: 41.4 gal/hr (diesel)
 Model Year: 2024
 EPA Certification: Tier 2
 NSPS/MACT Applicable: IIII / ZZZZ
 Exhaust: 8" diameter, vertical at 8.75' above ground level
 Generator Power Rating: 600 kW
 Location: 46°43'55.72"N 123°0'39.72"W

- 5.e. Diesel Engine 5 – Generac MD600 Emergency Generator 3 (new). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model: Perkins / 2806C (s/n TBD)
 Power Rating: 909 bhp
 Fuel Consumption/Type: 41.4 gal/hr (diesel)
 Model Year: 2024
 EPA Certification: Tier 2
 NSPS/MACT Applicable: IIII / ZZZZ
 Exhaust: 8" diameter, vertical at 8.75' above ground level
 Generator Power Rating: 600 kW
 Location: 46°43'55.72"N 123°0'39.72"W

- 5.f. Diesel Engine 6 – Generac MD600 Emergency Generator 4 (new). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model: Perkins / 2806C (s/n TBD)
 Power Rating: 909 bhp
 Fuel Consumption/Type: 41.4 gal/hr (diesel)
 Model Year: 2024
 EPA Certification: Tier 2
 NSPS/MACT Applicable: IIII / ZZZZ
 Exhaust: 8" diameter, vertical at 8.75' above ground level
 Generator Power Rating: 600 kW
 Location: 46°43'55.72"N 123°0'39.72"W

- 5.g. Diesel Engine 7 – Generac MD600 Emergency Generator 5 (new). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model: Perkins / 2806C (s/n TBD)
 Power Rating: 909 bhp
 Fuel Consumption/Type: 41.4 gal/hr (diesel)
 Model Year: 2024
 EPA Certification: Tier 2
 NSPS/MACT Applicable: IIII / ZZZZ
 Exhaust: 8" diameter, vertical at 8.75' above ground level
 Generator Power Rating: 600 kW
 Location: 46°44'6.50"N 123°0'34.53"W

- 5.h. Diesel Engine 8 – Generac MD600 Emergency Generator 6 (new). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model: Perkins / 2806C (s/n TBD)
 Power Rating: 909 bhp
 Fuel Consumption/Type: 41.4 gal/hr (diesel)
 Model Year: 2024
 EPA Certification: Tier 2
 NSPS/MACT Applicable: IIII / ZZZZ
 Exhaust: 8" diameter, vertical at 8.75' above ground level
 Generator Power Rating: 600 kW
 Location: 46°44'6.50"N 123°0'34.53"W

- 5.i. Diesel Engine 9 – Generac MD600 Emergency Generator 7 (new). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model: Perkins / 2806C (s/n TBD)
 Power Rating: 909 bhp
 Fuel Consumption/Type: 41.4 gal/hr (diesel)
 Model Year: 2024
 EPA Certification: Tier 2
 NSPS/MACT Applicable: IIII / ZZZZ
 Exhaust: 8" diameter, vertical at 8.75' above ground level
 Generator Power Rating: 600 kW
 Location: 46°44'6.50"N 123°0'34.53"W

- 5.j. Diesel Engine 10 – Generac MD600 Emergency Generator 8 (new). This unit is a diesel engine powered generator used to provide electric power to facility equipment during periods of utility power interruption.

Make / Model: Perkins / 2806C (s/n TBD)
 Power Rating: 909 bhp
 Fuel Consumption/Type: 41.4 gal/hr (diesel)
 Model Year: 2024
 EPA Certification: Tier 2
 NSPS/MACT Applicable: IIII / ZZZZ
 Exhaust: 8" diameter, vertical at 8.75' above ground level
 Generator Power Rating: 600 kW
 Location: 46°44'6.50"N 123°0'34.53"W

- 5.k. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Diesel Engine 1 (Cummins – 755 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
2	Diesel Engine 2 (FPT – 198 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
3	Diesel Engine 3 (Perkins – 909 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
4	Diesel Engine 4 (Perkins – 909 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
5	Diesel Engine 5 (Perkins – 909 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
6	Diesel Engine 6 (Perkins – 909 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
7	Diesel Engine 7 (Perkins – 909 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
8	Diesel Engine 8 (Perkins – 909 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
9	Diesel Engine 9 (Perkins – 909 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)
10	Diesel Engine 10 (Perkins – 909 hp)	EPA Tier Certification, Low Sulfur Diesel ($\leq 0.0015\%$ by wt)

6. EMISSIONS DETERMINATION

Emissions to the ambient atmosphere from the diesel engines proposed in ADP Application L-748 consist of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM), sulfur dioxide (SO₂), and toxic air pollutants (TAPs).

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:

- (a) Continuous emissions monitoring system (CEMS) data;
 - (b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
 - (c) Source emissions test data (other test method); and
 - (d) Emission factors or methodology provided in this TSD.
- 6.a. Diesel Engine 1 – Cummins QSX15-G9 (existing). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	755	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	36.70	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	9.49	0.19	EPA Certification Data	
CO	0.67	0.013	EPA Certification Data	
VOC	0.23	0.0046	EPA Certification Data	
SO _x as SO ₂	0.0079	0.00016	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.13	0.0026	EPA Certification Data	
DPM		0.0026	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	17 40 CFR 98

- 6.b. Diesel Engine 2 – FPT F4GE9685A*J (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	198	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	9.60	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	1.58	0.032	EPA Certification Data	
CO	0.35	0.007	EPA Certification Data	
VOC	0.070	0.0014	EPA Certification Data	
SO _x as SO ₂	0.0021	0.00004	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.070	0.0014	EPA Certification Data	
DPM		0.0014	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	4 40 CFR 98

- 6.c. Diesel Engine 3 – Perkins 2806C (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	909	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	41.40	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	8.44	0.17	EPA Certification Data	
CO	1.20	0.024	EPA Certification Data	
VOC	0.16	0.0032	EPA Certification Data	
SO _x as SO ₂	0.0089	0.00018	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.16	0.0032	EPA Certification Data	
DPM		0.0032	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	19 40 CFR 98

- 6.d. Diesel Engine 4 – Perkins 2806C (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	909	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	41.40	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	8.44	0.17	EPA Certification Data	
CO	1.20	0.024	EPA Certification Data	
VOC	0.16	0.0032	EPA Certification Data	
SO _x as SO ₂	0.0089	0.00018	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.16	0.0032	EPA Certification Data	
DPM		0.0032	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	19 40 CFR 98

- 6.e. Diesel Engine 5 – Perkins 2806C (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	909	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	41.40	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	8.44	0.17	EPA Certification Data	
CO	1.20	0.024	EPA Certification Data	
VOC	0.16	0.0032	EPA Certification Data	
SO _x as SO ₂	0.0089	0.00018	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.16	0.0032	EPA Certification Data	
DPM		0.0032	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	19 40 CFR 98

- 6.f. Diesel Engine 6 – Perkins 2806C (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	909	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	41.40	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	8.44	0.17	EPA Certification Data	
CO	1.20	0.024	EPA Certification Data	
VOC	0.16	0.0032	EPA Certification Data	
SO _x as SO ₂	0.0089	0.00018	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.16	0.0032	EPA Certification Data	
DPM		0.0032	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	19 40 CFR 98

- 6.g. Diesel Engine 7 – Perkins 2806C (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	909	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	41.40	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	8.44	0.17	EPA Certification Data	
CO	1.20	0.024	EPA Certification Data	
VOC	0.16	0.0032	EPA Certification Data	
SO _x as SO ₂	0.0089	0.00018	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.16	0.0032	EPA Certification Data	
DPM		0.0032	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	19 40 CFR 98

- 6.h. Diesel Engine 8 – Perkins 2806C (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	909	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	41.40	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	8.44	0.17	EPA Certification Data	
CO	1.20	0.024	EPA Certification Data	
VOC	0.16	0.0032	EPA Certification Data	
SO _x as SO ₂	0.0089	0.00018	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.16	0.0032	EPA Certification Data	
DPM		0.0032	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	19 40 CFR 98

- 6.i. Diesel Engine 9 – Perkins 2806C (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	909	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	41.40	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	8.44	0.17	EPA Certification Data	
CO	1.20	0.024	EPA Certification Data	
VOC	0.16	0.0032	EPA Certification Data	
SO _x as SO ₂	0.0089	0.00018	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.16	0.0032	EPA Certification Data	
DPM		0.0032	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions</u>
				<u>tpy</u>
CO _{2e}	73.9636	163.61	22.58	19 40 CFR 98

- 6.j. Diesel Engine 10 – Perkins 2806C (new). Potential emissions from engine operation are calculated based on 80 hr/yr of operation at standby load and the use of ultra-low sulfur diesel (<0.0015% sulfur by weight). Sulfur oxide emissions are estimated using mass balance methodology, assuming all fuel sulfur is converted to sulfur dioxide. Annual emissions will be calculated from actual hours of operation using the emission factors below.

Operation =	40	hr/yr		
Power Output =	909	horsepower		
Fuel Sulfur Content =	0.0015	% by weight		
Fuel Consumption Rate =	41.40	gal/hr		
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)		
Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>	
NO _x	8.44	0.17	EPA Certification Data	
CO	1.20	0.024	EPA Certification Data	
VOC	0.16	0.0032	EPA Certification Data	
SO _x as SO ₂	0.0089	0.00018	Mass Balance	
PM/PM ₁₀ /PM _{2.5}	0.16	0.0032	EPA Certification Data	
DPM		0.0032	DPM = PM	
EF				
	<u>kg/MMBtu</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>Emissions tpy</u>
CO _{2e}	73.9636	163.61	22.58	19 40 CFR 98

- 6.k. Emissions Summary/Facility-wide Potential to Emit. Facility-wide potential to emit as calculated in the sections above is summarized below.

<u>Pollutant</u>	<u>Potential Emissions (tpy)</u>	<u>Project Increase (tpy)</u>
NO _x	1.57	1.38
CO	0.21	0.20
VOC	0.032	0.028
SO ₂	0.0016	0.0015
Lead	0.0	0.0
PM	0.030	0.028
PM ₁₀	0.030	0.028
PM _{2.5}	0.030	0.028
TAP	0.030	0.028
HAP	0.0	0.0
CO _{2e}	170	154

Pollutant	CAS Number	Category	Facility-wide Emissions	Project Increase	WAC 173-460 SQER
			<u>lb/yr</u>	<u>lb/yr</u>	<u>lb/yr</u>
Diesel Particulate Matter	--	TAP	60.0	56	0.54

7. REGULATIONS AND EMISSION STANDARDS

Regulations that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the regulations, codes, or requirements listed below.

- 7.a. Title 40 Code of Federal Regulations Part 60 (40 CFR 60) Subpart IIII "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies to each compression ignition (CI) internal combustion engine (ICE) that commences construction after July 11, 2005 and is manufactured after April 1, 2006, or that is modified or reconstructed after July 11, 2005. This regulation is applicable to all of the diesel engines at the facility except the Cummins QSX15-G9 engine, which was manufactured prior to the applicability date.
- 7.b. Title 40 Code of Federal Regulations Part 63 (40 CFR 63) Subpart ZZZZ "National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines" establishes national emission limitations and operating limitations for HAP emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This regulation is applicable to the diesel engines at this facility. The Cummins QSX15-G9 engine is classified as an existing CI RICE and is subject to O/M requirements. All other diesel engines are classified as new stationary CI RICE, and comply with this regulation by complying with 40 CFR 60 Subpart IIII.
- 7.c. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess.
- 7.d. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an Air Discharge Permit for installation and establishment of an air contaminant source.
- 7.e. Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires Best Available Control Technology for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety.
- 7.f. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM₁₀, PM_{2.5}, lead, sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air, which shall not be exceeded.

- 7.g. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, sulfur dioxide, concealment and masking, and fugitive dust.
- 7.h. SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met and that no person shall cause or permit the emission of particulate matter from any combustion or incineration unit in excess of 0.23 grams per dry cubic meter (0.1 grains per dry standard cubic foot) of exhaust gas at standard conditions.
- 7.i. SWCAA 400-060 "Emission Standards for General Process Units" prohibits particulate matter emissions from all new and existing process units in excess of 0.1 grains per dry standard cubic foot of exhaust gas.
- 7.j. SWCAA 400-109 "Air Discharge Permit Applications" requires that an Air Discharge Permit application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an Air Discharge Permit application to request such changes. An Air Discharge Permit must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits.
- 7.k. SWCAA 400-110 "New Source Review" requires that SWCAA issue an Air Discharge Permit in response to an Air Discharge Permit application prior to establishment of the new source, emission unit, or modification.
- 7.l. SWCAA 400-113 "Requirements for New Sources in Attainment or Nonclassifiable Areas" requires that no approval to construct or alter an air contaminant source shall be granted unless it is evidenced that:
- (1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
 - (2) Best Available Control Technology will be employed for all air contaminants to be emitted by the proposed equipment;
 - (3) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
 - (4) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate Best Available Control Technology (BACT) for the types and amounts of air contaminants emitted by the processes as described below:

New BACT Determinations

- 8.a. BACT Determination – Diesel Engine Emergency Generators. The proposed use of a modern diesel engine design, limited hours of operation (testing, maintenance, and emergency use only), and ultra-low sulfur distillate fuel (less than 0.0015% sulfur by weight) has been determined to meet the requirements of BACT for the emergency generators at this facility.

Other Determinations

- 8.b. Prevention of Significant Deterioration (PSD) Applicability Determination. The potential to emit of this facility is less than applicable PSD applicability thresholds. Likewise, this permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.
- 8.c. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 permit.

9. AMBIENT IMPACT ANALYSIS

- 9.a. TAP Small Quantity Review. The incremental increases in TAP emissions associated with this permitting action are quantified in Section 6 of this Technical Support Document. All incremental increases in individual TAP emissions are less than the applicable small quantity emission rate (SQER) identified in WAC 173-460 with the exception of diesel particulate matter (DPM).

Potential DPM (PM) emissions from emergency generator operation are calculated using emission factors for operation at full standby load. Modelling at 80 hr/yr of a single engine at full standby operation indicates compliance with the ASIL at that level. However, actual engine operation is generally at very low loads (testing), and PM emissions are significantly lower operation at low load. Based on available emission data and the proposed installation configuration, 40 hr/yr per engine of actual readiness testing is considered to be equivalent to the modelled emissions. Operation for purposes of readiness testing and maintenance will be limited at that level.

Conclusions

- 9.b. Installation and operation of emergency generators, as proposed in ADP Application L-748, will not cause the ambient air quality requirements of Title 40 Code of Federal Regulations (CFR) Part 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.
- 9.c. Installation and operation of emergency generators, as proposed in ADP Application L-748, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.
- 9.d. Installation and operation of emergency generators, as proposed in ADP Application L-748, will not cause a violation of emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP 24-3671 in response to ADP Application L-748. ADP 24-3671 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a. General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in ADP Application L-748. Permit requirements established by this action are intended to implement BACT, minimize emissions, and assure compliance with applicable requirements on a continuous basis. Emission limits for approved equipment are based on the maximum potential emissions calculated in Section 6 of this Technical Support Document.

- 10.b. Monitoring and Recordkeeping Requirements. ADP 24-3671 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements. Specific monitoring requirements are established for hours of engine operation and maintenance schedules.
- 10.c. Reporting Requirements. ADP 24-3671 establishes general reporting requirements for annual air emissions, upset conditions and excess emissions. Specific reporting requirements are established for hours of engine operation. Reports are to be submitted on an annual basis.
- 10.d. Emergency Generators. As requested by the applicant, permit requirements incorporate the use of the proposed units as an emergency power source only. BACT/T-BACT requirements for this unit include operational limitations (≤ 40 hr/yr testing and maintenance) and the use of ultra-low sulfur diesel ($\leq 0.0015\%$ S by weight). A visible emission limit of 10% opacity has been established consistent with proper engine operation. Due to the technical limitations of the engine, the opacity limit does not apply during periods of start-up and shutdown. Annual operation will be monitored with an integral hourmeter.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

- 11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology based emission standards and control technology determinations shall take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA shall include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

Diesel Engine. Diesel engines may exhibit higher than normal opacity during startup. Accordingly, the visual emissions limit for diesel engine power units is not applicable during the startup period defined in the permit. General opacity standards continue to apply.

- 11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the permit requirements.
- 11.c. Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate from those measures required under BACT considerations. Therefore, none were included in the permit requirements.

12. EMISSION MONITORING AND TESTING

There are no formal emission monitoring or testing requirements for this facility.

13. FACILITY HISTORY

- 13.a. Previous Permitting Actions. SWCAA has not previously issued any Permits for this facility.

- 13.b. Compliance History. A search of source records on file at SWCAA did not identify any outstanding compliance issues at this facility.

14. PUBLIC INVOLVEMENT OPPORTUNITY

- 14.a. Public Notice for ADP Application L-748. Public notice for ADP Application L-748 was published on the SWCAA internet website for a minimum of (15) days beginning on October 2, 2024.
- 14.b. Public/Applicant Comment for ADP Application L-748. SWCAA did not receive specific comments, a comment period request or any other inquiry from the public regarding this ADP application. Therefore, no public comment period was provided for this permitting action.
- 14.c. State Environmental Policy Act. A complete SEPA checklist was submitted by UNFI Centralia in conjunction with ADP Application L-748. After reviewing the checklist, SWCAA has made a Determination of Nonsignificance (DNS 24-042) concurrent with issuance of ADP 24-3671.