STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

IN THE MATTER OF APPROVING A NEW AIR CONTAMINANT SOURCE FOR **DELL MARKETING LP** **DELL MARKETING DATA CENTER**	))))	Notice of Construction Approval ORDER No. 11AQ-E421

TO: Dane Parker, Executive Director, Facilities
Dell Marketing, LP
One Dell Way
Round Rock, Texas 78682-7000

PROJECT SUMMARY

The Ecology Air Quality Program (AQP) received a Notice of Construction (NOC) application from Dell Marketing, LP, hereafter referred to as Dell, for the Dell Data Center in Quincy on January 24, 2011. The Dell Data Center consists of phased construction of 3 buildings, i.e., Phase 1, Phase 2, and Phase 3. Phase 1 construction of a 100,866 square foot building will commence during 2011, and includes fourteen (14) 3.0 Megawatt (MWe) electric generators each powered by 4423 brake horse power Caterpillar Model C175-16 engines. Phase 2 and Phase 3 construction will occur as server demand dictates, and will include a total of fourteen (14) additional electric generators.

EQUIPMENT

The equipment that was evaluated for the Dell Data Center order of approval consists of twenty-eight (28) 3.0 MWe Caterpillar diesel fired generators with a total capacity of 84 MWe upon final build out of the three Phases. Dell has asked to restrict annual diesel fuel usage at the Dell Data Center to 175,031 gallons of road specification diesel fuel with annual generator operation time of 1497 hours. There was no other project equipment that required review under the state and federal air quality requirements.

Table 1: 3.0 MWe Caterpillar Engine & Generator Serial Numbers

Project	Unit ID	Capacity	Engine SN	Generator SN	Build date
Phase 1	DE111202	3.0 MWe	WYB000458	G8F00106	5/23/2011
"	DE111203	3.0 MWe	WYB00459	G8F00107	5/23/2011
"	DE111204	3.0 MWe	WYB00461	G8F00108	5/25/2011
"	DE111205	3.0 MWe	WYB00462	G8F00109	5/25/2011
"	DE111206	3.0 MWe	WYB00457	G8F00104	5/20/2011
"	P1-6	3.0 MWe			
"	P1c-1	3.0 MWe			
"	P1c-2	3.0 MWe			
"	P1abc-1	3.0 MWe			
"	P1abc-2	3.0 MWe			
"	P1abc-3	3.0 MWe			
"	P1abc-4	3.0 MWe			
"	P1abc-5	3.0 MWe			

"	P1abc-6	3.0 MWe			
Phase 2	P2-1	3.0 MWe			
"	P2-2	3.0 MWe			
"	P2-3	3.0 MWe			
"	P2-4	3.0 MWe			
"	P2-5	3.0 MWe			
"	P2-6	3.0 MWe			
"	P2-7	3.0 MWe			
Phase 3	P3-1	3.0 MWe			
"	P3-2	3.0 MWe			
"	P3-3	3.0 MWe			
"	P3-4	3.0 MWe			
"	P3-5	3.0 MWe			
"	P3-6	3.0 MWe			
"	P3-7	3.0 MWe			
Total	28	84.0 MWe			

Air contaminant emissions from the Dell Data Center project have been calculated based entirely on operation of the 28 emergency generator engines. Table 2a contains criteria pollutant potential to emit for the Dell Data Center project. Table 2b contains toxic air pollutant potential to emit for the Dell Data Center project.

Table 2a: Criteria Pollutant Potential to Emit for the Dell Data Center

Pollutant	**Emission Factor (EF) Reference**	**Emission Factors**	**Facility Emissions**
Criteria Pollutant		g/kWm-hr	tons/yr
2.1.1 NOx Total			19.87
2.1.1a NOx 10% load (idle)	EPA Tier 2	6.12	na
2.1.1b NOx 70% load	Caterpillar	7.16	na
2.1.1c NOx 95% load	Caterpillar	8.23	na
2.1.2 CO			10.46
2.1.2a CO 10% load (idle)	Caterpillar	6.30	na
2.1.2b CO >10% load	EPA Tier 2	3.50	na
2.1.3 SO_2	Mass Balance	na	0.0185
2.1.4 $PM_{2.5}$/DEEP Total	EPA Tier 2	0.20	0.71
2.1.4a DEEP 10% load (idle)	Caterpillar	0.59	na
2.1.4b DEEP 70% load	EPA Tier 2	0.20	na
2.1.4c DEEP 95% load	EPA Tier 2	0.20	na
2.1.5 VOC	EPA Tier 2	0.282	1.47

Table 2b: Toxic Air Pollutant Potential to Emit for the Dell Data Center		
Pollutant	**AP-42 Section 3.4 EF**	**Facility Emissions**
Organic Toxic Air Pollutants	Lbs/MMBtu	tons/yr
2.1.6 Propylene	2.79E-03	3.35E-02
2.1.7 Acrolein	7.88E-06	9.45E-05
2.1.8 Benzene	7.76E-04	9.30E-03
2.1.9 Toluene	2.81E-04	3.37E-03
2.1.10 Xylenes	1.93E-04	2.31E-03
2.1.11 Napthalene	1.30E-04	1.56E-03
2.1.12 1,3 Butadiene	1.96E-05	2.34E-04
2.1.13 Formaldehyde	7.89E-05	9.46E-04
2.1.14 Acetaldehyde	2.52E-05	3.02E-04
2.1.15 Benzo(a)Pyrene	1.29E-07	1.54E-06
2.1.16 Benzo(a)anthracene	6.22E-07	7.46E-06
2.1.17 Chrysene	1.53E-06	1.83E-05
2.1.18 Benzo(b)fluoranthene	1.11E-06	1.33E-05
2.1.19 Benzo(k)fluoranthene	1.09E-07	1.31E-06
2.1.20 Dibenz(a,h)anthracene	1.73E-07	2.07E-06
2.1.21 Ideno(1,2,3-cd)pyrene	2.07E-07	2.48E-06
2.1.22 PAH (no TEF)	3.88E-06	4.65E-05
2.1.23 PAH (apply TEF)	4.98E-07	5.97E-06
State Criteria Pollutant Air Toxics		
2.1.24 DEEP/$PM_{2.5}$	EPA Tier 2	0.71
2.1.25 Carbon monoxide	EPA Tier 2	10.46
2.1.26 Sulfur dioxide	Mass Balance	0.0185
2.1.27 Primary NO_2*	10% total NOx	1.987

*Assumed to be equal to 10% of the total NOx emitted.

The Dell Data Center relies on cooling systems to dissipate heat from electronic equipment at the facility. It was determined during review of the application that the cooling system has no air contaminant emissions, and does not require approval under state and federal air quality requirements. Additional cooling systems will be added to the facility as necessary to meet the cooling needs of tenants.

DETERMINATIONS

In relation to this project, the State of Washington Department of Ecology (Ecology), pursuant to Revised Code of Washington (RCW) 70.94.152, Washington Administrative Code (WAC) 173-460-040, and WAC 173-400-110, makes the following determinations:

1. The project, if constructed and operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC, and Chapter 173-460

WAC, and the operation thereof, at the location proposed, will not emit pollutants in concentrations that will endanger public health.

2. The proposed project, if constructed and operated as herein required, will utilize best available control technology (BACT) as defined below:

Table 3: Best Available Control Technology Requirements	
Pollutant(s)	**BACT Determination**
Particulate matter (PM), carbon monoxide and volatile organic compounds	a. Use of good combustion practices; b. Use of EPA Tier 2 certified engines if the engines are installed and operated as emergency engines, as defined at 40 CFR§60.4219; or applicable emission standards found in 40 CFR Part 89.112 Table 1 and 40 CFR Part 1039.102 Tables 6 and 7 if Model Year 2011 or later engines are installed and operated as non-emergency engines; and c. Compliance with the operation and maintenance restrictions of 40 CFR Part 60, Subpart IIII.
Nitrogen oxides (NOx)	a. Use of good combustion practices; b. Use of an engine design that incorporates fuel injection timing retard, turbocharger and a low-temperature aftercooler; c. Use of EPA Tier 2 certified engines if the engines are installed and operated as emergency engines, as defined at 40 CFR§60.4219; or applicable emission standards found in 40 CFR Part 89.112 Table 1 and 40 CFR Part 1039.102 Tables 6 and 7 if Model Year 2011 or later engines are installed and operated as non-emergency engines; and d. Compliance with the operation and maintenance restrictions of 40 CFR Part 60, Subpart IIII.
Sulfur dioxide	Use of ultra-low sulfur diesel fuel containing no more than 15 parts per million by weight of sulfur.

3. The proposed project, if constructed and operated as herein required, will utilize best available control technology for toxic air pollutants (tBACT) as defined below:

Table 4 Best Available Control Technology for Toxics Requirements	
Toxic Air Pollutant(s)	**tBACT Determination**
Acetaldehyde, carbon monoxide, acrolein, benzene, benzo(a)pyrene, 1,3-butadiene, diesel engine exhaust particulate, formaldehyde, propylene, toluene, total PAHs, xylenes	Compliance with the VOC BACT requirement.
Nitrogen dioxide	Compliance with the NOx BACT requirement.
Sulfur dioxide	Compliance with the SO_2 BACT requirement.

4. The modeled ambient concentrations of one toxic air pollutant – diesel engine exhaust particulate matter – exceed the Acceptable Source Impact Levels (ASILs) as defined in Chapter 173-460 WAC. Ecology has evaluated the health risks associated with diesel engine exhaust particulate from the proposed project, in accordance with WAC 173-460-090. Ecology has concluded that the health risks from the project are acceptable as defined in WAC 173-460-090(7). The technical analysis supporting this determination is hereby incorporated into this Notice of Construction Approval Order.

THEREFORE, IT IS ORDERED that the project as described in the Notice of Construction application and more specifically detailed in plans, specifications, and other information submitted to Ecology is approved for construction and operation, provided the following are met:

APPROVAL CONDITIONS

1. ADMINISTRATIVE CONDITION

1.1 Dell shall schedule a meeting with Mountain View Elementary School administrators and Quincy School District officials by no later than July 15, 2011. The purpose of the meeting will be to both communicate, and better understand, any potential concerns or complaints that the Mountain View Elementary School administrators and the Quincy School District officials may have regarding emergency generator maintenance testing and operation. In addition, Dell will provide school officials and administrators with the telephone number for the Dell Data Center and a 24 hour contact number for a Dell Data Center manager. The school officials and administrators shall also be provided a maintenance testing schedule as developed by Dell. The Dell Data Center will notify the Mountain View Elementary School administrators whenever (Ecology) approved changes occur in the maintenance testing schedule. As decided by the school officials and administrators and the Dell Data Center, an ongoing relationship shall be established to facilitate future communications.

1.2 Dell shall make available information on diesel engine exhaust health risks and emergency generator operations to existing residents, and commercial and industrial facilities within 0.25 miles of the Dell Data Center property boundaries. Information on diesel exhaust health risks and emergency generator operations shall be provided to the City of Quincy Building and Planning Department for distribution to new homeowners and businesses that locate on undeveloped parcels within 0.25 miles of the Dell Data Center property boundary. The health risk information may be, or should be similar to, Ecology Focus on Diesel Exhaust Health Risks dated February 2011, Publication Number 11-02-005. A copy of the materials to be used to comply with this condition shall be provided to Ecology for review, and distributed prior to starting Phase 1 operations.

2. EQUIPMENT RESTRICTIONS

2.1. The twenty-eight (28) Caterpillar Model C175-16 engines used to power the 3.0 MWe electrical generators shall be certified by the manufacturer to meet 40 CFR 89 Tier II emission levels or other specifications as required by the EPA at the time the engines are installed. Each engine to be installed must be permanently labeled by the manufacturer as an emergency engine in accordance with 40 CFR § 60.4210(f). Each engine approved in this Order must operate as an emergency engine as defined at WAC 173-400-930(3).

2.2. The only Caterpillar Model C175-16 engines and electrical generating units approved for operation at the Dell Data Center are those listed by serial number in Table 1 above.

2.3. Replacement of failed engines with identical engines (same manufacturer and model) requires notification prior to installation but will not require new source review unless there is an emission rate or modeled impact increase. The installation of any engines after July 1, 2013 will require engine manufacturer's specification sheets along with the notification. Ecology will decide whether new source review is required based on whether the new engines will have either an increased emission rate or emission concentration that will increase community impacts over those evaluated for this approval Order.

2.4. The twenty-eight (28) Caterpillar Model C175-16 engines exhaust stack heights shall be greater than or equal to 58 feet above ground level and will be no more than 20 inches in diameter.

2.5. Manufacture and installation of the first fourteen (14) of the engine/generator sets proposed for Phase 1 of the project shall occur by July 1, 2013. The manufacture and installation of the final fourteen (14) engine/generator sets proposed for Phase 2 and Phase 3 of the project shall occur by January 1, 2017.

2.6. This Order only applies to the twenty-eight (28) Caterpillar Model C175-16 engines, each with a rated full standby capacity of 4423 hp that were evaluated in the Notice of Construction application and second tier review.

3. OPERATING LIMITATIONS

3.1. The fuel consumption at the Dell Data Center facility shall be limited to a total of 175,031 gallons per year of diesel fuel equivalent to on-road specification No. 2 distillate fuel oil (less than 0.00150 weight percent sulfur). Total annual fuel consumption by the facility may be averaged over a three (3) year period using monthly rolling totals.

3.2 Except as provided in Condition 3.5, the twenty-eight (28) Dell Data Center engines are limited to the following average annual hours of operation, fuel limits and number of engines operating concurrently:

Table 3.2: Engine Operating Restrictions

Operating Activity	Average hours/year, monthly 3-year rolling annual average	Approximate Operating Load (%)	Diesel Fuel Gallons/year, monthly 3-year rolling annual average	Engines Operating Concurrently
Weekly Testing	20	10%		1
Monthly Testing	12.5	70%		8
Semi-Annual Testing	1.5	70%		8
Annual Testing	4.75	95%		8
Maintenance	8	70%		1
Power Outage	4-8	70%		28
Total	Average 53.5[1]		175,031	

[1] range of 50.75 to 54.75 annual hours of operation

3.3. A load bank or the building load will be used for electrical energy dissipation whenever prescheduled maintenance testing, corrective testing or annual load bank testing occurs above idle.

3.4. The twenty-eight (28) Caterpillar Model C175-16 engines at the Dell Data Center require periodic scheduled operation. To mitigate engine emission impacts, the Dell Data Center engines will perform all maintenance testing, scheduled bypass operations, and load testing during daylight hours. The Dell Data Center shall develop a testing schedule prior to starting operating that is coordinated with the Microsoft Columbia Data Center testing schedule. The Dell Data Center testing schedule shall be available for review by Ecology upon request. Changes to the testing schedule will not trigger revision or amendment of this Order as long as the number of engines operating concurrently do not exceed the restrictions contained in Table 3.2.

3.5. Initial start-up (commissioning) testing of each of the twenty-eight (28) Caterpillar Model C175-16 engines at the Dell Data Center is restricted to 48 hours per generator and no more than 7469 gallons of fuel per generator, averaged over all generators installed during any consecutive 3 year period. The commissioning operating load for individual engines will vary between 10% and 100%. Site integrated system testing with multiple engines will average 70% load.

3.5.1 Except during site integration system testing as specified below, only one engine shall be operated at any one time during initial start-up testing.

3.5.2 During a site integration test, no more than eight (8) generator engines may operate concurrently for up to 32 hours at a load of 70%.

3.5.3 All initial startup and commissioning testing shall be conducted during daylight hours.

3.5.4 Total fuel use limits contained in Approval Condition 3.1 and emission limits contained in Approval Condition 5, remain in effect during initial start-up testing and commissioning.

4. GENERAL TESTING AND MAINTENANCE REQUIREMENTS

4.1. The Dell Data Center will follow engine-manufacturer's recommended diagnostic testing and maintenance procedures to ensure that each of the twenty-eight (28) Caterpillar Model C175-16 engines will conform to 40 CFR 89 emission specifications throughout the life of each engine.

4.2 Within 12 months of installation of any new engine approved in this Order, the Dell Data Center shall measure concentrations of nitric oxide (NO), nitrogen dioxide (NO_2), total nitrogen oxides (NOx), carbon monoxide (CO), and oxygen (O_2) leaving that engine's exhaust stack in accordance with Approval Condition 4.3. This testing will serve to demonstrate compliance with the emission limits contained in Approval Conditions 5.2, 5.3, 5.4, and 5.8. Additional periodic testing will be conducted at the conclusion of the manufacturer's warranty term for each engine, or every 60 months from engine delivery date, or 3,000 hours of operation, whichever occurs first. Dell

may request relaxation of periodic testing if the manufacturer's emissions warranty is extended and as long as manufacturer's maintenance procedures are followed.

4.3 The following procedures shall be used for nitric oxide, nitrogen dioxide, total nitrogen oxides (NOx), and carbon monoxide exhaust stack testing of new engines required by Approval Condition 4.2. After initial performance testing to verify compliance with Approval Conditions 5.2, 5.3, and 5.4, Dell may request alternative test methods. The alternative test methods must be approved in writing by Ecology prior to the testing.

4.3.1 Initial emissions testing should be combined with start-up and commissioning testing. Subsequent periodic emissions testing shall be combined with pre-scheduled maintenance and annual load bank engine testing. Additional operation of the engines for the purpose of emissions testing, beyond the operating hours contained in this Order, may be allowed by Ecology upon request.

4.3.2 Total nitrogen oxides, NO_2, and CO emissions measurement shall be conducted at each of the proposed average engine loads of 10% (idle), 70%, and 100% that correspond to scheduled engine operating scenarios in Approval Condition 3.2. Initial performance testing for nitric oxide, nitrogen dioxide, total nitrogen oxides (NOx), and carbon monoxide from no fewer than two engines to be chosen by Ecology shall be conducted using EPA 40 CFR 60 Reference Methods 7E and 10.

4.3.3 A portable emissions instrument analyzer may be requested as an alternative test method after compliance verification of the two engines. The analyzer model and calibration procedures must be approved in writing by Ecology prior to being used as an alternative test method. The analyzer shall be calibrated using EPA Protocol 1 gases according to the procedures for drift and bias limits outlined in EPA Methods 7E and Method 10, or as approved in advance by Ecology.

4.3.4 Three runs shall be conducted for each engine tested with a portable emissions instrument analyzer. Each run must last at least 15 minutes. Analyzer data shall be recorded at least once every minute during the test. Fuel usage and operational time shall be recorded at the beginning of, and end of, each test for each engine.

4.3.5 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 and operating time data, as measured according to Approval Conditions 4.4 and 4.5, shall be included in the test report, along with the emissions calculations.

4.3.6 If the measured nitrogen oxides, NO_2 and CO emission rates from the first eight (8) Phase 1 engines are found to be consistent and less than the emission limits contained in this order, the Dell Data Center may request approval from Ecology to discontinue emission testing for the remainder of the twenty (20) engines.

4.3.7 Ecology will use discretion to grant testing requirement relaxation that can include when and where the engines are manufactured, and design modifications that may affect emissions. Approval to relax exhaust stack engine testing will not require revision of this Order, or a Notice of Construction application.

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

4.5 Each engine shall be connected to a properly installed and maintained fuel flow monitoring system that records the amount of fuel consumed by that engine during each operation.

5 EMISSION LIMITS

The twenty-eight (28) Caterpillar Model C175-16 engines shall meet the emission rate limitations contained in this section. If required to demonstrate compliance with the g/kW-hr EPA Tier 2 average emission limits through stack testing, the Dell Data Center shall average emission rates for 5 individual operating loads (10%, 25%, 50%, 75% and 100%) according to 40 CFR §89.410 and Table 2 of Appendix B to 40 CFR Part 89, Subpart E.

5.1 Each engine shall not exceed average NO_x emissions of 6.12 g/kWm-hr. Engine nitrogen oxide emissions shall comply with 40 CFR Part 60, Subpart IIII, or any other applicable EPA requirement, in effect at the time the engines are manufactured and installed.

5.2 Nitrogen oxide (NOx) emissions from each of the twenty-eight (28) Caterpillar Model C175-16 engines shall not exceed the following emission rates at the stated loads, based on emission factors provided by the engine manufacturer:

Table 5.2: Nitrogen oxide (NOx) emission rate limits

	Operating Scenario	Operating Load	Emissions Limit per engine in g/kWm-hr	Emissions Limit per engine in lb/hr
5.2.1	Weekly Testing	10% (idle)	6.12	6.15
5.2.2	Monthly Testing	70%	7.16	37.12
5.2.3	Semi-Annual Testing	70%	7.16	37.12
5.2.3	Annual Testing	100%	8.34	60.09
5.2.4	Maintenance	70%	7.16	37.12
5.2.5	Power Outages	70%	7.16	37.12

5.3 Nitrogen dioxide (NO_2) emissions from each of the twenty-eight (28) Caterpillar Model C175-16 engines shall not exceed the following emission rates at the stated loads, based on emission factors provided by the engine manufacturer:

Table 5.3: Nitrogen dioxide emission rate limits				
	Operating Scenario	Operating Load	Emissions Limit per engine in g/kWm-hr	Emissions Limit per engine in lb/hr
5.3.1	Weekly Testing	10% (idle)	0.612	0.615
5.3.2	Monthly Testing	70%	0.716	3.712
5.3.3	Semi-Annual Testing	70%	0.716	3.712
5.3.3	Annual Testing	100%	0.834	6.009
5.3.4	Maintenance	70%	0.716	3.712
5.3.5	Power Outages	70%	0.716	3.712

5.4 Carbon monoxide (CO) emissions from each of the twenty-eight (28) Caterpillar Model C175-16 engines shall not exceed the following emission rates at the stated loads, based on emission factors provided by the engine manufacturer:

Table 5.4: Carbon monoxide emission rate limits				
	Operating Scenario	Operating Load	Emissions Limit per engine in g/kWm-hr	Emissions Limit per engine in lb/hr
5.4.1	Weekly Testing	10% (idle)	6.30	6.33
5.4.2	Monthly Testing	70%	3.50	18.14
5.4.3	Semi-Annual Testing	70%	3.50	18.14
5.4.3	Annual Testing	100%	3.50	25.45
5.4.4	Maintenance	70%	3.50	18.14
5.4.5	Power Outages	70%	3.50	18.14

5.5 Total engine carbon monoxide emissions shall not exceed 10.46 tons/year and shall comply with 40 CFR Part 60, Subpart IIII, or any other applicable EPA requirement, in effect at the time the engines are installed.

5.6 Engine particulate matter emissions shall comply with 40 CFR Part 60, Subpart IIII, or any other applicable EPA requirement, in effect at the time the engines are installed. All PM emissions shall be considered diesel engine exhaust particulate and $PM_{2.5}$ emissions.

5.7 Particulate matter emissions from all 28 engines combined shall not exceed 0.71 tons/yr. All PM emissions from the engines shall be considered diesel engine exhaust particulate (DEEP) and $PM_{2.5}$ emissions.

5.8 Nitrogen dioxide (NO_2) emissions from all 28 engines combined shall not exceed 76 lb/hr and 1.987 tons/year.

5.9 Total engine volatile organic compound emissions shall not exceed 1.47 tons/year and shall comply with 40 CFR Part 60, Subpart IIII, or any other applicable EPA requirement, in effect at the time the engines are installed.

5.10 Visual emissions from each diesel electric generator exhaust stack shall be no more than 5 percent, with the exception of a one (1) minute period after unit start-up. Visual emissions shall be measured by using the procedures contained in 40 CFR 60, Appendix A, Method 9.

5.11 Sulfur dioxide emissions from all 28 engines combined shall not exceed 0.018 tons/yr (36 lbs/yr).

6 OPERATION AND MAINTENANCE MANUALS

A site-specific O&M manual for the Dell Data Center facility equipment shall be developed and followed. Manufacturers' operating instructions and design specifications for the engines, generators, and associated equipment shall be included in the manual. The O&M manual shall 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 engines and associated equipment shall at a minimum include:

6.1 Manufacturer's testing and maintenance procedures that will ensure that each individual engine will conform to the EPA Tiered Emission Standards appropriate for that engine throughout the life of the engine.
6.2 Normal operating parameters and design specifications.
6.3 Operating maintenance and testing schedule.

7 SUBMITTALS

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

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

8 RECORDKEEPING

All records required under this Order shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period. The following records are required to be collected and maintained. Any records required to be kept under the provisions of this Order shall be provided within 30 days to Ecology upon request.

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

8.2 Monthly and annual hours of operation for each diesel engine.

8.3 Purpose, electrical load and runtime duration for each engine start-up.

8.4 Annual gross power generated by all generators at the facility.

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

8.6 Any recordkeeping required by 40 CFR Part 60 Subpart IIII.

8.7 Air quality complaints received from the public or other entity, and the affected emissions units.

9 REPORTING

9.1 At least 30 business days before installation of a new engine/generator set listed in Equipment Table 1.1 above, the Dell Data Center will submit the serial number, manufacturer make and model, standby capacity, and date of manufacture of each new engine to Ecology.

9.2 The following information will be submitted to the AQP by January 31 of each calendar year. This information may be submitted along with any other annual emissions information requested by the AQP.

9.2.1 Monthly rolling annual total summary of air contaminant emissions.
9.2.2 Monthly rolling hours of operation with annual total.
9.2.3 Monthly rolling gross power generation with annual total.
9.2.4 A listing of each start-up of each diesel engine that shows the purpose, fuel usage, load, and duration for each runtime operation.

9.3 Any air quality complaints resulting from operation of the engines shall be promptly assessed and addressed. A record shall be maintained 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 shall be notified within three (3) days of receipt of any such complaint by e-mail.

9.4 The Dell Data Center shall 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. This notification does not alleviate Dell from annual reporting of operations contained in any other section of Approval Condition 9.

10 GENERAL CONDITIONS

10.1 **Commencing/Discontinuing Construction and/or Operations:** This approval shall become void if construction of the facility is not begun within 18 months of permit issuance or if facility operation is discontinued for a period of eighteen (18) months or more. In accordance with WAC 173-400-111(7)(c), each phase must commence construction within 18 months of the projected and approved commence construction date.

10.2 **Compliance Assurance Access:** Access to the source by representatives of Ecology or the EPA shall be permitted upon request. Failure to allow such 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 Approval Order.

10.3 **Availability of Order:** Legible copies of this Order shall be available to employees in direct operation of the diesel electric generators, and be available for review upon request by Ecology.

10.4 **Equipment Operation:** Operation of the 28 Caterpillar Model C175-16 diesel engines used to power emergency electrical generators and related equipment shall be conducted in compliance with all data and specifications submitted as part of the NOC application unless otherwise approved in writing by Ecology.

10.5 **Modifications:** Any modification to the generators, engines, or cooling towers and their related equipment's operating or maintenance procedures, contrary to

information in the NOC application, shall be reported to Ecology at least 60 days before such modification. Such modification may require a new or amended NOC Approval Order.

10.6 **Activities Inconsistent with the NOC Application and this Approval Order:** Any activity undertaken by the permittee or others, in a manner that is inconsistent with the NOC application and this determination, shall be subject to Ecology enforcement under applicable regulations.

10.7 **Obligations under Other Laws or Regulations:** Nothing in this Approval Order shall be construed to relieve the permittee of its obligations under any local, state or federal laws or regulations.

All plans, specifications, and other information submitted to the Department of Ecology relative to this project and further documents and any authorizations or approvals or denials in relation thereto shall be kept at the Eastern Regional Office of the Department of Ecology in the "Air Quality Controlled Sources" files, and by such action shall be incorporated herein and made a part thereof.

Nothing in this approval shall be construed as obviating compliance with any requirement of law other than those imposed pursuant to the Washington Clean Air Act and rules and regulations thereunder.

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

a. Violation of any terms or conditions of this authorization;

b. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant fact.

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, shall not be affected thereby.

YOUR RIGHT TO APPEAL

You have a right to appeal this Approval Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this 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 Approval Order:

- File your appeal and a copy of this Approval Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Approval Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

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

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 1111 Israel RD SW STE 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov

To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser

DATED this 5th day of August, 2011, at Spokane, Washington.

Reviewed By:

David Ogulei, P.E.
Science & Engineering Section
Department of Ecology
State of Washington

Approved By:

8/8/11

Karen K. Wood, Section Supervisor
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Prepared By:

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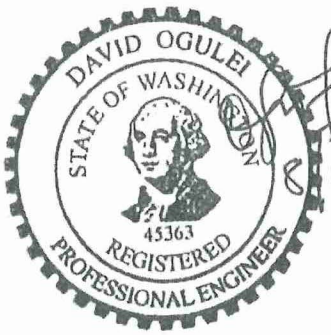
State of Washington



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