IN THE MATTER OF APPROVING A NEW AIR CONTAMINANT SOURCE FOR MICROSOFT CORPORATION COLUMBIA DATA CENTER

TO: Jack Eaton, Facilities Program Manager Microsoft Corporation Columbia Data Center 501 Port Industrial Parkway Quincy, WA 98848

EQUIPMENT

1. List of equipment that was evaluated for this order of approval. Existing unit ID nos. CO1/1 nos. 1-12 and CO1/2 nos. 1-12 were permitted in 09AQ-E308. New unit ID nos. 25-37 were proposed in the document titled "Microsoft Columbia Data Center CO3, CO4, and CO5 Expansion, Microsoft Corporation, Quincy, WA" submitted on May 14, 2010. Microsoft has subsequently changed the designations of the Columbia Data Center Expansion phases to CO3.1 (Phase II), CO3.2 (Phase I), and CO3.3 (Phase II), respectively. The phases will be referred to in this Order as CO3.1, CO3.2, and CO3.3.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Unit ID</th>
<th>Engine SN</th>
<th>Generator SN</th>
<th>Build date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO1/1</td>
<td>1</td>
<td>SBK000170</td>
<td>G4B00130</td>
<td>8/14/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>2</td>
<td>SBK000179</td>
<td>G4B00132</td>
<td>8/25/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>3</td>
<td>SBK000169</td>
<td>G4B00128</td>
<td>8/10/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>4</td>
<td>SBK000181</td>
<td>G4B00133</td>
<td>8/28/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>5</td>
<td>SBK000176</td>
<td>G4B00131</td>
<td>8/25/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>6</td>
<td>SBK000168</td>
<td>G4B00129</td>
<td>8/10/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>7</td>
<td>SBK000160</td>
<td>G4B00125</td>
<td>7/21/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>8</td>
<td>SBK000159</td>
<td>G4B00127</td>
<td>7/19/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>9</td>
<td>SBK000162</td>
<td>G4B00126</td>
<td>7/24/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>10</td>
<td>SBK000158</td>
<td>G4B00124</td>
<td>7/19/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>11</td>
<td>SBK000172</td>
<td>G4B06113</td>
<td>8/18/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>12</td>
<td>SBK000208</td>
<td>G4B00173</td>
<td>11/1/06</td>
</tr>
<tr>
<td>CO1/2</td>
<td>1</td>
<td>SBK000214</td>
<td>G4B00171</td>
<td>11/6/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>2</td>
<td>SBK000211</td>
<td>G4B00176</td>
<td>11/3/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>3</td>
<td>SBK000213</td>
<td>G4B00177</td>
<td>11/6/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>4</td>
<td>SBK000201</td>
<td>G4B00178</td>
<td>10/20/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>5</td>
<td>SBK000171</td>
<td>G4B00112</td>
<td>8/17/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>6</td>
<td>SBK000212</td>
<td>G4B00175</td>
<td>11/6/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>7</td>
<td>SBK000205</td>
<td>G4B00170</td>
<td>10/30/06</td>
</tr>
<tr>
<td>&quot;</td>
<td>8</td>
<td>SBK000210</td>
<td>G4B00172</td>
<td>11/3/06</td>
</tr>
<tr>
<td></td>
<td>Unit ID</td>
<td>Engine SN</td>
<td>Engine Size</td>
<td>Build Year</td>
</tr>
<tr>
<td>-----</td>
<td>---------</td>
<td>------------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>CO1</td>
<td>Pe6068t602182</td>
<td>149 bhp</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>CO2</td>
<td>Pe6068t679482</td>
<td>149 bhp</td>
<td>2007</td>
<td></td>
</tr>
<tr>
<td>CO3.1, 3.2, 3.3</td>
<td>Not purchased</td>
<td>149 bhp</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 1.3: Cooling Water Pre-treatment Generator Engine SN**

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Engine SN</th>
<th>Engine Size</th>
<th>Build Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWPT.1</td>
<td>G5AO1427</td>
<td>398 bhp</td>
<td>2007</td>
</tr>
</tbody>
</table>

**Table 1.4: Cooling Towers**

<table>
<thead>
<tr>
<th>Unit ID</th>
<th># Cooling Tower Banks</th>
<th># Cooling Tower Units per Bank</th>
<th>Total # Cooling Tower Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO1</td>
<td>1</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>CO2</td>
<td>1</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>na</td>
<td>36</td>
</tr>
</tbody>
</table>

**PROJECT SUMMARY**

1. The Microsoft Columbia Data Center will contain six buildings designated CO1, CO2, WTF, CO3.1, CO3.2, and CO3.3. Buildings CO1 and CO2 were permitted in 2007, and constructed in 2007 and 2008. Buildings CO3.1, CO3.2, and CO3.3 were permitted in 2010, and will be constructed in 2010 through 2012. The Columbia Data Center will have thirty-seven Caterpillar Model 3516C-TA diesel powered electric generators and four small diesel-fired emergency engines. The Department of Ecology (Ecology) approved the installation and operation of twenty-four of the engines in Order No. 09AQ-
E308 issued on August 28, 2009. The current action approves the installation and operation of thirteen additional 2.5 eMW engines. At the request of the applicant, Ecology is also reducing the allowable operating hours and diesel fuel allocation for the existing CO1 and CO2 engines.

<table>
<thead>
<tr>
<th>Table 2: Potential to Emit for Microsoft Columbia Data Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pollutant</td>
</tr>
<tr>
<td>Criteria Pollutant</td>
</tr>
<tr>
<td>2.1.1 NOx</td>
</tr>
<tr>
<td>2.1.2 CO</td>
</tr>
<tr>
<td>2.1.3 SO2</td>
</tr>
<tr>
<td>2.1.4 PM2.5</td>
</tr>
<tr>
<td>2.1.5 VOC</td>
</tr>
</tbody>
</table>

Toxic Air Pollutants

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Existing Units 1 thru 24 Potential To Emit</th>
<th>Expansion Units 25 thru 37 Potential To Emit</th>
<th>Facility Potential to Emit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.6 Primary NO2*</td>
<td>3.01</td>
<td>1.39</td>
<td>4.40</td>
</tr>
<tr>
<td>2.1.7 Acrolein</td>
<td>2.29E-03</td>
<td>7.90E-05</td>
<td>2.37E-03</td>
</tr>
<tr>
<td>2.1.8 Benzene</td>
<td>2.16E-02</td>
<td>7.80E-03</td>
<td>2.94E-02</td>
</tr>
<tr>
<td>2.1.9 Toluene</td>
<td>7.75E-03</td>
<td>2.80E-03</td>
<td>1.06E-02</td>
</tr>
<tr>
<td>2.1.10 Xylenes</td>
<td>5.39E-03</td>
<td>1.90E-03</td>
<td>7.29E-02</td>
</tr>
<tr>
<td>2.1.11 1,3 Butadiene</td>
<td>2.02E-03</td>
<td>2.00E-04</td>
<td>2.22E-03</td>
</tr>
<tr>
<td>2.1.12 Formaldehyde</td>
<td>5.39E-02</td>
<td>7.90E-04</td>
<td>5.47E-02</td>
</tr>
<tr>
<td>2.1.13 Acetaldehyde</td>
<td>2.29E-02</td>
<td>2.50E-04</td>
<td>2.32E-02</td>
</tr>
<tr>
<td>2.1.14 Benz(a)Pyrene</td>
<td>3.71E-06</td>
<td>1.30E-06</td>
<td>5.01E-06</td>
</tr>
<tr>
<td>2.1.15 PAH (sum)</td>
<td>na</td>
<td>3.90E-05</td>
<td>na</td>
</tr>
<tr>
<td>2.1.16 PAH (w/ TEF)</td>
<td>na</td>
<td>5.00E-06</td>
<td>na</td>
</tr>
<tr>
<td>2.1.17 Diesel Engine Exhaust Particulate**</td>
<td>0.58</td>
<td>0.45</td>
<td>1.03</td>
</tr>
<tr>
<td>2.1.18 Carbon monoxide</td>
<td>2.1</td>
<td>8.0</td>
<td>10.1</td>
</tr>
<tr>
<td>2.1.19 Sulfur dioxide</td>
<td>0.032</td>
<td>0.015</td>
<td>0.047</td>
</tr>
</tbody>
</table>

*Assumed to be equal to 10% of the total NOx emitted.
** diesel engine exhaust particulate is DEEP, which is equal to PM2.5 emissions.

2. The small emergency engines consist of three 149 bhp engines to power fire water pumps and one 398 bhp emergency engine to power the cooling water pre-treatment facility. The three fire water pump engines and the cooling water pre-treatment engine are considered permit exempt under Washington Administrative Code (WAC) 173-400-110(4)(h)(xxxxix), and will not be further addressed in the Approval Order.

3. The original (2007) MSN Columbia Data Center (CO1 and CO2) was constructed with 12 Evapco Model USS 312-454 cooling units to dissipate heat from the electronic servers. Each Model USS 312-454 unit has three cooling towers and three fans. Each end
of the building will have one bank of six Model USS 312-454 units for a total of eighteen cooling towers with a total of 36 cooling towers. Each individual cooling tower has a design recirculation rate of 3150 gallons per minute.

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>
<thead>
<tr>
<th>Pollutant(s)</th>
<th>BACT Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate matter (PM), carbon monoxide and volatile organic compounds</td>
<td>Restricted operation of EPA Tier-2 certified engines, and compliance with the operation and maintenance restrictions of 40 CFR Part 60, Subpart III.</td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>Good combustion practices; an engine design that incorporates fuel injection timing retard, turbocharger and a low-temperature after-cooler; EPA Tier-2 certified engines; and compliance with the operation and maintenance restrictions of 40 CFR Part 60, Subpart III.</td>
</tr>
<tr>
<td>Sulfur dioxide</td>
<td>Use of ultra-low sulfur diesel fuel containing no more than 15 parts per million by weight of sulfur.</td>
</tr>
</tbody>
</table>

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>
<thead>
<tr>
<th>Toxic Air Pollutant(s)</th>
<th>tBACT Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaldehyde, carbon monoxide, acrolein, benzene, benzo(a)pyrene, 1,3-butadiene, diesel engine exhaust particulate, formaldehyde, toluene, total PAHs, xylenes</td>
<td>Restricted operation of EPA Tier-2 certified engines, and compliance with the operation and maintenance restrictions of 40 CFR Part 60, Subpart III.</td>
</tr>
<tr>
<td>Nitrogen dioxide</td>
<td>Good combustion practices; an engine design that incorporates fuel injection timing retard, turbocharger and a low-temperature after-cooler; EPA Tier-2 certified engines; and compliance with the operation and maintenance restrictions of 40 CFR Part 60, Subpart III.</td>
</tr>
<tr>
<td>Sulfur dioxide</td>
<td>Use of ultra-low sulfur diesel fuel containing no more than 15 parts per million by weight of sulfur.</td>
</tr>
</tbody>
</table>
4. Ecology has evaluated the cumulative health risks associated with diesel engine exhaust particulate emissions from the proposed project, in accordance with WAC 173-460-100. Ecology has concluded that the cumulative health risks from the project are acceptable, and that approval of the project will result in a greater environmental benefit to the state of Washington. 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 conditions are met:

**APPROVAL CONDITIONS**

1. **ADMINISTRATIVE CONDITION**

   1.1 Notice of Construction Approval Order No. 09AQ-E308 is rescinded and replaced entirely on March 1, 2011. During the time period in which both this Order and Order No. 09AQ-E308 are in effect and on or after the date construction has begun on the proposed CO3.1, CO3.2, and CO3.3 emission units, all emission limits contained in this Order take precedence over 09AQ-E308. Order No. 09AQ-E308 Approval Condition 3.1 shall remain in effect until March 1, 2011 provided that no emission limit in Order No. 10AQ-E308 is violated.

   1.2 Microsoft shall schedule a meeting with Mountain View Elementary School administrators by no later than February 15, 2011. The meeting will include officials from the Quincy School District at the discretion of the Mountain View Elementary School administrators. The purpose of the meeting will be to both communicate, and better understand, any potential concerns or complaints that the school may have regarding emergency generator maintenance testing and operation. In addition, Microsoft will provide the school administrators with a direct telephone contact to one of the Columbia Data Center managers. The school administrators shall also be provided a maintenance testing schedule as contained in the permit, and will update the school whenever Ecology-approved changes occur in the maintenance testing schedule. As decided by the school administrators and Microsoft, an ongoing relationship between the school and Microsoft should be established.

2. **EQUIPMENT RESTRICTIONS**

   2.1 The 37 Caterpillar Model 3516C 2.5 eMW engines used to power the electrical generators shall be certified by the manufacturer to meet 40 CFR 89 Tier II emission levels if manufactured before January 1, 2011. Any generator engine manufactured after January 1, 2011 shall meet 40 CFR 89 Tier IV Transitional emission levels or other specifications as required by the EPA at the time the engines are installed.

   2.2 The only Caterpillar Model 3516C 2.5 eMW engines and electrical generating units approved for operation at the Columbia Data Center are those listed in Table 1.1 above.

   2.3 Manufacture and installation of the engine/generator sets identified as unit numbers 23 and 24 in Table 1.1 shall take place by August 28, 2012.
Manufacture and installation of the CO3.2 engine/generator sets identified in Table 1.1 shall take place within 12 months of the issue date of this Order. Manufacture and installation of the CO3.1 and CO3.3 engine/generator sets identified in Table 1.1 shall take place within 24 months of the issue date of this Order. If the manufacture and installation of these engines has not completed within the above schedule, a NOC application may be required prior to installation.

2.4. Replacement of failed engines with identical engines (same manufacturer and model) requires notification prior to installation, but will not require Notice of Construction unless there is an emission rate increase from the replacement engines.

2.5. The twenty 2.5 eMW CO1 and CO2 engine-generator exhaust stack heights shall be greater than or equal to 38 feet above ground level and 8 feet above roof height. The four 2.5 eMW ground level CO1 and CO2 engine-generators exhaust stack heights shall be greater than or equal to 26 feet above ground level. The thirteen 2.5 eMW ground level CO3.1, CO3.2, and CO3.3 engine-generators exhaust stack heights shall be greater than or equal to 31 feet above ground level.

3. OPERATING LIMITATIONS

3.1. The fuel consumption at the Columbia Data Center facility shall be limited to a total of 439,493 gallons per year and 88,800 gallons per day 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. The 24 CO1 and CO2 generators shall be limited to 300,000 gallons per year and not operate more than 121 hours per year per engine at an average capacity of 53% of full standby capacity. Individual units may be operated at a higher load than 53% of full standby capacity as long as total generator fuel consumption remains below 300,000 gallons per year of diesel fuel equivalent to on-road specification No. 2 distillate fuel oil and no emission limit is exceeded. Total annual fuel consumption by the 24 CO1 and CO2 generators may be averaged over a three (3) year period using monthly rolling totals.

3.3. The 13 CO3.1, CO3.2, and CO3.3 generators shall not operate more than 104 hours per year per engine at an average load of 53% of full standby capacity. Individual units may be operated at a higher load than 53% of full standby capacity as long as total generator fuel consumption from the 13 engines remains below 139,493 gallons per year of diesel fuel equivalent to on-road specification No. 2 distillate fuel oil and no emission limit is exceeded. Total annual fuel consumption by the 13 CO3.1, CO3.2, and CO3.3 generators may be averaged over a three (3) year period using monthly rolling totals.

3.4. The limitation on the annual diesel fuel allocation for the 13 CO3.1, CO3.2, and CO3.3 generator engines does not become effective until Microsoft has completed acceptance testing of the engines and generators. However, all emission limits remain effective during the acceptance testing period.
3.5. Operation of the 13 CO3.1, CO3.2, and CO3.3 generators for required monthly maintenance and testing shall be limited to approximately one hour per month each at an average electric load of 10% of the standby rating.

3.6. Operation of the 13 CO3.1, CO3.2, and CO3.3 generators for electrical bypass shall be limited to approximately 44 hours per year each at an average electrical load of 40% of the standby rating. No more than two engines shall operate at the same time during any electrical bypass operation.

3.7. Each of the 37 generator engines require maintenance and testing for approximately one hour per month. To mitigate engine emission impacts, Microsoft Corporation will perform at least 80% of all maintenance testing from 7:00 AM until 5:00 PM on Monday through Wednesday with no more than 3 engines tested concurrently. Engine maintenance and testing may take place outside of these restrictions upon coordination by Microsoft with the other data centers in Quincy to minimize engine emission impacts to the community. Microsoft shall maintain records of the coordination communications with the other data centers, and those communications shall be available for review by Ecology. This schedule can be re-negotiated at any time as approved in writing by Ecology, and will not trigger revision or amendment of this Order.

3.8. CO1 and CO2 each have 1 bank of 6 cooling units with a total of 18 cooling towers each. Each individual unit shall have a mist eliminator that will maintain the maximum drift rate to no more than 0.001 percent of the circulating water rate.

4. GENERAL TESTING AND MAINTENANCE REQUIREMENTS

4.1. MSN will follow engine-manufacturer’s recommended diagnostic testing and maintenance procedures to ensure that each of the thirty-seven 2.5 eMW engines will conform to 40 CFR 89 emission specifications throughout the life of each engine.

4.2. At the conclusion of the manufacturer’s warranty term (60 months from engine delivery date or 3,000 hours of operation), MSN shall pursue one of the following options:

4.2.1 Emission testing of each engine for NOx, CO, and non-methane hydrocarbon (NMHC) emission rates to determine continuing compliance with the 40 CFR 89 Tier II emission standards (the applicant may replace the dynamometer requirement in Subpart E of 40 CFR 89 with corresponding measurement of gen-set electrical output). The testing of each engine shall be repeated every 60 months after its first test. The engine testing may be staged to test 5 engines in each 12 month period.

4.2.2 Re-evaluating BACT and tBACT and health risks of the facility’s operations.

4.2.3 Show compliance with the manufacturer’s maintenance requirements by renewing or extending engine manufacturer’s maintenance contracts.
4.2.4 Any combination of the above three options, or an alternative method approved by Ecology in writing.

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

4.4 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.

4.5 Periodic emission testing of each engine is not required by this Approval Order unless Condition 4.2.1 is selected as the compliance verification option. Ecology may require stack testing as allowed in WAC-173-400-105(4) at its discretion.

5. EMISSION LIMITS

The thirty-seven 2.5 eMW engine-generators shall meet the following emission rate limitations:

5.1 Each existing CO1 and CO2 engine shall not exceed NO\textsubscript{x} plus NMOC emissions of 6.4 g/kW-hr.

5.2 Each new CO1, CO2, CO3.1, CO3.2, and CO3.3 engine shall not exceed NO\textsubscript{x} emissions of 6.12 g/kW-hr if built before January 1, 2011. The NO\textsubscript{x} emission factor for engines built after January 1, 2011 shall comply with 40 CFR Part 60, Subpart III, or any other applicable EPA requirement, in effect at the time the engines are installed.

5.3 Each new CO1, CO2, CO3.1, CO3.2, and CO3.3 engine shall not exceed VOC emissions of 0.28 g/kW-hr.

5.4 Each existing CO1 and CO2 engine shall not exceed CO emissions of 3.5 g/kW-hr.

5.5 Each new CO1, CO2, CO3.1, CO3.2, and CO3.3 engine shall not exceed CO emissions of 3.50 g/kW-hr if built before January 1, 2011. The CO emission factor for engines built after January 1, 2011 shall comply with 40 CFR Part 60, Subpart III, or any other applicable EPA requirement, in effect at the time the engines are installed.

5.6 Each existing CO1 and CO2 engine shall not exceed PM emissions of 0.20 g/kW-hr. All PM shall be considered diesel engine exhaust particulate.

5.7 Each new CO1, CO2, CO3.1, CO3.2, and CO3.3 engine shall not exceed PM emissions of 0.20 g/kW-hr if built before January 1, 2011. The PM emission factor for engines built after January 1, 2011 shall comply with 40 CFR Part 60, Subpart III, or any other applicable EPA requirement, in effect at the time the engines are installed.

5.8 The total amount of PM emissions from operating all 37 engines during each year shall not exceed 1.03 tons/yr. All PM emissions shall be considered diesel engine exhaust particulate (DEEP) emissions and all DEEP emissions shall be considered PM\textsubscript{2.5} emissions.

5.9 Visual emissions from each diesel electric generator exhaust stack shall be no more than 5 percent, with the exception of a ten (10) minute period after unit
start-up. Visual emissions shall be measured by using the procedures contained in 40 CFR 60, Appendix A, Method 9.

5.10 SO₂ emissions from each diesel electric generator exhaust stack shall not exceed 0.03 lbs/hr.

6 OPERATION AND MAINTENANCE MANUALS

A site-specific O&M manual for the MSN CDC facility equipment shall be developed and followed. Manufacturers’ operating instructions and design specifications for the engines, generators, cooling towers, 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 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, Operations and Maintenance Manual, and procedures developed 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.

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

8.2 Annual hours of operation for each diesel engine.

8.3 Annual number of start-ups for each diesel engine.

8.4 Annual gross power generated by facility-wide operation of the emergency backup electrical generators.

8.5 Upset condition log for each engine and generator that includes date, time, duration of upset, cause, and corrective action.
8.6 Recordkeeping required by 40 CFR Part 60 Subpart III.

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

9 REPORTING

9.1 Within 10 business days after entering into a binding agreement to purchase the engine/generator sets identified in Equipment Table 1.1 above, Microsoft Corporation shall notify Ecology in writing. The serial number of the engine and the generator, and the engine build date will be submitted prior to installation of each engine.

9.2 The following information will be submitted to the AQP at the address in Condition 7 above by January 31 of each calendar year.

9.2.1 Monthly rolling annual total summary of air contaminant emissions, monthly rolling hours of operation with annual total, and monthly rolling gross power generation with annual total.

9.2.2 Written notification that the O&M manual has been developed and updated within 60 days after the issuance of this Order.

9.3 Any air quality complaints resulting from operation of the emissions units or activities shall be promptly assessed and addressed. A record shall be maintained of Microsoft Corporation’s action 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.

10 STACK TESTING

10.1 Any emission testing performed to verify conditions of this Approval Order or for submittal to Ecology in support of this facility’s operations shall be conducted as follows:

10.1.1 At least 30 days in advance of such testing, the Permittee shall submit a testing protocol for Ecology approval that includes the following information:

10.1.1.1 The location and Unit ID of the equipment proposed to be tested.

10.1.1.2 The operating parameters to be monitored during the test and the personnel assigned to monitor the parameters during the test.

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

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

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

10.1.2 Test Reporting: test reports shall be submitted to Ecology within 45 days of completion of the test and shall include, at a minimum, the following information:
10.1.2.1 A description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations.
10.1.2.2 Time and date of the test and identification and qualifications of the personnel involved.
10.1.2.3 A summary of results, reported in units and averaging periods consistent with the applicable emission standard or limit.
10.1.2.4 A summary of control system or equipment operating conditions.
10.1.2.5 A summary of production related parameters.
10.1.2.6 A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation.
10.1.2.7 A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation.
10.1.2.8 Copies of field data and example calculations.
10.1.2.9 Chain of custody information.
10.1.2.10 Calibration documentation.
10.1.2.11 Discussion of any abnormalities associated with the results.
10.1.2.12 A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

11 GENERAL CONDITIONS

11.1 Commencing/Discontinuing Construction and/or Operations: This approval shall become void if the construction or operation of backup emergency diesel electric generation is discontinued at the facility for a period of eighteen (18) months, unless prior written notification is received by Ecology at the address in Condition 7 above.

11.2 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.

11.3 Availability of Order and O&M Manual: Legible copies of this Order and the O&M manual shall be available to employees in direct operation of the emergency diesel electric generators, and be available for review upon request by Ecology.

11.4 Equipment Operation: Operation of the Caterpillar Model 3516C units and related equipment shall be conducted in compliance with all data and specifications submitted as part of the NOC application and in accordance with the O&M manual, unless otherwise approved in writing by Ecology.

11.5 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.
11.6 **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.

11.7 **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.

11.8 **Fees:** Per WAC 173-455-120, this Approval Order and related regulatory requirements have a fee associated for review and issuance. This Order is effective upon Ecology’s receipt of the fee, for which Ecology’s fiscal office will provide a billing statement.

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.

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 provisions of their circumstances, and the reminder of this authorization, shall not be affected thereby.

You have a right to appeal this permit. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the “date of receipt” of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the “date of receipt” of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). “Date of receipt” is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of (1) the permit you are appealing and (2) the application for the permit.
- Serve and file your appeal in paper form; electronic copies are not accepted.
1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

The Pollution Control Hearings Board
PO Box 40903
Olympia WA 98504-0903

OR

The Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey, WA 98503

Deliver your appeal in person to:

2. To serve your appeal on the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals Coordinator
P.O. Box 47608
Olympia, WA 98504-7608

OR

The Department of Ecology
Appeals Coordinator
300 Desmond Dr SE
Lacey, WA 98503

Deliver your appeal in person to:

3. And send a copy of your appeal to:

Karen K. Wood
Air Quality Program
Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205-1295

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://www.leg.wa.gov/CodeReviser

DATED this 26th day of October, 2010, at Spokane, Washington.

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

Approved By:
Karen K. Wood, Section Supervisor
Eastern Regional Office
Department of Ecology
State of Washington

Prepared By:
Gregory S. Flibbert, Unit Manager
Eastern Regional Office
Department of Ecology
State of Washington