

SOUTHWEST CLEAN AIR AGENCY

**AIR DISCHARGE PERMIT
SWCAA 09-2895**

Issued: October 6, 2009

Facility Name: Knife River – Kelso Ready Mix
Physical Location: Portable – initially at 2224 Talley Way
Kelso, WA

SWCAA ID: 1391

REVIEWED BY:


Paul T. Mairose, Chief Engineer

APPROVED BY:


Robert D. Elliott, Executive Director



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1. Equipment/Activity Identification

ID No.	Generating Equipment/Activity	# of Units	Control Equipment	# of Units
1	Batcher / Weigh Hopper	1	Fabric filter	1
2	Truck Loadout	1	Wet suppression (Spray bar, low pressure)	1
3	Cement Silo – 80 ton capacity	1	Stephens Manufacturing Co. bin vent	1
4	Fly Ash Silo – 75 ton capacity	1	Stephens Manufacturing Co. bin vent	1
5	Haul Roads – fugitive emissions	N/A	Low-pressure water spray	N/A
6	Hot Water Heater – Sioux 1.2 MMBtu/hr	1	Low sulfur fuel (propane or natural gas)	N/A
7	Emergency Generator Engine	1	EPA Tier 3, Ultra-low sulfur fuel	1

2. Approval Conditions

The following tables detail the specific requirements of this permit. In addition to the requirements listed below, equipment at this facility may be subject to other federal, state, and local regulations. The permit requirement number is identified in the left hand column. The text of the permit requirement is contained in the middle column. The emission unit, equipment, or activity to which the permit requirement applies is listed in the right hand column.

Air Discharge Permit 09-2870 is superseded in its entirety by this Air Discharge Permit.

2.1 Emission Limits

No.	Emission Limits	Equipment/Activity								
1.	<p>Emissions from operation of the Concrete Batch Plant and associated Cement Silo, Fly Ash Silo, and haul roads shall not exceed:</p> <table border="0"> <tr> <td><u>Pollutant</u></td> <td><u>Emission Limit</u></td> </tr> <tr> <td>PM</td> <td>5.10 tons per year</td> </tr> <tr> <td>PM₁₀</td> <td>1.49 tons per year</td> </tr> <tr> <td>PM_{2.5}</td> <td>0.65 tons per year</td> </tr> </table> <p>Annual emissions shall be calculated using the emission factors presented in the Technical Support Document for this Permit unless more recent source test data has been collected.</p>	<u>Pollutant</u>	<u>Emission Limit</u>	PM	5.10 tons per year	PM ₁₀	1.49 tons per year	PM _{2.5}	0.65 tons per year	1 - 5
<u>Pollutant</u>	<u>Emission Limit</u>									
PM	5.10 tons per year									
PM ₁₀	1.49 tons per year									
PM _{2.5}	0.65 tons per year									

No.	Emission Limits	Equipment/ Activity										
2.	<p>Emissions from the Hot Water Heater shall not exceed:</p> <table border="0"> <tr> <td><u>Pollutant</u></td> <td><u>Emission Limit</u></td> </tr> <tr> <td>NO_x</td> <td>0.12 tons per year</td> </tr> <tr> <td>CO</td> <td>0.26 tons per year</td> </tr> </table> <p>Annual emissions shall be calculated using the emission factors presented in the Technical Support Document for this Permit unless more recent source test data has been collected.</p>	<u>Pollutant</u>	<u>Emission Limit</u>	NO _x	0.12 tons per year	CO	0.26 tons per year	6				
<u>Pollutant</u>	<u>Emission Limit</u>											
NO _x	0.12 tons per year											
CO	0.26 tons per year											
3.	<p>Opacity of emissions from the Concrete Batch Plant, Weigh Hopper, Truck Loadout, Cement Silo, Fly Ash Silo, and Hot Water Heater shall not exceed zero percent for more than three minutes in any one hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400).</p>	1 – 4, 6										
4.	<p>Emissions from the Emergency Generator Engine shall not exceed:</p> <table border="0"> <tr> <td><u>Pollutant</u></td> <td><u>Emission Limit</u></td> </tr> <tr> <td>Nitrogen Oxides</td> <td>335 pounds per year</td> </tr> <tr> <td>Carbon Monoxide</td> <td>63 pounds per year</td> </tr> <tr> <td>PM₁₀</td> <td>11 pounds per year</td> </tr> <tr> <td>PM_{2.5}</td> <td>11 pounds per year</td> </tr> </table> <p>Annual emissions shall be calculated using the emission factors presented in the Technical Support Document for this Permit unless more recent source test data has been collected.</p>	<u>Pollutant</u>	<u>Emission Limit</u>	Nitrogen Oxides	335 pounds per year	Carbon Monoxide	63 pounds per year	PM ₁₀	11 pounds per year	PM _{2.5}	11 pounds per year	7
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Nitrogen Oxides	335 pounds per year											
Carbon Monoxide	63 pounds per year											
PM ₁₀	11 pounds per year											
PM _{2.5}	11 pounds per year											
5.	<p>Visible emissions from the Emergency Generator Engine shall not exceed five percent opacity for more than 3 minutes in any one hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400) except during startup. For the purposes of this requirement, the startup period ends when the earlier of the following operating events occurs:</p> <ul style="list-style-type: none"> (a) The engine has reached normal operating temperature; or (b) The engine has been operating for 15 minutes. 	7										

2.2 Operating Limits and Requirements

No.	Operating Limits and Requirements	Equipment/ Activity
6.	<p>Reasonable precautions shall be taken at all times to prevent and minimize fugitive emissions from plant operations.</p>	1 – 5
7.	<p>Each pollution control device shall be operated whenever the processing equipment served by that control device is in operation. Control devices shall be operated and maintained in accordance with the manufacturer's specifications. Furthermore, control devices shall be operated in a manner that minimizes emissions.</p>	1 – 5
8.	<p>Emissions from the Cement Silo Baghouse, Fly Ash Silo Baghouse, and Emergency Generator Engine shall be discharged vertically. Any device that obstructs or prevents vertical discharge is prohibited.</p>	3, 4, 7

No.	Operating Limits and Requirements	Equipment/ Activity
9.	All deliveries of Portland cement and other powdered bulk materials (e.g. fly ash) shall be made via enclosed pneumatic transfer.	3, 4
10.	Material storage piles and unpaved haul roads shall be watered as necessary to control fugitive dust emissions.	5
11.	Water suppression systems shall be employed as necessary to control fugitive dust from unpaved haul roads, material handling and storage operations in the event that processes or weather patterns change resulting in insufficient water spray application to control fugitive dust.	5
12.	The Hot Water Heater shall only be fired on propane or natural gas.	6
13.	Fuel consumption by the Hot Water Heater shall not exceed 3,226 MMBtu per year (35,252 gallons of propane or 3.16 MMscf of natural gas).	6
14.	The Emergency Generator Engine shall only be fired on #2 diesel or better. The sulfur content of the fuel fired in the diesel engines shall not exceed 0.0015% by weight (15 ppm). A fuel certification from the fuel supplier may be used to demonstrate compliance with this requirement.	7
15.	Operation of the Emergency Generator Engine shall be limited to maintenance checks, readiness testing, and as necessary during emergencies.	7
16.	Operation of the Emergency Generator Engine for maintenance checks and readiness testing shall not exceed 100 hours per year. Total operation of the Emergency Generator Engine shall not exceed 200 hours per year. A nonresettable time totalizer shall be installed on the engine and used to measure hours of operation.	7
17.	The permittee shall notify SWCAA at least 10 business days in advance of relocating approved equipment and shall submit operational information (production quantities, hours of operation, location of nearest neighbor, etc.) sufficient to demonstrate that the proposed operation will comply with the emission standards for a new source, and will not cause a violation of applicable ambient air quality standards, and if in a nonattainment area, will not interfere with scheduled attainment of ambient standards.	Facilitywide
18.	The permittee shall notify all property owners immediately adjacent to a new operating site a minimum of 10 business days in advance of the intended relocation. Such written notification shall include a complete description of the proposed operation, the emissions control provisions and equipment, the total estimated project emissions, the name, address and phone number of the person in charge of the operation, and contact information for SWCAA. Response from adjacent landowners shall be directed to SWCAA. Authorized operations are dependent on the receipt of public response regarding the proposed relocation.	Facilitywide
19.	Emission units identified in this Permit shall be maintained and operated in total and continuous conformity with the conditions identified in this Permit. SWCAA reserves the right to take any and all appropriate action to maintain the conditions of this Permit, including directing the facility to cease operations until corrective action can be completed.	Facilitywide

2.3 Monitoring and Recordkeeping Requirements

No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity
20.	<p>The following information shall be collected, recorded at the intervals specified below, and readily available on-site for inspection:</p> <ul style="list-style-type: none"> (a) The total amount of concrete produced (cubic yards) shall be recorded for each calendar year for each location; (b) The total amount of propane and/or natural gas consumed by the Hot Water Heater shall be recorded for each calendar year for each location; (c) The fuel sulfur content of the diesel burned in the Emergency Generator Engine shall be determined and recorded for each fuel delivery. A fuel supplier certification may be used in lieu of actual fuel testing; (d) The total number of hours the Emergency Generator Engine is operated shall be recorded for each calendar year for each location; (e) Upset conditions that cause excess emissions shall be recorded for each occurrence; (f) Maintenance activities that may affect emissions from approved equipment shall be logged for each occurrence; and (g) All air quality related complaints received by the permittee and the results of any subsequent investigation or corrective action shall be recorded for each occurrence. 	Facilitywide
21.	With the exception of data logged by a computerized data acquisition system, each record required by this Air Discharge Permit shall include the date and the name of the person making the record entry.	Facilitywide
22.	All records required by this Air Discharge Permit shall be kept for a minimum period of no less than three years and shall be readily available for inspection by SWCAA representatives.	Facilitywide

2.4 Emission Monitoring and Testing Requirements

No.	Emission Monitoring and Testing Requirements	Equipment/ Activity
23.	Performance monitoring of the Hot Water Heater shall be conducted no later than the end of May each year as described in Appendix A of this Permit, unless an alternative schedule is approved by SWCAA. The first round of performance monitoring must be conducted no later than the end of May 2010.	6

2.5 Reporting Requirements

No.	Reporting Requirements	Equipment/ Activity
24.	Excess emissions shall be reported to SWCAA as follows: (a) As soon as possible, but no later than 12 hours after discovery for emissions that represent a potential threat to human health or safety; (b) As soon as possible, but no later than 48 hours after discovery for emissions which the permittee wishes to claim as unavoidable pursuant to SWCAA 400-107(1); and (c) No later than 30 days after the end of the month of discovery for all other excess emissions.	Facilitywide
25.	Deviations from permit conditions shall be reported no later than 30 days after the end of the month during which the deviation is discovered.	Facilitywide
26.	All air quality related complaints, including odor complaints, received by the permittee shall be reported to SWCAA within three days of receipt.	Facilitywide
27.	The following emissions related records shall be reported to SWCAA annually by March 15 th for the previous calendar year: (a) The total amount of concrete produced (cubic yards) at each location; (b) The total amount of fuel consumed by the Hot Water Heater at each location; (c) The total number of hours the Emergency Generator Engine operated at each location; and (d) Air emissions of criteria air pollutants, volatile organic compounds, toxic air pollutants (TAPs), and hazardous air pollutants (HAPs).	Facilitywide

3. General Provisions

No.	General Provisions
A.	The equipment specified in Air Discharge Permit Application CO-886 and this Permit shall be maintained and operated in total and continuous conformity with the conditions identified in this Permit. SWCAA reserves the right to take any and all appropriate action to maintain the conditions of this Permit, including directing the facility to cease operations until corrective action can be completed.
B.	For the purpose of ensuring compliance with this Permit, duly authorized representatives of the Southwest Clean Air Agency shall be permitted access to the permittee's premises and the facilities being constructed, owned, operated and/or maintained by the permittee for the purpose of inspecting said facilities. These inspections are required to determine the status of compliance with this Permit and applicable regulations and to perform or require such tests as may be deemed necessary.
C.	The provisions, terms and conditions of this Permit shall be deemed to bind the permittee, its officers, directors, agents, servants, employees, successors and assigns, and all persons, firms, and corporations acting under or for the permittee.
D.	The requirements of this Permit shall survive any transfer of ownership of the source or any portion thereof.
E.	This Permit shall be posted conspicuously at or be readily available near the source.

No.	General Provisions
F.	This Permit shall be invalid if construction/installation has not commenced within eighteen months from date of issuance.
G.	This Permit does not supersede requirements of other Agencies with jurisdiction and further, this Permit does not relieve the permittee of any requirements of any other governmental Agency. In addition to this Permit, the permittee may be required to obtain permits or approvals from other agencies with jurisdiction.
H.	Compliance with the terms of this Permit does not relieve the permittee from the responsibility of compliance with SWCAA General Regulations for Air Pollution Sources, previously issued Regulatory Orders, RCW 70.94, Title 173 WAC or any other applicable emission control requirements, nor from the resulting liabilities and/or legal remedies for failure to comply.
I.	If any provision of this Permit is held to be invalid, all unaffected provisions of the Permit shall remain in effect and be enforceable.
J.	No change in this Permit shall be made or be effective except as may be specifically set forth by written order of the Southwest Clean Air Agency upon written application by the permittee for the relief sought.
K.	The Southwest Clean Air Agency may, in accordance with RCW 70.94 impose such conditions as are reasonably necessary to assure the maintenance of compliance with the terms of this Permit, the Washington Clean Air Act, and the applicable rules and regulations adopted under the Washington Clean Air Act.

Appendix A
Performance Monitoring Requirements
Hot Water Heater

1. Introduction:

- a. The purpose of periodically monitoring the exhaust of the Hot Water Heater is to minimize emissions and provide a reasonable assurance that the unit is operating properly.
- b. Periodic monitoring may be conducted with an electrochemical cell combustion analyzer, analyzers used for reference method testing, or other analyzers pre-approved by SWCAA.

2. Monitoring Requirements:

- a. Monitoring to determine emission concentrations of the following constituents shall be conducted for the boiler no later than the end of May during each calendar year. The use of an alternative test schedule must be pre-approved by SWCAA in writing. The test shall be conducted while firing whichever fuel (propane or natural gas) is in primary service at the time of the test.

Constituents to be Measured

Carbon Monoxide (CO)

Nitrogen Oxides (NO_x)

Oxygen (O₂)

- b. Source operation during monitoring must be representative of maximum intended operating conditions during that year.
- c. Alternative monitoring methodologies must be pre-approved by SWCAA.

3. Minimum Quality Assurance/Quality Control Measures:

- a. The analyzer(s) response to span gas of a known concentration shall be determined before and after testing. No more than 12 hours may elapse between span gas response checks. The results of the analyzer response check shall not be valid if the difference between the pre-test and post-test response checks exceeds 10% of the pre-test response value.
- b. The CO and NO_x span gas concentrations shall be no less than 50% and no more than 200% of the emission concentration corresponding to the permitted emission limit. A lower concentration span gas may be used if it is more representative of measured concentrations. Ambient air may be used to zero the CO and NO_x cells/analyzer(s) and span the oxygen cell/analyzer.
- c. Sampling shall consist of at least 1 test consisting of at least 5 minutes of data collection following a "ramp-up phase." The ramp-up phase ends when analyzer readings have stabilized (less than 5%/minute change in emission concentration). Emission concentrations shall be recorded at least once every 30 seconds during testing. All test data collected following the ramp-up phase(s) shall be reported to SWCAA. Alternative testing methods may be utilized provided pre-approval is obtained from SWCAA.

Appendix A
Performance Monitoring Requirements
Hot Water Heater

3. Minimum Quality Assurance/Quality Control Measures (continued):

If the test results from any monitoring event indicate that emission concentrations may exceed 60 ppmvd NO_x @ 3% O₂ or 220 ppmvd CO @ 3% O₂, the permittee shall either perform 60 minutes of additional monitoring to more accurately quantify CO and NO_x emissions, or initiate corrective action. Additional testing or corrective action shall be initiated as soon as practical but no later than three days after the potential exceedance is identified. Corrective action includes tuning, maintenance by service personnel, limitation of boiler load, or other action taken to maintain compliance with permitted limits. Monitoring of unit emissions must be conducted within three days following completion of any corrective action to confirm that the corrective action has been effective. Corrective action shall be pursued until observed emission concentrations no longer exceed 60 ppmvd NO_x or 220 ppmvd CO, corrected to 3% O₂. Initiation of corrective action does not shield the permittee from enforcement actions by SWCAA.

4. Reporting:

- a. All monitoring results shall be recorded at the facility and reported to SWCAA. The following information shall be included in the report:
 - (1) Time and date of the emissions evaluation;
 - (2) Identification of the personnel involved;
 - (3) A summary of results, reported in units consistent with the applicable emission standard(s) or limit(s);
 - (4) A summary of equipment operating conditions;
 - (5) A description of the evaluation methods or procedures used including all field data, quality assurance/quality control procedures and documentation; and
 - (6) Analyzer response check documentation.
- b. Performance monitoring test results shall be corrected to 3% O₂.
- c. Monitoring results shall be reported to SWCAA within 15 calendar days of test completion.

Southwest Clean Air Agency Combustion Equipment Monitoring Data Sheet

Company Name: _____ Date: _____

Emission Unit Identification (Boiler B-1, etc): _____

Make of Emission Unit: Sioux

Model of Emission Unit: _____

Serial Number of Emission Unit: _____

Company Performing Test: _____

Analyst: _____

Make of Instrument(s) Used: _____

Model of Instrument(s) Used: _____

Permitted NO_x Concentration 60 ppm @ 3 % O₂ Permit Number: 09-2895

Permitted CO Concentration 220 ppm @ 3 % O₂ Permit Number: 09-2895

Target/Permitted O₂/CO₂ concentration (%) _____ Permit Number: _____

Span Gas (as applicable) ⁽¹⁾	Span Gas Concentration	Pre-Test Span Gas Reading	Post-Test Span Gas Reading ⁽²⁾	Pre-Test Zero Reading	Post-Test Zero Reading ⁽²⁾
NO _(x)					
NO ₂ ⁽⁴⁾					
CO					
O ₂					

Time of Pre-Test Analyzer Response Check ⁽³⁾: _____

Time of Post-Test Analyzer Response Check ⁽³⁾: _____

⁽¹⁾ The span gas concentration must not be less than 50% of the target/permitted pollutant concentration nor more than 200% of the target/permitted pollutant concentration. A lower concentration span gas may be used if it is more representative of measured concentrations.

⁽²⁾ The analyzer response check is failed if the difference between the pre-test and post-test response checks is greater than 10% of the known span gas value.

⁽³⁾ No more than 12 hours may elapse between the pre-test and post-test analyzer response checks.

⁽⁴⁾ Calibration and use of an NO₂ cell is required if significant quantities of NO₂ are expected (i.e. after specific catalysts, afterburners, etc.) and if no NO₂→NO converter is integral or used in conjunction with the combustion analyzer.

Fuel Flow Rate/Unit Load During Monitoring: Start: _____ End: _____

Fuel Type: _____
 Stack Temperature: _____ °F
 Moisture: _____ %
 Firing Rate: _____ MMBtu/hr
 Firing Rate: _____ %
 Steam Rate: _____ 1,000 lb/hr
 Analyzer Probe Location: _____

Source Operation Notes: Please note the operating conditions of the source including unit load, fuel flow, damper position, oxygen set point, use of flue gas recirculation, steam pressure, afterburner temperature, etc. as applicable:

Southwest Clean Air Agency Combustion Equipment Monitoring Data Sheet

Emissions Data Summary

Test Start Time: _____

Test Stop Time: _____

(Record at least 5 minutes of data)

Time (min)	NO _x Reading (ppm)	NO ₂ Reading (if applicable) (ppm)	CO Reading (ppm)	O ₂ Reading (%)
00:00				
00:30				
01:00				
01:30				
02:00				
02:30				
03:00				
03:30				
04:00				
04:30				
05:00				
05:30				
06:00				
06:30				
07:00				
07:30				
08:00				
08:30				
09:00				
09:30				
10:00				
Average				
Corrected				

Please correct the average pollutant concentrations to the appropriate oxygen or carbon dioxide basis listed on page 1. Use the following equation to correct to a specific oxygen concentration:

$$\text{Corrected concentration} = (C - C_o) \left(\frac{C_{ma}}{C_m - C_o} \right) \left(\frac{20.9 - X\%O_2}{20.9 - Y\%O_2} \right) \quad \text{Where:}$$

C = Average analyzer gas response

C_o = Average initial and final analyzer zero check response (note: C_o=0 if analyzer is zeroed)

C_{ma} = Actual span gas known value

C_m = Average of initial and final analyzer span check response

X = Oxygen percentage for which concentration will be corrected to

Y = Average analyzer oxygen response

Notes: _____



Southwest Clean Air Agency

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www.swcleanair.org

State Environmental Policy Act

DETERMINATION OF NONSIGNIFICANCE (DNS)

Description of proposal:

Air Discharge Permit Application CO-886: The proponent has applied for an Air Discharge Permit to add a 315 horsepower diesel-fired emergency generator engine to a portable concrete batch plant and convert a diesel-fired hot water heater to fire propane. This facility will produce emissions of dust from plant operation, truck traffic and material handling and emissions from the combustion of propane in the hot water heater and diesel in the diesel-fired emergency generator engine. At the emission levels proposed, this equipment will not have a significant adverse impact on ambient air quality. This permitting action is not expected to have any effect on traffic, noise, glare, housing, or recreation opportunities.

Proponent:

Knife River – Kelso Ready Mix (Mr. Jeff Steyaert)

Location of proposal, including street address if any:

Portable – initially to be located at:
2224 Talley Way
Kelso, WA 98626

Lead agency: Southwest Clean Air Agency

The lead agency for this proposal has determined that it does not have a probable significant impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.



There is no comment period for this DNS.



This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 15 days from the date below. Comments must be submitted by _____.

Responsible official: Paul T. Mairose, P.E.

Position/title: Chief Engineer

Address: Southwest Clean Air Agency
11815 NE 99th Street, STE 1294
Vancouver, WA 98682-2454

Phone: (360) 574-3058 ext. 30

Signature: _____

Paul T. Mairose

Date: 10/6/09

