

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

IN THE MATTER OF APPROVING A NEW ) PRELIMINARY  
 AIR CONTAMINANT SOURCE FOR ) DETERMINATION  
 SGL COMPOSITES, LLC )  
 LINES 1-6 )  
 MOSES LAKE, WA )

TO: Dennis Henline  
 SGL Composites, LLC  
 8781 Randolph Road NE  
 Moses Lake, WA 98837

The following equipment has been evaluated in this Approval Order:

<b>Equipment Associated with Lines 1-6</b>	
<b>Unit ID</b>	<b>Equipment Description</b>
Lines 1-6 PPOS0	Fifty, Portable Pre-Oxidation Splicing Ovens
FWP1	454 BHP Natural Gas-Fueled Internal Combustion Fire Water Pump Engine
FWP2	454 BHP Natural Gas-Fueled Internal Combustion Fire Water Pump Engine
<b>Line 1</b>	
Line1001	Oxidation Oven
Line1002	Oxidation Oven
Line1003	Oxidation Oven
Line1004	Oxidation Oven
Line1RTO	Regenerative Thermal Oxidizer
L1RTOHTR1	8.4 MMBtu/hr Natural Gas RTO Preheater
L1RTOHTR2	8.4 MMBtu/hr Natural Gas RTO Preheater
Line1F1	Carbonization Furnace
Line1F2	Carbonization Furnace
Line1SCR	Selective Catalytic Reduction
Line1SCRHTR	4.6 MMBtu/hr Natural Gas SCR Preheater
Line1TO	Thermal Oxidizer
L1TOHTR	4 MMBtu/hr Natural Gas TO Preheater
L1EG1	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
L1EG2	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
L1EG3	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
L1EG4	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
L1EG5	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
<b>Line 2</b>	
Line2001	Oxidation Oven
Line2002	Oxidation Oven

<b>Equipment Associated with Lines 1-6</b>	
<b>Unit ID</b>	<b>Equipment Description</b>
Line2003	Oxidation Oven
Line2004	Oxidation Oven
Line2RTO	Regenerative Thermal Oxidizer
L2RTOHTR1	8.4 MMBtu/hr Natural Gas RTO Preheater
L2RTOHTR2	8.4 MMBtu/hr Natural Gas RTO Preheater
Line2F1	Carbonization Furnace
Line2F2	Carbonization Furnace
Line2SCR	Selective Catalytic Reduction
Line2SCRHTR	4.6 MMBtu/hr Natural Gas SCR Preheater
Line2TO	Thermal Oxidizer
L2TOHTR	4 MMBtu/hr Natural Gas TO Preheater
L2EG1	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
L2EG2	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
L2EG3	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
L2EG4	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
L2EG5	454 BHP Natural Gas-Fueled Internal Combustion Emergency Power Engine
<b>Line 3</b>	
Line3001	Oxidation Oven
Line3002	Oxidation Oven
Line3003	Oxidation Oven
Line3004	Oxidation Oven
Line3RTO	Regenerative Thermal Oxidizer
L3RTOHTR1	8.4 MMBtu/hr Natural Gas RTO Preheater
L3RTOHTR2	8.4 MMBtu/hr Natural Gas RTO Preheater
Line3F1	Carbonization Furnace
Line3F2	Carbonization Furnace
Line3SCR	Selective Catalytic Reduction
Line3SCRHTR	4.6 MMBtu/hr Natural Gas SCR Preheater
Line3TO	Thermal Oxidizer
L3TOHTR	4 MMBtu/hr Natural Gas TO Preheater
L3EG	2,937 BHP Compression/Ignition Diesel-Fueled Emergency Power Engine
<b>Line 4</b>	
Line4001	Oxidation Oven
Line4002	Oxidation Oven
Line4003	Oxidation Oven
Line4004	Oxidation Oven
Line4RTO	Regenerative Thermal Oxidizer
L4RTOHTR1	8.4 MMBtu/hr Natural Gas RTO Preheater
L4RTOHTR2	8.4 MMBtu/hr Natural Gas RTO Preheater
Line4F1	Carbonization Furnace
Line4F2	Carbonization Furnace
Line4SCR	Selective Catalytic Reduction

<b>Equipment Associated with Lines 1-6</b>	
<b>Unit ID</b>	<b>Equipment Description</b>
Line4SCRHTR	4.6 MMBtu/hr Natural Gas SCR Preheater
Line4TO	Thermal Oxidizer
L4TOHTR	4 MMBtu/hr Natural Gas TO Preheater
L4EG	2,937 BHP Compression/Ignition Diesel-Fueled Emergency Power Engine
<b>Line 5</b>	
Line5001	Oxidation Oven
Line5002	Oxidation Oven
Line5003	Oxidation Oven
Line5004	Oxidation Oven
Line5RTO	Regenerative Thermal Oxidizer
L5RTOHTR1	8.4 MMBtu/hr Natural Gas RTO Preheater
L5RTOHTR2	8.4 MMBtu/hr Natural Gas RTO Preheater
Line5F1	Carbonization Furnace
Line5F2	Carbonization Furnace
Line5SCR	Selective Catalytic Reduction
Line5SCRHTR	4.6 MMBtu/hr Natural Gas SCR Preheater
Line5TO	Thermal Oxidizer
L5TOHTR	4 MMBtu/hr Natural Gas TO Preheater
L5EG	2,937 BHP Compression/Ignition Diesel-Fueled Emergency Power Engine
<b>Line 6</b>	
Line6001	Oxidation Oven
Line6002	Oxidation Oven
Line6003	Oxidation Oven
Line6004	Oxidation Oven
Line6RTO	Regenerative Thermal Oxidizer
L6RTOHTR1	8.4 MMBtu/hr Natural Gas RTO Preheater
L6RTOHTR2	8.4 MMBtu/hr Natural Gas RTO Preheater
Line6F1	Carbonization Furnace
Line6F2	Carbonization Furnace
Line6SCR	Selective Catalytic Reduction
Line6SCRHTR	4.6 MMBtu/hr Natural Gas SCR Preheater
Line6TO	Thermal Oxidizer
L6TOHTR	4 MMBtu/hr Natural Gas TO Preheater
L6EG	2,937 BHP Compression/Ignition Diesel-Fueled Emergency Power Engine

The following operating modes are addressed in this Approval Order:

**Start-up Mode:** Start-up mode has two periods. The first period is defined as the period of time when the ovens are heating up, but have not reached the off-gas reaction temperature of 220°C. No emissions are generated from the ovens or furnaces during this period. The second period is defined as the period of time when the ovens have exceeded the off-gas reaction temperature of 220°C, and process emissions are controlled by the RTOs, but the ovens are not yet to the process recipe temperature or speeds. Heating the ovens to the recipe temperature is a critical

process that is completed in multiple increments over a five to six-hour period. Emissions during this period are less than Normal Operation Mode and are monitored by the CERMS at each mainline stack. During start-up mode, the oxidized carbon fibers from the ovens do not go through the furnaces for carbonization. These oxidized carbon fibers go into boxes as waste. There are no restrictions on operation in this mode.

Normal Operation Mode: For each of the Lines 1-6, fans pull emissions from the four oxidation ovens and direct them to the RTO where the polyacrylonitrile oxidation reaction byproducts are oxidized before exhausting through a selective catalytic reduction (SCR) unit installed to reduce NO<sub>x</sub> emissions and the 115-foot main line stack. The SCR has an associated natural gas preheater with a rated capacity of 4.6 million British thermal units per hour (MMBtu/hr). CERMS are installed on the Lines 1-6 main line stacks to measure NO<sub>x</sub> emissions. The RTO has associated natural gas preheater with a rated capacity of 8.4 MMBtu/hr. Each line also has a backup RTO bed with its own 8.4 MMBtu/hr natural gas preheater.

Lines 1-6 each have two furnaces with emissions routed to a TO that uses water injection to reduce NO<sub>x</sub> formation before exhausting through the main line stack. The TO also has a 4 MMBtu/hr natural gas heater. During this mode, an online tube cleaner will operate to maintain clean heat transfer surfaces in the waste heat recovery boilers associated with each TO.

RTO Bypass Mode: Emissions from the oxidation ovens bypass the RTO and the SCR, for Lines 1-6, and exhaust directly to the main line stack. Emissions from Lines 1-6 furnaces are the same as in Normal Operation Mode.

SCR Bypass Mode: For Lines 1-6, emissions from the ovens are routed through the RTO and either bypass the SCR directly into the main line stack, or continue to be routed through the SCR (when it is not functional) into the main line stack. Furnace emissions during SCR Bypass Mode will continue to be routed through the TO and pass directly to the main line stack. Furnace emissions are the same as in Normal Operation Mode. Only one line may be in SCR Bypass Mode at a time. NO<sub>x</sub> emissions from the main line stack will continue to be measured by the CERMS.

Shutdown Mode: Lines 1-6, fans are used to increase air flow and reduce temperature of the oxidation ovens. For Lines 2-6, approximately 78 percent of the emissions are routed to the shutdown stacks above the oxidation ovens (one stack for each oven), bypassing the RTO (and SCR for Lines 1-6), and NO<sub>x</sub> CERMS. The remaining 22 percent of emissions are routed to the RTO and SCR (for Lines 1-6) and NO<sub>x</sub> CERMS as they would during Normal Operations Mode. Line 1 does not have shutdown stacks located above the oxidation ovens, and all of the shutdown emissions are routed to the main line stack and are measured by the NO<sub>x</sub> CERMS. Furnace emissions are the same as in Normal Operation Mode.

Standby Mode: Emissions during Standby Mode are from the TO and RTO natural gas-fired heaters (one 4.0 MMBtu/hr and Two 8.4 MMBtu/hr, respectively) which are operated at a low firing rate to keep the TO and RTO warm. The oxidation ovens and Lines 1-6 SCRs are not operational. There are no restrictions on operation in this mode.

## **DETERMINATIONS**

In relation to the above equipment and the evaluation outlined in the Technical Support Document associated with this Order, the Department of Ecology, State of Washington, pursuant to Revised Code of Washington (RCW) 70.94.152, and WAC 173-400-110, and WAC 173-460-040, makes the following determinations:

- The proposed 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 locations proposed, will not result in ambient air quality standards being exceeded.
- The proposed projects, if constructed and operated as herein required, will provide all known, available and reasonable methods of emission control.

**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. This Approval Order No. 19AQ-E002 rescinds and replaces Approval Order No. 15AQ-E636.

## **2. FACILITY-WIDE REQUIREMENTS**

- a. All pollution control and monitoring equipment, including the RTO, TO with water injection, as well as the CERMS NO<sub>x</sub> monitoring system shall be installed and operation upon start-up of each line. Start-up is defined as the first day that carbon fiber is produced for qualification testing. If qualification testing is not performed, start-up is defined as the first day carbon fiber is produced. Ecology shall be notified in writing in advance of the start-up of each production line and of the commissioning period of each emergency engine.
- b. Lines 1-6 must have SCR units installed and operational upon start-up of each line.
- c. Pollution control equipment such as RTOs, TOs, and SCR units must be operated at all times the associated line is running except as identified in Approval Condition 4.
- d. No more than fifty portable pre-oxidation splicing ovens are allowed on-site.

## **3. CONSTRUCTION**

- a. A construction extension for Line 6 has been granted until September 30, 2019.

## **4. PRODUCTION LINES OPERATING MODES AND LIMITATIONS**

- a. Start-up Mode: There are no limitations of operation in this mode. Records of hours of operation in Start-up Mode will be recorded as Normal Operation Mode as per Approval

Condition 9.

- b. Normal Operation Mode: There are no limitations of operation in this mode. Records of hours of operation must be kept as per Approval Condition 9.
- c. Shutdown Mode: Shutdown Mode from Lines 1-6 is limited to 90 seconds per occurrence and 9.13 hours per 12-month rolling period for each line. Records of hours of operation in Shutdown Mode must be kept as per Approval Condition 9.
- d. RTO Bypass Mode: RTO Bypass Mode is limited to a combined total from Lines 1-2 of 1½ hours per calendar day and for each line, a total of 4½ hours per 12-month rolling period. RTO Bypass Mode is limited to a combined total from Lines 3-6 of 1½ hours per calendar day and for each line, a total of 4½ hours per 12-month rolling period. Records of daily, monthly, and 12-month rolling period must be kept as per Approval Condition 9.
- e. SCR Bypass Mode: Operation of Lines 1-6 in SCR Bypass Mode is limited to 100 hours in any 12-month rolling period. No more than one line may operate in SCR Bypass Mode at the same time. Records of hours of operation in SCR Bypass Mode shall be kept as per Approval Condition 9.
- f. Standby Mode: There are no limitations of operation in this mode. Records of hours of operation in Standby Mode must be kept as per Approval Condition 9.

**5. EMERGENCY OPERATIONS AND LIMITATIONS**

- a. The four diesel-fueled emergency power generators (L3EG, L4EG, L5EG, and L6EG) are limited to an aggregate of 72 hours of operation in any 12-month rolling period. During reliability and performance testing, no more than one generator engine may operate concurrently. Records of hours of operation must be kept for each generator in accordance with Approval Condition 9.
- b. Operation of the 10 natural gas-fueled emergency power generators (L1EG1, L1EG2, L1EG3, L1EG4, L1EG5, L2EG1, L2EG2, L2EG3, L2EG4, and L2EG5) is limited to an aggregate of 340 hours per 12-month rolling period for maintenance, testing, and emergency operation. Records of hours of operation must be kept for each generator in accordance with Approval Condition 9.
- c. Operation of the two natural gas-fueled fire water pump engines (FWP1 and FWP2) is limited to an aggregate of 76 hours per 12-month rolling period for maintenance, testing, and emergency operation. Records of hours of operation must be kept for each fire water pump in accordance with Approval Condition 9.
- d. A non-resettable hour meter shall be installed on each emergency power generator and emergency fire water pump engine.

- e. All diesel-fueled compression ignition engines must be fueled by ultra-low sulfur diesel fuel with a sulfur content of no more than 0.0015 percent by weight. Records must be kept for each diesel-fueled compression ignition engine in accordance with Approval Condition 9.

**6. EMISSION LIMITS**

- a. Emissions from each main line stack are limited to the following when operating in Normal Operation Mode.

Normal Operation Mode Emissions	
Pollutant	Emission Limit (lb/hr, One hour average)
Nitrogen Oxides, NO <sub>x</sub>	8.5
Carbon Monoxide, CO	1.3
Sulfur Dioxide, SO <sub>2</sub>	0.7
Particulate Matter, PM <sub>10</sub> /PM <sub>2.5</sub>	3.0
Volatile Organic Compounds, VOC (as propane)	1.7
Acrylonitrile, C <sub>3</sub> H <sub>3</sub> N	0.0056
Ammonia, NH <sub>3</sub>	3.0
Hydrogen Cyanide, HCN	1.4

- b. Emissions from each main line stack are limited to the following when operating in SCR Bypass Mode.

SCR Bypass Mode Emissions	
Pollutant	Emission Limit (lb/hr, One hour average)
Nitrogen Oxides, NO <sub>x</sub>	17.9
Carbon Monoxide, CO	1.3
Sulfur Dioxide, SO <sub>2</sub>	0.7
Particulate Matter, PM <sub>10</sub> /PM <sub>2.5</sub>	2.0
Volatile Organic Compounds, VOC (as propane)	1.7
Acrylonitrile, C <sub>3</sub> H <sub>3</sub> N	0.0056
Ammonia, NH <sub>3</sub>	0.60
Hydrogen Cyanide, HCN	1.4

- c. Emissions from each line stack are limited to the following when operating in Shutdown Mode.

Shutdown Mode Emissions	
Pollutant	Emission Limit (lb/hr, One hour average)
Nitrogen Oxides, NO <sub>x</sub>	8.5
Carbon Monoxide, CO	1.3
Sulfur Dioxide, SO <sub>2</sub>	0.7
Particulate Matter, PM <sub>10</sub> /PM <sub>2.5</sub>	3.0
Volatile Organic Compounds, VOC (as propane)	5.7 for Line 1 7.1 for Lines 2-6
Acrylonitrile, C <sub>3</sub> H <sub>3</sub> N	0.10 for Line 1 0.14 for Lines 2-6
Ammonia, NH <sub>3</sub>	8.3 for Line 1 10.0 for Lines 2-6
Hydrogen Cyanide, HCN	18.0 for Line 1 23.6 for Lines 2-6

- d. Emissions from each main stack are limited to the following when operating in RTO Bypass Mode.

RTO Bypass Mode Emissions	
Pollutant	Emission Limit (lb/hr, One hour average)
Nitrogen Oxides, NO <sub>x</sub>	8.5
Carbon Monoxide, CO	1.3
Sulfur Dioxide, SO <sub>2</sub>	0.7
Particulate Matter, PM <sub>10</sub> /PM <sub>2.5</sub>	2.0
Volatile Organic Compounds VOC (as propane)	8.6
Acrylonitrile, C <sub>3</sub> H <sub>3</sub> N	0.17
Ammonia NH <sub>3</sub>	9.6
Hydrogen Cyanide, HCN	30.0

- e. Each of the twelve 454 bhp internal combustion natural gas-fired emergency engines and fire water pump (L1EG1, L1EG2, L1EG3, L1EG4, L1EG5, L2EG1, L2EG2, L2EG3, L2EG4, L2EG5, FWP1 and FWP2) must use the emission limits in the following table to quantify emissions:



454 BHP Natural Gas Emergency Engine Emissions	
Pollutant	Emission Limit (lb/hr, One hour average)
Nitrogen Oxides, NO <sub>x</sub>	2.00
Carbon Monoxide, CO	4.00
Sulfur Dioxide, SO <sub>2</sub>	0.003
Particulate Matter (PM <sub>10</sub> /PM <sub>2.5</sub> )	0.08
Volatile Organic Compounds, VOC	1.00

- f. Emissions from each of the four 2,937 bhp compression ignition diesel-fueled emergency power engines (L3EG, L4EG, L5EG, and L6EG) must not exceed the emission limits listed in the table below unless in engine Start-up Mode. The following table lists the limits to use when quantifying diesel engine in Normal Operation Mode.

2,937 BHP Diesel Emergency Engine Emissions	
Pollutant	Emission Limit (g/hp-hr)
Nitrogen Oxides, NO <sub>x</sub>	0.75
Carbon Monoxide, CO	0.54
Sulfur Dioxide, SO <sub>2</sub>	1.2x10 <sup>-5</sup> lb/hp-hr
Diesel Engine Exhaust Particulate (PM <sub>10</sub> /PM <sub>2.5</sub> )	0.034
Volatile Organic Compounds, VOC	0.18

- g. Diesel engine Start-up Mode is defined as and limited to the first 10 minutes of operation. The following table lists the emission factors to use when quantifying diesel engine Start-up Mode emissions from each of the four 2,937 bhp compression ignition diesel-fueled emergency power engines (L3EG, L4EG, L5EG, and L6EG).

2,937 BHP Diesel Emergency Engine Start-up Mode Emissions	
Pollutant	Emission Limits (g/hp-hr)
Nitrogen Oxides, NO <sub>x</sub>	6.8
Carbon Monoxide, CO	3.3
Sulfur Dioxide, SO <sub>2</sub>	1.2x10 <sup>-5</sup> lb/hp-hr
Diesel Engine Exhaust Particulate (PM <sub>10</sub> /PM <sub>2.5</sub> )	0.034
Volatile Organic Compounds, VOC	0.18

- h. Aggregate emissions from Lines 1 through 6 and support equipment shall not exceed the following:

Facility-Wide Allowable Emissions	
Pollutant	Emission Limit
Nitrogen Oxides, NO <sub>x</sub>	90 tons per 12-month rolling period
Carbon Monoxide, CO	37 tons per 12-month rolling period
Sulfur Dioxide, SO <sub>2</sub>	19 tons per 12-month rolling period
Particulate Matter, PM <sub>10</sub> /PM <sub>2.5</sub>	80 tons per 12-month rolling period
Volatile Organic Compounds, VOC	45 tons per 12-month rolling period
Acrylonitrile, C <sub>3</sub> H <sub>3</sub> N	306.2 pounds per 12-month rolling period
Ammonia, NH <sub>3</sub>	458 pounds per day
Hydrogen Cyanide, HCN	287 pounds per day

## 7. TESTING REQUIREMENTS

- a. Within 180 days of start-up of Lines 6, SGL shall performance test each main line stack in accordance with 40 CFR 60.8 (except that Administrator shall mean Director of Ecology) to demonstrate compliance with the emission limits in Approval Condition 6.
- b. Within 12 months of the first diesel engine’s installation, May 23, 2014, and every 60 months thereafter, SGL must measure emissions of Diesel Engine Exhaust Particulate (DEEP) from at least one representative engine’s exhaust stack. The testing will serve to demonstrate compliance with the emission limit contained in Approval Condition 6.f and as an indicator of proper operation of the engines. The selection of the engine(s) to be tested must be subject to prior approval of Ecology and must be defined in the source test protocol submitted to Ecology no less than 30 days in advance of any compliance-related stack sampling conducted by SGL.
- c. The following testing is required to demonstrate compliance with the emission limits in Approval Condition 6 for each production line while operating in Normal Operation Mode and each diesel engine.

Performance and Compliance Testing			
Pollutant	Test Method	Initial Performance Test	Ongoing Compliance Test Frequency
NO <sub>x</sub>	40 CFR 60 Appendix A Method 7E or 40 CFR 63 Appendix A Method 320	Required within 180 days of start-up.	Annually
PM <sub>2.5</sub>	40 CFR 60 Appendix A Method 5m or Method 201A and Method 202	Required within 180 days of start-up.	Every 2 years
PM <sub>10</sub>	40 CFR 60 Appendix A Method 5m or Method 201A and Method 202	Required within 180 days of start-up.	Every 2 years

VOC	40 CFR 60 Appendix A Method 25A	Required within 180 days of start-up.	Annually
CO	40 CFR 60 Appendix A Method 10 or 40 CFR 63 Appendix A Method 320	Required within 180 days of start-up.	Not required
SO <sub>2</sub>	40 CFR 60 Appendix A Method 6 or 6C or 40 CFR 63 Appendix A Method 320	Required within 180 days of start-up.	Not required
Acrylonitrile	EPA Method TO-15 or an Ecology-approved equivalent	Required within 180 days of start-up.	Quarterly
HCN	EPA Method CTM-033, EPA Method 320, or and Ecology-approved equivalent	Required within 180 days of start-up.	Annually
NH <sub>3</sub>	BAAQMD ST-1B-1, EPA Method 320, or an Ecology-approved equivalent	Required within 180 days of start-up.	Annually
DEEP – emergency engines	40 CFR 60 Appendix A Method 5; All testing must be performed in excess of 70% engine load.	One representative engine within 12 months of the first engine commissioning.	One engine every five years thereafter. <sup>1</sup>
<sup>1</sup> A different engine must be tested until each of the engines have been compliance tested.			

- d. Testing shall be performed at the times and frequencies specified in this Approval Order. A request to change compliance test frequency may be submitted by SGL once they have demonstrated compliance in previous tests with stable emissions below all authorized limits. Requests to change compliance test frequency must be submitted in writing, and approved in writing by Ecology.
- e. Testing shall utilize the test methods identified in Approval Condition 7.c unless an alternative method is requested by the permittee and approved by Ecology in writing.
- f. Testing Logistics: The permittee shall provide testable emission points, sampling ports, safe access to sampling points and ports, and utilities for sampling and testing.
- g. Throughput during Testing: During testing, the process shall be operated at a minimum of ninety percent (90%), except as noted in Approval Condition 7.c above, of rated line capacity for process lines with less than 12 months operating history, or 90 to 110 percent of the maximum daily process rate recorded during the preceding 12-month period for lines operated for 12 months or more. Operation of the process during testing outside of the specified range may be proposed, but may result in an operational restriction that will be amended to this Approval Order. Records of operating history must be kept in accordance with Approval Condition 9.
- h. Submittal of Test Plan: A written test protocol that includes a description of the equipment to be tested, the process and control device operating information to be

collected during the test, and the sampling and analytical method(s) proposed, shall be submitted to Ecology at least 30 calendar days prior to the start of any required performance or compliance test.

- i. Notification of Inability to Conduct Test: If the permittee is unable to conduct any test as scheduled, Ecology shall be notified at least 24 hours before the test at the address listed in Approval Condition 10.b, or by telephone.
- j. Plant Operator during Testing: The plant process equipment shall be operated and controlled by normal plant operators during the period when the testers are on-site to conduct testing and during actual testing.
- k. Testing Results: The results of all initial performance testing and all other periodic testing shall be sent to Ecology at the address listed in Approval Condition 10.b. One copy of the completed test report shall be submitted to Ecology no later than 60 days after the last day of the testing, 75 days for EPA Reference Method 202 PM test reports.

## 8. MONITORING

SGL shall install and operate a CERMS on Lines 1 - 6 that measures actual NO<sub>x</sub> emission concentrations, emission rates, and stack flow rates during all operational modes (Normal Operations, RTO Bypass, SCR Bypass, Standby, and Shutdown). Note: Shutdown Mode for Line 2 - 6 is different than Line 1. See Approval Condition 9.c for the differences. The CERMS must meet the requirements of Performance Specifications 2 and 6 contained in 40 CFR Part 60, Appendix B, and quality control/quality assurance requirements of 40 CFR Part 60, Appendix F as in effect on March 10, 2015.

- a. The calibration drift test procedure must be performed prior to any automatic or manual adjustments made to the CERMS calibration or zero settings in accordance with Performance Specification 2, Section 6, 40 CFR Part 60, Appendix B.
- b. The CERMS on each line must meet the continuous emission monitoring system operating requirements contained in WAC 173-400-105(7) as in effect on March 10, 2015.
- c. Relative Accuracy Test Audits (RATA) shall be performed once every four calendar quarters and cylinder gas audits (CGA) shall be conducted in three of four calendar quarters on the CERMS for each line. The RATA and CGA shall be conducted in accordance with 40 CFR Part 60, Appendix B and Appendix F. The RATA must meet the testing requirements in Approval Conditions 7.d through 7.k. Data assessment reports as contained in Appendix F shall be submitted to Ecology quarterly.
- d. CERMS must be installed and operational upon start-up. CERMS must meet all applicable performance specifications within 45 days of start-up of each line as identified in Appendix B and Appendix F (see Approval Condition 8.c).

- e. The facility shall monitor, calculate as needed, and record actual instantaneous emission concentrations, and stack gas flow and actual instantaneous, hourly, monthly, and 12-month rolling mass emissions for each production line.

## 9. RECORDKEEPING

All required records shall be kept on-site and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period. The records to be kept shall include the following:

- a. Hourly, monthly, and 12-month rolling total records of Lines 1-6 NO<sub>x</sub> emissions in accordance with Approval Conditions 6.a and 6.h.
- b. NO<sub>x</sub> emissions during periods of CERMS non-operation for Lines 1-6 shall be calculated and included in monthly and 12-month rolling facility-wide totals.
- c. NO<sub>x</sub> emissions during Shutdown Mode for production Line 2-6 shall be the total of the calculated NO<sub>x</sub> value from the bypass stacks using an emission factor of 8.5 lb/hr (0.00236 lb/sec) plus the NO<sub>x</sub> as measured by the CERMS. For Line 1, all Shutdown Mode emissions shall be measured by the CERMS.
- d. Normal Operation Mode: Monthly and 12-month rolling records of operation in Normal Operation Mode must be kept for each line. Records of hours of operation in Start-up Mode will be recorded as Normal Operation Mode.
- e. Shutdown Mode: Daily records of the date and duration (in seconds) of operation in Shutdown Mode must be kept for each line. Daily records shall be used to calculate monthly and 12-month rolling time in Shutdown Mode for each line.
- f. RTO Bypass Mode: Daily records of the date, time, cause, and duration (in minutes) of operation in RTO Bypass Mode must be kept for each line. Daily records shall be used to calculate monthly and 12-month rolling total time in RTO Bypass Mode for each production line.
- g. SCR Bypass Mode: Daily records of the date, time, cause, and duration (in hours) of Lines 1-6 operating in SCR Bypass Mode must be kept for each line. Daily records shall be used to calculate monthly and 12-month rolling total time in SCR Bypass Mode for Lines 1-6. These records must also identify if more than one line is in SCR Bypass Mode at a time.
- h. Standby Mode: 12-month rolling records of operation in Standby Mode must be kept for each production line.
- i. Records of CERMS operations must be kept to demonstrate compliance with Approval Condition 8.d.

- j. NO<sub>x</sub> emissions from the natural gas-fired emergency engines and fire water pump engines (FWP1 & FWP2) shall be calculated using emission factors specified in Condition 6.e.
- k. Emissions of NO<sub>x</sub> from the eight 2,937 bhp diesel-fueled compression ignition emergency power engines must be calculated using the values contained in Approval Conditions 6.f and 6.g unless representative facility source test data is available.
- l. Daily, monthly, and 12-month rolling totals of the hours of operation for each diesel-fueled emergency power generator shall be kept, and monthly and 12-month rolling totals of the hours of operation for each natural gas-fueled emergency engine and fire water pump emergency engine shall be kept to demonstrate compliance with Approval Conditions 5.a, 5.b, and 5.c. Records must also identify if more than one diesel-fueled generator engines operate concurrently in reliability and performance testing modes.
- m. Records of sulfur content for each shipment of diesel fuel, based on bill of lading, must be kept.
- n. Monthly and 12-month rolling total emission records of acrylonitrile emissions shall be kept to demonstrate compliance with Approval Conditions 6.h.
- o. Compliance and performance test reports.
- p. Operation and Maintenance (O&M) records for the process and air pollution control equipment listed in Approval Condition 11.d.

## 10. REPORTING

- a. SGL shall submit semi-annual reports of facility-wide emissions for Lines 1-6 to demonstrate compliance with the emission limits identified in Approval Condition 6.h. The reports shall be submitted to Ecology every six months, by July 31, for the January through June reports and by January 31 for the July through December reports. These reports must include parameters used for calculating emissions, including duration for each line in operating modes other than Normal Operation Mode. The report must include:
  - i. The number of hours that each line operated during each month of the reporting period and the 12-month rolling emissions for each pollutant.
  - ii. The number of valid hours of monitoring data that each CERMS recovered during facility operation.

- iii. The date, time period, and cause of each failure to meet the data recovery requirements of Approval Condition 8.b and any actions taken to ensure adequate collection of such data.
  - iv. The date, time period, and cause of each failure to recover valid hourly monitoring data for at least 90 percent of the hours that each line operated each day.
  - v. The date, time period, and cause of each failure to recover valid hourly monitoring data for at least 95 percent of the hours that the equipment (required to be monitored) is operated during each calendar month except for periods of monitoring system downtime, provided that the owner or operator demonstrated that the downtime was not a result of inadequate design, operation, or maintenance, or any other reasonable preventable condition, and any necessary repairs to the monitoring system are conducted in a timely manner.
  - vi. The results of all cylinder gas audits conducted during the reporting period.
  - vii. A certification of truth, accuracy, and completeness signed by a responsible official of SGL Composites.
- b. Other reports shall be submitted within 30 days following the end of the calendar year, unless otherwise specified by Ecology, to the following address:

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

## 11. GENERAL CONDITIONS

- a. **Visible Emissions** – No visible emissions shall be allowed beyond the property line, as determined by opacity readings.
- b. **Commencing/Discontinuing Construction and/or Operations** – This Approval Order shall become invalid if construction of the equipment described in the NOC application is not commenced within 18 months after receipt of the Approval Order. If construction or operation of a portion or all of the equipment described in the NOC application is discontinued for a period of 18 months, the portion of the Approval Order regulating the inactive equipment shall become invalid. Ecology may extend the 18-month period upon a satisfactory showing that an extension is justified.
- c. **Compliance Assurance Access** – Access to the source by EPA or Ecology shall be allowed for the purposes of compliance assurance inspections. Failure to allow access is grounds for revocation of this Approval Order and enforcement under applicable regulations.
- d. **Availability of this Approval Order** – Legible copies of this Approval Order and the O&M manual(s) shall be available to employees in direct operation of the equipment

described in the NOC application and shall be available for review upon request by Ecology.

- e. **Equipment Operation** – Operation of the facility 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.
- f. **Activities Inconsistent with this Approval Order** – Any activity undertaken by the permittee or others, in a manner that is inconsistent with information in the NOC application or this Approval Order, shall be subject to Ecology enforcement under applicable regulations.
- g. **Obligations under Other Laws or Regulations** – Nothing in the Approval Order based on this preliminary determination 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 further 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 hereof.

Nothing in this approval order 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.

A two month testing and break-in period is allowed, after any part or portion of this project becomes operational, to make any changes or adjustments required to comply with applicable rules and regulations pertaining to air quality and conditions of operation imposed herein. Thereafter, any violation of such rules and regulations or of the terms of this approval shall be subject to the sanctions provided in Chapter 70.94 RCW.

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

- Violation of any terms or conditions of this authorization
- Obtaining this authorization by misrepresentation or failure to disclose fully all relevant facts.

The provisions of this approval order are severable and, if any provision of this authorization, or application of any provisions of this authorization to any circumstance, is held invalid, the application of such provision to their 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**

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

DATED at Spokane, Washington this    day of March, 2019.

PREPARED BY:

APPROVED BY:

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Jenny Filipy, P.E.  
Commercial/Industrial Unit  
Air Quality Program  
Eastern Regional Office

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David T. Knight  
Section Manager  
Air Quality Program  
Eastern Regional Office