

NOTICE OF CONSTRUCTION APPLICATION

Approval Order No. 23AQ-E026 Modification



SGL Composites LLC / Moses Lake Facility

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1 EXECUTIVE SUMMARY

SGL Composites LLC (SGL) owns and operates a carbon fiber plant located in Moses Lake, WA (the Moses Lake Facility). SGL is requesting to amend their existing Approval Order, 23AQ-E026, to allow for the use of the Line 5 polyacrylonitrile (PAN) with pure silicon finish raw material on Lines 1-4 and 6, in addition to the current PAN with fatty acid finish already used on Lines 1-6 for production of carbon fiber products.

SGL anticipates that the only pollutant that will increase as a result of the change to the silicon finish raw material is particulate matter (PM), specifically filterable particulate matter (PM_{fit}). There are no toxic air pollutant emissions resulting from this change, and the final total PM emissions are below the threshold for Prevention of Significant Deterioration (PSD). This report serves as the notice of construction (NOC) application for the proposed change.

In accordance with Washington regulations, a Best Available Control Technology (BACT) review has been performed for Lines 1-4 and 6 to verify the BACT determination originally approved in prior permits is still appropriate.

A qualitative air quality analysis (AQA) has been performed to demonstrate that no national ambient air quality standard (NAAQS) will be exceeded as a result of the change.

This NOC application includes the following elements:

- ▶ Section 2. Facility Description
- ▶ Section 3. Requested Permit Changes
- ▶ Section 4. Regulatory Review
- ▶ Appendix A: Application Form and Associated Documents
- ▶ Appendix B: Emission Calculations

2 FACILITY DESCRIPTION

SGL owns and operates the Moses Lake Facility located at 8781 Randolph Road NE, Moses Lake, Washington. SGL was issued PSD Permit 14-02 on April 13, 2015, for Lines 3-10,¹ and Final Approval Order No. 19AQ-E062 on September 5, 2019, to remove lines 7-10 from the permit and request a PSD synthetic minor limit. On May 10, 2021, SGL was issued Approval Order No. 21AQ-E004 which allowed for the use of a new pure silicon finish material on Line 5 in addition to the PAN with fatty acid finish material. SGL was later issued Approval Order No. 23AQ-E026 in May 2023 to update sampling protocols.

SGL is submitting this NOC application to allow for the use of the same pure silicon finish material permitted for Line 5 for the remaining production lines (1-4 and 6). As with Line 5, SGL proposes to use this silicon finish material in addition to the current PAN with fatty acid finish material used to develop carbon fiber products. The only change in emissions resulting from the proposed project would be an increase in PM, specifically PM_{fit}. The facility-wide potential to emit (PTE) for PM will not exceed 100 tons per year (tpy), therefore SGL will remain a minor source for PM. This section summarizes the emission sources at the Moses Lake Facility and the PTE for the Moses Lake Facility.

2.1 Production Lines 1 through 6

The Moses Lake Facility manufactures carbon fiber and began operation in 2012 with the installation of Line 1. Between 2013 and 2015, Lines 2, 3, 4, and 5 began operation. Line 6 was permitted as Phase 2 of construction.

Each carbon fiber production line consists of the following processes:

- ▶ Feed and pretension. This process involves feeding filaments of polyacrylonitrile (PAN) through a series of rollers to apply uniform tension. PAN is spliced together by joining the end of one box to the beginning of another with heat applied by the portable electric ovens (referred to as “pre-oxidation ovens”).
 - No additional pre-oxidation ovens will be required for this project. SGL may adjust roller size to accommodate the additional tows.
- ▶ Oxidation. The filaments of PAN are then heated in the electric oxidation ovens. In this step, the acrylonitrile molecules are cyclized and rearranged in a more stable bonding form.
 - Additional filterable PM on Lines 1-4 and 6 may be generated during this process with the pure silicon finish material.
- ▶ Carbonization. The fiber is then sent to a low-temperature furnace and a high-temperature furnace in an oxygen-free environment, to burn off non-carbon atoms.
 - Additional filterable PM on Lines 1-4 and 6 may be generated during this process with the pure silicon finish material.
- ▶ Surface treatment. During this stage, the surface of the fiber is slightly etched to give them better bonding properties. The fiber is treated with ammonium bicarbonate solution at the Moses Lake Facility, and then washed and dried with water.
- ▶ Sizing. A resin sizing coating is applied using a double-tip roller bath and squeegee, to improve handling and transportation of the fibers.
- ▶ Winding and packaging. The finished carbon fiber is spooled onto cardboard spools and wrapped for shipment.

¹ Lines 3-10 triggered PSD for nitrogen oxides (NO_x), particulate matter less than 10 microns and less than 2.5 microns (PM₁₀/PM_{2.5}), and volatile organic compounds (VOC).

Emissions are expected from the oxidation ovens, low-temperature furnace, and high-temperature furnace, and are controlled by the following devices:

- ▶ For each line, the oxidation ovens are controlled by a Regenerative Thermal Oxidizer (RTO) followed by a Selective Catalyst Reactor (SCR). There is also a second RTO serving as a backup. Each RTO has an 8.4 MMBtu/hr natural gas-fired preheater. The SCR has a 4.6 MMBtu/hr natural gas-fired preheater.
- ▶ For each line, the low-temperature furnace and the high-temperature furnace are controlled by a thermal oxidizer (TO), equipped with a 4 MMBtu/hr natural gas-fired preheater.

2.2 Emergency Generators and Fire Pumps

No changes to emergency generator or fire pump operation are required as a result of the proposed project.

2.3 Project Emissions

Emissions for the proposed project are calculated using source testing conducted for the new silicon finish raw material. PM_{filt} emissions are expected to increase as a result of this project. Further, emissions from all six lines are impacted as a result of this project. Table 2-1 summarizes the new emission factor and calculated PM emission rates for each individual line.

Table 2-1. Proposed Individual Line Hourly Emission Rates

Pollutant	New Emission Factors ^{a, b} (lb/hr)	Hourly Emissions (lb/hr)				
		Normal Operation	SCR Bypass	RTO Shutdown	RTO Bypass	Maximum Hourly
PM _{filt}	2.28	2.28	2.28	2.28	2.28	2.28
PM ₁₀ (filt. and cond.)	3.48	3.48	3.48	3.48	3.48	3.48
PM _{2.5} (filt. and cond.)	3.36	3.36	3.36	3.36	3.36	3.36

a. The proposed emission factors apply a safety factor of 20% to the maximum source test value.

PM, PM₁₀, and PM_{2.5} emission factors for all operating scenarios are conservatively based on PM sampling of normal operation on the Line 5 silicon production line at the Moses Lake facility in 2023. Detailed emission calculations are provided in Appendix B. The proposed PM emission factors are conservatively used to represent PM emissions during all operating modes. Emissions for Lines 1-4 and 6 will increase from the use of the new silicon finish and are shown below in Table 2-1, Table 2-3, and Table 2-4. The 2023 source test resulted in PM emission rates that are lower than those initially proposed for Line 5. The Line 5 emission rates decrease as a result of this update and are presented in Table 2-5. Table 2-6 displays the total project emissions calculations.

Table 2-2. Proposed Line 1 Annual Emissions and Project Emissions

Pollutant	Proposed Line 1 Annual Emissions ^a (tpy)					Existing Line 1 Emissions (tpy)	Project Emissions Increase (tpy)
	Normal Operation	SCR Bypass	RTO Shutdown	RTO Bypass	Total ^b		
PM _{fit}	9.99	0.11	0.01	0.01	9.99	4.82	5.17
PM ₁₀	15.24	0.17	0.02	0.01	15.24	13.14	2.10
PM _{2.5}	14.72	0.17	0.02	0.01	14.72	13.14	1.58

- a. Annual emissions are calculated using a conservative assumption of 8,760 hours of operation per year.
- b. Because proposed potential emissions during Normal Mode are not limited below 8,760, proposed annual emissions during alternate modes are only accounted for as the net increase above Normal Mode emission rates during the allowed time period. Apart from NO_x emissions during SCR Bypass mode and VOC emissions during RTO Shutdown and RTO Bypass, no other pollutant is emitted in rates that exceed those during Normal Mode. Therefore, total PM emissions are assumed to be that of 8,760 hours of Normal Mode operation.

Table 2-3. Proposed Line 2 Annual Emissions and Project Emissions

Pollutant	Proposed Line 2 Annual Emissions ^a (tpy)					Existing Line 2 Emissions (tpy)	Project Emissions Increase (tpy)
	Normal Operation	SCR Bypass	RTO Shutdown	RTO Bypass	Total ^b		
PM _{fit}	9.99	0.11	0.01	0.01	9.99	4.82	5.17
PM ₁₀	15.24	0.17	0.02	0.01	15.24	13.14	2.10
PM _{2.5}	14.72	0.17	0.02	0.01	14.72	13.14	1.58

- a. Annual emissions are calculated using a conservative assumption of 8,760 hours of operation per year.
- b. Because proposed potential emissions during Normal Mode are not limited below 8,760, proposed annual emissions during alternate modes are only accounted for as the net increase above Normal Mode emission rates during the allowed time period. Apart from NO_x emissions during SCR Bypass mode and VOC emissions during RTO Shutdown and RTO Bypass, no other pollutant is emitted in rates that exceed those during Normal Mode. Therefore, total PM emissions are assumed to be that of 8,760 hours of Normal Mode operation.

Table 2-4. Proposed Lines 3, 4, and 6 Annual Emissions and Project Emissions

Pollutant	Proposed Lines 3, 4, and 6 Annual Emissions ^a (tpy)					Existing Lines 3, 4, & 6 Emissions (tpy)	Project Emissions Increase (tpy)
	Normal Operation	SCR Bypass	RTO Shutdown	RTO Bypass	Total ^b		
PM _{fit}	29.96	0.34	0.03	0.02	29.96	14.45	15.51
PM ₁₀	45.73	0.52	0.05	0.02	45.73	39.42	6.31
PM _{2.5}	44.15	0.50	0.05	0.02	44.15	39.42	4.73

- a. Annual emissions are calculated using a conservative assumption of 8,760 hours of operation per year.
- b. Because proposed potential emissions during Normal Mode are not limited below 8,760, proposed annual emissions during alternate modes are only accounted for as the net increase above Normal Mode emission rates during the allowed time period. Apart from NO_x emissions during SCR Bypass mode and VOC emissions during RTO Shutdown and RTO Bypass, no other pollutant is emitted in rates that exceed those during Normal Mode. Therefore, total PM emissions are assumed to be that of 8,760 hours of Normal Mode operation.

Table 2-5. Proposed Line 5 Annual Emissions and Project Emissions

Pollutant	Proposed Line 5 Annual Emissions ^a (tpy)					Existing Line 5 Emissions (tpy)	Project Emissions Decrease (tpy)
	Normal Operation	SCR Bypass	RTO Shutdown	RTO Bypass	Total ^b		
PM _{fit}	9.99	0.11	0.01	0.01	9.99	15.72	-5.73
PM ₁₀	15.24	0.17	0.02	0.01	15.24	24.04	-8.80
PM _{2.5}	14.72	0.17	0.02	0.01	14.72	24.04	-9.32

- a. Annual emissions are calculated using a conservative assumption of 8,760 hours of operation per year.
- b. Because proposed potential emissions during Normal Mode are not limited below 8,760, proposed annual emissions during alternate modes are only accounted for as the net increase above Normal Mode emission rates during the allowed time period. Apart from NO_x emissions during SCR Bypass mode and VOC emissions during RTO Shutdown and RTO Bypass, no other pollutant is emitted in rates that exceed those during Normal Mode. Therefore, total PM emissions are assumed to be that of 8,760 hours of Normal Mode operation.

Table 2-6. Total Proposed Project Emission Changes

Pollutant	Total Lines 1-6 Annual Emissions (tpy)		
	Proposed	Existing	Project Change
PM _{fit}	59.92	39.81	20.11
PM ₁₀	91.45	89.74	1.72
PM _{2.5}	88.30	89.74	-1.44

2.4 Facility-Wide Potential to Emit

PTE from the carbon fiber production lines and the emergency engines are calculated using the methodologies discussed in this section and in historic permit applications. The emissions from the production lines are determined based on six different operating modes, which are consistent with those included in previous permits. A process flow diagram showing the processes and air flows for each production line is provided in Appendix A. Only hourly and annual emissions of PM from all six lines are impacted as a result of the proposed project. Detailed emission calculations including criteria pollutants, TAPs and HAPs for all production lines and associated equipment are provided in Appendix B. No changes to facility-wide TAP or HAP emissions are expected as a result of this project.

A facility-wide emissions summary is provided in Table 2-5, and emissions are compared to the Title V and PSD major source thresholds. Note that SGL currently operates with a synthetic minor limit for NO_x at 90 tpy; therefore, the NO_x emissions for each emission unit are not presented.

Table 2-7. Facility-Wide PTE

Emission Units	PM (tpy)	PM₁₀ (tpy)	PM_{2.5} (tpy)	SO₂ (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	CO_{2e} (tpy)	Single HAP (tpy)	Total HAPs (tpy)
Line 1 ^a	9.99	15.24	14.72	3.01	--	7.42	5.79	7,215	6.14	6.33
Line 2 ^a	9.99	15.24	14.72	3.01	--	7.42	5.79	7,215	6.17	6.36
Lines 3, 4, 6 ^a	29.96	45.73	44.15	9.02	--	22.27	17.37	21,644	18.50	19.08
Line 5 ^a	9.99	15.24	14.72	3.01	--	7.42	5.79	7,215	6.17	6.36
Lines 1-2 EGENs ^b	0.00	0.01	0.01	0.00	--	0.17	0.68	39	0.00	0.01
Lines 3-6 EGENs ^b	0.01	0.00	0.00	0.00	--	0.01	0.16	113	0.00	0.00
Firewater Pump EGENs ^b	0.00	0.00	0.00	0.00	--	0.04	0.15	17	0.00	0.01
Pre-Oxidation Ovens ^b	0.00	0.00	0.00	0.00	--	0.00	0.00	--	0.01	0.01
TOTAL	60	91	88	18	90	45	36	43,457	37	38
PSD Major Source Threshold ^c	100	100	100	100	100	100	100	--	--	--
Title V Major Source Threshold ^d	--	100	100	100	100	100	100	--	10	25

- a. Lines 1-6 are updated to account for the new raw material (PAN with pure silicon finish). Updated source testing conducted for the new raw material is used to determine the updated emission factors, conservatively assuming the maximum between the new raw material source test and the existing material. PTE emissions of HAP and TAP are not expected to increase due to the proposed project, and emissions limits are consistent with those in Approval Order 23AQ-E026.
- b. No changes to emission limits for additional equipment are proposed as a result of this proposed project, and emissions limits are consistent with those in Approval Order 23AQ-E026
- c. PSD major source thresholds are obtained from 40 CFR 52.21(b)(1)(i)(a). Greenhouse gases (GHG) are not subject to PSD review if PSD review is triggered for any other pollutant. Ecology stated that SGL is a facility subject to 100 tpy thresholds for PSD purposes in a response on September 10, 2018.
- d. Title V major source thresholds are obtained from WAC 173-401-200.

3 REQUESTED PERMIT CHANGES

3.1 Proposed Limits

SGL is submitting this NOC application to allow for the use of PAN with pure silicon finish raw material on Lines 1-4 and 6 in addition to the current PAN with fatty acid finish already used for production of carbon fiber products. The Moses Lake Facility will remain a major source of HAP due to potential HCN emissions being greater than 10 tpy and cumulative HAP emissions being greater than 25 tpy, as shown in Table 2-5. The facility will also remain a synthetic minor source for NO_x emissions, with an emission limit of 90 tpy.

As discussed in Section 2.3, the short-term hourly emissions for each production line and emissions from the emergency generators and fire pumps will remain unchanged as those in Approval Order No. 23AQ-E026. The proposed revised emission limits for PM are summarized in Table 3-1 and Table 3-2.

Table 3-1. Proposed Annual PM Emissions Limits

Source of Limit	Current Emission Limit	Proposed Emission Limit
Condition 6. h., Approval Order No. 23AQ-E026	90 tons PM ₁₀ /PM _{2.5} per 12-month rolling period; Lines 1-6 and associated equipment	91 tons PM ₁₀ /88 tons PM _{2.5} per 12-month rolling period; Lines 1-6 and associated equipment
Condition 6. h., Approval Order No. 23AQ-E026	40 tons PM _{filt} per 12-month rolling period; Lines 1-6 and associated equipment	60 tons PM _{filt} per 12-month rolling period; Lines 1-6 and associated equipment

Table 3-2. Proposed Hourly Emissions Limits

Operating Mode	Source of Limit	Current Emission Limit	Proposed Emission Limit
Normal Operation Mode	Condition 6. a., Approval Order No. 23AQ-E026	Lines 1-4, and 6: 3.0 lb/hr for PM ₁₀ , PM _{2.5} ; 1.1 lb/hr for PM (filterable only) Line 5: 5.5 lb/hr for PM ₁₀ , PM _{2.5} ; 3.6 lb/hr for PM (filterable only)	All Lines: 3.5 lb/hr for PM ₁₀ ; 3.4 lb/hr for PM _{2.5} ; 2.3 lb/hr for PM (filterable only)
SCR Bypass Mode	Condition 6. b., Approval Order No. 23AQ-E026	Lines 1-4, and 6: 2.0 lb/hr for PM ₁₀ , PM _{2.5} ; 1.1 lb/hr for PM (filterable only) Line 5: 4.5 lb/hr for PM ₁₀ , PM _{2.5} ; 3.6 lb/hr for PM (filterable only)	All Lines: 3.5 lb/hr for PM ₁₀ ; 3.4 lb/hr for PM _{2.5} ; 2.3 lb/hr for PM (filterable only)
RTO Shutdown Mode	Condition 6. c., Approval Order No. 23AQ-E026	Lines 1-4, and 6: 3.0 lb/hr for PM ₁₀ , PM _{2.5} ; 1.1 lb/hr for PM (filterable only) Line 5: 5.5 lb/hr for PM ₁₀ , PM _{2.5} ; 3.6 lb/hr for PM (filterable only)	All Lines: 3.5 lb/hr for PM ₁₀ ; 3.4 lb/hr for PM _{2.5} ; 2.3 lb/hr for PM (filterable only)
RTO Bypass Mode	Condition 6. d., Approval Order No. 23AQ-E026	Lines 1-4, and 6: 2.0 lb/hr for PM ₁₀ , PM _{2.5} ; 1.1 lb/hr for PM (filterable only) Line 5: 4.5 lb/hr for PM ₁₀ , PM _{2.5} ; 3.6 lb/hr for PM (filterable only)	All Lines: 3.5 lb/hr for PM ₁₀ ; 3.4 lb/hr for PM _{2.5} ; 2.3 lb/hr for PM (filterable only)

4 REGULATORY REVIEW

The following sections identify the regulatory requirements applicable to this application.

4.1 PSD Applicability

PSD is the major New Source Review permitting program for attainment pollutants. The Moses Lake facility is located in Grant County, which is designated as an attainment area for all criteria pollutants. The facility was classified as a major source under the PSD program, but the PSD Permit 14-02 was rescinded in January 2020 under regulatory order PSD 19-01. With Approval Order No. 21AQ-E004, SGL remained a synthetic minor source for NO_x emissions with a limit of 90 tpy. As shown in Table 2-5, the proposed post-project PTE for the Moses Lake Facility remains below the major source threshold for all pollutants.

4.2 Title V Operating Permit Applicability

A Title V operating permit is required for any major source defined under WAC 173-401-200. As shown in Table 2-5, the Moses Lake Facility will continue to have the potential to emit more than 10 tpy of HCN, which is a HAP. Therefore, the Moses Lake Facility will continue to be considered a major source of HAP and requires a Title V operating permit. SGL requests the Title V operating permit be issued to reflect the proposed emission limits for the Moses Lake Facility.

4.3 Federal Standards

WAC 173-400-115 adopts federal New Source Performance Standards (NSPS) by reference. NSPS apply to certain types of equipment that are newly constructed, modified, or reconstructed after a given applicability date. There are no NSPS Subparts that potentially apply to the operation of Lines 1-6, so there is no impact to NSPS applicability for this project.

National Emission Standards for Hazardous Air Pollutants (NESHAPs) have been established in 40 CFR Part 61 and Part 63 to control emissions of Hazardous Air Pollutants (HAP) from stationary sources. The only NESHAP Subpart applicable to the process lines themselves is NESHAP Subpart FFFF. As determined in previous permitting efforts, the lowest calculated Total Resource Effectiveness (TRE) index values for the two continuous process vents at SGL's Moses Lake facility are above the NESHAP threshold value of five. There are no substantive portions of this NESHAP that apply to current operations at the facility. The proposed project will not result in an increase of any HAP emissions and does not impact trigger any additional NESHAP requirements at the facility.

4.4 Best Available Control Technology

In previous permit applications, cost estimates were prepared for PM control technologies including electrostatic precipitators (ESPs), baghouses/fabric filters, and venturi scrubbers, before proper operation was selected as BACT. SGL is not aware of any changes in commonly used PM control technologies in the industry that would warrant consideration of additional PM control technologies. In the past analyses, ESPs and venturi scrubbers were not identified as being readily available or used in the industry. SGL focused on evaluating baghouse costs since it is a technically feasible option. In the NOC application for Approval Order 21AQ-E004, SGL prepared a cost estimate for a baghouse to determine whether the control technology would be cost effective for the control of increased PM emission rates resulting from the Line 5 project.

Based on the calculations in the application, baghouses do not represent a cost-effective control technology for the PM_{fit} emissions from Line 5. The proposed changes to Lines 1-4 and Line 6 in this application are the same as that of the previous permit application for Line 5, and recent source testing indicates that the calculated PM emission rates will be lower than those presented in the previous application. Therefore, SGL maintains that proper operating practices constitute BACT for PM_{fit} emissions, consistent with previous permit application determinations.

4.5 Air Quality Analysis

An air quality analysis was performed as part of the PSD Permit 14-02 evaluation, including:

- ▶ A cumulative regional analysis performed as part of the air quality analysis at that time, including proposed production lines (Lines 3-10), existing production lines (Lines 1-2), plus background accounting for neighboring facilities at that time to compare to the NAAQS for NO₂, PM₁₀, and PM_{2.5}.
- ▶ A modeling analysis on the proposed production lines (Lines 3-10) and associated equipment to compare to the Significant Impact Levels (SILs) for NO₂, PM₁₀, PM_{2.5}, CO, and SO₂.
- ▶ An incremental analysis for NO₂, PM₁₀, and PM_{2.5} to compare to the Class II PSD increments.

The conclusion for the PSD project was “no significant adverse impact on air quality.”² Because the proposed total emissions from Lines 1-6 are less than the previously evaluated combined emissions of Lines 1-2 (permitted previously for 27 tpy of PM) and the project emissions from the permit application for Lines 3-10 (88 tpy of PM), this conclusion will continue to be valid with this permitting action.

The TSD for PSD Permit 14-02 presented the PSD Increment and NAAQS results in Tables 4-2 and 4-3.

Table 4-1. Increment Analysis for PSD Permit 14-02

Pollutant	Averaging Period	Maximum Modeled Concentration (µg/m ³)	Class II PSD Increment (µg/m ³)
NO ₂	Annual	5.8	25
PM ₁₀	24-hr	8.97	30
PM _{2.5}	24-hr	8.97	9.0
	Annual	1.9	4.0

Table 4-2. NAAQS Analysis for PSD Permit 14-02

Criteria Pollutant	Averaging Period	Maximum Concentration (Facility) (µg/m ³)	Background (µg/m ³)	Total (µg/m ³)	Standard (µg/m ³)
NO ₂	1-hr	89.8	16.0	105.8	188
	Annual	6.4	2.8	9.2	100
PM ₁₀	24-hr	11.4	92	103.4	150
PM _{2.5}	24-hr	11.8	19.4	31.2	35
	Annual	3.3	6.5	9.8	12

² Section 9 of the TSD for PSD Permit 14-02.

APPENDIX A. APPLICATION FORM



Notice of Construction Application

A notice of construction permit is required before installing a new source of air pollution or modifying an existing source of air pollution. This application applies to facilities in Ecology’s jurisdiction. Submit this application for review of your project. For general information about completing the application, refer to Ecology Forms ECY 070-410a-g, “Instructions for Ecology’s Notice of Construction Application.”

Ecology offers up to two hours of free pre-application assistance. We encourage you to schedule a pre-application meeting with the contact person specified for the location of your proposal, below. If you use up your two hours of free pre-application assistance, we will continue to assist you after you submit Part 1 of the application and the application fee. You may schedule a meeting with us at any point in the process.

Upon completion of the application, please enclose a check for the initial fee and mail to:

**Department of Ecology
Cashiering Unit
PO Box 47611
Olympia, WA 98504-7611**

For Fiscal Office Use Only: 0299-3030404-B00-216--001--000404

Check the box for the location of your proposal. For assistance, call the appropriate office listed below:

Check box	Ecology Permitting Office	Contact
<input type="checkbox"/>	Chelan, Douglas, Kittitas, Klickitat, or Okanogan County Ecology Central Regional Office (509) 575-2490	Lynnette Haller (509) 457-7126 lynnette.haller@ecy.wa.gov
<input type="checkbox"/>	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Stevens, Walla Walla, or Whitman County Ecology Eastern Regional Office (509) 329-3400	Karin Baldwin (509) 329-3452 karin.baldwin@ecy.wa.gov
<input type="checkbox"/>	San Juan County Ecology Northwest Regional Office (206) 594-0000	David Adler (425) 649-7267 david.adler@ecy.wa.gov
<input type="checkbox"/>	For actions taken at Kraft and Sulfite Paper Mills and Aluminum Smelters Only Ecology Industrial Section (360) 407-6900	James DeMay (360) 407-6868 james.demay@ecy.wa.gov
<input type="checkbox"/>	For actions taken on the US Department of Energy Hanford Reservation Only Ecology Nuclear Waste Program (509) 372-7950	Lilyann Murphy (509) 372-7951 lilyann.murphy@ecy.wa.gov

Check the box below for the fee that applies to your application.

New project or equipment:

- \$1,904: Basic project** initial fee covers up to 16 hours of review.
- \$12,614: Complex project** initial fee covers up to 106 hours of review.

Change to an existing permit or equipment:

- \$357: Administrative or simple change** initial fee covers up to 3 hours of review. Ecology may determine your change is complex during the completeness review of your application. If your project is complex, you must pay the additional xxx before we will continue working on your application
- \$1,190: Complex change** initial fee covers up to 10 hours of review
- \$350flat fee:** Replace or alter control technology equipment under WAC 173-400-114. Ecology will contact you if we determine your change belongs in another fee category. You must pay the fee associated with that category before we will continue working on your application.

Read each statement below, then check the box next to it to acknowledge that you agree.

- The initial fee you submitted may not cover the cost of processing your application. Ecology will track the number of hours spent on your project. If the number of hours Ecology spends exceeds the hours included in your initial fee, Ecology will bill you \$119 per hour for the extra time.
- You must include all information requested by this application. Ecology may not process your application if it does not include all the information requested.
- Submittal of this application allows Ecology staff to visit and inspect your facility.

Part 1: General Information

I. Project, Facility, and Company Information

1. Project Name: _____
2. Facility Name: _____
3. Facility Street Address:

4. Facility Legal Description: _____
5. Company Legal Name (if different from Facility Name):

6. Company Mailing Address (street, city, state, zip)

II. Contact Information and Certification

1. Facility Contact Name (who will be onsite): _____
2. Facility Contact Mailing Address (if different than Company Mailing Address):

3. Facility Contact Phone Number: _____
 4. Facility Contact E-mail: _____
 5. Billing Contact Name (who should receive billing information):

 6. Billing Contact Mailing Address (if different Company Mailing Address):
 7. Billing contact Phone Number: _____
 8. Billing Contact E-mail: _____
 9. Consultant Name (optional – if 3rd party hired to complete application elements):

 10. Consultant Organization/Company: _____
 11. Consultant Mailing Address (street, city, state, zip): 20819 72nd Ave S, Suite 610, Kent, WA 98032
 12. Consultant Phone Number: _____
 13. Consultant E-mail: _____
 14. Responsible Official Name and Title (who is responsible for project policy or decision making):

 15. Responsible Official Phone: _____
 16. Responsible Official E-mail: _____
 17. Responsible Official Certification and Signature:
I certify that the information on this application is accurate and complete.
- Signature: _____ Date: _____

Part 2: Technical Information

The Technical Information may be sent with this application form to the Cashiering Unit, or may be sent directly to the Ecology regional office with jurisdiction along with a copy of this application form.

For all sections, check the box next to each item as you complete it.

III. Project Description

- Written narrative describing your proposed project.
- Projected construction start and completion dates.
- Operating schedule and production rates.
- List of all major process equipment and manufacturer and maximum rated capacity.
- Process flow diagram with all emission points identified.
- Plan view site map.
- Manufacturer specification sheets for major process equipment components
- Manufacturer specification sheets for pollution control equipment.
- Fuel specifications, including type, consumption (per hour and per year) and percent sulfur.

IV. State Environmental Policy Act (SEPA) Compliance

Check the appropriate box below.

- SEPA review is complete. Include a copy of the final SEPA checklist and SEPA determination (e.g., DNS, MDNS, and EIS) with your application.
- SEPA review has not been conducted:
 - If review will be conducted by another agency, list the agency. You must provide a copy of the final SEPA checklist and SEPA determination before Ecology will issue your permit.
Agency reviewing SEPA: _____
 - If the review will be conducted by Ecology, fill out a SEPA checklist and submit it with your application. You can find a SEPA checklist online at <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-document-templates>

V. Emissions Estimations of Criteria Pollutants

Does your project generate criteria air pollutant emissions? Yes No

If yes, please provide the following information regarding your criteria emissions in the application.

- The names of the criteria air pollutants emitted (i.e., NO_x, SO₂, CO, PM_{2.5}, PM₁₀, TSP, VOC, and Pb)
- Potential emissions of criteria air pollutants in tons per hour, tons per day, and tons per year (include calculations)
- If there will be any fugitive criteria pollutant emissions, clearly identify the pollutant and quantity

VI. Emissions Estimations of Toxic Air Pollutants

Does your project generate toxic air pollutant emissions? Yes No

If yes, please provide the following information regarding your toxic air pollutant emissions in your application.

- The names of the toxic air pollutants emitted (specified in [WAC 173-460-150¹](#))
- Potential emissions of toxic air pollutants in pounds per hour, pounds per day, and pounds per year (include calculations)
- If there will be any fugitive toxic air pollutant emissions, clearly identify the pollutant and quantity

VII. Emission Standard Compliance

- Provide a list of all applicable new source performance standards, national emission standards for hazardous air pollutants, national emission standards for hazardous air pollutants for source categories, and emission standards adopted under Chapter 70A.15 RCW.

Does your project comply with all applicable standards identified? Yes No

VIII. Best Available Control Technology

- Provide a complete evaluation of Best Available Control Technology (BACT) for your proposal.

IX. Ambient Air Impacts Analyses

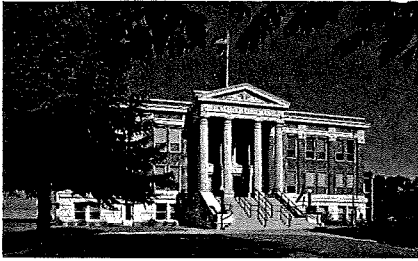
Please provide the following:

- Ambient air impacts analyses for Criteria Air Pollutants (including fugitive emissions)
- Ambient air impacts analyses for Toxic Air Pollutants (including fugitive emissions)
- Discharge point data for each point included in air impacts analyses (include only if modeling is required)
 - Exhaust height
 - Exhaust inside dimensions (ex. diameter or length and width)
 - Exhaust gas velocity or volumetric flow rate
 - Exhaust gas exit temperature
 - The volumetric flow rate
 - Description of the discharges (i.e., vertically or horizontally) and whether there are any obstructions (ex., raincap)
 - Identification of the emission unit(s) discharging from the point
 - The distance from the stack to the nearest property line
 - Emission unit building height, width, and length
 - Height of tallest building on-site or in the vicinity and the nearest distance of that building to the exhaust
 - Whether the facility is in an urban or rural location

Does your project cause or contribute to a violation of any ambient air quality standard or acceptable source impact level? Yes No

To request ADA accommodation, call Ecology at (360) 407-6800, 711 (relay service), or (877) 833-6341 (TTY)

¹ <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-460-150>



**Grant County
Department of Community Development
Planning Department**

P.O. Box 37 - 457 1st Avenue Northwest
Ephrata, WA 98823
(509) 754-2011 Ext. 620 - FAX (509) 754-6097

COPY

**MITIGATED DETERMINATION
OF NON-SIGNIFICANCE**

- Proposal:** SGL Automotive Carbon Fiber, LLC – Carbon Fiber Manufacturing Plant
- Description of Proposal:** Construct a carbon fiber manufacturing facility on a 60 acre parcel in the Urban Heavy Industrial Zone. The initial phase will include a warehouse/office building (44,000± sq. ft.), one production building (111,000± sq. ft.), pump house w/fire suppression tanks, as well as a 208 stall fenced parking lot with security gate. Future phases will include up to four additional production buildings (111,000± sq. ft. each), a 46,000± sq. ft. addition to warehouse/office building, ten hydrogen extraction buildings (200± sq. ft. each) as well as three support buildings (67,000± sq. ft. each).
- Proponent:** SGL Automotive Carbon Fiber, LLC
10130 Perimeter Parkway, Ste. 500
Charlotte, NC 28216
- Agent:** Kevin Richards
Western Pacific Engineering and Survey, INC.
1328 E. Hunter Place
Moses Lake, WA 98837
- Location of Proposal:** The project site is located between Stratford Rd. NE and Randolph Rd. just north of Tyndall Rd. NE and east of Grant County International Airport. Located in Section 22, Township 20 North, Range 28 East, W.M., Grant County, WA.
Parent Parcel #17-0997-001
- Lead Agency:** Grant County Planning Department, P.O. Box 37, Ephrata, WA 98823

The lead agency for SEPA review has determined that this project will not have probable significant adverse impacts on the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030 (2) (c). The decision was made after review of a complete environmental checklist and other information on file with the lead agency. This information is available to the public upon request.

APPENDIX B. EMISSION CALCULATIONS

Table A-1. Facility-Wide Potential to Emit

Emission Units	PM (tpy)	PM₁₀ (tpy)	PM_{2.5} (tpy)	SO₂ (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	CO₂e (tpy)
Line 1 ^a	9.99	15.24	14.72	3.01	--	7.42	5.79	7,215
Line 2 ^a	9.99	15.24	14.72	3.01	--	7.42	5.79	7,215
Lines 3, 4, 6 ^a	29.96	45.73	44.15	9.02	--	22.27	17.37	21,644
Line 5 ^a	9.99	15.24	14.72	3.01	--	7.42	5.79	7,215
Lines 1-2 EGENs ^b	3.38E-03	1.38E-02	1.38E-02	5.10E-04	--	0.17	0.68	39
Lines 3-6 EGENs ^b	7.82E-03	4.08E-03	4.08E-03	1.28E-03	--	1.05E-02	0.16	113
Firewater Pump EGENs ^b	1.51E-03	3.08E-03	3.08E-03	1.14E-04	--	0.04	0.15	17
Pre-Oxidation Ovens ^b	1.96E-04	5.54E-04	5.54E-04	3.15E-04	--	3.33E-03	3.93E-03	--
TOTAL	60	91	88	18	90	45	36	43,457
PSD Major Source Threshold^c	100	100	100	100	100	100	100	--
Title V Major Source Threshold^d	--	100	100	100	100	100	100	--

a. Lines 1-6 are updated to account for the new raw material (PAN with pure silicon finish). Updated source testing conducted for the new raw material is used to determine the updated emission factors, conservatively assuming the maximum between the new raw material source test and the existing material. PTE emissions of HAP and TAP are not expected to increase due to the proposed project, and emissions limits are consistent with those in Approval Order 23AQ-E026.

b. No changes to emission limits for additional equipment are proposed as a result of this proposed project, and emissions limits are consistent with those in Approval Order 23AQ-E026.

c. PSD major source thresholds are obtained from 40 CFR 52.21(b)(1)(i)(a). Greenhouses gases (GHG) is not subject to PSD review if PSD review is triggered for any other pollutant. Ecology stated that SGL is a facility subject to 100 tpy thresholds for PSD purposes in a response on September 10, 2018.

d. Title V major source thresholds are obtained from WAC 173-401-200.

Table A-2. 2023 Silicon Emission Rates

CAS	Pollutant	Emission Rate^a (lb/hr)	Scaled Emission Rate^b (lb/hr)
FPM	Filterable PM	1.9	2.28
CPM	Condensable PM		0
PM	Total PM		0
PM10	Total PM ₁₀	2.9	3.48
PM2.5	Total PM _{2.5}	2.8	3.36

a. Emission factors based on PM sampling of Line 5 at the Moses Lake facility in 2023.

b. The following safety factor is applied to the tested emission rates:

20%

Table A-3. Previous Operating Mode Annual Emissions (tpy)

Compound	Line 1					Line 2					Lines 3, 4, and 6					Line 5				
	SCR		RTO		TOTAL ^a	SCR		RTO		TOTAL ^a	SCR		RTO		TOTAL ^a	SCR		RTO		TOTAL ^a
	Normal	Bypass	Shutdown	Bypass		Normal	Bypass	Shutdown	Bypass		Normal	Bypass	Shutdown	Bypass		Normal	Bypass	Shutdown	Bypass	
PM (Filt.)	4.82	0.06	5.02E-03	2.48E-03	4.82	4.82	0.06	5.02E-03	2.48E-03	4.82	14.45	0.17	0.02	7.43E-03	14.45	15.72	0.18	0.02	8.07E-03	15.72
PM ₁₀ (Filt. & Cond.)	13.14	0.15	1.37E-02	6.75E-03	13.14	13.14	0.15	1.37E-02	6.75E-03	13.14	39.42	0.30	0.04	1.35E-02	39.42	24.04	0.22	0.03	1.01E-02	24.04
PM _{2.5} (Filt. & Cond.)	13.14	0.15	1.37E-02	6.75E-03	13.14	13.14	0.15	1.37E-02	6.75E-03	13.14	39.42	0.30	0.04	1.35E-02	39.42	24.04	0.22	0.03	1.01E-02	24.04

a. Because proposed potential emissions during Normal Mode are not limited below 8,760, proposed annual emissions during alternate modes are only accounted for as the net increase above Normal Mode emission rates during the allowed time period. Apart from NOx emissions during SCR Bypass mode and VOC emissions during RTO Shutdown and RTO Bypass, no other pollutant is emitted in rates that exceed those during Normal Mode.

Table A-4. Proposed Operating Mode Annual Emissions (tpy)

Compound	Line 1					Line 2					Lines 3, 4, and 6					Line 5				
	SCR		RTO		TOTAL ^a	SCR		RTO		TOTAL ^a	SCR		RTO		TOTAL ^a	SCR		RTO		TOTAL ^a
	Normal	Bypass	Shutdown	Bypass		Normal	Bypass	Shutdown	Bypass		Normal	Bypass	Shutdown	Bypass		Normal	Bypass	Shutdown	Bypass	
PM (Filt.)	9.99	0.11	1.04E-02	5.13E-03	9.99	9.99	0.11	1.04E-02	5.13E-03	9.99	29.96	0.34	0.03	0.02	29.96	9.99	0.11	1.04E-02	5.13E-03	9.99
PM ₁₀ (Filt. & Cond.)	15.24	0.17	0.02	7.83E-03	15.24	15.24	0.17	0.02	7.83E-03	15.24	45.73	0.52	0.05	0.02	45.73	15.24	0.17	0.02	7.83E-03	15.24
PM _{2.5} (Filt. & Cond.)	14.72	0.17	0.02	7.56E-03	14.72	14.72	0.17	0.02	7.56E-03	14.72	44.15	0.50	0.05	0.02	44.15	14.72	0.17	0.02	7.56E-03	14.72

a. Because proposed potential emissions during Normal Mode are not limited below 8,760, proposed annual emissions during alternate modes are only accounted for as the net increase above Normal Mode emission rates during the allowed time period. Apart from NOx emissions during SCR Bypass mode and VOC emissions during RTO Shutdown and RTO Bypass, no other pollutant is emitted in rates that exceed those during Normal Mode.