

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

| IN THE MATTER OF APPROVING A) **Proposed Decision Regarding**
NEW CONTAMINANT SOURCE FOR) **ORDER No. 09AQ-C097**
| SPECIALTY CHEMICAL PRODUCTS, LLC) **First Revision**

To: **Specialty Chemical Products, LLC**
PO Box 68
Rock Island, WA 98850

1.0 PROJECT SUMMARY

Specialty Chemical Products, LLC (“Specialty Chemical Products”) proposes to recover waste amorphous silica fume previously deposited at their Rock Island, Washington test facility. The silica fume was formed as a by-product of silicon metal production at the proponent’s Rock Island, Washington test facility. The silica fume was mixed with water to make a slurry that was stored in waste storage ponds located at the site. The now solid silica fume will be excavated using a payloador or scraper and transported off-site by standard dump trucks for use in the production of high purity amorphous precipitated silica. Excavated material may be temporarily stored in an existing enclosed storage building.

On February 18, 2009, the Department of Ecology (“Ecology”) approved the above described project through Notice of Construction Order No. 09AQ-C097. Subsequent to issuance of Order No. 09AQ-C097, the proponent conducted sampling and analysis of the silica fume to be excavated in accordance with a sampling and analysis plan approved by Ecology. This sampling and analysis revealed that additional regulated toxic air pollutants may potentially be emitted by the project in quantities that are regulated by Ecology. Therefore, the primary purpose of this revision is to identify and quantify impacts of the newly-discovered potentially-emitted air pollutants and to update emission rates of other regulated pollutants that could be emitted. A secondary purpose is to update language in the current Order to align with any new information pertaining to the project and to correct any administrative inadequacies in the existing approval conditions.

The project site is located approximately 7 miles east of the city of East Wenatchee on State Route 28, Rock Island, Washington, within Section 25 of Township 22 North, Range 21 East W.M., Douglas County.

| In relation to the above, the Department of Ecology (“Ecology”), State of Washington, pursuant to Revised Code of Washington (RCW) 70.94.152, makes the following determinations:

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- 1.1 The proposed source qualifies as a new source of air contaminants under Washington Administrative Code (WAC) 173-400-110, ~~September 6, 2007~~, and a new source of toxic air pollutants under WAC 173-460-040, ~~July 21, 1998~~.
- 1.2 The proposed source is not a new major stationary source or major modification to a major stationary source that is subject to Prevention of Significant Deterioration permitting requirements of WAC 173-400-700 through -750.
- 1.3 The proposed source will be located in an area which is in attainment or unclassifiable for all criteria pollutants.
- 1.4 The proposed source, if constructed and operated as herein required, will not delay the attainment date for an area not in attainment, nor cause or contribute to a violation of any ambient air quality standard.
- 1.5 The proposed source, if constructed and operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC and Chapter 173-460 WAC, and the operation thereof, at the location proposed, will comply with 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 70.94 RCW.
- 1.6 The proposed source, if constructed and operated as herein required, will employ Best Available Control Technology (BACT) to control emission of criteria pollutants, and Best Available Control Technology for toxics (~~T-BACT~~BACT) to control emission of toxic air pollutants.
- 1.7 The project has satisfied the environmental review requirements of the State Environmental Policy Act (SEPA). A *Determination of Nonsignificance* (DNS) was issued by Washington State Department of Ecology, acting as lead agency, on May 20, 2008.
- ~~1.7~~1.8 Upon final approval of the proposed revisions, Order No. 09AQ-C097 will no longer be valid.

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

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2.0 APPROVAL CONDITIONS

2.1 LAWS AND REGULATIONS

The project shall comply with all current state laws and regulations, including Chapter 70.94 RCW, Washington Clean Air Act; Chapter 173-400 WAC, General Regulations for Air Pollution Sources; and Chapter 173-460 WAC, Controls for New Sources of Toxic Air Pollutants.

2.2 ~~ESTIMATED~~ EMISSIONS

2.2.1 ~~Under the ordered physical and operational restrictions, allowable emissions from the project are:~~The project will produce up to the following estimated controlled emissions:

Pollutant	Emissions	
Total Suspended Particulate (TSP)	8.1	tons per year
Particulate Matter (PM ₁₀)	2.2	tons per year
Particulate Matter (PM _{2.5})	0.2	tons per year
<u>Arsenic*</u>	<u>0.28</u>	<u>pounds per year</u>
<u>Cadmium</u>	<u>0.02</u>	<u>pounds per year</u>
<u>Hexavalent Chromium</u>	<u>0.00325**</u>	<u>pounds per year</u>
<u>Lead</u>	<u>16.0</u>	<u>pounds per year</u>
<u>Calcium Hydroxide</u>	<u>21.6</u>	<u>pounds per year</u>
<u>Manganese dust and compounds*</u>	<u>1.52.60</u>	<u>pounds per year</u>
<u>Mercury</u>	<u>4.31</u>	<u>pounds per year</u>
<u>Selenium</u>	<u>960.0</u>	<u>pounds per year</u>
<u>Sodium Hydroxide</u>	<u>7.2</u>	<u>pounds per year</u>

*These toxic air pollutants are estimated to be emitted at rates less than that exceed their corresponding small quantity emission rates (SQERs), per WAC 173-460-080(2)(e)150. Toxic air pollutant estimates emission rates are based upon laboratory testing results submitted to Ecology by Specialty Chemical Products on May 8, 2008 and August 19, 2009.

**This value is currently the minimum detection limit for EPA Test Method 3060A/7199 (SW-846), which is Ecology's recommended test method for measuring hexavalent chromium concentrations in

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~~the silica fume. While Ecology believes that hexavalent chromium is present in the fume, recent fume tests have reported that actual hexavalent chromium emissions will be less than this value.~~

~~2.2.3—As a condition of this approval, the source is required to conduct testing of the fume in accordance with approval conditions 2.9.1, 2.9.2, and 2.9.3, to determine the current composition of the silica fume to be excavated. If such testing indicates that additional regulated air pollutants might be emitted, or that potential emissions of any of the pollutants identified in this Order might be higher or lower than the current estimates, this Order may be revised to incorporate the new information.~~

2.2.42 Demonstration that the project will comply with all applicable ambient air quality standards and the requirements of Chapter 173-460 WAC was performed using dispersion modeling based upon maximum operation of 2,880 hours/year during daylight hours of March through October; excavation of 33,000 tons of silica fume per year; and a total production area of 68 acres.

2.3 BACT

As required by WAC 173-400-113(2), this project shall use Best Available Control Technology (BACT) to control emissions of criteria pollutants. The following shall constitute BACT:

2.3.1 Material being excavated or scraped from the pond sites shall have a moisture content of no less than 20% (12-month average), as determined according to approval condition 2.9.4.

2.3.2 Specialty Chemical Products shall use best management practices to control dust emissions from roadways, and to prevent vehicle track-out onto public roads. Roadway emissions shall be controlled by watering, paving, graveling, use of chemical suppressants, speed limits, or other methods specified in the fugitive dust control plan. Truck-loads leaving the facility shall be covered to prevent excavated material from being blown to off-site areas during transport.

2.3.3 All excavation or scraping, and dump truck travel, shall be suspended when the wind is so strong that best efforts to keep dust due to operations from leaving the project site are not effective.

2.4 T-BACT

As required by WAC 173-460-040, this project shall use Best Available Control Technology for Toxics (~~T-BACT~~BACT) to control emissions of toxic air pollutants. ~~tBACT~~BACT for this source is determined to be the same as BACT described above.

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2.5 EMISSION LIMITS

2.5.1 Visible emissions from any project activity shall not exceed ten (10) percent opacity, averaged over a six-minute time period, as measured by the United States Environmental Protection Agency (EPA) Method 9, 40 CFR part 60, Appendix A.

2.5.2 No visible emissions (zero percent opacity) resulting from the project shall be observed beyond the property line.

~~2.5.2~~2.5.3 Silica in the crystalline form (“crystalline silica”) shall not be emitted to the air.

2.6 PRODUCTION RESTRICTIONS

2.6.1 This Order is based upon a production rate of 33,000 tons of excavated silica fume in any consecutive 12 months. If a production rate greater than 33,000 tons of excavated silica fume in any 12-month period is anticipated, Specialty Chemical Products shall demonstrate to Ecology that that level of production will not lead to a violation of any condition of this Order. Any increase in production beyond 33,000 tons of excavated silica fume in any consecutive 12 months must be approved by Ecology in advance.

2.6.2 All production activity, including excavation, scraping, dump truck loading, and off-site transfer of excavated material, shall be conducted for no more than 16 hours in any given day. Total annual operating hours shall not exceed 2880 hours in any consecutive 12-month period.

2.7 MONITORING, RECORD-KEEPING, AND REPORTING

2.7.1 If visual inspection for opacity, public complaints, or other information indicates that visible emissions from the project can be observed leaving the project site, the permittee shall take immediate steps to reduce visible emissions to the extent that no visible emissions from the project are observed beyond the property line. All corrective actions taken shall be adequately documented, and available for inspection by Ecology upon request.

2.7.2 Specialty Chemical Products shall maintain monthly records of hours of operation and amount of material excavated. Records shall be summed monthly to demonstrate activity over the previous 12-month period.

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2.7.3 Specialty Chemical Products shall keep records of the date and nature of all project-related complaints received from the public or Ecology, including the time and date of corrective actions taken in response to the complaints. All records shall be kept on-site and made available to Ecology personnel upon request. All records shall be organized in a readily accessible manner, and retained for at least five (5) years.

2.7.4 The permittee shall maintain records sufficient to demonstrate that the average moisture content of material excavated over the previous 12 months is at least 20%.

2.7.5 Specialty Chemical Products shall keep records of source test results from any testing conducted on the permitted project, including laboratory test results on the composition of the excavated silica fume.

2.8 FUGITIVE DUST CONTROL PLAN

2.8.1 Within 30 days of commencement of operations, Specialty Chemical Products shall develop, maintain, and follow a Fugitive Dust Control Plan (FDCP).

2.8.2 The FDCP shall include guidelines and instructions on site-specific fugitive dust control measures to be used. Control measures may include watering, paving, graveling, use of chemical suppressants, speed limits, or other measures as specified in the FDCP. At a minimum, the FDCP shall identify water and/or chemical suppressant application rates to un-paved vehicle travel areas, and measures to ensure there is no vehicle track-out onto off-site roads.

2.8.3 A legible copy of the Fugitive Dust Control Plan shall be kept on-site in a location known by and available to all project employees. Failure to follow the Fugitive Dust Control Plan may be considered proof that the permitted source is not being operated in accordance with this Order.

2.9 TESTING REQUIREMENTS

2.9.1 When complaint investigation, visible emissions observations or other information obtained by Ecology indicates the need to measure emissions, Ecology may order source testing for any of the regulated air contaminants identified in this Order, in accordance with test methods identified under Approval Condition 2.9.2 below. This testing requirement is in addition to any testing required by Ecology under WAC 173-400-105.

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~~2.9.12.9.2~~ Within 180 days of receipt of final approval When required by Ecology in accordance with Condition 2.9.1, Specialty Chemical Products shall test for the composition of the silica fume using test methods contained in the table below, unless alternate methods are proposed by Specialty Chemical Products and approved in writing by Ecology prior to testing.

Pollutant to be Tested For	Test Method to be Used
Arsenic, Cadmium, Total Chromium , Lead, Manganese, Nickel, and Selenium	SW-846 Method 6010B, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3 rd Edition, Final Update IV, United States Environmental Protection Agency, 2008, <u>or the latest version.</u>
Mercury	SW-846 Method 7471A, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3 rd Edition, Final Update IV, United States Environmental Protection Agency, 2008, <u>or the latest version.</u>
Hexavalent Chromium	SW-846 Methods 3060A <u>and</u> 7199, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3 rd Edition, Final Update IV, United States Environmental Protection Agency, 2008, <u>or the latest version.</u>
<u>Crystalline Silica</u>	<u>X-ray Diffraction</u>
pH	Per sampling and analysis plan
Moisture	Per sampling and analysis plan

~~2.9.2~~ Sampling shall be conducted from at least two (2) depths in each of three ponds or areas to be excavated: at the exposed surface level, and at three (3) feet below the exposed surface of the pond or area. The samples from the two depths at each of the three locations shall be composited into a single sample for analysis. The pH of each of the three composited samples shall be analyzed and reported.

2.9.3 The permittee shall develop a project-specific sampling and analysis plan, in consultation with Ecology and an independent testing firm prior to any required

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testing. The plan shall specify the ponds or areas to be sampled, the depths from which samples will be drawn, and the procedures to be used during sample ~~collection preparation~~ and analysis; to assure the generation of quality data. The plan shall be submitted for Ecology's approval at least thirty (30) days prior to any required source testing. A written report of the source test results shall be submitted to Ecology within 90 days after source testing is conducted.

2.9.4 Prior to beginning excavation of the fume from any pond or area, the permittee shall sample the fume and analyze for fume moisture in accordance with a sampling and analysis plan approved by Ecology. The plan shall require at least one moisture analysis each year.

2.9.5 ~~To demonstrate compliance, Ecology may order additional source testing for any of the regulated air contaminants identified in this Order, in accordance. If testing indicates that additional regulated air pollutants might be emitted, or that potential emissions of any of the pollutants identified in this Order might be higher than the values relied upon in approving the project, this Order may be revised to incorporate the new information.~~

2.10 GENERAL CONDITIONS

2.10.1 All excavated material that is stored on-site shall be stored in an enclosed storage building.

2.10.2 All outdoor burning shall be performed according to Chapter 173-425 WAC, Outdoor burning.

2.10.3 Legible copies of this Order approving the Notice of Construction application shall be displayed on-site in a location known by and available to employees in direct operation of project equipment, and available to Ecology upon request.

2.10.4 Records of all data shall be maintained in a readily retrievable manner for a period of five (5) years and be made available at the plant site to authorized representatives of Ecology upon request.

2.10.5 This Order shall become invalid if actual construction is not ~~commenced~~ began within 18 months after receipt of the final approval ~~revised Order~~, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. Ecology may extend the 18-month period upon a satisfactory showing that an extension is justified.

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- 2.10.6 Emissions inventory information and other information may be requested by Ecology. Emissions information requested by Ecology shall be submitted within 30 days of receiving the request unless otherwise specified. Ecology will supply the necessary forms for use in reporting emissions inventory information. The applicant will pay any required registration fees within 30 days of receipt of the invoice from Ecology, unless otherwise specified.
- 2.10.7 Access to the source by the EPA or Ecology shall be permitted upon request for the purpose of compliance assurance inspections. Failure to allow access is grounds for revocation of the Order approving the Notice of Construction application.
- 2.10.8 Operation of all equipment must be conducted in compliance with all data and specifications submitted as part of the Notice of Construction application unless otherwise approved by Ecology. Any activity undertaken by the permittee, or others, in a manner which is inconsistent with the application or this Order, shall be subject to Ecology enforcement under applicable regulations.
- 2.10.9 Nothing in this Order shall be construed so as to relieve the permittee of its obligations under any local, state, or federal laws or regulations including, but not limited to, local zoning and building codes.
- 2.10.10 It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.
- 2.10.11 This Order is valid only after payment of appropriate new source review fees required pursuant to WAC 173-455-120.

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 Central 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.

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

- I. Violation of any terms or conditions of this authorization;

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- II. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant facts.

The provisions of this authorization are severable and, if any provision of this authorization or application of any provision to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this authorization, shall not be affected thereby.

APPEAL INFORMATION:

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

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

Be sure to do the following:

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

1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

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

OR

Deliver your appeal in person to:

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

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2. To serve your appeal on the Department of Ecology

Mail appeal to:

Deliver your appeal in person to:

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

OR

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

3. And send a copy of your appeal to:

Susan Billings
Department of Ecology
Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, Washington 98902-3452

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

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

~~DATED at Yakima, Washington this 18th day of February, 2009. This Notice of Construction Approval Order becomes effective when the final signature is affixed to it. The date of issuance is the date of the final approval signature.~~

Prepared By:

David Ogulei, Ph.D., P.E.
Air Quality Engineer
Department of Ecology

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Approved By:

Dated: _____

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Susan M. Billings
Air Quality Section Manager
Department of Ecology

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