

Statement of Basis for Arclin Surfaces, LLC

Air Operating Permit No. 12048

Permit Renewal #1

1. Purpose of this Statement of Basis

This document summarizes the legal and factual bases for the permit conditions in Arclin Surfaces, LLC's (Arclin's) air operating permit to be issued under the authority of the Washington Clean Air Act, Chapter 70.94 Revised Code of Washington, Chapter 173-401 of the Washington Administrative Code and Puget Sound Clean Air Agency (PSCAA) Regulation I, Article 7. Unlike the permit, this document is not legally enforceable. It includes references to the applicable statutory or regulatory provisions that relate to Arclin's emissions to the atmosphere. In addition, this Statement of Basis provides a description of Arclin's activities and compliance history.

2. Source Description

Arclin USA, LLC is a chemical manufacturing company and leading provider of high performance bonding products for a broad range of applications, including wood based panels, engineered wood, mineral and glass fiber tissue and paper impregnation. Arclin USA, LLC is also a global leader in paper overlays technology, providing high-value surfacing solutions for decorative panels, building products and industrial specialty applications for North American and export markets. Arclin USA, LLC is a Delaware corporation, headquartered in Roswell, GA and employs approximately 600 people at 12 locations in the US and Canada. Arclin Surfaces in Tacoma is one of several facilities operated by Arclin USA, LLC.

Arclin employs about 53 people at its 155,000 square foot manufacturing facility located at 2144 Milwaukee Way in Tacoma. This facility has three production (paper impregnation) lines. Line 1 is used for making industrial products impregnated with phenolic, melamine or urea formaldehyde resins and can coat one or both sides of the paper with a phenolic glue. The other two lines are used for making decorative products impregnated with a mixture of melamine and urea formaldehyde resins and can coat both sides of the paper with a melamine formaldehyde resin. Line 1 is limited to paper widths up to 64 inches, but lines 3 and 4 can accept paper widths up to 100 inches. The facility was operating a fourth line (Line 2), but the gas-fired boiler required to operate this line has been permanently disabled. At time of AOP issuance, Line 2 and the associated boiler are physically located at the facility but inoperable. Start-up of this line would require additional permitting.

Each process begins with a specialty paper that is immersed in a resin bath before entering the first air floatation drying section. Products to be coated will exit the first drying zone in a cured state (normally <15% volatile). After passing the gravure (for Lines 3 and 4) and Meyr rod (for Line 1) coaters, the paper is then fed into additional air floatation drying zones. Upon exiting the final drying zone, the treated paper is cooled and slit, and then either rolled or sheeted.

The coating line dryers are natural gas-fired and rated at 1-2 MMBtu/hr. All drying and coating zones are maintained under negative pressure by means of an induction fan that directs the exhaust to a thermal oxidizer. Line 1 is controlled by regenerative thermal oxidizers (RTO). Lines 3 and 4 are controlled by catalytic oxidizers. These oxidizers draw enough air from the building for it to function as a permanent total enclosure and capture all of the emissions.

The facility has an outside tank farm consisting of eighteen storage tanks.

	Tank Numbers and Storage (Gallons)
Melamine	# 1 (7,500), 2 (7,500), 9 (7,500), 12 (10,000), 17 (7,500)
Urea	# 5 (7,500), 6 (7,500), 10 (10,000), 13 (10,000)
Phenolic	# 3 (7,500), 4 (7,500), 7 (7,500), 8 (7,500)
Diethylene Glycol	# 14 (7,500), # 15 (7,500)
Methanol	# 11 (10,000)
Rainwater	# 16 (7,500)
N/A (Out Of Service)	# 18 (7,500)

The facility also has a mixing room with 21 mixing tanks.

- Polyester Room
 - 2 x 500 Gallon Tanks (one tank not in use/out of service)
- IFA Room (downstairs)
 - 8 x 150 Gallon Tanks (melamine/urea)
- Phenolic Room (upstairs)_
 - 4 x 2,500 Gallon Tanks
 - 2 x 300 Gallon Tanks (not in use/out of service)
- IFA Area Main Scale
 - 2 x 100 Gallon Tanks (main mix tank)
 - 2 Sub Scale
 - 1 Color Scale

Additionally, there are 12 space heaters, 1 water heater, and 1 gas-fired boiler (research), and a small pilot treater for research and development of new products. Emissions from the pilot treater are vented to the oxidizer for line 4.

Arclin is classified as a major source as defined by WAC 173-401-200 because both its potential to emit exceeds 10 tons per year of a single HAP (methanol) and 25 tons per year of total HAP (methanol, formaldehyde and phenol).

3. Operating Permit History

3.1 Original Permit

An application for an air operating permit was submitted by Dynea Overlays on June 30, 1997, with supplementary information submitted on September 9, 1997. The original operating permit was issued on May 1, 2002.

Dynea Overlays maintained the facility until 2007, when Arclin Surfaces purchased the facility and took over all operations.

3.2 Administrative Amendment

On May 20, 2013, Arclin requested an Administrative Amendment to the Operating Permit to change the Responsible Official. Administrative Revision 1 to make this change was issued June 20, 2013.

3.3 Permit Renewal

On October 13, 2005 Arclin requested a modification to the operating permit to incorporate the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP): Paper and Other Web Coating (40 CFR Part 63, Subpart JJJJ) and to remove requirements in existing Order of Approval Nos. 5089, 7208 and 7284 that were redundant with or conflicted with the NESHAP requirements. Arclin also requested to cancel the pilot treater requirements in Order of Approval No. 5181, since its exhaust is now ducted to an oxidizer.

On January 10, 2006, the Agency sent a letter to Arclin recommending that the permit modification and operating permit renewal be combined. The benefit of this approach was to avoid a second reopening of the permit and verify compliance with the NESHAP was achievable with the existing control equipment. A complete operating permit renewal application was received on April 28, 2006.

Changes made in the permit renewal include incorporation of the Paper and Other Web Coating NESHAP requirements (40 CFR Part 63, Subpart JJJJ) and inclusion of requirements in Notice of Construction Orders of Approval issued to Arclin since the original permit was issued, as well as several small changes. Changes are summaries in Section 17 of this document.

4. Recent Notice of Construction History

On October 13, 2005, the applicant sent a letter requesting the Agency remove requirements in existing Orders of Approval Nos. 5089, 7208 and 7784 which are redundant with or conflict with the National Emission Standards For Hazardous Air Pollutants (NESHAP): Paper And Other Web Coating (40 CFR Part 63, Subpart JJJJ). They also requested the Agency remove specific requirements limiting the pilot treater requirements in Order of Approval No. 5181 since emissions are controlled by a thermal oxidizer, and basis of limited hours was because the intent was to vent directly to the atmosphere without controls.

Based on a review of previously issued Orders of Approval, the federal NESHAP requirements, and associated compliance test methods, Order of Approval No. 9326 was drafted with revised conditions that apply to facility operations. The public comment for this Order will be concurrent with the draft operating permit. The revised Order ensures the following:

- Maintains the 95% destruction efficiency requirement for oxidizers controlling Lines 3 and 4. Although this is similar to NESHAP requirement, this was a specific BACT determination. The NESHAP allows an alternative to meeting the 95% overall control efficiency by allowing measurement of 20 ppm at the exhaust. This was not incorporated into the BACT requirement.
- Maintains the 98% destruction efficiency requirement for oxidizer controlling emissions from Line 1. This is a BACT requirement and is more stringent than the NESHAP requirements.
- Eliminates the continuous temperature monitoring requirements in Order of Approval Nos. 5089, 7208, and 7784. These are redundant with the NESHAP.

- Eliminates the thermocouple auditing requirements in Order of Approval Nos. 7208 and 7784. These are redundant with the NESHAP.
- Revises negative pressure enclosure requirements in Order of Approval Nos. 7208 and 7784 since addressed in NESHAP.
- Eliminates annual catalyst activity analysis requirements in Orders of Approval Nos. 7208 and 7784. These are redundant with the NESHAP.
- Eliminates 2-year record retention requirement in Order of Approval No. 5089 since 5-year record retention requirement in facility operating permit is more stringent.
- Removes specific temperature requirements for oxidizers in Orders of Approvals. Defer to NESHAP requirement that temperature limits are established in most recent performance tests that demonstrate compliance with destruction efficiency requirements.
- Retains the requirement to conduct a source test every 5 years. This is more stringent than the NESHAP but consistent with BACT requirements in Order of Approval Nos. 7208 and 7784.
- Changes the Reference Test Method from Method 308 to Method 25A for determining VOC destruction efficiency. This is consistent with the NESHAP, and Method 25A would be the more appropriate method for determining VOC destruction efficiency.
- Eliminates hourly limits on the pilot treater since this unit is now controlled by thermal oxidizer.
- The Order formalizes that alternative means of compliance (Regulation I, Section 3.23) since Arclin is uses oxidizers to control emissions of VOC which is more effective than meeting the VOC content limits on paper coating in Regulation II, Section 3.03.

Issuance of Order of Approval No. 9326 would result in the cancellation of Order of Approval Nos. 5089 (dated 10/4/93), 5181 (dated 10/6/94), 6867 (dated 3/12/95), 7208 (dated 2/6/98), 7784 (dated 6/3/99), 9269 (dated 7/28/05), and 9632 (dated 8/1/07) since requirements in Order of Approval 9326 and the NESHAP ensure compliance with requirements established in these Orders that still pertain to facility operations.

5. Applicability of NSPS and NESHAP Standards

Paper and Other Web Coating NESHAP: On December 4, 2002, the EPA promulgated a NESHAP standard for Paper and Other Web Coating (40 CFR Part 63, Subpart JJJJ). This NESHAP applies to Arclin since it is a major source of hazardous air pollutant (HAP) emissions at which web coating lines are operated. The affected source subject to this NESHAP is the collection of all web coating lines at the facility. Arclin's operations are considered an existing source since construction or reconstruction commenced before September 13, 2000, and has not undergone reconstruction. As such, Arclin was required to comply with the NESHAP standard on December 5, 2005. The pilot treater meets the definition of research and laboratory equipment in 40 CFR 63.3310 and is not subject to the NESHAP requirements.

Boiler NESHAP: The NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD) does not apply to the small boiler in the Research and Technology area. According to information submitted by Arclin in an 11/25/15 e-mail, the boiler is used for research and development (R&D) purposes only. The wood press that is served by the boiler does not produce saleable material and is operated based on R&D needs

only. It does not supply steam to a process, but for a single use, non-production based, R&D equipment. Arclin had submitted an Initial Notification for this small boiler and for the Superior Boiler which was used to provide heat for Coating Line 2 oven dryers. The Superior Boiler has been permanently decommissioned. Arclin also has a water heater located behind Coating Line 1, but this unit meets the definition of a water heater (tankless unit that provides on demand hot water) and is not subject to the NESHAP in accordance with 40 CFR 63.7491(d).

NSPS: No Standards of Performance for New Stationary Sources in 40 CFR Part 60 apply to Arclin.

6. Compliance History

Arclin began production operations at this location in October 1993. The compliance history prior to the issuance of the original permit was documented and considered in the original Statement of Basis. This document summarizes compliance and inspection history since the issuance of the original permit on May 1, 2002.

The Agency has conducted several compliance inspections of the facility since May 1, 2002: April 14, 2003, November 4, 2003, January 24, 2005, February 2, 2006, November 21, 2006, July 2, 2007, July 1, 2008, February 10, 2009, February 24, 2009, December 2, 2009, January 26, 2010, June 14, 2010, September 10, 2010, January 6, 2011, August 9, 2011, May 9, 2012, April 17, 2013, August 28, 2013, August 29, 2013, May 22, 2014, July 1, 2014, and July 22, 2015. The Agency has also observed the tests of the oxidizers: March 8, 2005 (lines 3 and 4), October 19-20, 2005 (lines 1-4), November 21, 2005 (line 2), and February 3, 2006 (line 1). The Agency has taken the following enforcement actions against Arclin since the operating permit was issued:

Violation Date	NOV/WW #	Issue Date	Closure Date	Reg/OPERATING PERMIT Citation	Note
3/25/03	NOV 3-000624	2/3/05	6/10/05	Permit term EU-3.6	>5 years since line 3 was last tested
3/3/05	NOV 3-000629	7/8/05	10/4/05	Permit term V.Q	Late semiannual certification of reports and annual compliance certification
5/11/05	WW 2-002366	6/2/05	10/10/05	Permit term V.N.1.v	Late source test reports for lines 3 and 4
12/1/05	NOV 3-001804	1/19/06		Permit terms V.M and V.Q	Late semiannual certification of reports
12/5/05	NOV 3-001806	3/31/06		40 CFR 63.3321(a), Subpart JJJJ Table 1	Operation of line 1 during Dec. '05 at combustion chamber temperatures below that recorded during the initial performance test
1/27/06	NOV 3-001805	2/23/06		40 CFR 63.3350(f), 63.3400(c)(2)(iv) and (v),	Incomplete Notification of Compliance Status report

				63.3400(e), 63.9(h)(2)	
5/8/09- 6/2/09	NOV 2-008112	12/2/09	12/16/09	Permit terms EU-1.3, EU- 3.9, EU-4.9, V.O.3, V.P	Failure of chart recorder drive unit which caused data to be lost from 5/8/09 – 6/2/09
6/1/10	NOV 2-008115	6/14/10	7/19/10	Permit terms V.M and V.Q.1	Late annual and semiannual certification reports
10/22/10	NOV 3-005317	1/6/11	2/17/11	Permit term EU-3.3	Failure to meet 95% destruction efficiency for catalytic oxidizer on Line #3
6/28/13	NOV 3-006437	8/13/13	12/2/13	40 CFR 63.7545	Failure to submit Boiler NESHAP initial notification on time
8/5/13	NOV 3-006438	9/13/13	11/4/13	Section 7.09	Failed to submit electronic compliance report - semiannual NESHAP report
5/22/14	NOV 3-006937	7/10/14	2/23/15	40 CFR 63.3335(a)(3) 63.3350(f) 63.3350(f)(3)	Not operating in compliance with Capture Efficiency Monitoring Plan – pressure differential below 0.007 inches of H2O

7. Emission Inventory

Emissions at this facility come principally from paper impregnation/coating lines. Most of the emissions come from the industrial products line.

Arclin uses a mass balance equation to determine annual emissions reporting. Starting with each individual resin formula, they determine the percentage of each HAP and/or VOC. Uncontrolled emissions are calculated based on annual production volume for each product line. Since the products are run through a drying process before completion, they assume a 100% loss of HAP and/or VOC, which allows determination of emissions for each product line. The total HAP and/or VOC are multiplied by the destruction efficiency of each treater line, as determined by the most recent source testing, to determine the amount of HAP and/or VOC released to the air from each coating line. Source tests on the Line 1 thermal oxidizer were conducted October 19, 2005, February 3, 2006 (retest). Source tests on the Line 3 catalytic oxidizer on March 9, 2005, November 21, 2005 (retest), August 31, 2010, and July 15, 2015. Source tests on the Line 4 catalytic oxidizer were conducted on March 9, 2005, October 20, 2005, September 1, 2010, and July 14, 2015.

Emissions from product storage are relatively small, based on the EPA's TANKS program. Mixing losses are assumed to equal tank working losses. Emissions of carbon monoxide and nitrogen oxides from natural gas combustion in the dryers, boiler, and thermal oxidizers are below the emission reporting thresholds in Regulation I, Section 5.05(b), based on EPA's emission factors. In 2014, Arclin used approximately 131,309 MMBtu of natural gas.

The table below summarizes the reportable air emissions for the previous 3 years. Emission inventories are estimates of actual emissions from the facility developed by Arclin and submitted to the Agency annually. Emissions will vary from year to year depending on production loads.

Chemical Name	2012	2013	2014
Phenol	2366 pounds 1 ton	5182 pounds 3 tons	3262 pounds 2 tons
Diethylene glycol	3887 pounds 2 tons	5400 pounds 3 tons	3034 pounds 2 tons
Formaldehyde	3600 pounds 2 tons	4141 pounds 2 tons	3167 pounds 2 tons
Methyl alcohol (Methanol)	16172 pounds 8 tons	15143 pounds 8 tons	14579 pounds 7 tons
VOC	26025 pounds 13 tons	29866 pounds 15 tons	24042 pounds 12 tons
HAP	22138 pounds 11 tons	24466 pounds 12 tons	21008 pounds 11 tons

8. Applicable Requirements

The permit only lists the requirements that the Agency has determined to be within the scope of the definition of “applicable requirements” under the operating permit program. Arclin is legally responsible for complying with all applicable requirements of the operating permit as well as other requirements that do not fit the definition of “applicable requirements” found in Chapter 173-401 WAC.

8.1 Section I.A Facility-Wide Applicable Requirements

Table 1 lists the applicable requirements that apply facility-wide. In addition to the regulatory citation and the adoption or effective date of the regulation, the permit includes a paraphrase of the applicable requirement. The requirement paraphrases are for information only and are not enforceable provisions of the permit. In the event of any conflict or omission between the requirement paraphrase and the applicable requirement cited in the second and third columns, the cited regulatory requirement takes precedence. For more information regarding any of the applicable requirements cited in the second and third columns, refer to the actual statute or regulation cited. When applicable, the emission standard period and Reference Test Method are also listed with the applicable requirement. This test method is used if and when a source test is required. In some cases where the applicable requirement does not cite a test method, one has been added.

Table 1 also identifies the required monitoring method for the requirement. The method is described in Section II of the permit. Following the monitoring methods is an enforceable requirement of this permit. Some of the facility-wide requirements cited in Table 1 do not specify compliance determination or monitoring methods in the regulation. In these cases, a site-specific compliance monitoring method sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance’s has been added to the permit pursuant to WAC 173-401-615(1)(b). The basis for all decisions to add periodic monitoring and recordkeeping terms is described below.

Opacity and Particulate Matter Provisions

Regulations that address opacity and particulate matter emission limits do not specify periodic testing or monitoring in the regulations themselves. Pursuant to WAC 173-401-615(1)(b), the Agency has determined that weekly inspections of the coating line oxidizer stacks and annual

inspections of the oxidizers, boilers, space heaters, and water heater for visible emissions are sufficient for determining general compliance with these requirements. If visible emissions are noted, the permit allows Arclin to use the reference test method to determine compliance. Otherwise, Arclin must take corrective action or shut the unit down within 24 hours. It is a deviation of the permit if corrective action is not taken to fix the problem in 24 hours and the unit was not shut down.

The monitoring method in the permit renewal is consistent with the method in the existing operating permit and the Agency has determined this method is sufficient. No deviations of opacity or particulate matter emission limits have been reported by Arclin since issuance of the original permit. Similarly, the compliance history (above) shows no Notices of Violation of these standards have ever been issued and the Agency staff have not observed any visible emissions from this facility during any inspections. Fuel burning equipment fires on natural gas which should not generate visible emissions and yields virtually no particulate emissions except if there was a malfunction of the equipment.

Fugitive Dust Provisions

Regulations that address fugitive dust do not specify periodic testing or monitoring in the regulations themselves. Pursuant to WAC 173-401-615(1)(b), the Agency has determined that quarterly monitoring for general compliance with regulations, including checking for fugitive dust, is sufficient for determining general compliance with these requirements. In addition, Arclin must investigate and resolve in a timely matter all air pollution complaints.

The monitoring method in the permit renewal is consistent with the method in the existing operating permit and the Agency has determined this method is sufficient. No deviations of the regulations that address fugitive have been reported by Arclin since issuance of the original permit. Similarly, the compliance history (above) shows no Notices of Violation of these standards have ever been issued and the Agency staff have not observed any fugitive dust or track-out that required corrective action. The operations are all conducted within a building enclosure with indoor emissions vented to thermal oxidizers. The parking lot is paved with the exception of some decorative landscaping. Routine inspection of all areas of the facility that could emit fugitive dust will minimize the chance of fugitive emissions.

Nuisance Provisions

Regulations that address nuisance provisions do not specify periodic testing or monitoring in the regulations themselves. Pursuant to WAC 173-401-615(1)(b), the Agency has determined that quarterly monitoring for general compliance with regulations, including checking for fugitive dust and odors, is sufficient for determining general compliance with these requirements. In addition, Arclin must investigate and resolve in a timely matter all air pollution complaints.

The monitoring method in the permit renewal is consistent with the method in the existing operating permit and the Agency has determined this method is sufficient. No deviations of the nuisance provisions have been reported by Arclin since issuance of the original permit. Similarly, the compliance history (above) shows no Notices of Violation of these standards have ever been issued. There are potential odor sources which could result in nuisance complaints, but the monitoring method requires Arclin to respond and take corrective action as necessary to address nuisance complaints. Odor emissions could be associated with the transfer of solvent and resins from tank trucks to storage tanks (phenol formaldehyde resins have the highest odor potential) and with solvents used in coating operations. However, Arclin minimizes odor potential from coating line operations since emissions are controlled by oxidizers. The coating

lines are interlocked with their associated oxidizers to prevent their operation if the minimum set point temperature of the oxidizer is not maintained at all times. Although the Agency has observed resin odors adjacent to the facility, it has never received a nuisance complaint regarding this facility. The Agency staff recognizes that Arclin is located in the center of an industrial area near a rendering plant, sewage treatment plant, oil refinery, and Kraft pulp mill, all of which have their own associated odors so it may be difficult to pinpoint nuisance emissions to a single source in this area.

Sulfur Dioxide and Hydrochloric Acid Provisions

Only pipeline quality natural gas is burned in the combustion units at Arclin. "Natural gas" means a mixture of gaseous hydrocarbons, with at least 80 percent methane (by volume), and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the Washington Utilities and Transportation Commission. Arclin receives the same natural gas as all of the other natural gas consumers, private and industrial, in the Northwest. Based on an analysis of sulfur in natural gas and assuming almost all the sulfur in natural gas would be converted to sulfur dioxide (SO₂), less than 1 ppmv of SO₂ would be emitted from combustion units. This estimated value is less than one-tenth of one percent of the 1,000 ppm SO₂ standard. Therefore, it is reasonable to assume that combustion units that are fired on natural gas cannot exceed the 1,000 ppm SO₂ limits in Agency Regulation I, Section 9.07 and WAC 173-400-040(6). The other emission units are not capable of generating SO₂ emissions as permitted. Therefore, the permit does not contain monitoring requirements.

Agency Regulation I, Section 9.10 specifies that HCl emissions shall not exceed 100 ppm (dry), corrected to 7% O₂ for combustion sources, including both internal and external combustion units. Since Arclin burns only pipeline-grade natural gas, the facility is incapable of violating the standard while complying with the other requirements in the permit. Therefore, the permit does not contain additional monitoring requirements.

Operational and Maintenance Provisions

PSCAA Regulation I, Section 9.20 requires Arclin to maintain equipment in good working order. Section 9.20(a) applies to sources that received a Notice of Construction Order of Approval under Agency Regulation I, Article 6. Section 9.20(b) applies to equipment not subject to Section 9.20(a). Section II of the permit identifies the minimum monitoring criteria for maintaining equipment in good working order. The section identifies both facility-wide criteria and specific criteria for the emission units and activities. In addition, the facility-wide inspections provide monitoring of the general effectiveness of the monitoring method. The Agency has determined that the requirements of Section II of the permit provides sufficient monitoring criteria to certify that the equipment has been maintained in good working order. However, the Agency reserves the right to evaluate the maintenance of each piece of equipment to determine if it has been maintained in good working order.

In accordance with Agency Regulation I, Section 7.09(b), Arclin is required to develop and implement an O & M Plan to assure continuous compliance with Agency Regulations I, II and III. The requirement specifies that the plan shall reflect good industrial practice, but does not define how to determine good industrial practice. In most instances, following the manufacturer's operations manual or equipment operational schedule is considered good industrial practice. This language is consistent with a Washington Department of Ecology requirement in WAC 173-400-101(4). Agency Regulation I, Section 7.09(b) also requires Arclin to promptly correct any defective equipment. However the underlying requirement in most instances does not define "promptly"; hence for significant emission units and applicable requirements that Arclin has a

reasonable possibility of violating or that a violation would cause an air quality problem, the Agency added clarification that "promptly" means within 24 hours. For many insignificant emission units and equipment not listed in the permit, the meaning of "promptly" will vary because the emission sources and suitable pollution control techniques vary widely, depending on the contaminant sources and the pollution control technology employed. However, the permit identifies a means by which to identify if Arclin is following good industrial practice.

8.2 Section I.B Requirements that Apply to Emission Unit #1 Only - Coating Lines

Table 2 lists the applicable requirements that apply only to Emission Unit #1 which consists of the coating lines and the associated oxidizers described below.

- One Phenolic/Formaldehyde VITS PT528 IPA/N Paper Impregnation Line (#1), including a Toccio Dryer, with an Adwest Technologies ReTox Regenerative Thermal Oxidizer
- One VITS Model PT697 Decorative Coating Line (#3) rated at 1.025 MMBtu/hr (20,000 cfm) with a Grace TEC Systems Catalytic Oxidizer rated at 9.1 MMBtu/hr (21,000 cfm)
- VITS Model PT749 Decorative Coating Line (#4) and one VITS LT-87 Pilot Treater controlled by a MEGTEC Magnum Catalytic Thermal Oxidizer rated at 21,000 cfm. The Pilot Treater is operated as research equipment only as defined in 40 CFR 63.3310.

Arclin also has another coating line physically located in the facility (Line 2), but this coating line cannot be operated without the steam supplied by the Superior Boiler which has been permanently decommissioned. Therefore, this line is not included in the emission unit description. Arclin would be required to obtain a Notice of Construction Order of Approval and apply best available control technology prior to restarting the line.

Opacity Provisions

In addition to the facility-wide opacity standards of 20% that applies to all stationary sources, a 5% opacity standard applies specifically to the exhaust from the oxidizers that control emissions from the coating lines. The opacity standard was determined to be part of the original best available control technology or BACT requirements established under the Notice of Construction program in PSCAA Regulation I, Article 6.

The Agency has determined that the general weekly monitoring for visible emissions from the oxidizer stacks is sufficient for determining compliance with this BACT requirement. If visible emissions are noted, the permit allows Arclin to use the reference test method to determine compliance. Otherwise, Arclin must take corrective action or shut the unit down within 24 hours. Taking corrective action does not relieve Arclin from the obligation to comply with the opacity requirement itself. Weekly monitoring of visible emissions from the oxidizer stacks was deemed sufficient since oxidizers burn only natural gas which should not generate visible emissions except if there was a malfunction of the equipment.

VOC Control Requirements

PSCAA Regulation II, Section 3.03 prohibits application of any coating used in paper coating operations that has a VOC content in excess of 350 grams/liter (2.9 lb/gal). The industrial coatings currently used by the facility meet this limit, but products used in the past have exceeded this limit by as much as 20%. If products are above the VOC limits, compliance with this VOC limit requires control equipment. This alternative means of compliance was approved under Order of Approval No. 9326 as allowed under PSCAA Regulation I, Section 3.23. It has

been demonstrated that the use of oxidizers to control emissions is at least as effective as using coatings that meet the VOC limits.

Order of Approval No. 9326 requires use of a thermal oxidizer for coating line 1 with a VOC control efficiency of 98%, and use of a catalytic oxidizer on coating lines 3 and 4 (one control device for each coating line) with a VOC control efficiency of 95%. The destruction efficiency requirements were required to meet BACT requirements established under the Notice of Construction program in PSCAA Regulation I, Article 6. They are similar, but not identical, to the limits set in the NESHAP. The Order of Approval specifies a compliance test on each catalytic oxidizer every 5 years. In addition, monitoring established in the NESHAP is used to verify the maintained and operated in a manner to ensure continued compliance with the BACT requirements.

Paper and Other Web Coating NESHAP Provisions

Table 2 includes NESHAP requirement in 40 CFR Part 63, Subpart JJJJ. The basis of the applicable requirements are included below:

- The affected source subject to the NESHAP is the collection of all web coating lines at the facility, except for the pilot treater which meets the definition of research and laboratory equipment in 40 CFR 63.3310. *Research or laboratory equipment* means any equipment for which the primary purpose is to conduct research and development into new processes and products where such equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce except in a de minimis manner.
- The web coating lines are an existing source since constructed on or before September 13, 2000, and has not undergone reconstruction as defined in 40 CFR 63.2.
- 40 CFR 63.3320(b) specifies 4 compliance options. Arclin uses a capture system and oxidizers to control emissions. Therefore, applicable requirements are limited to (b)(1) which limits HAP emissions to no more than 5% of the organic HAP applied for each month or (b)(4) which specifies that if using an oxidizer to control organic HAP emissions, the oxidizer shall operate such that an outlet organic HAP concentration is no greater than 20 ppmv by compound on a dry basis (capture system is 100%).
- For the catalytic oxidizers, the EPA NESHAP allows an alternative to monitoring the temperature difference across the catalyst bed. The operating permit incorporates this alternative monitoring requirement based on Arclin's concern that there was too much variability in the temperature difference across the catalytic bed. The applicable requirement in the operating permit is consistent with 40 CFR 63.3370(k)(3) which states, "You are in compliance with the emission standards in 40 CFR 63.3320(b) if the oxidizer is operated such that the average operating parameter value is greater than the operating parameter value established in accordance with 40 CFR 63.3360(e) for each 3-hour period...." The required monitoring is consistent with 40 CFR 63.3360(e)(3)(ii)(C) which states, "As an alternative to monitoring the temperature difference across the catalyst bed, you may monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in paragraph (e)(3)(ii)(D) of this section. During the performance test, you must monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature just before the

catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer." Therefore, there is no requirement to monitor the temperature across the catalytic bed.

- The building is the total permanent enclosure. Arclin submitted an evaluation using EPA Method 204 to support this conclusion on December 11, 2015.

Some of the requirements in the NESHAP are obsolete as summarized below:

- The initial notification submitted on 12/6/04 in accordance with 40 CFR 63.9(b) as required by 40 CFR 63.3400(b)(1). This is a one-time notification requirement.
- The notification of performance test
- The (revised) Notification of Compliance Status report was received by the Agency on March 10, 2006 in accordance with 40 CFR 63.9(h) as required by 40 CFR 63.3400(e). This is a one-time requirement and has been completed.
- The initial NESHAP performance testing required in 40 CFR 63.3360 and 40 CFR 63.7. This is a one-time testing requirement and has been completed. A summary of the performance testing is included below:
 - A test was conducted on October 11, 2005 to demonstrate the building was a permanent total enclosure pursuant to 40 CFR 63.3360(f). Although the report indicated compliance with the criteria for a permanent total enclosure on the day of the test, there was insufficient data in the report to certify continuous compliance. The Agency recommended a retest. Results of an updated evaluation were submitted on December 11, 2015 which concludes the Arclin production building meets all criteria for a Permanent Total Enclosure under EPA Method 204. This analysis identified work rules to be added to the facility O&M Plan.
 - The Line 1 thermal oxidizer was tested on 10/19/05, then retested on 2/3/06. Both tests demonstrated compliance with the NESHAP standard which requires 95% overall control of an outlet concentration <20 ppmvd, as carbon. The average combustion chamber temperature was 1653 degrees F which is an enforceable minimum operation limit in accordance with 40 CFR 63.3360(e)(3).
 - The Line 2 thermal oxidizer was tested on 10/20/05 and demonstrated compliance with the NESHAP standard which requires 95% overall control of an outlet concentration <20 ppmvd, as carbon. The average combustion chamber temperature was 1614 degrees F which is an enforceable minimum operation limit in accordance with 40 CFR 63.3360(e)(3). This line is no longer in operation.
 - The Line 3 catalytic oxidizer was tested on 11/21/05 and demonstrated compliance with the NESHAP standard which requires 95% overall control of an outlet concentration <20 ppmvd, as carbon. The average catalyst inlet temperature was 648 degrees F which is an enforceable minimum operation limit in accordance with 40 CFR 63.3360(e)(3).
 - The Line 4 catalytic oxidizer was tested on 10/20/05 and demonstrated compliance with the NESHAP standard which requires 95% overall control of an outlet concentration <20 ppmvd, as carbon. The average catalyst inlet

temperature was 599 degrees F which is an enforceable minimum operation limit in accordance with 40 CFR 63.3360(e)(3).

In Notice of Construction Orders issued for Line 3 and 4, performing testing was required every 5 years to verify the catalytic oxidizers continued to perform as designed. Because these Orders were issued prior to promulgation of the NESHAP, test method 308 was identified as the appropriate test method. Order of Approval No. 9326 has been drafted and will be issued at the same time as this operating permit. This Order revises the test method required for testing the destruction efficiency across the catalytic oxidizers to be consistent with the NESHAP (Method 25A). Future tests will require use of Method 25A. Operating limits may be reestablished during these routine performance tests assuming the results continue to demonstrate compliance with the NESHAP requirements, but these tests are done in accordance with the Order of Approval and not the NESHAP requirements.

8.3 Recordkeeping Requirements

General recordkeeping requirements are contained in Section V.C of the permit (Standard Terms and Conditions). They apply to all compliance records required by the permit. In addition, Section II.D of the permit contains Paper Coating NESHAP specific recordkeeping requirements and NESHAP Startup, Shutdown & Malfunction Plan (SSMP) recordkeeping requirements. A summary is included in the table below:

General	Monitoring Information	Section V.C.1
	Changes made that result in emissions of a regulated air pollutant	Section V.C.2
	Records supporting O&M Plan actions	Section V.C.4
	Contemporaneous record of all deviations	Section V.C.5
Paper Coating NESHAP	Temperature monitoring system measurements	Section II.D.2(a)
	Measurements needed to demonstrate compliance with NESHAP including 15-minute averages of temperature monitoring system data, performance measurements, evaluation measurements	Section II.D.2(b)
	Hourly average of all recorded temperature readings	Section II.D.2(c)
	Rolling 3-hour average of all recorded temperature readings for each operating period	Section II.D.2(d)
	Total process operating time during reporting period	Section II.D.2(e)
	Identification of excess emissions and parameter monitoring exceedances	Section II.D.2(f)
	Procedures for quality control program for temperature monitoring system	Section II.D.2(g)
	Results of inspections, calibration, and validation check of temperature monitoring system	Section II.D.2(h)
	Required maintenance on control equipment and monitoring equipment	Section II.D.2(i)
	Periods when the temperature monitoring system malfunctioned or is inoperative	Section II.D.2(j)
Startup, Shutdown & Malfunction Plan Records	Results of all performance tests	Section II.D.2(k)
	Required notifications	Section II.D.2(l)
Startup, Shutdown & Malfunction Plan Records	Occurrence and duration of each startup or shutdown of coating lines or oxidizers if exceedance of emission limitation; and actions take if different than procedures specified in facility plan.	Section II.D.3(a) and (c)
	Occurrence and duration of each malfunction of coating lines or oxidizers; and actions take if different than procedures specified in facility plan.	Section II.D.3(b) and (d)

	Information necessary to demonstrate conformance with facility plan	Section II.D.3(e)
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9. Reporting Requirements

In addition to the general reporting requirements in Section V.M and V.R. of this permit (Standard Terms and Conditions), Section II.E of the permit specifies reporting requirements pertaining to the NESHAP. A summary is included in the table below:

Report	Contents	Due	Permit Term
Deviation Report	All instances of deviation from the permit	If potential threat to human health or safety, ASAP but no later than 12 hours after discovered. Otherwise, no later than 30 days after end of month during which deviation occurred. May certify in semi-annual report	Section V.D.1
Semiannual Paper Coating NESHAP Compliance Report	Reporting specified in NESHAP	No later than July 31 for reporting period between January 1 through June 30. No later than January 31 for reporting period between July 1 through December 31	Section II.E.1
Certification of Reports	Summarizes each permit report during 6-month period with certification of responsible official (as applicable)	No later than July 31 for reporting period between January 1 through June 30. No later than January 31 for reporting period between July 1 through December 31	Section V.D.2
Startup, Shutdown and Malfunction Reports	Required reporting if startup or shutdown caused an exceedance of emission limit; or if malfunction occurred	If applicable, with semiannual Paper Coating NESHAP compliance report	Section II.E.2
Annual Compliance Certification	Certification of compliance with permit terms and conditions	By January 30 for the reporting period between January 1 through December 31	Section V.E
Annual Emission Inventory	Facility emission inventory	As required by Agency	Section V.D.4
Changes to Notifications	Change to information provided un 40 CFR 63.9	Within 15 calendar days after the change	Requirement I.B.15

10. Compliance Assurance Monitoring

The Compliance Assurance Monitoring rule in 40 CFR Part 64 requires owners and operators to monitor the operation and maintenance of their control equipment so that they can evaluate the performance of their control devices and report whether or not their facilities meet established emission standards. If owners and operators of these facilities find that their control equipment is not working properly, the CAM rule requires them to take action to correct any malfunctions and to report such instances to the appropriate enforcement agency (i.e., State and local environmental agencies). Additionally, the CAM rule provides some enforcement tools that will help State and local environmental agencies require facilities to respond appropriately to the monitoring results and improve pollution control operations.

The CAM rule applies at major sources with emission units that have control devices, and emissions from the emission unit could exceed 100 tons per year if the control device was not operated. However, units that have a NESHAP standard promulgated after November 15, 1990 are exempt from the CAM rule since standards have been designed with monitoring that provides a reasonable assurance of compliance. Therefore, the oxidizers at Arclin are not

subject to the CAM rule since monitoring is addressed in a NESHAP that was promulgated on December 4, 2002.

11. Prohibited Activities

Activities included in Section III of the operating permit are prohibited, and as such, routine monitoring of parameters is not appropriate. Instead, Agency has listed these activities in this section to highlight that they cannot occur at the facility.

Agency Regulation I, Section 9.13 and WAC 173-400-040(7) contain similar requirements addressing concealment and masking of emissions. Although both requirements apply, the permit language has been simplified by grouping these requirements together.

12. Activities Requiring Additional Approval

Activities included in Section IV of the operating permit require additional approval. For new source review, the permit language has been simplified. Both the state (WAC 173-400-110 and Chapter 173-460 WAC) and Agency (Regulation I, Article 6) new source review programs require approval to construct, install, establish, or modify an air contaminant source. All these requirements apply, but the language in these requirements has been incorporated into one section to simplify the permit language.

13. Standard Terms and Condition

Some of the requirements that are more general in nature are included in Section VII, Standard Terms and Conditions. This provided a mechanism for describing requirements that are more general in nature. This section also contains the standard terms and conditions specifically listed in WAC 173-401-620.

14. Basis for Inapplicable Requirements

The requirements listed in Section X of Arclin's Air Operating Permit do not apply to the facility, or to the specific emissions units listed in the permit for the reasons listed below. The permit shield applies to all requirements so identified.

- WAC 173-400-050(2) limits emissions from incinerators to 100 ppmv of total carbonyls. The catalytic and regenerative thermal oxidizers used to control VOC emissions from the coating lines are not incinerators as defined in WAC 173-400-030.
- Chapter 173-434 WAC regulates emissions from solid waste incinerator facilities. Arclin does not burn solid waste and is not an incinerator facility as defined in WAC 173-434-030.
- WAC 173-490-030(1)(f), requires registration of surface coaters. However, RCW 70.94.161(17) states:

"RCW 70.94.151 shall not apply to any permit program source after the effective date of United States environmental protection agency approval of the state operating permit program. that registration programs adopted pursuant to 70.94.151 shall not apply to operating permit sources."

Additionally, Chapter 173-490 WAC applies only in ozone nonattainment areas. Arclin is not located in an ozone nonattainment area.

- 40 CFR Part 60, Subparts K, Ka and Kb require controls for storage tanks. Subparts K and Ka apply to tanks storing petroleum liquids with a rated capacity greater than 40,000 gallons. Subpart Kb applies to tanks storing volatile organic liquids with a rated capacity greater than or equal to 20,000 gallons. Arclin doesn't have any tanks greater than 10,000 gallon capacity.
- Regulation II, Section 3.02 applies to tanks storing VOC with a rated capacity of greater than or equal to 40,000 gallons. Arclin doesn't have any tanks greater than 10,000 gallon capacity.
- 40 CFR 63.8 contains requirements for the operation and maintenance of continuous monitoring systems (CMS). Section 63.8(a)(2), applicability, states: "*all CMS required under relevant standards shall be subject to the provisions of this section upon promulgation of performance specifications for CMS as specified in the relevant standard.*" Subpart JJJJ (and the preamble in the FR notice) doesn't use the term 'performance specifications' except for continuous emission monitoring systems (CEMS). Although §63.3350(e)(9) requires that thermocouples must be capable of monitoring temperature with an accuracy of +/-1% of the temperature being monitored (in degrees Celsius), there are no performance specifications in Subpart JJJJ or 40 CFR Part 60, Appendix B, yet for thermocouples or pressure differential gauges. The pertinent substantive requirements of §63.8 also appear in §63.3350 and in §63.6, and these requirements are included in the operating permit. However, 40 CFR §63.8 has been determined to be inapplicable. Similarly, 40 CFR §63.9(g) has been determined to be inapplicable since it specifies additional notification requirements for sources with continuous monitoring systems that are required to complete performance evaluations under §63.8(e).
- Obsolete Orders of Approval: As part of the renewal process, Arclin requested the Agency to remove requirements in existing Orders of Approval when conditions were redundant with or conflicted with the new NESHAP requirements. Arclin also requested to cancel the pilot treater requirements in Order of Approval No. 5181, since its exhaust is now ducted to an oxidizer. Accordingly, Order of Approval No. 9326, was drafted to remove requirements that are now redundant with or conflict with the NESHAP standard or are otherwise obsolete, and would cancel and supersede Order of Approval Nos. 5089 (dated 10/4/93), 5181 (dated 10/6/94), 6867 (3/12/95), 7208 (dated 2/6/98), 7784 (dated 6/3/99), 9269 (7/28/05), and 9632 (8/1/07). Order of Approval No. 5181 (dated 10/6/94) had canceled and superseded Order of Approval No. 5181 (dated 11/15/93). Order of Approval No. 7208 (dated 2/6/98) had canceled and superseded Order of Approval No. 6804 (dated 2/12/97).

15. Basis for Insignificant Emission Units

Arclin has requested that the resin tanks be listed as insignificant emission units pursuant to WAC 173-401-530(1)(c) and WAC 173-401-533(2)(c). These tanks are rated at 10,000 gallons capacity or less, have fixed roofs or lids, and store products with a vapor pressure less than 80 mm Hg at 21 degrees Celsius.

Arclin has requested that the methanol storage tank be listed as an insignificant emission unit based on emissions, pursuant to WAC 173-401-530(1)(a). The emission threshold for this tank is 0.5 ton/yr, and the actual emission estimate from the EPA's TANKS3 program is only about 0.1 ton/yr. If the emissions ever exceed 0.5 ton/yr, the operating permit will need to be modified pursuant to Section VIII.E of the operating permit and WAC 173-401-725.

Arclin has requested that the 12 space heaters and the water heater be listed as insignificant emission units pursuant to WAC 173-401-530(1)(c) and WAC 173-401-533(2)(r). The space heaters and water heater are each rated at less than 5 MMBtu/hr and are fired exclusively on natural gas. Therefore, they are insignificant on the basis of their size.

Arclin also has requested that their analytical laboratory operations including fume hoods and vacuum pumps be listed as insignificant emission units pursuant to WAC 173-401-530(1)(c) and WAC 173-401-533(3)(c). The laboratory performs some R&D work as well as routine QA/QC on their products.

In their comments back on the draft operating permit, Arclin requested that dust collectors be listed as insignificant emission units pursuant to WAC 173-401-530(4). There are two dust collectors at the facility. The first is a paper collection system used to collect edge slit paper which is delivered to a collection bin before being loaded into a trash dumpster. The filter system is used to ensure no dust is released during processing. The equipment is exempt from Notice of Construction permitting in accordance with Regulation I, Section 6.03(c)(43). The second is a dust collection system used to prevent sawdust from a panel saw used to cut plywood panels from entering the production area which would provide unacceptable product contamination. This unit is also exempt from Notice of Construction permitting requirements in accordance with Regulation I, Section 6.03(c)(39).

Insignificant emission units and activities that are categorically exempt under WAC 173-401-530(1)(b) and WAC 173-401-532 include the following:

Unit	Basis for IEU Designation
Lawn and Landscaping Activities	WAC 173-401-532(43)
Comfort Air Conditioning	WAC 173-401-532(46)
Vents/Bathroom Facilities	WAC 173-401-532(48)
Fire Fighting and Safety Equipment	WAC 173-401-532(52)
Fuel and Exhaust Emissions from Parking Lot	WAC 173-401-532(54)
Repair and Maintenance	WAC 173-401-532(74)
Trucks, Fork Lifts, Autos, etc.	WAC 173-401-532(10)
Plant Upkeep/Painting	WAC 173-401-532(33)
Cleaning of Paved Surfaces	WAC 173-401-532(35)
Portable Drums and Totes	WAC 173-401-532(42)
Office Activities	WAC 173-401-532(49)
Personal Care Activities	WAC 173-401-532(50)
Air Compressors	WAC 173-401-532(88)

Arclin is not required to certify that these (or any other) insignificant emission units and activities are in compliance with generally applicable requirements such as the opacity and fugitive dust standards. This designation does not exempt them from any applicable requirements. And the permit shield does not apply to insignificant emission units.

Where the permit does not require testing, monitoring, recordkeeping and reporting for insignificant emissions units or activities, Arclin may certify continuous compliance if there were no observed, documented, or known instances of noncompliance during the reporting period. Otherwise, the deviation must be reported as specified in Section IV.A of the permit.

Arclin also has an obligation under Sections 7.09(b) and 9.20 of Regulation I to promptly repair defective equipment or control equipment (including insignificant emission units) and to operate the equipment in good working order. Failure to comply with these requirements constitutes a permit deviation that must be reported as specified in Section V.D.1 of the permit.

16. Explanation of Changes Made During Course of Permit Renewal

In preparing the air operating permit renewal, numerous regulatory references throughout the AOP were updated due to rule changes since the last time the permit was open. This mainly addressed updating the rule effectiveness date. Note that the most recent update to WAC 173-400-040 included renumbering of these requirements. Therefore, the SIP approved version of the rule is often a different reference than the "STATE ONLY" version of the rule.

More substantive changes are described below:

- New requirements in 40 CFR Part 63, Subpart JJJJ were incorporated into the operating permit.
- Requirements in Notice of Construction Order of Approval No. 9326 were incorporated into the operating permit. Conditions in Orders cancelled and superseded by Order of Approval No. 9326 were removed from the operating permit since they no longer apply.

17. Public Comments and Responses

The 30-day public comment period for the air operating permit renewal started January 21, 2016 and ended February 19, 2016. Notices were published on the Agency's website, in the Tacoma News Tribune and the Daily Journal of Commerce. No public comments were received. A paragraph was added to Section 8.2 of the Statement of Basis to clarify EPA NESHAP monitoring requirements on the catalytic oxidizers, but there were no corresponding changes made to the proposed operating permit.