



**Olympic Region
Clean Air Agency**
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Olympia, WA 98502

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Executive Director
Francea L. McNair

*Serving Clallam,
Grays Harbor, Jefferson,
Mason, Pacific, and
Thurston counties.*

Air Operating Permit

Little Green, LLC dba
Paneltech

June 23, 2016



AIR OPERATING PERMIT

Olympic Region Clean Air Agency
2940 Limited Lane NW
Olympia, WA 98502
(360) 539-7610 or 1-800-422-5623

ISSUED IN ACCORDANCE WITH:
40 CFR Part 70, Chapter 70.94 RCW, and Chapter 173-401 WAC

PERMIT NO: 11AOP864

ISSUANCE DATE: June 23, 2016

EXPIRATION DATE: June 23, 2021

PERMITTEE: Little Green, LLC dba Paneltech

MAILING ADDRESS: 2999 John Stevens Way
Hoquiam, WA 98550

FACILITY LOCATION: 2999 John Stevens Way
Hoquiam, WA 98550

FACILITY DESCRIPTION: Phenolic Resin Manufacturing and Specialty
Paper Coating Facility

ORCAA File #: 145

PRIMARY SIC: 2672, 2821

PREPARED BY: Alfredo Arroyo 6/23/2016
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Section 1. Air Operating Permit Regulatory Basis

Pursuant to Chapter 173-401 Washington Administrative Code (WAC), Little Green, LLC dba Paneltech (permittee) is authorized to operate their specialty paper coating facility and resin plant located at 2999 John Stevens Way in Hoquiam, Washington, in accordance with the terms and conditions listed in this permit.

The terms and conditions in this permit contain the emission limitations, operating requirements, and monitoring, recordkeeping, and reporting requirements that apply to the facility. All terms and conditions of this permit, including any provisions designed to limit potential to emit, are enforceable under the Federal Clean Air Act (FCAA) unless specifically identified as not federally enforceable in the "regulatory basis" description that follows each condition. Conditions identified as "local only" are enforceable only by Olympic Region Clean Air Agency (ORCAA). Conditions identified as "state only" are enforceable only by the State of Washington. Conditions identified as "state/local only" are enforceable only by ORCAA and state of Washington. Conditions identified as "local only", "state only", or "state/local only" are not federally enforceable.

The conditions in this permit contain abbreviated and in some cases paraphrased versions of the exact language of the applicable requirements from the underlying laws, regulations and regulatory orders. Any difference between the description of an applicable requirement in this permit compared to the corresponding law, regulation or order is provided for purposes of clarifying the underlying requirement. The legal requirement remains the underlying applicable requirement cited in the "Applicable Requirement" column of the tables and the citations contained in brackets at the end of each requirement. Any perceived conflicts between the permit and an underlying applicable requirement will be resolved by referring to the cited applicable requirement.

Unless otherwise stated, terms used in the conditions of this permit shall be defined consistent with their definitions from the corresponding referenced regulations. If not defined in the referenced regulations, terms shall be defined consistent with the definitions contained in Chapter 70.94 RCW, WAC 173-401-200, WAC 173-400-030, and ORCAA Rule 1.4. Terms not defined in this permit or by applicable regulation shall be defined consistent with the Merriam-Webster's Collegiate Dictionary, Eleventh Edition copyright © 2003 by Merriam-Webster Inc.

Unless otherwise stated, the versions of the referenced laws, regulations and orders cited in this permit are the versions that were in effect on the date this permit was issued.

Section 2. Abbreviations and Definitions

AOP or Permit refers to this Air Operating Permit #11AOP864.

Administrator refers to the Administrator of the United States Environmental protection Agency (U.S. EPA). Reports and notifications required to be submitted to the Administrator may be sent in care of U.S. EPA Region 10.

Aggregate batch vent stream means a process vent containing emissions from at least one reactor batch process vent and at least one additional reactor or non-reactor batch process vent where the emissions are ducted, hard piped, or otherwise connected together for a continuous flow.

Amino/phenolic resin. Process unit (APPU) means a collection of equipment assembled and connected by hard piping or ductwork used to process raw materials and to manufacture an amino/phenolic resin as its primary product. This collection of equipment includes unit operations; process vents; storage vessels, as determined in 40 CFR Part 63, Section 63.1400(h); and the equipment that is subject to the equipment leak provisions as specified in 40 CFR Part 63, Section 63.1410. Utilities, lines and equipment not containing process fluids, and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not part of the amino/phenolic resin process unit. An amino/phenolic resin process unit consists of more than one unit operation.

As-applied means the condition of a coating at the time of application to a substrate, including any added solvent.

As-purchased means the condition of a coating as delivered to the user.

ASTM refers to the American Society for Testing and Materials.

BACT refers to Best Available Control Technology.

Batch cycle means the operational step or steps, from start to finish, that occur as part of a batch unit operation.

Batch emission episode means a discrete emission venting episode associated with a single batch unit operation. Multiple batch emission episodes may occur from a single batch unit operation.

Batch mode means the discontinuous bulk movement of material through a unit operation. Mass, temperature, concentration, and other properties may vary with time. For a unit operation operated in a batch mode (i.e., batch unit operation), the addition of material and withdrawal of material do not typically occur simultaneously.

Batch process vent means a process vent from a batch unit operation within an affected emissions unit. Batch process vents are either reactor batch process vents or non-reactor batch process vents

Continued – Section 2. Abbreviations and Definitions

Batch unit operation means a unit operation operated in a batch mode.

Bypassing or to bypass the RTO, or RTO bypassing means when emissions bypass the RTO directly to the atmosphere except during one of the following events:

- a) The opening of a valve or damper is automatically interlocked to interrupt and prevent continued emissions.
- b) Sampling for analyzers or performance testing.
- c) Relief valve discharge needed for safety purposes.
- d) Periodic cycling of exhaust dampers to ensure safe operation.

Capture efficiency means the fraction of all organic HAP emissions generated by a process that is delivered to a control device, expressed as a percentage.

Capture system means a hood, enclosed room, or other means of collecting organic HAP emissions into a closed-vent system that exhausts to a control device.

CAM refers to Compliance Assurance Monitoring defined in 40 CFR Part 64.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

Closed vent system shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a closed vent system or part of a closed vent system consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a closed vent system shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the closed vent system or part of the closed vent system of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled closed vent system shutdown, is not a closed vent system shutdown. The use of spare equipment and technically feasible circumventing of equipment without stopping production are not closed vent system shutdowns.

Code of Federal Regulation Citations. Citing specific sections of the Federal Code of Regulations (CFR) is done in the following manner: 40 CFR 64.2 stands for Title 40 Part 64, Section 64.2 of the Federal Code of Regulations.

CMS refers to Continuous Monitoring System.

CO refers to carbon monoxide.

CPMS refers to a Continuous Parametric Monitoring System.

Continued – Section 2. Abbreviations and Definitions

Composite shall mean an engineered material composed of two or more distinct constituents with significantly different physical and chemical properties that remain distinct within the finished structure. With respect to EU-3, the composite material consists of paper sheets embedded in a resin matrix.

Continuous Compliance means collection of all monitoring data required by the permit under the data collection frequency required by the permit, with no deviations, and no other information that indicates deviations, except for unavoidable exceedances or other operating conditions during which compliance is not required.

Ecology refers to the Washington Department of Ecology.

EPA refers to the United States Environmental Protection Agency.

Exceedance means a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

Excursion means a departure from a parametric indicator range established for monitoring consistent with the averaging period specified for averaging the results of the monitoring. Out-of-range operations may include RTO combustion chamber temperature dropping below target, vacuum inlet pressure increasing above target, or when standby interlock is manually overridden.

EU stands for an “emission unit”.

FCAA refers to the Federal Clean Air Act.

GHG refers to greenhouse gas.

Grain/dscf stands for a concentration in terms grains per dry standard cubic feet.

HAP means “hazardous air pollutant” as defined in the Federal Clean Air Act.

Heat exchange system means any cooling tower system or once-through cooling water system (e.g., river or pond water) designed and intended to operate to not allow contact between the cooling medium and process fluid or gases (i.e., a noncontact system). A heat exchange system may include more than one heat exchanger and may include recirculating or once-through cooling systems.

HP or hp stands for horsepower.

Continued – Section 2. Abbreviations and Definitions

In gas and vapor service means that a piece of equipment in regulated material service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in regulated material service is not in gas and vapor service or in light liquid service.

In light liquid service means that a piece of equipment in regulated material service contains a liquid that meets the following conditions:

- a) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C.
- b) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream.
- c) The fluid is a liquid at operating conditions.

In liquid service means that a piece of equipment in regulated material service is not in gas and vapor service.

In organic hazardous air pollutant or in organic HAP service means that piece of equipment either contains or contracts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the provisions of 40 CFR 63.180(d) of subpart H. The provisions of 40 CFR 63.180(d) of subpart H also specify how to determine that a piece of equipment is not in organic HAP service.

In regulated material service means, for the purposes of 40 CFR Part 63, Subpart UU, equipment which meets the definition of “in VOC service,” “in VHAP service,” “in organic hazardous air pollutant service,” or “in” other chemicals or groups of chemicals “service” as defined in the referencing subpart.

Intermediate change to monitoring means a modification to federally required monitoring involving “proven technology” (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Though site-specific, an intermediate change may set a national precedent for a source category and may ultimately result in a revision to the federally required monitoring. Examples of intermediate changes to monitoring include, but are not limited to:

- a) Use of a continuous emission monitoring system (CEMS) in lieu of a parameter monitoring approach;
- b) Decreased frequency for non-continuous parameter monitoring or physical inspections;
- c) Changes to quality control requirements for parameter monitoring; and
- d) Use of an electronic data reduction system in lieu of manual data reduction.

Continued – Section 2. Abbreviations and Definitions

Intermediate change to test method means a within-method modification to a federally enforceable test method involving “proven technology” (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Though site-specific, an intermediate change may set a national precedent for a source category and may ultimately result in a revision to the federally enforceable test method. In order to be approved, an intermediate change must be validated according to EPA Method 301 (Part 63, Appendix A) to demonstrate that it provides equal or improved accuracy and precision. Examples of intermediate changes to a test method include, but are not limited to:

- a) Modifications to a test method's sampling procedure including substitution of sampling equipment that has been demonstrated for a particular sample matrix, and use of a different impinger absorbing solution;
- b) Changes in sample recovery procedures and analytical techniques, such as changes to sample holding times and use of a different analytical finish with proven capability for the analyte of interest; and
- c) “Combining” a federally required method with another proven method for application to processes emitting multiple pollutants.

Intermittent compliance refers to a form of compliance other than continuous compliance.

Lbs/hr. stands for a mass rate in terms of pounds per hour.

LIDAR refers to light detection and ranging.

MACT refers to the National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63.

Major change to monitoring means a modification to federally required monitoring that uses “unproven technology or procedures” (not generally accepted by the scientific community) or is an entirely new method (sometimes necessary when the required monitoring is unsuitable). A major change to monitoring may be site-specific or may apply to one or more source categories and will almost always set a national precedent. Examples of major changes to monitoring include, but are not limited to:

- a) Use of a new monitoring approach developed to apply to a control technology not contemplated in the applicable regulation;
- b) Use of a predictive emission monitoring system (PEMS) in place of a required continuous emission monitoring system (CEMS);
- c) Use of alternative calibration procedures that do not involve calibration gases or test cells;
- d) Use of an analytical technology that differs from that specified by a performance specification;
- e) Decreased monitoring frequency for a continuous emission monitoring system, continuous opacity monitoring system, predictive emission monitoring system, or continuous parameter monitoring system;
- f) Decreased monitoring frequency for a leak detection and repair program; and,
- g) Use of alternative averaging times for reporting purposes.

Continued – Section 2. Abbreviations and Definitions

Major change to recordkeeping/reporting is a modification to federally required recordkeeping or reporting that:

- a) May decrease the stringency of the required compliance and enforcement measures for the relevant standards;
- b) May have national significance (e.g., might affect implementation of the applicable regulation for other affected sources, might set a national precedent); or is not site-specific.

Examples of major changes to recordkeeping and reporting include, but are not limited to:

- a) Decreases in the record retention for all records;
- b) Waiver of all or most recordkeeping or reporting requirements;
- c) Major changes to the contents of reports; or
- d) Decreases in the reliability of recordkeeping or reporting (e.g., manual recording of monitoring data instead of required automated or electronic recording, or paper reports where electronic reporting may have been required).

Major change to test method means a modification to a federally enforceable test method that uses “unproven technology or procedures” (not generally accepted by the scientific community) or is an entirely new method (sometimes necessary when the required test method is unsuitable). A major change to a test method may be site-specific, or may apply to one or more sources or source categories, and will almost always set a national precedent. In order to be approved, a major change must be validated according to EPA Method 301 (part 63, appendix A). Examples of major changes to a test method include, but are not limited to:

- a) Use of an unproven analytical finish;
- b) Use of a method developed to fill a test method gap;
- c) Use of a new test method developed to apply to a control technology not contemplated in the applicable regulation; and
- d) Combining two or more sampling/analytical methods (at least one unproven) into one for application to processes emitting multiple pollutants.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment or process equipment, or failure of a process to operate in a normal or usual manner, or opening of a safety device which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Continued – Section 2. Abbreviations and Definitions

Minor change to monitoring means:

- a) A modification to federally required monitoring that:
 - i. Does not decrease the stringency of the compliance and enforcement measures for the relevant standard;
 - ii. Has no national significance (e.g., does not affect implementation of the applicable regulation for other affected sources, does not set a national precedent, and individually does not result in a revision to the monitoring requirements); and
 - iii. Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints, or safety concerns of an affected source.
- b) Examples of minor changes to monitoring include, but are not limited to:
 - i. Modifications to a sampling procedure, such as use of an improved sample conditioning system to reduce maintenance requirements;
 - ii. Increased monitoring frequency; and
 - iii. Modification of the environmental shelter to moderate temperature fluctuation and thus protect the analytical instrumentation.

Minor change to recordkeeping/reporting means:

- a) A modification to federally required recordkeeping or reporting that:
 - i. Does not decrease the stringency of the compliance and enforcement measures for the relevant standards;
 - ii. Has no national significance (e.g., does not affect implementation of the applicable regulation for other affected sources, does not set a national precedent, and individually does not result in a revision to the recordkeeping or reporting requirement); and
 - iii. Is site-specific.
- b) Examples of minor changes to recordkeeping or reporting include, but are not limited to:
 - i. Changes to recordkeeping necessitated by alternatives to monitoring;
 - ii. Increased frequency of recordkeeping or reporting, or increased record retention periods;
 - iii. Increased reliability in the form of recording monitoring data, e.g., electronic or automatic recording as opposed to manual recording of monitoring data;
 - iv. Changes related to compliance extensions granted pursuant to section 63.6(i) to 40 CFR Part 63, Subpart A.
 - v. Changes to recordkeeping for good cause shown for a fixed short duration, e.g., facility shutdown;
 - vi. Changes to recordkeeping or reporting that is clearly redundant with equivalent recordkeeping/reporting requirements; and
 - vii. Decreases in the frequency of reporting for area sources to no less than once a year for good cause shown, or for major sources to no less than twice a year as required by title V, for good cause shown.

Continued – Section 2. Abbreviations and Definitions

Minor change to test method means:

- a) A modification to a federally enforceable test method that:
 - i. Does not decrease the stringency of the emission limitation or standard;
 - ii. Has no national significance (e.g., does not affect implementation of the applicable regulation for other affected sources, does not set a national precedent, and individually does not result in a revision to the test method); and
 - iii. Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints, or safety concerns of an affected source.
- b) Examples of minor changes to a test method include, but are not limited to:
 - i. Field adjustments in a test method's sampling procedure, such as a modified sampling traverse or location to avoid interference from an obstruction in the stack, increasing the sampling time or volume, use of additional impingers for a high moisture situation, accepting particulate emission results for a test run that was conducted with a lower than specified temperature, substitution of a material in the sampling train that has been demonstrated to be more inert for the sample matrix; and
 - ii. Changes in recovery and analytical techniques such as a change in quality control/quality assurance requirements needed to adjust for analysis of a certain sample matrix.

MMBtu stands for one million British thermal units.

N/A stands for not applicable.

NCASI refers to the National Council on Air and Stream Improvement.

NESHAP refers to the National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 61.

NOC refers to a Notice of Construction.

Non-reactor batch process vent means a batch process vent originating from a unit operation other than a reactor. Non-reactor batch process vents include, but are not limited to, batch process vents from filter presses, surge control vessels, bottoms receivers, weigh tanks, and distillation systems.

NO_x stands for oxides of nitrogen.

NSPS refers to the New Source Performance Standards in 40 CFR Part 60.

NSR refers to New Source Review.

O&M refers to the operations and maintenance plan.

ORCAA stands for Olympic Region Clean Air Agency

Continued – Section 2. Abbreviations and Definitions

ORCAA Regulation Citations. Citing specific sections of ORCAA’s Regulations is done in the following manner: ORCAA 4.5(b) stands for Rule 4.5(b) of Olympic Region Clean Air Agency’s Regulations.

Order of Approval (OA) Citations. Citing specific ORCAA Order of Approvals is done in the following manner: OA (#04NOC365) stands for ORCAA Order of Approval No. 04NOC365

PPM stands for parts per million by volume.

Permit Deviation means a violation of a condition of the permit.

RCW stands for the Revised Code of Washington.

Reactor batch process vent means a batch process vent originating from a reactor.

Relief device or valve means a valve used only to release an unplanned, non-routine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Resin refers with respect to this AOP, resin shall mean the thermoset condensation product of phenol and formaldehyde or closely related product.

Rewind or cutting station means a unit from which substrate is collected at the outlet of a web coating line.

RTO stands for “regenerative thermal oxidizer”.

Scan means a short-term observation of the facility such that all emission points are directly observed.

Shutdown means for purposes including, but not limited to, periodic maintenance, replacement of equipment, or repair, the cessation of operation of an emissions unit, an APPU(s), or equipment required or used to comply with this AOP, or the emptying or degassing of a storage vessel. For purposes of this AOP, the cessation of equipment in batch operations is not a shutdown, unless the equipment undergoes maintenance, is replaced, or is repaired.

SIC stands for Standard Industrial Classification.

SO_x refers to sulfur oxides.

Continued – Section 2. Abbreviations and Definitions

Start-up means the setting into operation of an emissions unit, an APPU(s), or equipment required or used to comply with this AOP, or a storage vessel after emptying and degassing. For both continuous and batch unit operations, start-up includes initial start-up and operation solely for testing equipment. For both continuous and batch unit operations, start-up does not include the recharging of equipment in batch operation. For continuous unit operations, start-up includes transitional conditions due to changes in product for flexible operation process units. For batch unit operations, start-up does not include transitional conditions due to changes in product for flexible operation process units.

TAP means “toxic air pollutant” as defined in WAC 173-460.

TPY or tpy stands for tons per year.

Unwind or feed station means a unit from which substrate is fed to a web coating line.

Valid Continuous Parametric Measurements means monitoring measurements not including from CPMS or RTO breakdowns, repairs, calibrations, validation checks, zero (low-level) and high level adjustments, startups, shutdowns, malfunctions or periods when the emission units are not operating resulting in cessation of the emissions to which the monitoring applies.

VOC stands for “volatile organic compound” as defined in the Federal Clean Air Act.

Web coating line means any number of work stations, of which one or more applies a continuous layer of coating material across the entire width or any portion of the width of a web substrate, and any associated curing/drying equipment between an unwind or feed station and a rewind or cutting station.

Work station means a unit on a web coating line where coating material is deposited onto a web substrate.

Section 3. Emissions Unit Identification

The following emissions units are covered under this permit.

Table 1: Emission unit summary

| Emission Unit ID# | Description | Facility Location | Exhaust Point ID# | Control Equipment |
|-------------------|--|-------------------|---------------------|--|
| EU-1 | <p>Paper coating line: Rolls of paper are saturated in resin solution and then the resin is cured in a gas-heated curing section until quenched by chiller rolls. Emissions include methanol (or ethanol, used as a solvent), uncombined phenol and formaldehyde, and other resin additives.</p> <p>Paper coating process heater system: Natural gas is consumed to heat the curing section of the paper coating line.</p> | Warehouse G | Stack 1 | <p>The coating line is fully contained and the captured emissions are vented to a Regenerative Thermal Oxidizer (RTO)</p> <p>Good combustion practices and natural gas as only fuel.</p> |
| EU-2 | <p>Resin plant: Phenol-formaldehyde resins are produced in a steam-heated reaction vessel called a kettle. Emissions from the resin plant come from the following equipment:</p> <ul style="list-style-type: none"> • Reaction vessel with reflux • Phenol tanks • Formaldehyde solution tank • Methanol tank • Resin dryer | Warehouse G | Stack 1 | The batch reactor is operated under a closed reflux system. All emissions from reactor, associated tanks, and resin dryer are routed to a RTO. |
| | <p>Equipment Leak Components - Valves, pumps and pressure relief devices</p> | | Fugitive | N/A |
| EU-3 | <p>Composites press: Partially cured, resin-saturated paper is cross linked and bonded into rigid panels in a hydraulic press. The press is fully contained in a permanent total enclosure as defined in EPA Method 204.</p> <p>Composites press heater: Natural gas is combusted to heat the oil used in the thermal fluid transfer system designed to maintain a uniform temperature across the platens.</p> | Warehouse F | Stack 1 and Stack 3 | <p>RTO</p> <p>Good combustion practices and natural gas as only fuel.</p> |
| EU-4 | <p>Resin plant boiler: Natural gas is combusted to create steam and heat the reactor kettle of the resin plant.</p> | Warehouse G | Stack 2 | None - Good combustion practices and natural gas as only fuel. |

Table Notes: The information in Table 1 is for purposes of description only and is not intended as a limitation.

Section 4. Permit Administration

Permit administration terms and provisions govern administration of the permit and include AOP administrative and other requirements that have no ongoing compliance monitoring requirements. The permittee must comply with the requirements listed below, and must certify compliance annually. Unless the text of the term is specifically identified to be directly enforceable, the language of the cited regulation takes precedence.

P1. Permit Duration [*Regulatory Origin: WAC 173-401-610*]. This AOP is issued for a fixed term of 5 years from date of issuance.

P2. Federally Enforceable Requirements [*Regulatory Origin: WAC 173-401-625*].

- a) All terms and conditions in this air operating permit, including any provision designed to limit potential to emit, are enforceable by the Administrator and citizens under the FCAA, except as indicated in b) below.
- b) Notwithstanding subsection (a) of this condition, any terms and conditions included in this permit that are not required under the FCAA or under any of its applicable requirements are specifically designated as “state” or “local” only, and are not federally enforceable under the FCAA. Terms and conditions so designated are not subject to the requirements of WAC 173-401-810 and 820.

P3. Compliance Maintenance [*Regulatory Origins: WAC 173-401-510(2)(b)(iii); WAC 173-401-630(3)*]. The permittee shall maintain compliance with all applicable requirements with which the source was in compliance as of the date of permit issuance. The permittee shall meet on a timely basis any applicable requirements that become effective during the permit term.

P4. Duty to Supplement or Correct Application [*Regulatory Origin: WAC 173-401-500(6)*]. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information.

P5. False or Misleading Statements [*Regulatory Origins: WAC 173-400-105 (local/ state only); ORCAA Rule 7.2 (local only)*]. No person shall willfully make a false or misleading statement to ORCAA as to any matter within the jurisdiction of ORCAA. No person shall make any false material statement, representation or certification in any form, notice or report required under chapter 70.94 or 70.120 RCW, or any ordinance, resolution, regulation, permit or order in force pursuant thereto.

P6. Permit Renewal Application [*Regulatory Origin: WAC 173-401-710(1)*]. The permittee shall submit a complete renewal application to ORCAA at least 12 months, but no more than 18 months, prior to the expiration date of this permit.

P7. Permit Modifications [*Regulatory Origin: WAC 173-401-725*]. Permit revisions that cannot be accomplished using the provisions for administrative permit amendments shall be applied for and approved according to WAC 173-401-725.

Continued – Section 4. Permit Administration

P8. Standard Conditions [*Regulatory Origin: WAC 173-401-620(2)*]:

- a) **Duty to comply.** The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Chapter 70.94 RCW and, for federally enforceable provisions, a violation of the FCAA. Such violations are grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
- b) **Need to Halt or Reduce Activity Not a Defense.** 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 permit.
- c) **Permit Actions.** This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- d) **Property Rights.** This permit does not convey property rights of any sort, or any exclusive privilege.
- e) **Duty to Provide Information.** The permittee shall furnish to ORCAA, within a reasonable time, any information that ORCAA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to ORCAA copies of records that the permittee is required to keep by this permit, or for information claimed to be confidential, the permittee may furnish such records directly to ORCAA along with a claim of confidentiality. Permitting authorities shall maintain confidentiality of such information in accordance with RCW 70.94.205.
- f) **Annual Fees.** The permittee shall pay an annual permit fee as a condition of this permit in accordance with ORCAA's fee schedule contained in Rule 3.2. Failure to pay fees in a timely fashion shall subject the permittee to civil and criminal penalties as prescribed in Chapter 70.94 RCW.
- g) **Emission Trading.** No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit.
- h) **Severability.** If any provision of this permit is to be held invalid, all unaffected provisions of the permit shall remain in effect and enforceable.
- i) **Permit Appeals.** This permit or any conditions in it may be appealed only by filing an appeal with the Washington State Pollution Control Hearings Board and serving it on ORCAA within 30 days from receiving the permit pursuant to RCW 43.21B.310. This provision for appeal in this section is separate from and additional to any federal rights to petition and review under Section 505(b) of the FCAA.
- j) **Permit continuation.** This permit and all terms and conditions contained therein, including any permit shield provided under WAC 173-401-640, shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. An application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied if a timely and complete application has been submitted.

Continued – Section 4. Permit Administration

P9. Permit Expiration – Application Shield [*Regulatory Origin: WAC 173-401-710(3)*]. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application has been submitted consistent with condition P6. All terms and conditions of the permit shall remain in effect after the permit itself expires if a timely and complete permit application has been submitted.

P10. Permit Revocation [*Regulatory Origin: WAC 173-401-710(4)*]. The permitting authority may revoke a permit only upon the request of the permittee or for cause. The permitting authority shall provide at least thirty days written notice to the holder of a current operating permit prior to revocation of the permit or denial of a permit renewal application. Such notice shall include an explanation of the basis for the proposed action and afford the permittee/applicant an opportunity to meet with the permitting authority prior to the authority's final decision. A revocation issued under this section may be issued conditionally with a future effective date and may specify that the revocation will not take effect if the permittee satisfies the specified conditions before the effective date.

P11. Reopening for Cause [*Regulatory Origin: WAC 173-401-730*]. The permit shall be reopened and revised under any of the following circumstances:

- a) Additional requirements become applicable to the source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to WAC 173-401-620(2)(j).
- b) Additional requirements (including exceedances requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, exceedances offset plans shall be deemed to be incorporated into the permit.
- c) ORCAA or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- d) ORCAA or the Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings under this section shall not be initiated before a notice of such intent is provided to the permittee by the permitting authority. Such notice shall be made at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

P12. Changes not Requiring Permit Revision/Off Permit Changes [*Regulatory Origins: WAC 173-401-722; WAC 173-401-724*]. The permittee may make the changes described in WAC 173-401-722 and WAC 173-401-724 without revising this permit, provided that the changes satisfy the criteria set forth in those sections, including the requirements to notify ORCAA and EPA.

Continued – Section 4. Permit Administration

P13. Administrative Permit Amendments [*Regulatory Origin: WAC 173-401-720*]. The permittee may request an "administrative permit amendment" for the following types of permit revisions:

- a) Correction of typographical errors;
- b) Change the name, address, or phone number of any person identified in the permit, or provide a similar minor administrative change at the source;
- c) Require more frequent monitoring or reporting by the permittee;
- d) Allow for a change in ownership or operational control of a source where the permitting authority determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the permitting authority; and,
- e) Incorporate into the chapter 401 permit the terms, conditions, and provisions from orders approving NOC applications processed under an EPA-approved program.

Application and approval of administrative permit amendment applications shall conform to the procedures in WAC 173-401-720.

P14. Greenhouse Gas Reporting Fee [*Regulatory Origin: WAC 173-441-110 (state/local only)*]. The Permittee must pay a greenhouse gas (GHG) reporting fee for each year they submit a GHG report to Ecology. Fees will be paid according to Ecology's fee schedule. Fees must be paid within sixty (60) days of receipt of Ecology's billing statement.

P15. Confidential Information [*Regulatory Origins: WAC 173-401-500(5); WAC 173-401-630(1); ORCAA Rule 1.6 (local only)*]. The permittee is responsible for certifying and clearly identifying any information considered proprietary and confidential. In the case where a permittee has submitted information to ORCAA under a claim of confidentiality, ORCAA may also require the permittee to submit a copy of such information directly to the administrator. The permittee is responsible for clearly identifying information that is considered proprietary and confidential prior to submittal to ORCAA. In addition, all confidential information shall be submitted according to ORCAA's Public Records and Confidentiality Procedures.

P16. Credible Evidence [*Regulatory Origin: 40 CFR 60.11*]. For purposes of certifying compliance or establishing whether or not the permittee has violated or is in violation of any requirement of 40 CFR Part 60, nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with the requirements if the appropriate performance or compliance test or procedure had been performed.

P17. Certification [*Regulatory Origins: WAC 173-401-520; WAC 173-401-615(3)(a); WAC 173-401-630(1)*]. All documents required to be submitted by this AOP shall contain certification by a responsible official of truth, accuracy, and completeness. Documents include any application form, report, or compliance certification including but not limited to test plans and results, monitoring plans and results, applications, emissions inventory submittals, equipment malfunction reports or annual compliance certification. Such certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Continued – Section 4. Permit Administration

P18. Emergency as Affirmative Defense [*Regulatory Origin: WAC 173-401-645*]. An emergency, as defined in WAC 173-401-645(1), constitutes an affirmative defense to an action brought for non-compliance with a technology-based emission limitation provided the criteria and procedures of WAC 173-401-645(3) are met. This provision is in addition to the affirmative defense for unavoidable exceedances found in WAC 173-400-107. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that demonstrates:

- a) An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b) The permitted facility was at the time being properly operated;
- c) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- d) The permittee submitted notice of the emergency to the permitting authority within 2 working days of the time when emission limitations were exceeded due to the emergency or shorter periods of time specified in an applicable requirement. This notice fulfills the requirement of WAC 173-401-615(3)(b) unless the exceedances represent a potential threat to human health or safety. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

P19. Unavoidable Exceedances Excused [*Regulatory Origins: WAC 173-400-107(6); ORCAA Rule 8.7(c) (local only)*]. Exceedances due to startup, shutdown, scheduled maintenance or upset conditions that are determined by ORCAA to be unavoidable under the procedures and criteria in WAC 173-400-107 and ORCAA Rule 8.7, shall be excused and not subject to penalty. The permittee shall have the burden of proving to ORCAA that exceedances were unavoidable. Exceedances may qualify for consideration as unavoidable exceedances provided the permittee includes in the permit deviation report required by condition RP9 of this permit, information that demonstrates:

- a) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition;
- b) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance; and
- c) The operator took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting down the emissions unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded.

P20. Part 63 Affirmative Defense for Violation of Emission Standards during Malfunction [*Regulatory Origin: 40 CFR 63.7501*].

In response to an action to enforce the standards set forth in Section 63.7500 of Subpart DDDDD of 40 CFR Part 63, the permittee may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at Section 63.2 as follows:

- a) Appropriate penalties may be assessed if the permittee fails to meet any of the requirements in this condition.
- b) The affirmative defense shall not be available for claims for injunctive relief.

Continued – Section 4. Permit Administration

- c) To establish the affirmative defense in any action to enforce such a standard, the permittee must timely meet the reporting requirements in (e) of this condition, and must prove by a preponderance of evidence that:
 - i. The violation:
 - 1) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and
 - 2) Could not have been prevented through careful planning, proper design, or better operation and maintenance practices; and
 - 3) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
 - 4) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
 - ii. Repairs were made as expeditiously as possible when a violation occurred; and
 - iii. The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable. For this Condition P20, a bypass is as defined in 40 CFR Part 63, Subpart DDDDD; and
 - iv. If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
 - v. All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and
 - vi. All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
 - vii. All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
 - viii. At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
 - ix. A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.
- d) The permittee seeking to assert an affirmative defense shall submit a written report to ORCAA and the Administrator with all necessary supporting documentation, that it has met the requirements set forth in this condition.
- e) The report shall be included in the first periodic compliance, deviation report or exceedance report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or exceedance report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or exceedance report due after the initial occurrence of the violation of the relevant standard.

Section 5. General Permit Conditions

G1. New Source Review [*Regulatory Origin: ORCAA Rule 6.1 (local only)*]. Prior to commencing any new installation, replacement, modification or alteration of any stationary source, emission unit, area source or fugitive source, the permittee shall secure all necessary approvals under ORCAA Regulations.

G2. Demolition and Asbestos Projects [*Regulatory Origin: ORCAA Rule 6.3 (state/local only)*]. The permittee shall comply with the notification and approval requirements in ORCAA's regulations prior to commencing any asbestos, renovation, or demolition project at the facility as defined in ORCAA Regulations. The permittee shall conduct all renovation, demolition and asbestos projects in accordance with applicable asbestos control standards and requirements in ORCAA Regulations.

G3. Demolition and Renovation Projects [*Regulatory Origin: 40 CFR Part 61, Subpart M*]. The permittee shall notify ORCAA prior to commencing any renovation or demolition activities at the facility in accordance with Subpart M of 40 CFR Part 61. The permittee shall conduct all renovation, demolition and asbestos projects in accordance with applicable asbestos control standards and requirements in Subpart M of 40 CFR Part 61.

G4. Prohibition of Emissions Detrimental to Persons or Property [*Regulatory Origins: WAC 173-400-040(6) (state/local only); ORCAA Rule 7.6 (state/local only)*]. No person shall cause or permit the emission of any air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business.

G5. Concealment and Masking Prohibited [*Regulatory Origins: WAC 173-400-040(8) (state/local only); ORCAA Rule 7.5 (state/local only)*].

- a) No person shall cause or allow the installation or use of any device or use of any means, which conceals or masks an emission of air contaminant, which would otherwise violate any provisions of ORCAA's Regulations or chapter 173-400 WAC.
- b) No person shall cause or allow the installation or use of any device or use of any means designed to conceal or mask the emission of an air contaminant, which causes detriment to health, safety, or welfare of any person, or cause damage to property or business.

G6. Insignificant Emissions Units – Restriction [*Regulatory Origin: WAC 173-401-530*]. The following applies to emissions units determined insignificant based on actual emissions in accordance with WAC 173-401-530(1)(a):

- a) Any emission unit or activity that qualifies as insignificant solely on the basis of provisions in WAC 173-401-530(1)(a) shall not exceed the emission thresholds specified in WAC 173-401-530(4) until this permit is modified pursuant to WAC 173-401-725.
- b) Upon request from the permitting authority the permittee must provide sufficient documentation to enable the permitting authority to determine that the emission unit or activity has been appropriately listed as insignificant.
- c) Upon request from the permitting authority, at any time during the term of the permit, the permittee shall demonstrate to the permitting authority that the actual emissions of any unit or activity claimed insignificant on the basis of actual emissions are below the emission thresholds listed in WAC 173-401-530(4).

Continued – Section 5. General Permit Conditions

G7. Access for Inspection [*Regulatory Origin: ORCAA 1.5(e) (state/local only)*]. No person shall refuse entry or access to an ORCAA representative who requests entry for the purpose of inspection, and who presents appropriate credentials; nor shall any person obstruct, hamper or interfere with any such inspection.

G8. Replacement or Substantial Alteration of Existing Control Equipment [*Regulatory Origin: ORCAA Rule 6.1.10 (state/local only)*]. Prior to commencing replacement or substantial alteration of existing control equipment, the permittee shall secure all necessary approvals under ORCAA Regulations.

G9. Inspection and Entry [*Regulatory Origin: WAC 173-401-630(2)*]. Upon presentation of appropriate credentials, the permittee shall allow a representative from ORCAA or an authorized representative to perform the following:

- a) Enter upon the premises where a chapter 173-401 WAC source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b) Have access to and copy at reasonable times any records that must be kept under the conditions of this permit;
- c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
- d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements.
- e) Nothing in this condition or permit shall limit the ability of EPA to inspect or enter the premises of the permittee under Section 114 or other provisions of the Clean Air Act.

G10. Fragmentation [*Regulatory Origin: 40 CFR 63.4(c)*]. The permittee shall not use fragmentation or phasing of reconstruction activities (i.e. intentionally dividing reconstruction into multiple parts) to avoid becoming subject to new source requirements. For purposes of this condition, “fragmentation” means division within the same facility among various owners where there is no real change in control.

G11. Circumvention [*Regulatory Origin: 40 CFR 63.4(b)*]. The permittee shall not build, erect, install or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a standard in 40 CFR Part 63. Such concealment includes, but is not limited to:

- a) The use of diluents to achieve compliance with a relevant standard based on the concentration of pollutant in the effluent discharge to the atmosphere; and,
- b) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions.

G12. Prohibited Activities [*Regulatory Origin: 40 CFR 63.4(a)*]. The permittee shall not operate any emission unit in violation of any applicable requirement of Subparts A, JJJJ, OOO, UU, SS and DDDDD of 40 CFR Part 63. The permittee shall keep records, notify, or revise reports as required under Subparts A, JJJJ, OOO, UU, SS and DDDDD of 40 CFR Part 63.

Continued – Section 5. General Permit Conditions

G13. Temporary Sources [*Regulatory Origins: WAC 173-401-635; ORCAA 6.1.7*]. The permittee may operate portable air contaminant sources at temporary locations within the facility subject to this AOP provided that the permittee has complied with the following:

- a) *Internal Combustion Engines* – The permittee may operate portable and temporary internal combustion engines without undergoing the application process per ORCAA Rule 6.1.1 and ORCAA Rule 6.1.7, provided the permittee meets the requirements of Conditions AR5.0 through AR5.4.
- b) *Other Temporary Sources* - The permittee may operate any other portable air contaminant source at temporary locations within the facility subject to this permit provided that the permittee has complied with the requirements for temporary portable sources under ORCAA Rule 6.1.1 and ORCAA Rule 6.1.7.

G14. Use of Alternative Performance Testing [*Regulatory Origins: 40 CFR 63.7(e)(2); 40 CFR 63.7(f); 63.7(b)(2) and (3); 40 CFR 63.997(e)(1)(iv)*]. The permittee shall remain subject to applicable federal performance testing and data reduction methods in 40 CFR Part 63, and, if required, in applicable appendices of 40 CFR Parts 51, 60, and 61, unless permission to use alternative performance testing and data reduction has been granted to the permittee by the Administrator or ORCAA according to 40 CFR Sections 63.8(e) and 63.8(f). The permittee may be granted approval to use an alternative to an applicable performance testing or data reduction method or procedure of 40 CFR Part 63 including, but not limited to:

- a) The Administrator approving the use of minor, major and, intermediate changes to test methods in applicable subparts to 40 CFR Part 63.
- b) The Administrator approving shorter sampling times or smaller sample volumes when necessitated by process variables or other factors in applicable subparts to 40 CFR Part 63.
- c) ORCAA approving the use of minor and intermediate changes to test methods in delegated Subparts of 40 CFR Part 63.
- d) ORCAA approving shorter sampling times or smaller sample volumes when necessitated by process variables or other factors in ORCAA delegated Subparts of 40 CFR Part 63.

G15. Waiver of a Performance Test [*Regulatory Origin: 40 CFR 63.7(b)*]. The permittee shall remain subject to applicable federal performance testing requirements in 40 CFR Part 63, unless a waiver has been granted to the permittee by the Administrator or ORCAA according to 40 CFR 63.7(e)(iv) and 63.7(h). The permittee may be granted approval to waive an applicable performance testing requirement in 40 CFR Part 63 for any of the following:

- a) If in the Administrator's judgment, the permittee is meeting the relevant standard(s) in the applicable subpart to 40 CFR Part 63 on a continuous basis, or the permittee is being operated under an extension of compliance, or the permittee has requested an extension of compliance and the Administrator is still considering that request.
- b) If in the Administrator's or ORCAA's judgment, the permittee is meeting the relevant standard(s) in ORCAA delegated Subparts of 40 CFR Part 63 on a continuous basis, or the permittee is being operated under an extension of compliance, or the permittee has requested an extension of compliance and the Administrator or ORCAA is still considering that request.

Continued – Section 5. General Permit Conditions

G16. Use of Alternative Monitoring Methods [*Regulatory Origins: 40 CFR 63.8(f); 40 CFR 63.996(d)*]. The permittee shall remain subject to applicable federal monitoring requirements in 40 CFR Part 63, unless permission to use alternative monitoring has been granted to the permittee by the Administrator or ORCAA according to 40 CFR 63.8(f). The permittee may be granted approval to use an alternative to an applicable monitoring method or procedure of 40 CFR Part 63 including, but not limited to:

- a) The Administrator approving the use of minor, major and, intermediate changes to monitoring in applicable subparts to 40 CFR Part 63.
- b) ORCAA approving the use of minor and intermediate changes to monitoring in ORCAA delegated Subparts of 40 CFR Part 63.

G17. Waiver of Recordkeeping or Reporting Requirements [*Regulatory Origins: 40 CFR 63.10(f); 40 CFR 63.1416(f)(2)*]. The permittee shall remain subject to applicable federal recordkeeping and reporting requirements in 40 CFR Part 63, unless a waiver has been granted to the permittee by the Administrator or ORCAA according to 40 CFR 63.10(f). The permittee may be granted approval to waive an applicable recordkeeping or reporting requirement of 40 CFR Part 63 including, but not limited to:

- a) The Administrator approving minor and major changes to recordkeeping and reporting in applicable subparts to 40 CFR Part 63.
- b) ORCAA approving minor changes to recordkeeping and reporting in ORCAA delegated Subparts of 40 CFR Part 63.

Section 6. Facility-Wide Requirements

Table 2: Facility-Wide Requirements

| # | Applicable Requirement Citations | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Monitoring Provisions | | | | | | | | |
|--|---|---|--|--------------------------------|-----------|-----|----------------------|-----|--------|----------------|------|----------------------|
| FW1 | 40 CFR 82 Subparts B, C, F, and H | <p>Protection of Stratospheric Ozone. The following applicable subparts from 40 CFR Part 82 apply to all activities involving use, servicing, maintenance, repair or procurement of equipment or products containing substances defined as “controlled substances” under Section 82.3 of 40 CFR Part 82:</p> <ul style="list-style-type: none"> a) Section 82.3 of 40 CFR Part 82 – Definitions b) Subpart B – Servicing Motor Vehicle Air Conditioners c) Subpart C – Ban on Nonessential Products d) Subpart F – Recycling and Emissions Reduction e) Subpart H – Halon Emissions Reductions | N/A | None | | | | | | | | |
| FW2 | WAC 173-400-040(7) | <p>Sulfur Dioxide Emissions Limitation. WAC 173-400-040(7) prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1000 ppm of sulfur dioxide on a dry basis, corrected to 7 percent oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.</p> | ASTM D4294-98 | None | | | | | | | | |
| | WAC 173-401-615(1)(b) | <p>Provisions added for compliance assurance under authority of WAC 173-401-600(1) and (2): The permittee shall only combust liquid fuel with a maximum sulfur content of 15 ppm by weight, propane, or natural gas. Fuel test data or documentation from the fuel supplier or facility operator may be used to demonstrate compliance with this requirement.</p> | EPA Methods 6, 6A, 6B, 6C, or 6010 | | | | | | | | | |
| FW3 | <p>OA (#03MOD335) Condition 3</p> <p>OA (#06MOD517) Condition 3</p> | <p>ORCAA Facility-Wide Emissions Limitations: The following pollutant specific emission limitations shall apply to total facility-wide emissions over any consecutive 12-month period:</p> <ul style="list-style-type: none"> a) 48.0 tons per year Volatile Organic Compounds (VOC). b) 1.0 tons per year formaldehyde. c) 32.0 tons per year methanol (or ethanol). d) 4.5 tons per year phenol. e) Emissions limits for other organic TAPs as defined in Table 2.1. The acceptable source impact levels (ASILs) are listed in Attachment 1 with their corresponding pollutant. <p style="text-align: center;">Table 2.1 Emissions limits of other organic TAPs</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>TAPs with ASILs ($\mu\text{g}/\text{m}^3$)</th> <th>Annual Limit (tpy)</th> </tr> </thead> <tbody> <tr> <td>≥ 63</td> <td>4.5</td> </tr> <tr> <td>≥ 28 and < 63</td> <td>2.0</td> </tr> <tr> <td>< 28</td> <td>(ASIL./63)*4.5</td> </tr> </tbody> </table> | TAPs with ASILs ($\mu\text{g}/\text{m}^3$) | Annual Limit (tpy) | ≥ 63 | 4.5 | ≥ 28 and < 63 | 2.0 | < 28 | (ASIL./63)*4.5 | None | Conditions M1 and M7 |
| TAPs with ASILs ($\mu\text{g}/\text{m}^3$) | Annual Limit (tpy) | | | | | | | | | | | |
| ≥ 63 | 4.5 | | | | | | | | | | | |
| ≥ 28 and < 63 | 2.0 | | | | | | | | | | | |
| < 28 | (ASIL./63)*4.5 | | | | | | | | | | | |

Continued – Section 6. Facility-Wide Requirements

Continued – Table 2: Facility-Wide Requirements

| # | Applicable Requirement Citations | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Monitoring Provisions |
|-----|---|--|-------------------------------------|--------------------------------|
| FW4 | ORCAA 8.6 (local only) | Formaldehyde Emissions Limitation. No person shall cause or allow the emission of formaldehyde into the ambient air beyond such person's property line which will result in a concentration exceeding 0.05 ppm 1 hour average or 61 µg/m ³ 1 hour average. Clarification added: For the purpose of this requirement, compliance is assured by complying with Condition AR1.0. | N/A | Conditions M1 and M7 |
| FW5 | WAC 173-400-040(5) (state only) | Odor Control (State). Any person who shall cause or allow the generation of any odor from any source which may unreasonably interfere with any other property owner's use and enjoyment of his or her property must use recognized good practice and procedures to reduce these odors to a reasonable minimum. | N/A | None |
| FW6 | ORCAA 8.5 (local only) | Odor Control (ORCAA). Reasonably available control technology (RACT) shall be installed and operated to mitigate odor-bearing gases emitted into the atmosphere from any source to a minimum, or, so as not to create air pollution. No person shall cause or allow the emission or generation of any odor from any source that unreasonably interferes with another person's use and enjoyment of their property. | N/A | None |
| FW7 | WAC 173-400-040(4)(a) | Fugitive Emissions Control. The permittee of any emission unit engaging in materials handling, construction, demolition or any other operation which is a source of fugitive emissions shall take reasonable precautions to prevent release of air contaminants from the operation. | Ecology Method 9A | Condition M6 |
| FW8 | WAC 173-400-040(9)(a) ORCAA 8.3(c) (state/local only) | Fugitive Dust Control. Reasonable and/or appropriate precautions shall be taken to prevent fugitive particulate material from becoming airborne: a) When handling, loading, unloading, transporting, or storing particulate material; b) When constructing, altering, repairing or demolishing a building, or its appurtenance, or a road; or c) From an untreated open area. Clarification added: For the purpose of this requirement, fugitive particulate means particulate material which is generated incidental to an operation, process or procedure and is emitted into the open air from points other than an opening designed for emissions such as a stack or vent. | Ecology Method 9A | Condition M6 |
| FW9 | WAC 173-400-040(3) ORCAA 8.3(e) (state/local only) | Fallout. No person shall cause or permit the emission of particulate matter from any source to be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. | Ecology Method 9A | Condition M6 |

Continued – Section 6. Facility-Wide Requirements

Continued – Table 2: Facility-Wide Requirements

| # | Applicable Requirement Citations | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Monitoring Provisions |
|------|---|---|-------------------------------------|--------------------------------|
| FW10 | WAC 173-400-050(1) | Particulate Standards for Process Units (State). No person shall cause or permit the emissions of particulate matter in excess of 0.23 gram per dry cubic meter at standard conditions (0.1 grain/dscf), except, for an emissions unit combusting wood derived fuels for the production of steam. No person shall allow or permit the emission of particulate matter in excess of 0.46 gram per dry cubic meter at standard conditions (0.2 grain/dscf). | EPA Method 5 | None |
| FW11 | WAC 173-400-060 | Emissions Standards for Process Units (State). No person shall cause or permit the emission of particulate material from any general process operation in excess of 0.23 grams per dry cubic meter at standard conditions (0.1 grain/dscf) of exhaust gas. | EPA Methods 5 and 202 | None |
| FW12 | ORCAA 8.3(a) (local only) | Emissions Standards for Process Units (ORCAA). In equipment or facilities except boilers using hog fuel, no person shall cause or allow emission of particulate matter to the outdoor atmosphere from any single source in excess of 0.10 grains per standard cubic foot of gas (calculated at 7% oxygen). Measured concentrations shall be adjusted for volumes corrected to 7% oxygen, except when ORCAA determines that an alternate oxygen correction factor is more representative of normal operations. In addition, ORCAA requires including the “back half” condensable particulate matter for determining compliance with ORCAA 8.3(a). | EPA Methods 5 and 202 | None |
| FW13 | ORCAA 8.8 (local only) | Control Equipment – Maintenance and Repair. The permittee is required to keep air pollution control equipment in good operating condition and repair. | N/A | Condition M9 |
| FW14 | WAC 173-400-040(2) ORCAA 8.2 (local only) | General Standards for Maximum Visual Emissions. <ul style="list-style-type: none"> a) In equipment or facilities, including boilers using hogged fuel, regardless of their date of installation, no person shall cause or allow the emission to the outdoor atmosphere, for more than three (3) minutes in any one hour, of a gas stream containing air contaminants which are greater than 20% opacity. b) Observations shall be made by trained and certified observers or by LIDAR instrumentation. c) The exceptions to the opacity standard stated in (a) above are as follows: <ul style="list-style-type: none"> i. Emissions occurring due to soot blowing or grate cleaning may be greater than 20% opacity; providing the operator can demonstrate that soot blowing or grate cleaning will not exceed a total of 15 minutes in any consecutive 8 hours. This practice, except for testing and troubleshooting, is to be scheduled for the same approximate times each day and ORCAA shall be advised of the schedule. ii. When the permittee of a source supplies valid data to show that the presence of uncombined water is the only reason for the opacity to exceed 20%. | Ecology Method 9A | Condition M6 |

Continued – Section 6. Facility-Wide Requirements

Continued – Table 2: Facility-Wide Requirements

| # | Applicable Requirement Citations | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Monitoring Provisions |
|------|--|--|-------------------------------------|--------------------------------|
| FW15 | WAC 173-401-600(1) and (2) | Air Quality Complaints. Terms added for assuring compliance with Conditions FW5, FW6, FW7, FW8, and FW9 under authority of WAC 173-401-600(1) and (2): The permittee shall, at a minimum, implement a system to investigate and respond to all air quality related complaints directed to the permittee’s facility as soon as practicable, but within 24 hours of receipt. If credible evidence of a violation is found, the permittee shall take corrective action as soon as possible, but within 24 hours after identification. The permittee shall provide onsite staff available to the general public for filing complaints whenever the facility is operating. The permittee’s facility phone number shall be made available to the public. | N/A | Condition M24 |
| FW16 | WAC 173-441-030(1) and (3)-(5) (state only) | Applicability of GHG Reporting Rule. The permittee shall be subject to the requirement to report greenhouse gas (GHG) emissions to Ecology if annual, facility-wide emissions of carbon dioxide equivalents (CO ₂ e) are 10,000 metric tons per year or more from all source categories listed in WAC 173-441-120. To calculate GHG emissions, the permittee shall include all GHGs listed in Table A-1 of WAC 173-441-040, including those emitted from the combustion of biomass, using equation A-1 from WAC 173-441-030(1)(b)(iii). If the permittee is not required to report GHG emissions based on present emissions, but increases emissions of GHG at a later time, the permittee will become subject to the reporting requirement. The permittee may voluntarily report GHG emissions to Ecology if not required to do so. If the permittee voluntarily reports GHG emissions to Ecology, the same methodology shall be used as if reported were required. Once the permittee is required to report GHG emissions to Ecology, the permittee shall report GHG emissions annually thereafter unless the permittee is allowed to discontinue reporting as allowed by WAC 173-441-030(5) and the specified notice is submitted to Ecology. | N/A | Condition M23 |
| FW17 | OA (#03MOD335) Condition 2 OA (#06MOD517) Condition 2 | Use of New Materials. New materials containing toxic air pollutants (TAPs) as defined and listed in Attachment 1, other than those TAPs reviewed and approved through Order of Approvals (#03MOD335) and (#06MOD517), shall require review and approval by ORCAA prior to use. Approved TAPs include formaldehyde, methanol (or ethanol as a replacement for methanol), phenol, and organic TAPs that meet the following criteria: <ul style="list-style-type: none"> a) Class B TAPs with acceptable source impact levels (ASILs) listed in Attachment 1. b) Can be combusted in the RTO with a destruction efficiency similar to phenol, formaldehyde, and methanol (i.e. non-halogenated organics). c) Are captured and routed through the RTO. d) Must not be marketed primarily as a rodenticide, insecticide, herbicide, or other pesticide. e) Must not trigger a new federal standard. | N/A | Condition M7 |

Continued – Section 6. Facility-Wide Requirements

Continued – Table 2: Facility-Wide Requirements

| # | Applicable Requirement Citations | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Monitoring Provisions |
|------|---|---|-------------------------------------|--------------------------------|
| FW18 | <p>OA (#03MOD355) Condition 5</p> <p>OA (#04NOC365) Condition 3</p> <p>40 CFR 64.7(b), 63.6(e)(1)(i), 63.8(c)(1)(i), 63.8(c)(1)(ii), and 63.8(c)(3)</p> | <p>General Operation and Maintenance of Air Pollution Control Equipment. The permittee is required to keep the RTO, including all CPMS equipment in good operating condition and repair. Determination of whether operation and maintenance procedures meet this standard will be based on available information and may include, but is not limited to, manufacturer recommendations, facility reports, monitoring results, operation and maintenance records, and observed condition of the equipment. These operation and maintenance requirement are enforceable independent of emissions limitations or other requirements in relevant standards.</p> <p>For purposes of assuring compliance with this condition for EU-1, EU-2, and EU-3, the permittee shall, at a minimum:</p> <ul style="list-style-type: none"> a) Keep the necessary parts for routine repairs of RTO and CPMS equipment readily available. b) Develop a written startup, shutdown, and malfunction plan (SSMP) for the RTO and CPMS. c) The target operating ranges specified in Table 8 shall be used as an indication of good operating condition of the RTO and monitoring equipment. d) Take appropriate corrective actions as soon as possible, but in no case later than 24 hours from the time monitoring indicates out-of-range operations. Appropriate corrective action shall, at a minimum, include an inspection of the RTO and monitoring equipment. e) Inability to meet any target operating range specified in Table 8 shall be considered an excursion and “malfunction” of control and monitoring equipment and shall be documented and reported in accordance with this AOP. f) Inability to meet any RTO or CPMS target operating range does not by itself constitute a deviation of this condition, provided that the permittee promptly took appropriate corrective action to address the out-of-range operations. g) The CPMS shall be installed, operated, and the data verified as specified to subparts OOO and JJJJ of 40 CFR Part 63, either prior to or in conjunction with conducting RTO performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system. | N/A | Condition M9 |

Continued – Section 6. Facility-Wide Requirements

Continued – Table 2: Facility-Wide Requirements

| # | Applicable Requirement Citations | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Monitoring Provisions |
|------|--|--|-------------------------------------|--------------------------------|
| FW19 | <p>ORCAA 1.5(i) and 1.5(j) (local only)</p> <p>WAC 173-400-105(4)</p> <p>40 CFR 63.7(d) and 63.997(c)(2)</p> | <p>General Performance Testing. To demonstrate compliance with applicable emissions standards and control measures, the Administrator, ORCAA, or Ecology may conduct or require that a performance test or compliance assessment be conducted of the permittee’s facility. The following applies to the permittee:</p> <ul style="list-style-type: none"> a) Test Methods. Use of approved EPA methods from 40 CFR parts 51, 60, 61 and 63 (in effect on July 1, 2012), or approved procedures contained in “<i>Source Test Manual – Procedures for Compliance Testing</i>,” state of Washington, Department of Ecology, as of September 20, 2004, on file at Ecology. b) Appropriate Testing Facilities The permittee shall be required to provide the necessary platform and sampling ports for ORCAA or Ecology personnel or others to perform a test of an emissions unit. ORCAA or Ecology shall be allowed to obtain a sample from any emissions unit. The owner shall have the opportunity to observe the sampling and, if there is adequate space to conduct the tests safely and efficiently, to obtain sample at the same time. c) Administrator Requirement. The Administrator may require the permittee to conduct performance tests and compliance assessments at any time when the action is authorized by Section 114 of the Federal Clean Air Act (FCAA). d) Administrator Testing Facilities. At the request of the Administrator or ORCAA, the permittee shall provide sampling ports adequate for test methods that meet the following: <ul style="list-style-type: none"> i. Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures. ii. Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures. | N/A | N/A |

Section 7. Emissions Unit Specific Operating Requirements

In addition to the facility-wide and generally applicable requirements specified in Sections 5 and 6, the following requirements will apply to the specifically indicated emission units.

Table 3: Operating Conditions Specific to Paper Coating and Curing Line (EU-1)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Methods (if applicable) | Required Compliance Monitoring | | | | | | | | |
|-------------------------|--|--|--|---|------|-----|---------------|-----|------|----------------|--|---|
| AR1.0 | OA (#03MOD335) Condition 4 OA (#06MOD517) Condition 4 | <p>ORCAA BACT Emissions Limitations: The following pollutant specific emission rate limits shall apply to the emissions of the indicated pollutants from the paper coating and curing line (EU-1):</p> <ul style="list-style-type: none"> a) 0.5 lbs/hr. of formaldehyde. b) 11.5 lbs/hr. of methanol (or ethanol). c) 2.0 lbs/hr. of phenol. d) Emissions limits for other organic TAPs as defined in Table 3.1. The acceptable source impact levels (ASILs) are listed in Attachment 1 with their corresponding pollutant. <table border="1" style="margin-left: auto; margin-right: auto;"> <caption>Table 3.1 Emissions limits of other organic TAPs</caption> <thead> <tr> <th>TAPs with ASILs (µg/m3)</th> <th>Hourly Limit (lbs/hr.)</th> </tr> </thead> <tbody> <tr> <td>≥ 63</td> <td>2.0</td> </tr> <tr> <td>≥ 28 and < 63</td> <td>1.0</td> </tr> <tr> <td>< 28</td> <td>(ASIL/63)*2.25</td> </tr> </tbody> </table> <p>Clarification added: For the purpose of Condition AR1.0, the above requirements shall apply at all times, including during startups, shutdowns, and malfunctions of the paper coating line (EU-1), RTO, and CPMS. The above emissions limits apply to both the RTO and the emissions capture system. Compliance is assured if all operating parameters required to be monitored under Conditions AR1.2, AR1.3, and AR1.4 are maintained at the required values and if the hourly emissions rates are met during RTO performance testing.</p> | TAPs with ASILs (µg/m3) | Hourly Limit (lbs/hr.) | ≥ 63 | 2.0 | ≥ 28 and < 63 | 1.0 | < 28 | (ASIL/63)*2.25 | EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 4, 18, 25, 25A, 316, 320, 308 NCASI Method CI/WP-98.01 | Conditions M1, M7, M8, M9, M10, and M11 |
| TAPs with ASILs (µg/m3) | Hourly Limit (lbs/hr.) | | | | | | | | | | | |
| ≥ 63 | 2.0 | | | | | | | | | | | |
| ≥ 28 and < 63 | 1.0 | | | | | | | | | | | |
| < 28 | (ASIL/63)*2.25 | | | | | | | | | | | |
| AR1.1 | 40 CFR 63.3320(a), 63.3320(b)(1), and 63.3370(n)(6) | <p>Paper and Other Web Coating MACT Emissions Limitations. Whenever the paper coating and curing line (EU-1) is in operation, the permittee shall comply with the following emission standard:</p> <ul style="list-style-type: none"> a) No more than 5 percent of the organic HAP applied for each month may be emitted to the atmosphere. <p>Clarification added: For the purpose of Condition AR1.1, compliance is assured for a month if all operating parameters required to be monitored under Conditions AR1.3 and AR1.4 are maintained at the required values and the total mass of organic HAP emitted by EU-1 and EU-3 is no more than 5 percent of the total mass of organic HAP applied for the month. The above emissions limit applies to both the RTO and the emissions capture systems associated with EU-1 and EU-3.</p> | EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 4, 18, 25, 25A, 316, 320, 308 NCASI Method CI/WP-98.01 | Conditions M2, M7, M8, M9, M10, and M11 | | | | | | | | |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Continued – Table 3: Operating Conditions Specific to Paper Coating and Curing Line (EU-1)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Methods (if applicable) | Required Compliance Monitoring |
|-------|---------------------------------|---|--------------------------------------|---|
| AR1.2 | OA (#03MOD335) Condition 5 | <p>ORCAA BACT Operation Limitations. The following operation and maintenance requirements shall apply:</p> <ul style="list-style-type: none"> a) Emission from the paper coating line (EU-1) shall be controlled by the RTO. b) While controlling emissions, the RTO shall maintain a retention chamber temperature above the combustion temperature limit of 1500°F established during initial compliance testing. <p>Clarification added: For the purpose of Condition AR1.2, the above requirements shall apply at all times, including during startups, shutdowns, and malfunctions of the paper coating line (EU-1), RTO, and CPMS.</p> | N/A | Conditions M1, M7, M8, M9, M10, and M11 |
| AR1.3 | 40 CFR 63.3321(a) | <p>Paper and Other Web Coating MACT RTO Operating Limitations. Whenever the paper coating and curing line (EU-1) is in operation, the permittee shall comply with the following RTO operating limits:</p> <ul style="list-style-type: none"> a) All emission from the paper coating line (EU-1) shall be captured and vented to the RTO. b) The average combustion temperature in any 3-hour period shall be maintained above the combustion temperature limit of 1500°F established during initial compliance testing. c) Continuous combustion temperature data shall be recorded using a data acquisition system (DAS) that completes a minimum of one cycle of operation for each successive 15-minute period. d) Continuous combustion temperature data shall be reduced into 1-hour and 3-hour averages (or as needed). e) The dryer exhaust valve of EU-1 shall only be used as a relief valve and opened for safety purposes, or shall otherwise be secured and maintained in a closed position. <p>Clarification added: For the purpose of Condition AR1.3, the above requirements shall apply at all times, including during startups, shutdowns, and malfunctions of the paper coating line (EU-1), RTO, and CPMS. Provided all recorded continuous temperature values during an operating day are above 1500°F, the permittee may record that all values were above 1500°F rather than calculating and recording hourly averages of all recorded values, for that operating day.</p> | N/A | Conditions M2, M7, M8, M9, M10, and M11 |
| AR1.4 | 40 CFR 63.3321(a) | <p>Paper and Other Web Coating MACT Capture System Operating Limitation. Whenever the paper coating and curing line (EU-1) is in operation, the permittee shall comply with the following emissions capture system operating limit:</p> <ul style="list-style-type: none"> a) The static pressure between the emissions capture system and RTO shall be maintained at or below - 0.5 inches of water as established during initial compliance testing. <p>Clarification added: For the purpose of Condition AR1.4, the above requirements shall apply at all times, including during startups, shutdowns, and malfunctions of the paper coating line (EU-1), RTO, and CPMS.</p> | N/A | Conditions M2, M7, M8, M9, M10, and M11 |
| AR1.5 | 40 CFR 63.3321(b) | <p>Alternative Monitoring. The permittee may request a determination from the Administrator to monitor an alternative parameter and comply with a different operating limit to those required under Conditions AR1.3 and AR1.4 in accordance with 40 CFR 63.8(f). If the Administrator makes a determination that the change is a permissible alternative, the permittee shall either comply with the alternatives or Conditions AR1.3 or AR1.4</p> | N/A | None |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Continued – Table 3: Operating Conditions Specific to Paper Coating and Curing Line (EU-1)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Methods (if applicable) | Required Compliance Monitoring |
|-------|--|---|--------------------------------------|---|
| AR1.6 | 40 CFR 63.6(e)(1)(ii), 63.8(c)(1)(i), 63.3340, and 63.1400(j) | Response to Malfunctions. Malfunctions of paper coating and curing line (EU-1) equipment, including associated process heaters, RTO and monitoring equipment must be corrected as soon as practicable after the occurrence of a malfunction in accordance with the startup, shutdown and malfunction plan (SSMP). To the extent that an unexpected event arises during a startup, shutdown, or malfunction, the permittee must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices. | N/A | None |
| AR1.7 | 40 CFR 63.6(e)(3)(i)(B) and 64.7(d) | Response to Excursions and Exceedances. The permittee shall restore operation of EU-1, including associated process heaters, RTO, and CPMS equipment to normal operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions after the occurrence of an excursion or exceedance. The response shall include minimizing the period of any startup, shutdown or malfunction and prevent the likely recurrence of the cause of the event. Determination of whether the permittee has used acceptable procedures in response to an excursion will be based on information available to the Administrator or ORCAA, which may include but is not limited to, manufacturer recommendations and specifications, monitoring results, review of operation and maintenance procedures and records, review of the SSMP, and equipment inspections. | N/A | None |
| AR1.8 | 40 CFR 63.3340 , 63.8(c)(1)(iii), and 63.6(e)(3)(i) and (v)-(ix) | Startup, Shutdown, and Malfunction Plan. The permittee must implement and develop a written startup, shutdown, and malfunction plan (SSMP) that describes, in detail, procedures for operating and maintaining the paper coating and curing line (EU-1), including the associated RTO and CPMS during periods of startup, shutdown, and malfunction. The SSMP shall include procedures to prevent or minimize exceedances; and a program of corrective actions for malfunctioning EU-1, RTO and CPMS equipment used to comply with the Paper and Other Web Coating MACT. Revisions and changes to an existing SSMP and adoption of alternate plans shall be conducted according to 40 CFR Part 63, Subpart A. | N/A | None |
| AR1.9 | ORCAA 8.8 (local only) 40 CFR 63.6(e)(1)(i) | General Operation and Maintenance of Equipment. The permittee shall keep all process equipment associated with EU-1 in good operating condition and repair consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on available information that may include, but is not limited to, manufacturer specification data, facility reports, monitoring results, review of facility-wide Operation and Maintenance (O&M) plan, review of operation and maintenance records, and inspections of the equipment. | N/A | Conditions M2, M7, M8, M9, M10, and M11 |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Continued – Table 3: Operating Conditions Specific to Paper Coating and Curing Line (EU-1)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Methods (if applicable) | Required Compliance Monitoring |
|--------|---|---|--------------------------------------|---|
| AR1.10 | 40 CFR 63.3340, 64.7(b), 63.6(e)(1)(i), 63.6(e)(3)(i)(A), 63.7500(3), and 63.8(c)(1)(i) | <p>General Duty. At all times, including periods of startup, shutdown, and malfunction, the permittee must operate and maintain the paper coating and curing line (EU-1), including RTO equipment and CPMS equipment, in a manner consistent with the general duty to minimize emissions. The following shall also apply:</p> <ul style="list-style-type: none"> a) During periods of startup, shutdown and malfunction, paper coating and curing line (EU-1) equipment, including associated RTO and CPMS equipment shall be operated and maintained in accordance with the procedures specified in the Startup, Shutdown and Malfunction Plan (SSMP). b) The general duty to minimize emissions requires the reduction of emissions from paper coating and curing line (EU-1) equipment, including associated RTO and CPMS equipment, to the greatest extent which is consistent with safety and good air pollution control practices. c) Determination of whether general duty operation and maintenance procedures are being used will be based on information available to ORCAA which may include, but is not limited to, manufacturer recommendations and specifications, monitoring results, review of operation and maintenance procedures and records (including the SSMP and O&M plan), and equipment inspections. d) The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the attainment of emission levels that would be required by Conditions AR1.1 at other times if this is not consistent with safety and good air pollution control practices, nor does it require any further efforts to reduce emissions if levels required by Conditions AR1.1 have been achieved. | N/A | Conditions M2, M7, M8, M9, M10, and M11 |
| AR1.11 | 40 CFR 64.8 | <p>Quality Improvement Plan for CAM. ORCAA or the Administrator may require the permittee to develop and implement a Quality Improvement (QIP) in accordance with 40 CFR 64.8 if it is determined that the permittee did not use acceptable procedures in response to an excursion or exceedance per 40 CFR 64.7(d)(2).</p> | N/A | None |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Table 4: Operating Conditions Specific to the Phenolic Resin Plant (EU-2)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|-------|--|--|--|---|
| AR2.0 | OA (#04NOC365) Condition 3 | <p>ORCAA BACT Operation and Emission Limitations. The following operation, maintenance, and pollutant specific emissions standard requirements shall apply to the resin plant (EU-2):</p> <ul style="list-style-type: none"> a) The RTO shall be fully operational during reactor venting and tank filling events. b) Emissions from the resin plant kettle and storage tanks shall be vented through an enclosed vent system and controlled by the RTO. c) The RTO must maintain an organic HAP destruction efficiency of at least 95 weight-percent. d) During operation, the RTO shall maintain a retention chamber temperature above the combustion temperature limit of 1500°F established during initial compliance testing. <p>Clarification added: For the purpose of Condition AR2.0, the above requirements shall apply at all times, including during startups, shutdowns, and malfunctions of the resin plant (EU-2), RTO, and CPMS.</p> | EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 4, 18, 25, 25A, 316, 320, 308 NCASI Method CI/WP-98.01 | Conditions M1, M5, M7, M8, M9, M10, M11, M13, and M14 |
| AR2.1 | 40 CFR 63.1400(k)(1), 63.1403(a) and (b)(1), 63.1406(a)(1)(ii), 63.1408(a), and 63.1413(e)(1) | <p>Amino/Phenolic Resins Production MACT Emissions Limitations. Whenever the resin plant (EU-2) or portions thereof (i.e. the heat exchanger, reactor kettle vacuum pump, or formaldehyde storage vessel), are in operation, the permittee shall comply with the following emissions standards:</p> <ul style="list-style-type: none"> a) Reduce organic HAP emissions from the resin plant (EU-2) aggregate batch vent stream (i.e. the combined vent stream containing the batch process vent from the reactor kettle vacuum pump and the non-reactor process vent from the formaldehyde storage vessel) by 95 weight percent using the RTO. b) The intervening cooling fluid used by the heat exchanger shall not contain a regulated HAP listed in Attachment 5 to this AOP. <p>Clarification added: For the purpose of Condition AR2.1, the above requirements shall apply at all times, including during startups, shutdowns, and malfunctions of the resin plant (EU-2) equipment, RTO, and CPMS, except during periods of non-operation of affected equipment resulting in cessation of emissions.</p> | EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 4, 18, 25, 25A, 316, 320, 308 NCASI Method CI/WP-98.01 | Conditions M3, M5, M7, M8, M9, M13, and M14 |
| AR2.2 | OA (#04NOC365) Condition 7 40 CFR 63.1034, 63.1400(k)(2), 63.1411(d), and 63.1413(a) | <p>Control Level 2 MACT Emissions and Operating Limitations. The permittee shall comply with one of the following standards when emissions from equipment leaks or pressure releases (i.e. from the pressure relief valve on the formaldehyde storage vessel) is routed through a closed vent system and:</p> <ul style="list-style-type: none"> a) The RTO shall be designed and operated to reduce emissions of regulated material vented to it with an efficiency of 95 percent or greater (compliance is met when organic HAP control efficiency is 95 percent or greater); or, b) The RTO shall be designed and operated to provide a minimum residence time of 0.5 seconds at a minimum temperature of 760°C (1400°F). <p>Clarification added: For the purpose of Condition AR2.2, the above requirements shall apply at all times, except during periods of non-operation of the reactor kettle vacuum pump or formaldehyde storage vessel.</p> | EPA Method 21 | Conditions M4, M5, M7, M8, M9, M13, M14, M15, M16, M17, M18, M19, and M20 |
| AR2.3 | 40 CFR 63.1021 | <p>Alternative Means of Emissions Limitation. The permittee may request to the Administrator a determination of an alternative means of emission limitation to a required means of emission limitation in Conditions AR2.1. If the Administrator makes a determination that a means of emission limitation is a permissible alternative, the permittee shall either comply with the alternative or the means of emission limitation in Condition AR2.1.</p> | N/A | N/A |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Continued – Table 4: Operating Requirements Specific to the Phenolic Resin Plant (EU-2)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|-------|---|---|-------------------------------------|--|
| AR2.4 | OA (#04NOC365) Condition 7 40 CFR 63.1410, 63.1025, 63.1026, 63.1029, 63.1030, and 63.1400(k)(2) | <p>Equipment Leaks – Control Level 2 MACT Emissions Limitations. The following limitations shall apply at all times, except during periods the resin plant (EU-2) or portions thereof are not operating in which the lines are drained and depressurized resulting in cessation of emissions from affected equipment (valves, connectors, and pumps in contact with regulated material), through periodic inspections and use of approved instrument, sensory or pressure test monitoring:</p> <ul style="list-style-type: none"> a) Valves in light liquid service shall be repaired when a leak is detected at an instrument reading of greater than or equal to 500 parts per million by volume (ppmv) above background levels. b) Connectors in gas and vapor service and in light liquid service shall be repaired when a leak is detected at an instrument reading of greater than or equal to 500 parts per million by volume (ppmv) above background levels. c) Valves in gas or vapor service, including pressure relief devices and rupture discs associated with the resin plant (EU-2) reactor kettle, heat exchange system, vacuum pump and vacuum receiver tank, shall be repaired, if during pressure testing the equipment train pressure rate of change in pressure is greater than 1 psi per hour, or if there is sensory evidence of a leak. All repaired valves shall be retested. d) Pumps in light liquid service (i.e. condensate, phenol and formaldehyde pumps) that run more than 300 hours per year shall be repaired when a leak is detected at an instrument reading of greater than or equal to 2,000 ppmv above background levels. e) Pressure relief devices in liquid service shall be repaired when a leak is detected at an instrument reading of greater than or equal to 500 parts ppmv above background levels. | EPA Method 21 | Conditions M3, M4, M5, M7, M8, M9, M13, M14, M15, M16, M17, M18, M19, and M20 |
| AR2.5 | 40 CFR 63.1403(a) and 63.982(a)(2), (c)(2), and (f) | <p>Closed Vent MACT Emissions Standards. The permittee shall comply with the following:</p> <ul style="list-style-type: none"> a) When emissions from the resin plant (EU-2) or portions thereof (i.e. from the reactor kettle vacuum pump or formaldehyde storage vessel) are vented to the RTO, emissions shall be vented through a closed vent system that meets the requirements of 40 CFR Part 63, Subpart SS. b) All closed vent valves between the resin plant (EU-2) and the RTO shall only be used as relief valves and opened for safety purposes, or each shall otherwise be secured and maintained in a closed position. c) The closed vent system required by Condition AR2.5(a) shall regularly be monitored for leaks using approved sensory and instrumentation methods. The closed vent system shall be repaired when a leak is detected at an instrument reading of greater than or equal to 500 parts per million by volume (ppmv) above background levels or if there is sensory evidence of a leak. <p>Clarification added: For the purpose of Condition AR2.5, the above requirements apply to the closed vent system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, a flow inducing device that transports gas or vapor to the RTO from the combined process vent containing emissions from the reactor kettle vacuum pump and formaldehyde storage vessel.</p> | EPA Method 21 | Conditions M5, M13, and M14 |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Continued – Table 4: Operating Requirements Specific to the Phenolic Resin Plant (EU-2)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|-------|---|---|-------------------------------------|--|
| AR2.6 | 40 CFR 63.1400(k)(1), 63.1413(a)(3), 63.1413(a)(4), and 63.1413(e)(1) | <p>Amino/Phenolic Resins Production MACT Operating Limitations. The permittee shall comply with the following RTO operating limits:</p> <ul style="list-style-type: none"> a) Emissions from the aggregate batch vent stream (i.e. the combined vent stream containing the batch process vent from the reactor kettle vacuum pump and the non-reactor process vent from the formaldehyde storage vessel) shall be vented to the RTO via a closed vent system. b) The RTO shall have a minimum design residence time of 0.5 seconds. Compliance with this standard shall be demonstrated through RTO performance testing or servicing. c) The daily average combustion temperature shall be maintained above the combustion temperature limit of 1500°F established during initial compliance testing. Ongoing compliance with this standard shall be demonstrated through continuous parametric monitoring. d) Continuous combustion temperature data shall be reduced into 1-hour and daily averages (or as needed). <p>Clarification added: For the purpose of Condition AR2.6, the above requirements shall apply at all times, except during periods of non-operation of the reactor kettle vacuum pump or formaldehyde storage vessel. If all recorded continuous temperature values during an operating day are above 1500°F, the permittee may record that all values were above 1500°F rather than calculating and recording hourly and daily averages, for that operating day.</p> | N/A | Conditions M3, M5, M7, M8, M9, M13, and M14 |
| AR2.7 | 40 CFR 63.1411(a) | <p>Pressure Relief Valves Operating Limitations. All pressure relief devices in gas or vapor service and in contact with regulated material shall be operated with an instrument reading of less than 500 parts per million by volume above background levels. This limit does not apply for pressure relief devices designed and operated to route emissions through a closed vent system to a control device or to a process, fuel gas system, or drain system that meet the requirements of 40 CFR 63.1411(d). In addition, this limit does not apply during pressure releases.</p> | EPA Method 21 | Conditions M3, M4, M5, M7, M9, M13, M14, M15, M19, and M20 |
| AR2.8 | 40 CFR 63.1411(c) | <p>Pressure Release Prohibition. Emissions of organic HAP to the atmosphere from any pressure relief device in contact with regulated material is prohibited. This limit does not apply to pressure relief devices designed and operated to route emissions through a closed vent system to a control device or to a process, fuel gas system, or drain system that meets the requirements of 40 CFR 63.1411(d).</p> | N/A | Conditions M3, M4, M5, M7, M9, M13, M14, M15, M19, and M20 |
| AR2.9 | OA (#04NOC365) Condition 6 | <p>Heat Exchange System Leaks. The permittee shall monitor for leaks of process fluids from the heat exchange system(s). If a leak is detected, repairs shall be completed as soon as possible but not more than 45 calendar days after the leak is detected, unless a delay of repair is allowed by Condition M12. Once the leak has been repaired, the permittee shall confirm that the heat exchange system has been repaired within seven (7) calendar days of the repair or startup, whichever is later.</p> <p>Clarification added: For the purpose of Condition AR2.9, a leak is defined when concentration of substances in the cooling water or other heat exchange system process indicator(s) or condition(s) are outside the approved range(s) as specified in Condition M12.</p> | EPA Method in 40 CFR, Part 136 | Condition M12 |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Continued – Table 4: Operating Requirements Specific to the Phenolic Resin Plant (EU-2)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|--------|--|---|-------------------------------------|---|
| AR2.10 | N/A | RESERVED | N/A | N/A |
| AR2.11 | OA (#07NOC561) Condition 2 | <p>Resin Dryer Operation. The resin dryer shall only be operated when all emissions are ducted to the RTO and the RTO is operational.</p> <p>Clarification added: For the purpose of Condition AR2.11, the above shall apply at all times, including during startups, shutdowns, and malfunctions of the resin plant (EU-2), RTO, and CPMS, except during periods of non-operation of affected equipment resulting in cessation of emissions. Compliance with Condition AR2.11 is met by complying with Conditions AR2.1 and 2.6.</p> | N/A | Conditions M3, M5, M7, M8, M9, M13, and M14 |
| AR2.12 | OA (#04NOC365) Condition 3 ORCAA 8.8 (local only) | <p>General Operation and Maintenance of Process Equipment. The permittee shall keep all process equipment associated with EU-2 in good operating condition and repair consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on available information that may include, but is not limited to, manufacturer specification data, facility reports, monitoring results, review of facility-wide Operation and Maintenance (O&M) plan, review of operation and maintenance records, and inspections of the equipment.</p> <p>Provisions added for clarification under authority of WAC 173-401-600(1) and (2) to assure compliance with this condition: The permittee shall, every five (5) years, conduct a tune-up of the process heating system associated with EU-1.</p> | N/A | Conditions M3, M4, M5, M7, M8, M9, M13, M14, M15, M16, M17, M18, M19, M20 and M21 |
| AR2.13 | 40 CFR 63.996(c)(2), 63.1400(k)(3), and 63.1400(k)(4) | <p>General Duty. The permittee shall not shut down air pollution control and monitoring equipment that are required or utilized for compliance with this permit during times when emissions from the resin plant (EU-2) are being routed to such equipment if the shutdown would contravene requirements of this permit applicable to the air pollution control and monitoring equipment. At all times, the permittee must operate and maintain the resin plant (EU-2), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether the permittee is operating in compliance with acceptable operation and maintenance procedures will be based on information available to ORCAA, which may include, but is not limited to, manufacturer recommendations and specifications, monitoring results, review of operation and maintenance procedures (including the O&M plan), review of operation and maintenance records, and inspection of the affected equipment and facility.</p> | N/A | Conditions M3, M4, M5, M7, M8, M9, M13, M14, M15, M16, M17, M18, M19, M20 and M21 |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Table 5: Requirements Specific to Composite Press (EU-3)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|-------|---|--|--|---|
| AR3.0 | OA (#06NOC469) Condition 1 | Materials Usage Limitation (BACT): Only paper impregnated with resin used by the paper coating and curing line (EU-1) shall be used in the composite press (EU-3). | N/A | Conditions M1, M7, M8, M9, M10, and M11 |
| AR3.1 | 40 CFR 63.3320(a), 63.3320(b)(1), and 63.70(n)(6) | <p>Paper and Other Web Coating MACT Emissions Limitations. Whenever the composites press (EU-3) is in operation, the permittee shall comply with the following emission standard:</p> <p>a) No more than 5 percent of the organic HAP applied for each month may be emitted to the atmosphere.</p> <p>Clarification added: For the purpose of Condition AR3.1, compliance is assured for a month if all operating parameters required to be monitored under Conditions AR1.3 and AR1.4 are maintained at the required values and the total mass of organic HAP emitted by EU-1 and EU-3 is no more than 5 percent of the total mass of organic HAP applied for the month. The above emissions limit applies to both the RTO and the emissions capture systems associated with EU-1 and EU-3.</p> | EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 4, 18, 25, 25A, 316, 320, 308 NCASI Method CI/WP-98.01 | Conditions M2, M7, M8, M9, M10, and M11 |
| AR3.2 | 40 CFR 63.3321(a) | <p>Paper and Other Web Coating MACT RTO Operating Limitations. Whenever the composites press (EU-3) is in operation, the permittee shall comply with the following RTO operating limits:</p> <p>d) All emission from the composites press (EU-3) shall be captured and vented to the RTO.</p> <p>e) The average combustion temperature in any 3-hour period shall be maintained above the combustion temperature limit of 1500°F.</p> <p>f) Continuous combustion temperature data shall be recorded using a data acquisition system (DAS) that completes a minimum of one cycle of operation for each successive 15-minute period.</p> <p>g) Continuous combustion temperature data shall be reduced into 1-hour and 3-hour averages (or as needed).</p> <p>h) All capture system valves between EU-3 and the RTO shall only be used as relief valves and opened for safety purposes, or each shall otherwise be secured and maintained in a closed position.</p> <p>Clarification added: For the purpose of Condition AR3.2, the above requirements shall apply at all times, including during startups, shutdowns, and malfunctions of the composites press (EU-3), RTO, and CPMS. Provided all recorded continuous temperature values during an operating day are above 1500°F, the permittee may record that all values were above 1500°F rather than calculating and recording hourly averages of all recorded values, for that operating day.</p> | N/A | Conditions M2, M7, M8, M9, M10, and M11 |
| AR3.3 | 40 CFR 63.3321(a) | <p>Paper and Other Web Coating MACT Capture System Operating Limitation. Whenever EU-3 is in operation, the permittee shall comply with the following emissions capture system operating limit:</p> <p>a) The operating parameter value or range of values determined during the initial compliance test shall be maintained to ensure compliance with the capture efficiency.</p> <p>Clarification added: For the purpose of Condition AR3.3, the above requirements shall apply at all times, including during startups, shutdowns, and malfunctions of the composites press (EU-3), RTO, and CPMS.</p> | N/A | Conditions M2, M7, M8, M9, M10, and M11 |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Continued – Table 5: Requirements Specific to Composite Press (EU-3)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|-------|---|---|----------------------------------|---|
| AR3.4 | 40 CFR 63.3321(b) | Alternative Monitoring. The permittee may request a determination from the Administrator to monitor an alternative parameter and comply with a different operating limit to those required under Conditions AR3.2 and AR3.3 in accordance with 40 CFR 63.8(f). If the Administrator makes a determination that the change is a permissible alternative, the permittee shall either comply with the alternatives or Conditions AR3.2 or AR3.3. | N/A | N/A |
| AR3.5 | OA (#06NOC469) Condition 2 | Total Enclosure Standards: The composite press (EU-3) shall be enclosed by a permanent total enclosure as defined by EPA Method 204: a) Each natural draft opening (NDO) shall be at least four equivalent opening diameters from the nearest emitting point on the press; b) Any exhaust point leading to the RTO shall be at least four equivalent duct diameters from each NDO; c) The total area from all NDOs shall not exceed 5 per cent of the surface area of the enclosure's walls, ceiling, and floor; d) The average facial velocity through all NDOs shall be at least 200 feet per minute (fpm); e) The direction of air flow through all NDOs shall be into the enclosure as tested by streamer, smoke tube, or tracer gas. If the average facial velocity through all NDOs is greater than 500 fpm, this need not be tested; f) All access doors and windows not counted as NDOs shall remain closed during routine operation of the press; g) All emissions shall be routed to the RTO, which must be operating properly and maintained as per all applicable conditions of this permit; and, h) The enclosure shall be impervious to phenol, formaldehyde, methanol, ammonia, urea, and other compounds that may be released by the curing of phenol-formaldehyde resins. | EPA Method 204 | Conditions M1, M7, M8, M9, M10, and M11 |
| AR3.6 | 40 CFR 63.6(e)(1)(ii), 63.8(c)(1)(i), 63.3340, and 63.1400(j) | Response to Malfunctions. Malfunctions of composites press (EU-3) equipment, including associated RTO and CPMS equipment must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown and malfunction plan (SSMP). To the extent that an unexpected event arises during a startup, shutdown, or malfunction, the permittee must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices. | N/A | None |
| AR3.7 | 40 CFR 63.6(e)(3)(i)(B) and 64.7(d) | Response to Excursions and Exceedances. The permittee shall restore operation of EU-3, including associated RTO and CPMS equipment to normal operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions after the occurrence of an excursion or exceedance. The response shall include minimizing the period of any startup, shutdown or malfunction and prevent the likely recurrence of the cause of the event. Determination of whether the permittee has used acceptable procedures in response to an excursion will be based on information available to the Administrator or ORCAA, which may include but is not limited to, manufacturer recommendations and specifications, monitoring results, review of operation and maintenance procedures and records, review of the SSMP, and equipment inspections. | N/A | None |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Continued – Table 5: Requirements Specific to Composite Press (EU-3)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|--------|--|--|----------------------------------|---|
| AR3.8 | 40 CFR 63.3340, 63.8(c)(1)(iii), and 63.6(e)(3)(i) and (vi)-(ix) | Startup, Shutdown, and Malfunction Plan. The permittee must implement and develop a written startup, shutdown, and malfunction plan (SSMP) that describes, in detail, procedures for operating and maintaining the composites press (EU-3), including the associated RTO and CPMS during periods of startup, shutdown, and malfunction. The SSMP shall include procedures to prevent or minimize exceedances; and a program of corrective actions for malfunctioning EU-3, RTO and CPMS equipment used to comply with the Paper and Other Web Coating MACT. Revisions and changes to an existing SSMP and adoption of alternate plans shall be conducted according to 40 CFR Part 63, Subpart A. | N/A | None |
| AR3.9 | ORCAA 8.8 (local only) 40 CFR 63.6(e)(1)(i) | General Operation and Maintenance of Equipment. The permittee shall keep all process equipment associated with EU-3 in good operating condition and repair consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on available information that may include, but is not limited to, manufacturer specification data, facility reports, monitoring results, review of facility-wide Operation and Maintenance (O&M) plan, review of operation and maintenance records, and inspections of the equipment. | N/A | Conditions M2, M7, M8, M9, M10, and M11 |
| AR3.10 | 40 CFR 63.3340, 63.6(e)(1)(i), 63.6(e)(3)(i)(A), 63.7500(3), and 63.8(c)(1)(i) | General Duty. At all times, including periods of startup, shutdown, and malfunction, the permittee must operate and maintain any affected sources subject to the requirements in 40 CFR Part 63 Subparts JJJJ, including associated air pollution control equipment and monitoring equipment, in a manner consistent with the general duty to minimize emissions. The following shall also apply: a) During periods of startup, shutdown and malfunction, composites press (EU-3) equipment, including associated RTO and CPMS equipment shall be operated and maintained in accordance with the procedures specified in the Startup, Shutdown and Malfunction Plan (SSMP). b) The general duty to minimize emissions requires the reduction of emissions from composites press (EU-3) equipment, including associated RTO and CPMS equipment, to the greatest extent which is consistent with safety and good air pollution control practices. c) Determination of whether general duty operation and maintenance procedures are being used will be based on information available to ORCAA which may include, but is not limited to, manufacturer recommendations and specifications, monitoring results, review of operation and maintenance procedures and records (including the SSMP and O&M plan), and equipment inspections. d) The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the attainment of emission levels that would be required by Conditions AR3.3 at other times if this is not consistent with safety and good air pollution control practices, nor does it require any further efforts to reduce emissions if levels required by Conditions AR3.3 have been achieved. | N/A | Conditions M2, M7, M8, M9, M10, and M11 |
| AR3.11 | 40 CFR 64.8(a) | Quality Improvement Plan for CAM. ORCAA or the Administrator may require the permittee to develop and implement a Quality Improvement (QIP) in accordance with 40 CFR 64.8 if it is determined that the permittee did not use acceptable procedures in response to an excursion or exceedance per 40 CFR 64.7(d)(2). | N/A | None |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Table 6: Requirements Specific to the Resin Plant Boiler (EU-4)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|-------|---------------------------------|---|-------------------------------------|--------------------------------|
| AR4.0 | 40 CFR 63.7500(a)(1) | Boiler MACT Work Practice Standards. The permittee shall at a minimum, every five (5) years from the previous tune-up, conduct a tune-up of the boiler system (EU-4) associated with the resin plant. Initial compliance with this standard shall be met by August 01, 2016. | N/A | Condition M21 |
| AR4.1 | 40 CFR 63.7500(a)(1) | <p>Boiler MACT Energy Assessment. The permittee shall ensure a one-time energy assessment is performed by a qualified energy assessor no later than August 01, 2016. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this Condition AR4.2, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The extent of the energy assessment is limited to the following:</p> <ul style="list-style-type: none"> a) A visual inspection of the affected boiler or process heater systems; b) An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints; c) An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator; d) A review of available architectural and engineering plans, facility operation and maintenance procedures and records, and fuel usage; e) A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices; f) A list of major energy conservation measures; g) A list of the energy savings potential of the energy conservation measures identified; and, h) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. <p>The permittee must include with the Notification of Compliance Status a signed certification that either the energy assessment was completed according to the above requirements, and that the assessment is an accurate depiction of the facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.</p> | N/A | Condition M22 |
| AR4.2 | ORCAA 8.8 (local only) | General Operation and Maintenance of Process Equipment. The permittee shall keep all process equipment associated with EU-4 in good operating condition and repair consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on available information that may include, but is not limited to, manufacturer specification data, facility reports, monitoring results, review of facility-wide Operation and Maintenance (O&M) plan, review of operation and maintenance records, and inspections of the equipment. | N/A | Condition M21 |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Table 6: Requirements Specific to the Resin Plant Boiler (EU-4)

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|-------|--|--|-------------------------------------|--------------------------------|
| AR4.3 | 40 CFR 63.7500(b) | Alternative Work Practice Standards The permittee may request to the Administrator a determination of use of an alternative to the work practice standards in Condition AR4.0. If the Administrator makes a determination that an alternative work practice is a permissible alternative, the permittee shall either comply with the alternative or the work practice standards in Condition AR4.0. | N/A | N/A |
| AR4.4 | 40 CFR 63.3340, 63.6(e)(1)(i), 63.7500(3), 63.8(c)(1)(i) | General Duty. At all times, including periods of startup, shutdown, and malfunction, the permittee must operate and maintain any affected sources subject to the requirements in 40 CFR Part 63 Subparts DDDDD, in a manner consistent with the general duty to minimize emissions. The following shall also apply: a) The general duty to minimize emissions requires the reduction of emissions from the boiler (EU-4) to the greatest extent which is consistent with safety and good air pollution control practices. b) Determination of whether general duty operation and maintenance procedures are being used will be based on information available to ORCAA which may include, but is not limited to, manufacturer recommendations and specifications, monitoring results, review of operation and maintenance procedures and records (including the O&M plan), and equipment inspections. | N/A | Condition M21 |

Continued – Section 7. Emissions Unit Specific Operating Requirements

Table 7: Requirements Specific to Temporary Internal Combustion Engines

| # | Applicable Requirement Citation | Applicable Requirement Description (for information purposes only) | Reference Method (if applicable) | Required Compliance Monitoring |
|-------|--------------------------------------|---|-------------------------------------|--------------------------------|
| AR5.0 | WAC 173-401-635 | <p>Operating Conditions.</p> <ul style="list-style-type: none"> a) Operation of temporary internal combustion engines at the facility shall be for the exclusive purpose of providing power during emergencies, shutdowns, maintenance activities, or cleaning of on-site equipment. b) Cumulative operation of all temporary internal combustion engines at the facility shall not exceed 3 months during any 12 consecutive month period. c) The permittee shall notify ORCAA at least 15 days in advance of operating an internal combustion engine at the facility. | N/A | None |
| AR5.1 | ORCAA 6.1.7 | <p>Notice of Intent to Operate (NOI).</p> <ul style="list-style-type: none"> a) Notification of intent to operate a temporary internal combustion engine shall be made at least 15 days prior to starting operation. b) Engines less than or equal to 200 hp shall be exempt from the notification requirement; all other engines must comply with the notification process. | N/A | None |
| AR5.2 | ORCAA 6.1.7 | <p>Emissions Standards. All temporary internal combustion engines operated at the facility shall comply with the 40 CFR Part 89 Tier 2 emissions standards or higher.</p> | N/A | None |
| AR5.3 | ORCAA 6.1.1(c) WAC 173-400-035(3) | <p>Engine Fuel Requirements. The sulfur content of the fuel used to fire the temporary internal combustion engines shall not exceed 15 ppm by weight, as determined by documentation from the fuel supplier.</p> | N/A | None |
| AR5.4 | ORCAA 8.8 (local only) | <p>General Operation and Maintenance of Equipment. The permittee shall keep all internal combustion engines in good operating condition and repair consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on available information that may include, but is not limited to, manufacturer specification data, facility reports, monitoring results, review of facility-wide Operation and Maintenance (O&M) plan, review of operation and maintenance records, and inspections of the equipment.</p> | N/A | None |

Section 8. Monitoring Requirements

Compliance Demonstration to Applicable Requirements

M1. ORCAA BACT [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#03MOD335) Condition 7; OA (#04NOC365) Condition 5; OA (#06NOC469) Condition 2*]. To demonstrate compliance with Conditions FW3, AR1.0, AR1.2, AR2.0, and AR3.0, the permittee must do the following:

- a) No later than 61 months after the previous RTO performance test, determine the RTO's overall organic HAP destruction efficiency for EU-2 according to Condition M8.
- b) Monitor the RTO operating parameters by implementing and maintaining the RTO and CPMS in accordance with Condition M9.
- c) The dryer exhaust valve of EU-1 shall be equipped with an automatic interlock system to interrupt and prevent continued coating and drying whenever the valve opens and discharges directly to the atmosphere.
- d) Monitor and maintain all valves that can potentially bypass the RTO according to Table 7. This includes relief valves as defined in Section 2 of this AOP.
- e) Monitor and maintain the capture systems in accordance with Conditions M9, M10, and M11.
- f) On a monthly basis, determine the sum of the mass of all coating materials as-applied in EU-1 when bypassing the RTO using Equation 4 to Condition M7.
- g) On a monthly basis, determine the sum of the mass of all coating materials as-applied in EU-1 when emissions are vented to the RTO using Equation 3 to Condition M7.
- h) On a monthly basis, determine the organic HAP content of each coating material as-applied following the criteria and procedures in Condition M7(d).
- i) On a monthly basis, determine the mass of organic HAP emitted from EU-1 and EU-3 using Equation 1 to Condition M6.
- j) The hourly and percent reduction emissions limits in Conditions AR1.0 and AR 2.0 shall be monitored by implementing the monitoring procedures in Conditions M7 and M9.

M2. Paper and Other Web Coating MACT [*Regulatory Origins: WAC 173-401-615(1)(b); 40 CFR 63.6(2); 40 CFR 63.7(a)(2); 40 CFR 63.7(e); 40 CFR 63.8; 40 CFR 63.3370(a), (e), and (k)*]. To demonstrate compliance with Conditions AR1.1, AR1.3, AR1.4, AR1.9, AR1.10, AR3.1, AR3.2, AR3.3, AR3.5, AR3.9, and AR3.10, the permittee must do the following:

- a) No later than 61 months after the previous RTO performance test, determine the capture efficiencies per Condition M10 of each emissions capture system associated with the paper coating and curing line (EU-1) and the composites press (EU-3).
- b) No later than 61 months after the previous RTO performance test, determine the RTO's overall organic HAP destruction efficiency for EU-1 and EU-3 according to Condition M8.
- c) Monitor the RTO operating parameters by implementing and maintaining the RTO and CPMS in accordance with Condition M9.
- d) Monitor and maintain the capture systems in accordance with Conditions M9, M10, and M11.
- e) **Compliance** [*40 CFR 63.3370(k)(3)*]. The permittee is in compliance with Conditions AR1.1 and AR3.1 if the average RTO combustion temperature is greater than the operating parameter value specified in Table 8 for each 3-hour period, and the RTO static inlet pressure is operated at an average value equal to or less than the operating parameter value specified in Table 8; and the RTO's overall organic HAP control efficiency is 95 percent.

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M3. Manufacture of Amino/Phenolic Resins MACT [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#04NOC635) Conditions 3, 4, and 5; OA (#07NOC561) Condition 2; 40 CFR 63.1415, and 63.1413(a) and (e); 40 CFR 63.6(2); 40 CFR 63.7(a)(2); 40 CFR 63.7(e); 40 CFR 63.8*]. To demonstrate compliance with Conditions AR2.1, AR2.6, AR2.12, and AR2.13, the permittee must do the following:

- a) No later than 61 months after the previous RTO performance test, determine the RTO's overall organic HAP destruction efficiency for EU-2 according to Condition M8.
- b) Monitor the RTO operating parameters by implementing and maintaining the RTO and CPMS in accordance with Condition M9.
- c) RTO parametric data averaging according to Condition M9.
- d) For each batch cycle, determine the mass rate of organic HAP for all batch emissions episodes vented to the RTO as specified in Condition M7(c).
- e) For each batch cycle, determine the mass rate of organic HAP for all uncontrolled batch emissions episodes as specified in Condition M7(c).
- f) Monitor closed vent systems according to Conditions M5, M13, and M14.
- g) **RTO Design Evaluation** [*Regulatory Origins: 40 CFR 63.1413(a)(3) and (e)(1)(i)*]. To demonstrate the organic HAP removal efficiency of the RTO, a design evaluation shall address the composition and organic HAP concentration of the vent stream(s) entering the RTO, the operating parameters of the RTO, and other conditions or parameters that reflect the performance of the RTO. The design evaluation shall also verify that the RTO meets a minimum gas residence time of 0.5 seconds and a minimum combustion temperature of 760 °C or 1400 °F. If the RTO does not satisfy the above criteria, the design evaluation shall consider the auto ignition temperature of the organic HAP, the vent stream flow rate, and shall establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.
- h) **RTO Performance Testing for EU-2** [*Regulatory Origins: 40 CFR 63.1413(e)(1)(ii) and (iii)*]. The following shall apply to meet Condition M3(a):
 - i. Before a performance test is conducted for EU-2, the permittee shall verify whether:
 - 1) The associated emissions are reduced for each batch emission episode or portion thereof, that the permittee selects to control; or,
 - 2) The control device reduces the associated emissions for one representative batch emission episode or a representative group of batch emission episodes provided that the air pollution control device achieves the same or higher efficiency for all other batch emission episodes that the permittee selects to control.
 - ii. If a performance test will be conducted for each batch emission episode, or portion thereof, the following applies:
 - 1) Only one test is required for each batch emission episode selected by the permittee for control.
 - 2) The performance test shall be conducted over the entire period of emissions selected by the permittee for control, except as specified below in paragraph (ii)(3).
 - 3) The permittee may choose to test only those periods of the batch emission episode during which the emission rate for the entire batch emission episode can be determined or during which the organic HAP emissions are greater than the average emission rate of the batch emission episode. If the permittee

Continued – Section 8. Monitoring Requirements

- chooses these options, the permittee shall develop an emission profile illustrating the emission rate over the entire batch emission episode.
- 4) The control device inlet sampling site shall be located at the exit from the resin plant (EU-2) after any condensers operating as process condensers and before any control device.
 - 5) If the resin plant (EU-2) vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts, the control device inlet sampling site shall ensure the measurements of total organic HAP concentrations in all batch process vents and primary and secondary fuels introduced into the boiler or process heater.
- iii. If only a single performance test will be conducted for the most challenging batch emission episode; thereby demonstrating that the achieved emissions reduction is the minimum expected for all batch emission episodes in a group, the following applies:
- 1) The testing procedures in Condition M8.
 - 2) The permittee shall develop an emissions profile illustrating the emission rate for each period of emissions to be addressed by the performance test. The emission profile shall be based on either process knowledge or test data. Previous test results may be used to develop the emission profile provided the results are still relevant to the current batch process vent conditions. The emission profile shall be included in the site-specific test plan required by Condition M8(c).
 - 3) Provide rationale for why the RTO efficiency for all the other batch emission episodes in the group will be greater than or equal to the RTO efficiency achieved during the tested period of the most challenging batch emission episode in the group.
- i) **Compliance** [*Regulatory Origin: 40 CFR 63.1413(e)(1)(iii)*]. The permittee is in compliance with Conditions AR2.1 for the batch cycle if all operating parameters required to be monitored were maintained at the values established in Table 8; and the overall emissions percent reduction for the batch cycle is equal to or greater than 95 percent as determined by Equation 1. The overall percent reduction for the batch cycle for EU-2 shall include the percent reduction for the reactor batch process vent and the percent reduction for the collection of non-reactor batch process vents within EU-2.

$$PR = \frac{\sum_{i=1}^n H_u + \sum_{j=1}^n H_c - \sum_{j=1}^n (1 - E_R) H_c}{\sum_{i=1}^n H_u + \sum_{j=1}^n H_c} \quad [\text{Eqn. 1}]$$

Where:

H_c = mass rate of pollutant for each batch emissions episode vented to the RTO as determined using the engineering assessment or any of the procedures described in Attachment 2.

H_u = mass rate of pollutant for each uncontrolled batch emissions episode as determined using the engineering assessment or any of the procedures described in Attachment 2.

E_R = RTO destruction efficiency of pollutant as determined by Condition M8.

i = number of uncontrolled batch emissions episodes.

j = number of controlled batch emission episodes.

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M4. Resin Plant Leaks MACT [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#04NOC635) Condition 7, 40 CFR 63.1023; 40 CFR 63.6(2); 40 CFR 63.7(a)(2); 40 CFR 63.7(e); 40 CFR 63.8; 40 CFR 63.1410(b)*]. To demonstrate compliance with Conditions AR2.2, AR2.4, AR2.7, and AR2.8, the permittee shall do the following:

- a) No later than 61 months after the previous RTO performance test, determine the RTO's overall organic HAP destruction efficiency for EU-2 according to Condition M8.
- b) Monitor the RTO operating parameters by implementing and maintaining the RTO and CPMS in accordance with Condition M9.
- c) Conduct instrument and sensory monitoring according to Condition M15.
- d) Valves in gas and in liquid service shall be monitored and maintained according to Condition M16.
- e) Pumps in light liquid shall be monitored and maintained according to Condition M17.
- f) Pressure relief devices shall be monitored and maintained according to Condition M19.
- g) Connectors in gas and vapor service and in light liquid service shall be monitored and maintained according to Condition M18.
- h) Alternative monitoring according to Condition M20.
- i) Monitor and maintain closed vent systems according to Condition M5, M13, and M14.
- j) Determine the RTO's overall organic HAP destruction efficiency for EU-2 according to Condition M3.

M5. Closed Vent System MACT [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#04NOC365) Conditions 5 and 7; OA (#07NOC561) Condition 2; 40 CFR 63.983; 40 CFR 63.6(2); 40 CFR 63.8; 40 CFR 63.1415(d)*]. To demonstrate compliance with Conditions AR2.0, AR2.1, AR2.2, AR2.4, AR2.5, AR2.6, AR2.7, AR2.8, AR2.12, and AR2.13, the permittee shall monitor the closed vent system(s) and any RTO bypass line, if installed, that bypasses the RTO from EU-2 to the RTO when in regulated material service or when in use with any other detectable gas or vapor according to the following:

- a) Conduct an initial inspection according to the procedures in Condition M13.
- b) Conduct annual inspections for visible, audible, or olfactory indications of leaks.
- c) For each RTO bypass line, the permittee shall comply with one of the following:
 - i. Implement a flow indicator, and take a reading at least once every 15 minutes.
 - ii. Ensure the bypass valve is secured in the non-diverting position, and visually inspect the seal or closure mechanism at least once every month to verify the vent stream is not diverted through the RTO bypass line.
- d) Any parts of the closed vent system that are designated as unsafe to inspect are exempt from the inspection requirements of the above paragraphs (a) and (b) if the following is met:
 - i. The permittee determines that the equipment is unsafe-to-inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with the above paragraphs (a) and (b); and
 - ii. The permittee has a written plan that requires inspection of the equipment as frequently as practical during safe-to-inspect times, but no more than once annually.
- e) Any parts of the closed vent system that are designated as difficult-to-inspect are exempt from the inspection requirements of the above paragraphs (a) and (b) if the following is met:
 - i. The permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters (7 feet) above a support surface; and
 - ii. The permittee has a written plan that requires inspection of the equipment.

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M6. Opacity Monitoring [*Regulatory Origin: WAC 173-401-615(1)(b)*]. The following is required:

- a) **Opacity Surveys.** Terms added for assuring compliance with Conditions FW7, FW8, and FW9 under authority of WAC 173-401-615(1) and WAC 173-401-600(1) and (2): The permittee shall, at a minimum, conduct a visual opacity survey once every month during daylight hours as follows:
 - i. Surveys shall be conducted as consist of visual observation of all emissions units to identify point and fugitive emissions that exhibit opacity greater than zero percent (0%).
 - ii. Each emissions unit shall be observed for a minimum cumulative duration of 15 seconds during the survey. The frequency for conducting the survey shall be monthly.
 - iii. Surveys shall be conducted from locations with a clear view of the facility and where the sun is at the observer's back. Survey locations shall be at least 15 feet but not more than 0.25 miles from the facility.
 - iv. Surveys shall be conducted whenever all emissions units are in operation. Each emission unit shall be visually surveyed when operating, except that verification is not required for combustion units that are fired only for the purpose of readiness testing and maintenance checks, provided that:
 - 1) Readiness testing and maintenance checks shall be performed no more frequently than once per month.
 - 2) The permittee record the amount of fuel consumed and the duration of all periods when the combustion units are operated in readiness testing or maintenance checking modes.
 - v. Observer certification for plume evaluation is not required to conduct the survey. However, it is necessary that the observer be educated on the general procedures for determining the presence of visible emissions. As a minimum, the observer must be trained and knowledgeable regarding the effects on the visibility of emissions caused by background contrast, position of the sun and amount of ambient lighting, observer position relative to source and sun, and the presence of uncombined water.
 - vi. The survey shall include the stack and all other vents and release points from the buildings.
 - vii. Any visible emissions other than uncombined water shall be recorded as a positive reading associated with the emission point or stack.
 - viii. If it is not possible to conduct the survey due to inclement weather conditions, the permittee shall make three attempts during the day to conduct the survey. All attempts to conduct the survey shall be recorded in accordance with Condition M6.
- b) **Opacity Compliance Demonstration Required:** When point or fugitive emissions are observed during surveys, other than visible emissions due to uncombined water, and corrections or mitigation measures are unsuccessful in eliminating the opacity, the permittee shall:
 - i. Complete Reference Method opacity readings for any emissions point exhibiting opacity in accordance with the following procedures:
 - 1) Certified opacity readings shall be performed by employees of the major source, a certified contractor or by ORCAA, and shall be performed by

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persons with current certification for plume evaluation in accordance with EPA Method 9A.

- 2) All certified opacity readings shall be performed during periods when the subject emissions unit is operating.
 - 3) If the subject emissions unit is down for maintenance or not operating, the permittee shall commence compliance verification within 1 hour after the unit comes back on line.
 - 4) If it is not possible to perform certified opacity readings due to inclement weather conditions or lack of daylight, the permittee shall document the conditions and shall make repeated daily attempts to conduct the testing until it is accomplished.
 - 5) Compliance verification shall consist of certified opacity readings at 15 second intervals over a minimum period of 6 consecutive minutes (24 consecutive readings) unless any one reading is greater than 20% opacity in which case the observation period shall be 60 minutes or until a violation is documented.
- ii. For fugitive emissions causing opacity, determine and document that reasonable and/or appropriate precautions are being taken to prevent the fugitive emissions.
 - iii. Compliance demonstrations shall be completed within 48 hours of the opacity survey that initially triggered them, except in situations where an emission unit is not operating, or lack of daylight or weather conditions prevent certified opacity readings, the required opacity testing shall be completed within 1 hour after the unit comes back on line or daylight or weather conditions allow.

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Methods and Procedures

M7. Emissions Calculations [*Regulatory Origins: WAC 173-401-615(1)(b); O.A (#03MOD335) Condition 7; O.A (#04NOC365) Conditions 5 and 7; O.A (#06NOC469) Condition 2; O.A (#07NOC561) Condition 2; 40 CFR 63.3370*]. Emission shall be calculated according to the following procedures:

- a) **Coating Material Calculation Methods** – Emissions shall be calculated based on mass balance methods using as-applied (as defined in Section 2 of this AOP) records of materials that account for all volatile organic compounds (VOCs), including individual TAP and HAP. When calculating emissions, the permittee shall take into account compliance demonstration records of destruction and capture efficiencies, volatile matter contents in coating material as purchased, and mass of volatile matter retained in the coated web after curing or drying.
- b) **EU-1 and EU-3 Emissions.** The permittee shall calculate emissions on a monthly basis for the paper coating and curing line (EU-1) and composites press (EU-3). Total HAP, total VOC, phenol, formaldehyde, methanol, and any other individual TAP requested by ORCAA shall be calculated using the following equations:

$$\text{Emissions} = H_a[1 - E_R] + H_b + H_a[1 - E_C] \quad [\text{Eqn. 2}]$$

Where:

$$H_a = \sum_{i=1}^p C_{ai}M_{ai} + \sum_{j=1}^q C_{aj}M_{aj} - M_{vret} \quad [\text{Eqn. 3}]$$

$$H_b = \sum_{i=1}^p C_{ai}M_{bi} + \sum_{j=1}^q C_{aj}M_{bj} - M_{vret} \quad [\text{Eqn. 4}]$$

H_a = total monthly pollutant applied when emissions were vented to the RTO.

H_b = total monthly pollutant applied when emissions bypassed the RTO.

p = number of different coating materials applied in a month.

q = number of different materials added to the coating material.

C_{ai} = pollutant content of coating material, i , as-purchased, expressed as a mass fraction.

C_{aj} = pollutant content of material, j , added to as-purchased coating material, i , expressed as a mass fraction.

M_{ai} = mass of as-purchased coating material, i , applied in a month when emissions were vented to the RTO.

M_{aj} = mass of material, j , added to as-purchased coating material, i , in a month when emissions were vented to the RTO.

M_{bi} = mass of as-purchased coating material, i , applied in a month when emissions bypassed the RTO.

M_{bj} = mass of material, j , added to as-purchased coating material, i , in a month when emissions bypassed the RTO.

M_{vret} = mass of pollutant retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere. The value of this term will be zero in all cases except where the permittee chooses to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in Condition M7(e).

E_R = pollutant-specific destruction efficiency of the RTO, percent.

E_C = pollutant capture efficiency of both EU-1 and EU-3 emissions capture systems as determined by Condition M10, percent.

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- c) **EU-2 Emissions** [*Regulatory Origins: 40 CFR 63.1413(e)(2)(i)(C); 40 CFR 63.1414(d)*]. The permittee shall calculate emissions for each resin plant (EU-2) batch cycle. The permittee must identify all batch emissions episodes during the resin plant (EU-2) cycle, or portions thereof, both selected for control and no control before calculating emissions. Batch emissions episodes are defined in Attachment 2. Total HAP, total VOC, phenol, formaldehyde, methanol, and any other individual TAP requested by ORCAA for each batch episode shall be calculated using the following equation:

$$\text{Emissions} = \sum_{i=1}^n H_c [1 - E_R] + \sum_{j=1}^n H_u \quad \text{[Eqn. 5]}$$

Where:

H_c = mass rate of pollutant for each batch emissions episode vented to the RTO as determined using the engineering assessment or any of the procedures described in Attachment 2.

H_u = mass rate of pollutant for each uncontrolled batch emissions episode as determined using the engineering assessment or any of the procedures described in Attachment 2.

E_R = RTO destruction efficiency of pollutant as determined by Condition M3 and M8.

i = number of uncontrolled batch emissions episodes.

j = number of controlled batch emission episodes.

- d) **HAP Contents in Coating Material** [*Regulatory Origin: OA (#07NOC561) Condition 3; 40 CFR 63.3360(c)*]. The permittee must determine the HAP mass fractions of each coating material used or dried “as-purchased” by following one of the procedures below in paragraphs (i) through (iv), and determine the HAP mass fractions of each coating material “as-applied” by following the procedures in Condition M7(d)(iv):
- i. *Method 311*. The permittee may test the coating material in accordance with Method 311 of appendix A of this part. The Method 311 determination may be performed by the manufacturer of the coating material and the results provided to the permittee. The HAP content must be calculated according to the following criteria and procedures:
 - 1) Include each organic HAP determined to be present in the coating material at greater than or equal to 0.1 mass percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 mass percent for other organic HAP compounds.
 - 2) Express the mass fraction of each organic HAP in the coating material according to Condition M7(d)(i)(1) as a value truncated to four places after the decimal point (for example, 0.3791).
 - 3) Calculate the total mass fraction of organic HAP in the tested material by summing the counted individual organic HAP mass fractions and truncating the result to three places after the decimal point (for example, 0.763).
 - ii. *Method 24*. The permittee may determine the mass fraction of nonaqueous volatile matter of a coating material and use it as a substitute for organic HAP using Method 24 of 40 CFR part 60, Appendix A. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to the permittee.

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- iii. *Formulation data.* The permittee may use formulation data to determine the volatile matter mass fraction of a coating material. Formulation data may be provided to the permittee by the manufacturer of the material. In the event of an inconsistency between Method 311 test data and a facility's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used.
- iv. *As-applied organic HAP mass fraction.* If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied organic HAP mass fraction is equal to the as-purchased organic HAP mass fraction. Otherwise, the as-applied organic HAP mass fraction must be calculated using the following equation:

$$C_{ahi} = \frac{C_{hi}M_i + \sum_{j=1}^q C_{hij}M_{ij}}{M_i + \sum_{j=1}^q M_{ij}} \quad \text{[Eqn. 6]}$$

Where:

C_{ahi} = monthly average, as-applied, organic HAP content of coating material, i , expressed as a mass fraction, kg/ kg.

C_{hi} = organic HAP content of coating material, i , as-purchased, expressed as a mass fraction, kg/ kg.

M_i = mass of as-purchased coating material, i , applied in a month, kg.

q = number of different materials added to the coating material.

C_{hij} = organic HAP content of material, j , added to as-purchased coating material, i , expressed as a mass fraction, kg/ kg.

M_{ij} = mass of material, j , added to as-purchased coating material, i , in a month, kg.

M_i = mass of as-purchased coating material, i , applied in a month, kg.

- e) **Volatile Matter Retained in the Coated Web** [Regulatory Origin: 40 CFR 63.3360(g)]. The permittee may choose to take into account the mass of volatile matter retained in the coated web after curing or drying if approved by the Administrator in care of Region 10 of the EPA. The permittee must develop and implement an Administrator approved testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere.
- f) **Facility-wide Emissions.** The permittee shall calculate total rolling 12-month period emissions of each criteria pollutant, phenol, formaldehyde, methanol, and any other pollutant requested by ORCAA. Emissions calculations shall include emissions from all emissions units, including combustion emissions from the following sources: resin plant boiler (EU-4), process heaters associated with the coating and curing line (EU-1), composites press (EU-3) and the RTO.
- g) **ORCAA Emissions Monitoring.** The permittee shall monitor emissions as follows:
- Coating material usage shall be monitored daily in terms of pounds per day.
 - Total amount of natural gas combusted from the RTO and dryers per month.
 - Total VOC content of each coating material shall be determined according to Condition M7(d)(ii) or (iii) in terms of pounds VOC per pound of material.
 - For stationary storage tanks, the daily amount in pounds used shall be determined by:

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- 1) Measuring tank material levels in inches since the previous tank measurement and converting the displacement to volume and mass of material used based on the known cross sectional area of the tank, and the density and composition of material stored in the tank; or,
 - 2) For tanks equipped with load cells, determining the difference in weight of the tank since the previous reading.
- v. For materials stored in portable drums, the daily amount used in pounds shall be based on the rated drum volumes, density of material stored in the drums, and daily inventory of drums used. Partially emptied drums shall be accounted for by measuring the remaining drum level in inches at the end of the last shift and converting to gallons and then pounds based on the cross sectional area of the drum. Alternatively, drums may be weighed before and after the shift to determine the amount used.

M8. RTO Destruction Efficiency [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#03MOD335) Condition 6 and 7; OA (#04NOC365) Condition 4, 5, and 7; OA (#06NOC469) Condition 2; OA (#07NOC561) Condition 2; 40 CFR 63.7(c) and (e); 40 CFR 63.1413(a); 40 CFR 63.1414; 40 CFR 63.1413(e)(1); 40 CFR 63.3360(e)*]. The permittee shall conduct RTO performance testing as follows:

- a) **Destruction Verification.** The RTO's destruction efficiency of total gaseous organic compounds (minus methane and ethane), phenol, formaldehyde, methanol, and any other individual TAP or HAP as requested by ORCAA shall be verified for each of the following group of emissions vents:
 - i. The paper coating and curing line (EU-1) and the composite press (EU-3).
 - ii. The resin plant (EU-2), including both reactor and non-reactor batch process vents routed to the RTO.
 - iii. Other non-combustion gas, vapor, and liquid process vents routed to the RTO.
- b) **Conduct of Performance Testing** [*Regulatory Origin: 40 CFR 63.997(e)(v)*]. RTO performance shall consist of at least three separate test runs unless otherwise specified by Condition M3(g). Each test shall consist of simultaneous RTO inlet and outlet testing and shall be conducted for at least 1 hour and according to the site-specific test plan. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the permittee's control, compliance with Condition M8 may be determined using the results of the two other runs, upon ORCAA's or the administrator's approval.
- c) **Site-Specific Test Plan.** Before conducting a RTO performance test, the permittee shall develop and submit a site-specific test plan for approval. The site-specific test plan shall include, at a minimum, facility operating conditions, design evaluations, a test program summary, the test schedule, data quality objectives, both an internal and external quality assurance (QA) program in accordance with 40 CFR Part 63, Section 63.7(c), and descriptions of the intended test methods to be implemented during the performance test.
- d) **Required Test Methods** [*Regulatory Origins: 40 CFR 63.3350(e)(7); 40 CFR 63.3360(e)*].
 - i. For purpose of determining RTO destruction efficiencies, VOC concentrations, and mass flow rates, the average of the results for all the runs shall apply.
 - ii. The following 40 CFR Part 60, Appendix A methods shall be used for each test run:

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- 1) Method 1 or 1A for sample and velocity traverses to determine sampling locations. The RTO inlet sampling site shall be located at the exit from EU-1, EU-2, and EU-3 before the RTO.
 - 2) Method 2, 2A, 2C, 2D, 2F, or 2G to determine gas volumetric flow rate.
 - 3) Method 3 or 3A for gas analysis to determine dry molecular weight.
 - 4) Method 4 to determine stack gas moisture.
 - 5) Method 18, 25 or 25A to determine the total VOC (minus methane and ethane) concentration for both the inlet and outlet sample measurements.
 - 6) Methods 316 or 320 to determine the concentration of formaldehyde.
 - 7) Method 308 may be used to determine the concentration of methanol.
- iii. NCASI Method CI/WP-98.01 may be used to determine the concentrations of phenol, methanol and formaldehyde if approved as an alternative method by the Administrator.
 - iv. For the purpose of determining VOC concentrations and mass flow rates, the average of the results of each run will apply.
 - v. For each test run, an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during 1 hour runs. Sampling must be collected simultaneously at the inlet and outlet of the air pollution control device.
- e) **Operating Requirements** [*Regulatory Origins: 40 CFR 63.1413(a)(2); 40 CFR 63.997(e)(1)(iii)*]. RTO performance testing shall be conducted during maximum representative operating conditions, including under such conditions as ORCAA or the Administrator specifies to the permittee based on representative performance of each emissions unit. Representative conditions exclude periods of startup, shutdown, and malfunction unless specified by the Administrator or ORCAA. Maximum representative operating conditions shall be when emissions are occurring that result in the highest organic HAP emission rate (for the vent stream) that is achievable during a 6-month period surrounding the date of the performance test (i.e., the period beginning 3 months prior to the performance test and ending 3 months after the performance test). In achieving maximum representative operating conditions, the permittee is not required to cause damage to equipment, make a product that does not meet an existing specification for sale to a customer, or make a product in excess demand.

M9. Continuous Parameter Monitoring System [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#03MOD335) Condition 7; OA (#04NOC365), Conditions 5 and 7; OA (#06NOC469) Condition 2; 40 CFR 63.6, 63.7, and 63.8; 40 CFR 63.3350(e); 40 CFR 63.996; 40 CFR 63.1415(a) and (b)(5); 40 CFR 63.2269(a) and (b); 40 CFR 63.1413(a) and (e); 40 CFR 63.1415; 40 CFR 63.3370*]. The permittee shall install and implement a Continuous Parameter Monitoring System (CPMS) to continuously monitor the RTO operating limits established in Conditions AR1.2, AR1.3, AR1.4; AR2.0, AR2.2, AR2.6, and AR3.2, and AR3.3. The following requirements apply:

- a) **Monitoring of Parametric Indicators** [*Regulatory Origin: 40 CFR 64.3*]. The CPMS shall monitor the following parametric indicators according to Table 8, including during shutdown and startup of process equipment requiring control:
 - i. RTO parametric indicators No.1 and No. 2.
 - ii. Parametric indicator No. 3 for the combined EU-1 and EU-3 emissions capture systems vented to the RTO.

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- b) **Installation.** Installation of the CPMS must meet the following:
 - i. The CPMS must be installed according to manufacturer specifications or other documentation with adequate technical guidance to assure that the CPMS accurately represents, monitors, and records measures of required parameters.
 - ii. The CPMS must be equipped with a continuous chart recorder capable of recording instantaneous RTO temperature probe measurements and capture system pressure gage measurements.
 - iii. The temperature probe shall be located in the RTO's combustion chamber or in a position that provides a representative temperature with minimal heat exchange.
 - iv. The read out of the CPMS that provides a visual display or record must be readily accessible on site for operational control or inspection.
- c) **Continued Operation** [*Regulatory Origins: 40 CFR 64.7(c) and 40 CFR 64.6(c)(4)*]. The CPMS shall be operated and maintained in continuous operation (or shall collect data at all required intervals) at all times when EU-1, EU-2, or EU-3 is operating and compliance is required. The CPMS must complete a minimum of one cycle of operation every 15-minutes and must have a minimum of four successive cycles of operation, one representing each of the four 15-minute periods in an hour, to have a valid hour of data. The permittee shall use all collected valid data when assessing the operation of the RTO and CPMS.
- d) **CPMS Monitoring Exemptions.** The permittee is temporarily exempted from the monitoring requirement of Condition M9(c) during periods when:
 - i. The CPMS is inoperable either due to an unavoidable breakdown or malfunction, or due to routine scheduled maintenance and repairs or required quality assurance or control activities (including instrument adjustments, checks to maintain precision and accuracy, calibration checks or required zero and span adjustments). In determining whether a monitoring system malfunction or breakdown was unavoidable, the following criteria shall be considered:
 - 1) Whether the malfunction was caused by poor or inadequate operation, maintenance, or any other reasonably preventable condition.
 - 2) Whether the malfunction was of a recurring pattern indicative of inadequate operation or maintenance.
 - 3) Whether the permittee took appropriate action as expeditiously as practicable to correct the malfunction.
 - ii. EU-1, EU-2 and EU-3 are not operating, provided the permittee keeps a contemporaneous record of when EU-1, EU-2 and EU-3 are not operating.
 - iii. The CPMS is out of control as defined in 40 CFR Part 63, Section 63.8(c)(7).
- e) **Data Availability.** The CPMS shall at a minimum record 90 percent of valid continuous parametric measurements during which the RTO is in operation.
- f) **Invalid Data.** Data recorded during CPMS breakdowns, repairs, preventative maintenance, out-of-control periods, calibration checks, zero (low-level) and high-level adjustments, periods of non-operation resulting in cessation of emissions to which monitoring is required, or required quality assurance or control activities shall not be used for purposes of RTO and CPMS performance testing, operation assessments, or evaluations.
- g) **Data Averaging.** If ORCAA determines that a chart recorder is not sufficient to demonstrate compliance with monitoring requirements, the following will apply:

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- i. The permittee must equip the CPMS with an electronic data logger and calculate rolling 3-hour and daily averages of instantaneous RTO temperature measurements.
 - ii. Hourly average values shall be calculated using at least three of four equally spaced 15-minute valid measurement values from that hour.
 - iii. Daily and 3-hour averages shall be calculated using all available valid hourly average values. At least 75 percent of the hourly average values must be valid to demonstrate valid 3-hour and daily averages.
 - iv. The permittee shall record and retain averaged data as specified by Condition RK18.
- h) **Maintenance** [*Regulatory Origin: 40 CFR 64.7(b)*]. All monitoring and RTO components shall be calibrated, maintained, repaired, and replaced according to the manufacturer's specifications when available and the specifications detailed in Table 8. The following also applies:
- i. The CPMS and RTO must be maintained in proper working order, including, but not limited to keeping necessary parts for routine repairs readily available.
 - ii. Calibration of the chart recorder or data logger, and temperature indicator shall be verified every 3 months. If the permittee chooses not to perform the calibration or the equipment cannot be calibrated properly, the permittee must replace the equipment.
 - iii. Conduct prompt RTO and monitoring equipment repairs or part replacements in response to evident or otherwise predictable malfunctions or CPMS out-of-control periods. The permittee shall return the CPMS to operation as expeditiously as practicable.
- i) **Quality Control Program** [*Regulatory Origin: 40 CFR 63.8(d)*]. The permittee shall develop and implement a quality control program (QCP) for the CPMS. The results of the QCP may be considered by ORCAA and the Administrator for determining the validity of monitoring data. The QCP shall include, at a minimum, a site-specific CPMS performance evaluation test plan according to paragraph (i) below and a written protocol that describes procedures for each of the following operations:
- i. Initial and any subsequent calibration of the CPMS.
 - ii. Determination and adjustment of the calibration and analytical drift of the CPMS.
 - iii. Preventive maintenance of the CPMS, including spare parts inventory.
 - iv. Data recording, calculations, and reporting.
 - v. Accuracy audit procedures, including sampling and analysis methods.
 - vi. Program of corrective action for a malfunctioning CMS.
- j) **Performance Evaluation of CPMS** [*Regulatory Origin: 40 CFR 63.8(e)*]. When required by ORCAA or the Administrator, the permittee shall conduct a site-specific performance evaluation of the CPMS according to the site-specific CPMS performance test plan. The site-specific CPMS performance test plan shall include the following:
- i. Evaluation schedule, objectives and summary.
 - ii. Data quality objectives which include pre-evaluation expectations of precision, accuracy, and completeness of data.
 - iii. An internal quality assurance (QA) program that shall include, at a minimum, activities planned by routine operators and analysts to provide an assessment of CPMS performance.
 - iv. An external QA program that shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by ORCAA or the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

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Table 8: Target Operating Conditions for CPMS and RTO

| Monitoring Specification | Parametric Indicator No. 1 | Parametric Indicator No. 2 | Parametric Indicator No. 3 |
|--|---|---|--|
| Parametric Indicator [40 CFR 64.3(a) and 64.6(c)(1)(i)] | RTO combustion chamber temperature. | RTO status. | RTO inlet static pressure. |
| Measurement Approach [40 CFR 64.3(b) and 64.6(c)(1)(ii)] | Thermocouple. | Interlock controller. | Diaphragm based Magnehelic™ gage. |
| Parametric Operating Limit [40 CFR 64.3(a) and 64.6(c)(1)(i)] | RTO combustion chamber temperature >1500°F. | RTO status shows “run” | Pressure of ≤ -0.5 inches of water. |
| Operating Limit Average | 3-hour and daily | N/A | 3-hour |
| Data Representativeness and Accuracy [40 CFR 64.3(b)(1) and 64.6(c)(1)(iii)] | The measuring thermocouple is installed by the cold side bypass valve. The minimum accuracy of each thermocouple is ±1 percent of the temperature being monitored in, or ±1 °Celsius, whichever is greater | Alarm sound if the controller trips the RTO into standby. | Each gage is connected to the RTO’s ductwork directly after the emissions capture system. The minimum accuracy is ± 0.2 inches of water. |
| Calibration Procedures [40 CFR 64.3(b)(2)] | Thermocouple accuracy is verified semiannually (or as needed). Testing includes physical or electronically-simulated comparison methods, validation redundancy yielding a temperature reading difference within 30°F, and electrical resistance checks. Thermocouples that lose their accuracy are replaced. | Controller and alarm sensor checked and calibrated when needed. | Gage accuracy is verified semiannually (or as needed). Testing includes zero checks by nulling to the atmosphere and operating pressure checks by connecting the gage to a calibrated reference meter or manometer. The gage and reference are compared at incremental pressures for the full range of the gage. |
| Maintenance Requirements [40 CFR 64.3(b)(2)] | At least annually, thermocouple components, including thermocouple wells are inspected for integrity and all electrical connections for continuity, oxidation, erosion, and galvanic corrosion. Annual RTO burner inspection to maintain proper burner operation and efficiency. | | Quarterly inspections for possible leaks, loose cover, no dial reading, or sluggish readings. |
| QA/QC Practices and Criteria [40 CFR 64.3(b)(3) and 64.6(c)(1)(iii)] | Use of shielded cases and twisted pair-wiring, proper sheathing, and guarded integrating voltmeters. Evidence of drift and abrupt changes in electrical resistance. Calibrations, inspections, operation and replacements are conducted according to manufacturer recommendations with regard to RTO specific operating conditions. | Calibrations, maintenance and operation conducted according to manufacturer specifications. | Steps to ensure that pressure gages are not subjected to excessive vibration, pressure or temperature extremes. Calibrations, inspections, operation and replacements are conducted according to manufacturer recommendations with regard to specific operating conditions of the pressure gage. |
| Monitoring Frequency [40 CFR 64.3(b)(4) and 64.6(c)(1)(iii)] | Monitored continuously on the CPMS using an alarm sensor, where one-minute averages of one-second readings are recorded. | Monitored continuously on the CPMS. | Monitored continuously using the transmitter pressure system. |
| Recordkeeping [40 CFR 64.9(b)] | Continuous data is recorded on strip charts and archived per Conditions RK17 and RK18. | Paper records archived for at least 5 years. | Continuous data is recorded on strip charts and archived per Conditions RK17 and RK18. |
| RTO Bypass and Relief Valves | Valves that can potentially bypass the RTO shall be kept in a secure and non-diverting position when not in use (i.e. opened to directly discharge emissions to the atmosphere for safety purposes). CPMS and valve equipment, valve positions, seal closures, and automatic interlock systems shall be inspected quarterly to verify proper operating conditions. Proper setting of limit switches and input signals to actuators verified and calibrated as requested by ORCAA. | | |

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M10. Capture System Efficiency [*Regulatory Origins: OA (#03MOD335) Condition 7; OA (#06NOC469) Condition 2; 40 CFR 63.3360(f); 40 CFR 63.3370(e)*]. The permittee shall verify the performance of the emissions capture systems associated with EU-1 and EU-3 using one of the following methodologies:

- a) The permittee may assume the capture efficiency equals 100 percent if the capture system is a permanent total enclosure (PTE). The capture system is a PTE by demonstrating that it meets the requirements of section 6 of EPA Method 204 of 40 CFR part 51, appendix M, and that all exhaust gases from the enclosure are delivered to a control device.
- b) The permittee may determine the capture efficiency according to the protocols for testing with temporary total enclosures that are specified in Methods 204 and 204A through F of 40 CFR part 51, appendix M. Never-controlled work stations may be excluded from such capture efficiency determinations.
- c) The permittee may use any capture efficiency protocol and test methods that satisfies the criteria of either the Data Quality Objective or the Lower Confidence Limit approach as described in appendix A of 40 CFR Part 63, Subpart KK. Never-controlled work stations may be excluded from such capture efficiency determinations.

M11. Capture System Monitoring [*Regulatory Origins: OA (#03MOD335) Condition 7; OA (#06NOC469) Condition 2; 40 CFR 63.3350(a) and (f)(4); 40 CFR 63.3370(e)*]. The permittee shall develop and implement a site-specific capture system monitoring (CSM) plan to monitor the capture systems that collect emissions from the paper coating and curing line (EU-1) and composites press (EU-3) according to 40 CFR Part 63, Subpart JJJJ when emissions from EU-1 and EU-3 are vented to the RTO. The following requirements apply:

- a) The CSM plan must identify the operating parameter, including the value and range determined during the initial compliance demonstration with the emission standards in Conditions AR1.4 and AR3.3.
- b) The CSM plan must identify procedures to ensure that the capture efficiency determined during the initial compliance test is maintained.
- c) The CSM plan must explain why the operating parameter is appropriate for demonstrating ongoing compliance.
- d) The CSM operating parameter value or range of values must represent the conditions present when the capture system is being properly operated and maintained.
- e) Monitoring of the capture system must be conducted according to the CSM plan.
- f) The CSM plan must be reviewed and updated as at least annually.
- g) If the capture system has been modified so that conditions identified in the original compliance test are no longer valid, the permittee shall retest in accordance with the procedures in Condition M10.

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M12. Heat Exchange System Monitoring [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#04NOC365) Condition 6*]. The permittee shall monitor the resin plant (EU-2) heat exchange system for leaks of process fluids on an annual basis. The following requirements apply:

- a) Devise and implement a site-specific heat exchange monitoring (HEM) plan that shall, at a minimum, include procedures to detect and repair leaks from the heat exchange system.
- b) If the permittee chooses to detect leaks of process fluids into the cooling water by monitoring the presence of one or more organic HAP or other representative substances whose presence in the cooling water indicate a system leak, the following applies:
 - i. The concentration of monitored substance(s) in the cooling water shall be determined using any EPA-approved method listed in 40 CFR, Part 136, as long as the method is sensitive to concentrations as low as 10 parts per million and the same method is used for both entrance and exit samples. Alternative methods may be used upon approval by ORCAA.
 - ii. The samples shall be collected either at the entrance and exit of each heat exchange system or at locations where the cooling water enters and exits each heat exchanger or any combination of heat exchangers.
 - 1) For samples taken at the entrance and exit of recirculating heat exchange systems, the entrance is the point at which the cooling water leaves the system prior to being returned to the process equipment or stored, and the exit is the point at which the cooling water is introduced to the cooling tower after being used to cool the process fluid.
 - 2) For samples taken at the entrance and exit of once-through heat exchange systems, the entrance is the point at which the cooling water enters, and the exit is the point at which the process water exits the plant site or chemical manufacturing process units.
 - 3) For samples taken at the entrance and exit of each heat exchanger or any combination of heat exchangers, the entrance is the point at which the cooling water enters the individual heat exchanger or group of heat exchangers, and the exit is the point at which the cooling water exits the heat exchanger or group of heat exchangers.
 - iii. A minimum of three sets of samples shall be taken at each entrance and exit as defined above in paragraph (b)(ii). The average entrance and exit concentrations shall then be calculated. The concentration shall be corrected for the addition of any makeup water or for any evaporative losses, as applicable.
 - iv. If a leak is detected according to the above criteria of paragraph (a)(i), the permittee shall comply with the following requirements, except as provided below in paragraph (c):
 - 1) The leak shall be repaired as soon as practical but not later than 45 calendar days after the owner or operator receives results of monitoring tests indicating a leak. The leak shall be repaired unless the permittee demonstrates that the results are due to a condition other than a leak.
 - 2) Once the leak has been repaired, the permittee shall confirm that the heat exchange system has been repaired within 7 calendar days of the repair or startup, whichever is later.
- c) If the permittee chooses to monitor a surrogate indicator or parameter (e.g. ion specific

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electrode monitoring, pH, conductivity) that can be used to indicate system leaks of process fluids, the following requirements apply:

- i. The HEM plan shall include the information:
 - 1) A description of the indicator parameter or condition to be monitored and an explanation of how the selected parameter or condition will reliably indicate the presence of a leak.
 - 2) The parameter level(s) or conditions(s) that constitute a leak. This shall be documented by data or calculations showing that the selected levels or conditions will reliably identify leaks. The monitoring must be sufficiently sensitive to determine the range of parameter levels or conditions when the system is not leaking. When the selected parameter level or condition is outside that range, a leak is indicated.
 - ii. If a substantial leak is identified by methods other than those described in the HEM plan and the method(s) specified in the plan could not detect the leak, the permittee shall revise the plan and document the basis for the changes. The permittee shall complete the revisions to the plan no later than 180 days after discovery of the leak.
- d) Delay of repair of heat exchange systems for which leaks have been detected is allowed if the equipment is isolated from the process or if repair is technically infeasible without a reactor shutdown and any one of the conditions described below in paragraph (c)(i) or (c)(ii). All time periods in paragraphs (c)(i) and (c)(ii) shall be determined from the date when the permittee determines that delay of repair is necessary.
- i. If a shutdown is expected within the next 2 months, a special shutdown before that planned shutdown is not required.
 - ii. If a shutdown is not expected within the next 2 months, the permittee may delay repair as provided in paragraph (c)(ii)(1) or (c)(ii)(2) of this section. *Documentation of a decision to delay repair shall state the reasons repair was delayed and shall specify a schedule for completing the repair as soon as practical.*
 - 1) If a shutdown for repair would cause greater emissions than the potential emissions from delaying repair, the permittee may delay repair until the next shutdown of the process equipment associated with the leaking heat exchanger. The permittee shall document the basis for the determination that a shutdown for repair would cause greater emissions than the emissions likely to result from delaying repair as specified in paragraphs (c)(ii)(1)(i) and (c)(ii)(1)(ii).
 - i. The permittee shall calculate the potential emissions from the leaking heat exchanger by multiplying the concentration of total TAP by the flowrate of the cooling water by the expected duration of the delay. The permittee may calculate potential emissions using total organic carbon concentration instead of total TAP.
 - ii. The permittee shall determine emissions from purging and depressurizing the equipment that will result from the unscheduled shutdown for the repair.
 - 2) If repair is delayed for reasons other than those specified above in paragraph (c)(ii)(1), the permittee may delay repair up to a maximum of 120 calendar days. *The permittee shall demonstrate that the necessary parts or personnel were not available.*

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M13. Closed Vent System Inspection [*Regulatory Origins: OA (#04NOC365) Conditions 5 and 7; OA (#06NOC469) Condition 2; 40 CFR 63.938(b) and (c)*]. The permittee shall inspect the closed vent system(s) by doing the following:

- a) Inspections shall be conducted in accordance with Method 21 of 40 CFR part 60, appendix A, except as specified below in paragraph (c).
- b) Except as provided below in paragraph (c), the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 must be for the representative composition of the process fluid and not of each individual VOC in the stream. For process streams that contain nitrogen, air, water, or other inerts that are not organic HAP or VOC, the representative stream response factor must be determined on an inert-free basis. The response factor may be determined at any concentration for which the monitoring for leaks will be conducted.
- c) If no instrument is available at the plant site that will meet the performance criteria of Method 21 specified above in paragraph (b), the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid, calculated on an inert-free basis as described above in paragraph (b).
- d) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.
- e) Calibration gases shall be as specified as follows:
 - i. Zero air (less than 10 parts per million hydrocarbon in air); and
 - ii. Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified above in paragraph (b). In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.
 - iii. If the detection instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,500 parts per million.
- f) The permittee may elect to adjust or not adjust instrument readings for background. If the permittee elects not to adjust readings for background, all such instrument readings shall be compared directly to 500 parts per million to determine whether there is a leak. If an permittee elects to adjust instrument readings for background, the permittee shall measure background concentration using the procedures in this section. The permittee shall subtract the background reading from the maximum concentration indicated by the instrument.
- g) If the permittee elects to adjust for background, the arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining whether there is a leak.
- h) The instrument probe shall be traversed around all potential leak interfaces as described in Method 21 of 40 CFR part 60, appendix A.

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M14. Closed Vent System Leak Repair [*Regulatory Origins: OA (#04NOC365) Conditions 5 and 7; OA (#06NOC469) Condition 2; 40 CFR 63.983(d)*]. The permittee shall repair the closed vent system(s) by doing the following:

- a) If there are visible, audible, or olfactory indications of leaks at the time of the annual visual inspections required by Condition M5, the following procedures for repairing the closed vent system apply:
 - i. The permittee shall eliminate the leak.
 - ii. The permittee shall monitor equipment according to the procedures in Condition M13.
- b) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practical, except as provided during a delay of repair.
 - i. A first attempt at repair shall be made no later than 5 days after the leak is detected.
 - ii. Except as provided in a delay of repair, repairs shall be completed no later than 15 days after the leak is detected or at the beginning of the next introduction of vapors to the system, whichever is later.
- c) Delay of repair of a closed vent system for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible or unsafe without a closed vent system shutdown, or if the permittee determines that emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed as soon as practical, but not later than the end of the next closed vent system shutdown.

M15. Resin Plant Equipment Leak Monitoring General Procedures [*Regulatory Origins: OA (#04NOC365) Condition 7*]. The permittee shall conduct monitoring of the resin plant (EU-2) for leaks by using the following general procedures:

- a) **Instrument Detection Method** [*Regulatory Origin: 40 CFR 63.1023(b)(1)*]. Instrument monitoring as required in Condition M16, 18, and M19 shall be conducted using an approved detection instrument and conducted in accordance with Method 21 of 40 CFR Part 60, Appendix A-7. When conducting monitoring, the instrument probe shall be traversed around all potential leak interfaces as described in Method 21.
- b) **Instrument Performance Criteria** [*Regulatory Origin: 40 CFR 63.1023(b)(2)*]. The detection instrument method shall meet the performance criteria of Method 21, except the response factor criteria shall be for the representative composition of the process fluid and not individual VOCs in the stream. For process streams that contain nitrogen, air, water, or other inerts that are not organic HAP or VOC, the representative stream response factor must be determined on an inert-free basis. The response factor may be determined at any concentration for which the monitoring for leaks will be conducted.
- c) **Instrument Calibration** [*Regulatory Origin: 40 CFR 63.1023(b)(3)*]. The detection instrument shall be calibrated before use on each day of its use according to Method 21. The permittee shall correctly take into account background levels when comparing instrument readings with leak definition concentrations.
- d) **Calibration Gas** [*Regulatory Origin: 40 CFR 63.1023(b)(4)*]. The following calibration gas specifications apply when calibrating the detection instrument:
 - i. Zero air having less than 10 parts per million by volume (ppmv) of hydrocarbon in air.

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- ii. Mixtures of methane in air at a concentration no more than 2,000 ppmv greater than the leak definition concentration of the equipment monitored.
 - iii. Other gas mixtures may be used as specified in 40 CFR Section 63.1023(b)(4)(ii).
 - iv. If multiple calibration scales will be used on the same instrument, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppmv above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas no that is approximately equal to 10,000 ppmv.
- e) **Background Adjustments** [*Regulatory Origin: 40 CFR 63.1023(c)*]. If the permittee elects to adjust instrument readings for background, the following additional procedures apply:
- i. Background levels shall be determined, using the procedures in Method 21 of 40 CFR part 60, appendix A.
 - ii. The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with Condition M28.
- f) **Sensory Detection Method** [*Regulatory Origin: 40 CFR 63.1023(d)*]. Sensory monitoring as required in Conditions M17, M18, and M19, shall consist of visual, audible, olfactory, or any other sensory detection ORCAA approved method used to detect or determine a potential leak to the atmosphere.
- g) **Leak Inspection Plan**. The permittee shall devise and update when necessary a written inspection plan for the monitoring of leaks. Inspection frequencies using approved instrument, sensory and pressure test methods shall be no less than the intervals specified in this permit.
- h) **Alternate Equipment Leak Monitoring Method** [*Regulatory Origin: 40 CFR 63.8(a)(4)(e)*]. The permittee may choose to conduct equipment leak monitoring using alternative work practices instead of Method 7, so long the practices meet the requirements in 40 CFR 63.11(c)-(e).
- i) **Leak Repair** [*Regulatory Origins: 40 CFR 63.1024; 40 CFR 63.983(d)(2)*]. If a leak is detected, the piece of equipment shall be identified, tagged and repaired as soon as possible. Repairs shall be completed no later than 15 calendar days after the leak is detected or at the beginning of the next introduction of regulated material into the equipment train or system, whichever is later. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. A repair delay as specified below in paragraph (l) may be approved by ORCAA. Once the leak has been repaired, the permittee shall confirm that the piece of equipment has been repaired within seven calendar days of the repair or startup, whichever is later.
- j) **Leak Potential**. If a potential leak to the atmosphere from a pressure relief device in liquid service is evident via sensory monitoring, the valve shall be identified, tagged and monitored within 5 calendar days from time of detection using an approved instrumentation method.
- k) **Leaking Equipment Identification** [*Regulatory Origin: 40 CFR 63.1023(e)*]. For each leak detected, a weatherproof and readily visible identification, shall be attached to the leaking equipment.
- l) **Delay of Repair** [*Regulatory Origin: 40 CFR 63.1024(d)*]. Delay of repair of equipment for which leaks have been detected may be allowed for any of the following situations:
- i. If repair within 15 days after a leak is detected is technically infeasible without a process unit or affected facility shutdown. Repair of this equipment shall occur as soon

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- as practical, but no later than the end of the next process unit or affected facility shutdown, except as provided in paragraph (l)(v) below.
- ii. If equipment is isolated from the process and does not remain in regulated material service.
 - iii. If delay of repair for valves, connectors, and agitators meets the following:
 - 1) The permittee determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair.
 - 2) When repair procedures are effected, the purged material is collected and destroyed, collected and routed to a fuel gas system or process, or recovered in a control device complying with this permit.
 - iv. If delay of repair for pumps meets one of the following:
 - 1) Repair requires replacing the existing seal design with a new system that the permittee has determined under the Quality Improvement Plan (QIP) for pumps meeting Condition M17(e) will provide better performance.
 - 2) One of the following pump types are installed and if repair is completed as soon as practical, but not later than 6 months after the leak was detected:
 - i. A pump with a dual mechanical seal system that includes a barrier fluid system and satisfies the special requirements for dual mechanical seal pumps under Condition M17.
 - ii. A pump with an externally actuated shaft penetrating the pump housing and satisfies the special requirements for dual mechanical seal pumps under Condition M17.
 - iii. A pump system that routes emissions to a process or a fuel gas system or a closed vent system and control device that meets the special requirements of Condition M17.
 - v. Delay of repair beyond a process unit or affected facility shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit or affected facility shutdown, and valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit or affected facility shutdown will not be allowed unless the third process unit or affected facility shutdown occurs sooner than 6 months after the first process unit or affected facility shutdown.
- m) **Unsafe-to-monitor Equipment** [*Regulatory Origin: 40 CFR 63.1024(e)*]. The permittee of equipment designated as unsafe-to-monitor according to 40 CFR Part 63, Subpart UU, shall have a written plan that requires monitoring of the equipment as frequently as practical during safe-to-monitor times, but not more frequently than the monitoring frequencies specified in Tables 9 and 10, and repair leaking equipment according to the procedures above in paragraphs (i) and (l).

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Table 9: Resin plant (EU-2) batch processes equipment leak inspection plan summary

| Operating Time (% of year) | Equivalent continuous process monitoring frequency time in use | | |
|-------------------------------|--|--------------|--------------|
| | Monthly | Quarterly | Semiannually |
| 0 to < 25% | Quarterly | Annually | Annually |
| 25 to < 50% | Quarterly | Semiannually | Annually |
| 50 to < 75% | Bimonthly | Triannually | Semiannually |
| 75 to 100% | Monthly | Quarterly | Semiannually |

Table 10: Resin plant (EU-2) continuous equipment leak inspection plan summary

| | Gas or Vapor Service | Liquid Service | Weekly Visual Inspection | Detection Method | Associated Equipment | Minimum Inspection Interval |
|--|----------------------|----------------|--------------------------|---------------------------|--|---|
| Pressure relief valves and Rupture Discs | ✓ | N/A | N/A | Pressure Test and Sensory | Reactor Kettle, Heat Exchange System, Vacuum Pump, Vacuum Receiver Tank, and Phenol and Formaldehyde Storage Tanks | Semiannually (inspection must be performed after a pressure release for pressure relief devices). |
| Automatic Gate Valves | ✓ | N/A | N/A | | | |
| Manual Gate Valves | ✓ | N/A | N/A | | | |
| Check Valves | ✓ | N/A | N/A | | | |
| Chain Valves | ✓ | N/A | N/A | | | |
| Condenser Pump | N/A | ✓ | ✓ | Instrument | | Monthly |
| Pumps that run more than 300 hrs./yr. | N/A | ✓ | ✓ | | | |
| Closed vent system | ✓ | N/A | N/A | | | Annually |

M16. Valves in Gas and Vapor Service and in Light Liquid Service [*Regulatory Origins: OA (#04NOC365) Condition 7; 40 CFR 63.1025*]. The following requirements apply to valves in the resin plant (EU-2) that are in regulated service:

- a) Valves shall be monitored to detect leaks using the procedures specified in Conditions M15(a)-(g) and, as applicable in Condition M15(h). A valve shall be considered leaking when the instrument reading is 500 parts per million or greater.
- b) If the resin plant (EU-2) has less than the greater of two (2) valves or two (2) percent leaking valves as calculated in Equation 2 of Attachment 3, valves shall be monitored for leaks at the intervals specified in Table 10.
- c) If Condition M16(b) is met, the permittee may monitor at the following intervals by calculating the percent of leaking valves in the resin plant (EU-2) using Equation 2 of Attachment 3:
 - i. With less than one (1) percent leaking valves, valves may be monitored every two (2) quarters.
 - ii. With less than 0.5 percent leaking valves, valves may be monitored every four (4) quarters.
 - iii. With less than 0.25 percent leaking valves, valves may be monitored every two (2) years.
- d) If the permittee chooses to subdivide valves into groups, each subgroup shall be monitored per Conditions M16(b) and M16(c). Subgroup monitoring frequencies shall be determined according to Attachment 3. The overall performance of all the subdivided valves shall be less than two (2) percent leaking. The permittee shall determine every 6 months if the overall leaking performance of the subdivided valves is less than two (2) percent using Equation 1 of Attachment 3.

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- e) Nonrepairable valves shall be monitored according to Attachment 3.
- f) Leaking valves shall be repaired using the procedures in Conditions M15(i) and M15(l).
- g) After a leak has been repaired, the valve shall be monitored at least once within the first three (3) months after its repair. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definition of repaired and first attempt at repair.
- h) If a leak is detected when conducting monitoring required by Condition M16(g), that valve must be counted as a leaking valve for purposes of Conditions M16(c) and M16(d).
- i) The leak identification on a valve may be removed after it has been monitored as specified in Condition M18(g) and no leak has been detected during that monitoring.
- j) Unsafe-to-monitor valves are exempt from Conditions M16(a)-(d) and M16(g)-(h). Unsafe-to-monitor valves shall be monitored according to Condition M15(m).
- k) Difficult-to-monitor valves are exempt from Conditions M16(a)-(d). Difficult-to-monitor valves shall be monitored according to Condition M15(m).

M17. Pumps in Light Liquid Service [*Regulatory Origins: OA (#04NOC365) Condition 7; 40 CFR 63.1026*]. The following requirements apply to pumps in the resin plant (EU-2) that are in regulated service:

- a) Pumps shall be monitored to detect leaks using the procedures specified in Conditions M25(a)-(g) and, as applicable in Condition M25(h). A pump shall be considered leaking when the instrument reading is 1,000 parts per million or greater.
- b) Pumps shall be monitored for leaks at the intervals specified in Table 9 or Table 10.
- c) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If a potential leak to the atmosphere is evident, the pump shall be identified, tagged and monitored within 5 calendar days from time of detection using an approved instrumentation method. If the instrument reading indicates a leak, a leak is detected and shall be repaired. The permittee shall eliminate the visual indications of liquid dripping.
- d) The permittee shall determine on a 6-month rolling average, the overall leaking performance of the pumps using Equation 3 of Attachment 3.
- e) **Quality Improvement Program for Pumps** [*Regulatory Origin: 40 CFR 63.1035*]. If, on a 6-month rolling average, at least the greater of either ten (10) percent of the pumps or three (3) pumps in the resin plant (EU-2) leak, the permittee shall comply with a Quality Improvement Program (QIPP) for pumps meeting the following requirements per 40 CFR Part 63, Subpart UU:
 - i. Criteria of QIPP.
 - ii. Exiting the QIPP.
 - iii. Resumption of QIPP
 - iv. QIPP procedures, including data collection, pump or seal pump inspection, data analysis, trial evaluation program, quality assurance program, and pump or pump seal replacement.
- f) Leaking valves showing an instrument reading of 2,000 parts per million or greater shall be repaired using the procedures in Conditions M15(i) and M15(l), unless otherwise specified in Condition M17(e) for leaks identified by visual indications of liquids dripping.
- g) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from Conditions M17(a)-(c), provided the following special requirements are met:

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- i. The permittee determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.
- ii. Either one of the following dual mechanical seal system specifications:
 - 1) Operated with the barrier fluid at a pressure that is at all times (except periods of startup, shutdown, or malfunction) greater than the pump stuffing box pressure.
 - 2) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of this permit.
 - 3) Equipped with a closed-loop system that purges the barrier fluid into a process stream.
- iii. The barrier fluid is not in light liquid service.
- iv. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.
- v. Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the permittee shall follow the following procedures prior to the next required inspection.
 - 1) The permittee shall monitor the pump as specified in Conditions M15(a)-(g) and, as applicable, Condition M15(h) to determine if there is a leak of regulated material in the barrier fluid. If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected and it shall be repaired using the procedures in Conditions M15(i) and M15(l).
 - 2) The permittee shall eliminate the visual indications of liquids dripping.
- vi. If indications of liquids dripping from the pump seal exceed the criteria established above in paragraph (g)(i), or if based on the criteria established above in paragraph (g)(i) the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.
- vii. Each sensor as described above in paragraph (g)(iv) is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.
- viii. When a leak is detected pursuant to paragraph (g)(vi) above, it shall be repaired as specified in Conditions M15(i) and M15(l).
- h) Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from Conditions M17(a)-(c).
- i) Any pump that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage from the pump to a control device meeting the requirements of this permit is exempt from Conditions M17(a)-(c).
- j) Difficult-to-monitor pumps are exempt from Conditions M17(a)-(c), M17(g)(v)-(vii). Difficult-to-monitor pumps shall be monitored according to Condition M15(m).

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M18. Connectors in Gas and Vapor Service and in Light Liquid Service [*Regulatory Origins: OA (#04NOC365) Conditions 7; 40 CFR 63.1027*]. The following requirements apply to connectors in the resin plant (EU-2) that are in regulated service:

- a) Connectors shall be monitored to detect leaks using the procedures specified in Conditions M15(a)-(g) and, as applicable in Condition M15(h). A connector shall be considered leaking when the instrument reading is 500 parts per million or greater.
- b) The permittee shall monitor connectors at the following intervals by calculating the percent of leaking connectors in the resin plant (EU-2) using Equation 4 of Attachment 3 and the monitoring results from the preceding period:
 - i. With greater than 0.5 percent leaking connectors, connectors shall be monitored every twelve (12) months.
 - ii. With greater than or equal to 0.25 percent but less than 0.5 percent leaking connectors, connectors shall be monitored every four (4) years. The permittee may comply with this requirement by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4 year monitoring period.
 - iii. With less than 0.25 percent leaking connectors, 50 percent of the connectors shall be monitored within four (4) years of the start of the monitoring period. The remainder of the unmonitored connectors shall be monitored as follows:
 - 1) If more than or equal to 0.35 percent of the connectors monitored during the four (4) years leak, permittee shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period.
 - 2) If less than 0.35 percent of the connectors monitored during the four (4) years leak, the permittee shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.
 - iv. If, during the monitoring conducted in paragraphs (b)(i)-(iii), a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.
- c) Leaking connectors shall be repaired using the procedures in Conditions M15(i) and M15(l).
- d) Unsafe-to-monitor connectors are exempt from Conditions M18(a)-(b). Unsafe-to-monitor connectors shall be monitored according to Condition M15(m).
- e) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of Conditions M18(a)-(b), from the leak repair requirements of Condition M18(c), and from the recordkeeping and reporting requirements of 40 CFR Part, Subpart UU. An inaccessible connector is one that meets any of the following specifications, as applicable:
 - i. Buried.
 - ii. Insulated, or obstructed by equipment or piping in a manner that prevents access to the connector by a monitor probe.
 - iii. Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground.
 - iv. Inaccessible due to requiring elevating monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold.

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- v. Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.
- f) Leaks to the atmosphere observed via a sensory detection method from inaccessible, ceramic or ceramic-lined connectors shall be eliminated as soon as practical.

M19. Pressure Relief Devices in Gas or Vapor Service [*Regulatory Origins: OA (#04NOC365) Conditions 7; 40 CFR 63.1030; 40 CFR 63.1411(b) and (c)*]. The following requirements apply to pressure relief valves in the resin plant (EU-2) that are in regulated service:

- a) Except during pressure releases, each pressure relief device in gas and vapor service shall be operated with an instrument reading of less than 500 parts per million as measured by the method specified in Conditions M15(a)-(g).
- b) After each pressure release, the permittee must choose one of the following procedures:
 - i. A pressure relief device that does not consist of or includes a rupture disk shall be returned to a condition indicated by an instrument reading of less than 500 million parts per million above background, as soon as practical, but no later than 5 calendar days after the pressure relief device returns to regulated service, except as indicated in Condition M15(l). The monitoring methodology shall comply with Condition M15.
 - ii. For a pressure relief device that consists of or includes a rupture disk, the permittee shall install a replacement rupture disk as soon as practical after the pressure release, but no later than 5 calendar days after the pressure release, except as indicated in Condition M15(l).
- c) **Pressure Release Monitoring** [*Regulatory Origin: 40 CFR 63.1411(c)*]. Except as specified below in paragraph (d), emissions of organic HAP to the atmosphere from pressure relief devices in organic HAP service are prohibited, and the permittee must comply with the following requirements:
 - i. Each pressure relief device in contact with regulated material shall be equipped with a device or parameter monitoring system that is capable of:
 - 1) Identifying the pressure release.
 - 2) Recording the time and duration of each pressure release.
 - 3) Notifying operators immediately that a pressure release is occurring.
 - ii. If any pressure relief device in organic HAP service releases to atmosphere as a result of a pressure release event, the permittee must calculate the quantity of organic HAP released during each pressure release event and report this quantity as required in in this permit. Calculations may be based on data from the pressure relief device monitoring alone or in combination with process parameter monitoring data and process knowledge.
- d) **Controlled Pressure Releases** [*Regulatory Origin: 40 CFR 63.1411(d)*]. Pressure relief devices designed and operated to route all HAP emissions from pressure releases through a closed vent system to a control device or to a process, fuel gas system, or drain system, are exempt from Conditions M19(a)-(c). An enclosed combustion air pollution control device must be designed and operated to meet Conditions AR2.2.

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M20. Alternate Means of Emissions Limitation: Batch Cycle Processes [*Regulatory Origins: OA (#04NOC365) Conditions 7; 40 CFR 63.1036*]. As an alternative to the monitoring requirements in Conditions M15 through M19, the permittee may comply with this Condition M20 or any other alternative monitoring standards specified in 40 CFR Part 63, Subpart UU. The following requirements apply if the permittee elects to use pressure testing of batch product-process equipment to comply with 40 CFR Part 62, Subpart UU:

- a) *Reconfiguration.* Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before regulated material is first fed to the equipment and the equipment is placed in regulated material service. The following procedures apply upon reconfiguration:
 - i. When the batch product-process equipment train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.
 - ii. Each batch product process that operates in regulated material service during a calendar year shall be pressure-tested at least once during that calendar year.
 - iii. Pressure testing is not required for routine seal breaks, such as changing hoses or filters that are not part of the reconfiguration to produce a different product or intermediate.
- b) *Testing procedures.* The batch product process equipment shall be tested either using the procedures specified below in paragraph (e) for pressure vacuum loss or with a liquid using the procedures specified below in paragraph (f).
- c) *Leak detection.* The following definitions of leaks apply:
 - i. For pressure or vacuum tests using a gas, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 pound per square inch gauge) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.
 - ii. For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.
- d) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process. If a batch product-process fails the retest (the second of two consecutive pressure tests), it shall be repaired as soon as practical, but not later than 30 calendar days after the second pressure test except as specified below in paragraph (e).
- e) *Gas pressure test procedure for pressure or vacuum loss.* The following procedures shall be used to pressure test batch product-process equipment for pressure or vacuum loss:
 - i. The process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively the equipment shall be placed under a vacuum.
 - ii. The pressure in the equipment train shall be measured after the gas or vacuum source is shut off and at the end of the test period. The test shall run for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise per paragraph (c) was exceeded. The rate in change of pressure shall be calculated using Equation 5 of Attachment 3.
 - iii. The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) that has a precision of ± 2.5 millimeter mercury (0.10 inch of mercury) in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement

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- device is not reasonably available, the permittee shall use a pressure measurement device with a precision of at least ± 10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise equaling the allowable rate in change of pressure per paragraph (c).
- f) *Pressure test procedure using test liquid.* The following procedures shall be used to pressure test batch product-process equipment using a liquid:
- i. The batch product-process equipment train, or section of the equipment train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.
 - ii. The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.
 - iii. Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.
 - iv. An alternative procedure may be used for leak testing the equipment, if the permittee demonstrates the alternative procedure is capable of detecting losses of fluid.
- g) If the permittee elects to monitor equipment in EU-2 according to Condition M15, the permittee shall comply with Conditions M15 through M19 as modified by the following requirements:
- i. Equipment shall be monitored for leaks as follows:
 - 1) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in EU-2.
 - 2) Equipment other than connectors shall be monitored at the frequencies specified in Tables 9 or 10. Connectors shall be monitored at the frequencies specified in Table 9. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this Condition M20 is operating.
 - 3) The monitoring frequencies specified above in paragraph (g)(i)(2) are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. The permittee may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. (4) If a leak is detected, it shall be repaired as soon as practical but not later than 15 calendar days after it is detected, except as provided above in paragraph (e).
 - ii. If a leak is detected, it shall be repaired as soon as practical but not later than 15 calendar days after it is detected, except as specified below in paragraph (h).
- h) *Delay of repair.* Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the following requirements are met:
- i. Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.
 - ii. The repair is made no later than 10 calendar days after delivery of the replacement equipment.

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M21. Boiler Tune-Up [*Regulatory Origins: 40 CFR 63.7510(e); 40 CFR 63.7515(d)*]. The permittee shall conduct tune-ups according the following requirements:

- a) Annual tune-ups shall be conducted no more than 13 months after the previous tune-up.
- b) Quinquennial tune-ups shall be conducted no more than 61 months after the previous tune-up.
- c) **Tune-Up Protocol** [*Regulatory Origin: 40 CFR 63.7540(a)(10)(i)-(vi)*]. Unless otherwise approved by ORCAA or the Administrator, each boiler tune-up shall be conducted according to the following procedures:
 - i. The permittee is only required to inspect units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, during planned entries into the storage vessel or process equipment.
 - ii. As applicable, the burner(s) shall be inspected and cleaned. If necessary, burner components shall be replaced. The permittee may delay inspection of the burner(s) until the next scheduled unit shut down.
 - iii. For units requiring quinquennial tune-ups, the burners must be inspected at least once every 72 months [*40 CFR 63.7540(12)*].
 - iv. As applicable, the flame pattern shall be inspected. The burner shall be adjusted as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
 - v. As applicable, the system controlling the air-to-fuel ratio shall be inspected. The permittee shall ensure that the system is correctly calibrated and functioning properly. The permittee may delay inspection of the system until the next scheduled unit shut down or if the unit produces electricity for sale, until the first outage, but not exceeding 36 months from the previous inspection.
 - vi. Total emissions of CO shall be optimized. If available, the optimization shall be consistent with the manufacturer's specifications, and with any NO_x requirement to which the unit is subject.
 - vii. Concentrations in the effluent stream of CO shall be measured in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
- d) **Non-Operating Unit Requirements** [*Regulatory Origins: 40 CFR 63.7540(a)(13)*]. If the unit is not operating on the required date for a tune-up, the permittee shall ensure that the tune-up is conducted within 30 calendar days of startup.
- e) **Compliance Dates** [*Regulatory Origins: 40 CFR 63.7510(e)*]. Initial compliance to 40 CFR Part 63, Subpart DDDDD must be demonstrated no later than 180 days after August 01, 2016.

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M22. One-Time Energy Assessment [*Regulatory Origin: 40 CFR 63.7500(a)*]. The resin plant boiler (EU-4) must be evaluated by a qualified energy assessor by August 1, 2016. The evaluation must meet 40 CFR Part 63, Subpart DDDDD, and must include the following items:

- a) A visual inspection of the boiler or process heater system.
- b) An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
- c) An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.
- d) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
- e) A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified.
- f) A list of cost-effective energy conservation measures that are within the facility's control.
- g) A list of the energy savings potential of the energy conservation measures identified.
- h) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

M23. GHG Monitoring Requirements [*Regulatory Origins: WAC 173-401-615(1)(b)*]. The permittee shall monitor facility operations, fuel rates and composition of fuels as necessary to report GHG emissions to Ecology in accordance with Chapter 173-441 WAC. The following monitoring provisions apply:

- a) Permittee shall develop a written GHG monitoring plan in accordance with WAC 173-441-050(6)(e). The permittee shall revise the GHG monitoring plan as needed to reflect changes in processes, monitoring instrumentation, and quality assurance procedures; or to improve procedures for the maintenance and repair of monitoring systems to reduce the frequency of monitoring equipment downtime.
- b) Flow meters and other measurement devices used to measure fuel feed rates, process steam flow rates, or feedstock flow rates to provide data to perform the GHG emissions calculations shall be calibrated according to the procedures specified in WAC 173-441-050(8).

M24. Complaint Monitoring [*Regulatory Origin: WAC 173-401-615(1)(b)*]. The permittee shall monitor all air quality related complaints directed to the facility as follows:

- a) The permittee shall provide an automated phone recording system or an onsite contact person available to the general public for filing a complaint whenever the facility is operating.
- b) The phone number for the facility shall be a directory listed phone number and made available to local authorities including the county health department, ORCAA, Ecology, and the local fire department.
- c) The permittee shall maintain a record of air quality related complaints in accordance with Condition RK8.

Section 9. Recordkeeping Requirements

RK1. Retention and Availability of Records [*Regulatory Origin: WAC 173-401-615(2)(c)*]. The permittee shall maintain all records required by this permit. All required records shall be retained for at least five (5) years from the origination date and shall be available for inspection by ORCAA upon request.

RK2. Records of Changes [*Regulatory Origins: WAC 173-401-615(2)(b); WAC 173-401-724(5)*]. The permittee shall maintain records describing changes made that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the AOP, and the emissions resulting from those changes.

RK3. Monitoring Records - General [*Regulatory Origin: WAC 173-401-615(2)(a)*]. The permittee shall keep records of required monitoring and testing including, where applicable, the following:

- a) The date, location, and time of sampling or measurement.
- b) The date(s) of any analyses performed, including: company or entity that performed the analyses, the analytical techniques or methods used, and the results of the analyses.
- c) The operating conditions existing at the time of sampling or measurement.

RK4. Records of Permit Deviations [*Regulatory Origin: WAC 173-401-615(3)(b)*]. The permittee shall maintain a contemporaneous record of all permit deviations.

RK5. Availability of Emissions Records [*Regulatory Origins: WAC 173-400-105(1); ORCAA Rule 8.1*]. Emission records required by this AOP shall be made available to ORCAA upon request. The permittee shall maintain records of information necessary to substantiate any reported emissions, consistent with the averaging times for the applicable standards.

RK6. Unlawful Reproduction or Alteration of Documents [*Regulatory Origin: ORCAA Rule 7.3 (local only)*]. No person shall reproduce or alter, or cause to be reproduced or altered, any order, registration certificate or other paper issued by ORCAA if the purpose of such reproduction or alteration is to evade or violate any applicable requirement.

RK7. Records of Official Documents [*Regulatory Origin: ORCAA Rule 7.4 (local only)*]. Any order required by ORCAA Regulations shall be available on the premises designated on the order. In the event that ORCAA requires a notice to be displayed, it shall be posted.

RK8. Records of Complaints [*Regulatory Origins: WAC 173-401-615(1)(b)*]. The permittee shall keep a record of air quality related complaints received, the assessment of the validity of each complaint, and what, if any, corrective action was taken in response to the complaint. Records shall include, if available or provided, the following information:

- a) Description of the complaint.
- b) Date, time, and location the alleged impact was first and last experienced.
- c) Name and phone number of caller.
- d) The permittee's assessment of the complaint.
- e) Description of any corrective action take.

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RK9. MACT Recordkeeping [*Regulatory Origins: OA (#04NOC365) Condition 8; 40 CFR 63.10(b); 40 CFR 63.998; 40 CFR 63.1416*]. The permittee shall maintain files of all information (including reports, notifications, and, if applicable, any information demonstrating whether the permittee is meeting the requirements for a waiver of recordkeeping or reporting requirements) required by 40 CFR Part 63, recorded in a form suitable and readily available for expeditious inspection and review. The files must be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on paper, electronically, or on other suitable media.

RK10. MACT Applicability Records [*Regulatory Origins: 40 CFR 63.1(b)(3); 40 CFR 63.10(b)(3)*]. For each relevant standard or other applicable requirement under 40 CFR Part 63, which the permittee determines inapplicable, the permittee shall retain record of the applicability determination on site for five years after the determination, or until the source changes its operations to become an affected source, whichever comes first. For the purposes of this condition, a relevant standard is defined as any standard for which:

- a) The source emits or has the potential to emit (without considering controls) one or more hazardous air pollutants regulated by the standard.
- b) The source belongs to the source category regulated by the standard.

The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the permittee believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) shall be sufficiently detailed to allow ORCAA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If required, the analysis shall be performed in accordance with requirements established in the relevant subpart for this purpose, and the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112, if any.

RK11. Startup, Shutdown, and Malfunction Records [*Regulatory Origins: 40 CFR 63.6(e)(3)(iii); 40 CFR 63.10(b)(2)(ii); 40 CFR 63.10(c)(7), (10), (11) and (15); 40 CFR 63.3410(a)(1) and (2)*]. All information necessary, including actions taken, to demonstrate compliance with the startup, shutdown, and malfunction plan (SSMP) requirements for EU-1 and EU-3, shall be retained in accordance with 40 CFR Part 63, Subparts A and JJJJ. At a minimum, the permittee shall retain the following SSMP records:

- a) The nature, cause, and duration of each startup and shutdown when the startup or shutdown causes an exceedance or excursion, including the time period of the exceedance or excursion.
- b) The nature, cause and duration of each malfunction of operation (i.e., process equipment) or RTO and monitoring equipment. Records must also include all corrective actions taken to restore the malfunctioning equipment to its normal or usual manner of operation, including measures adopted to prevent any exceedances or excursions.
- c) Actions taken, to demonstrate conformance with the SSMP when all actions taken during periods of startup and shutdown (and the startup and shutdown causes an exceedance or excursion), and malfunction (including actions taken to restore malfunction equipment) are consistent or inconsistent with the procedures specified in the SSMP.

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RK12. Resin Plant Closed Vent System Records [*Regulatory Origins: OA (#04NOC365) Condition 8; 40 CFR 63.983(b)*]. The permittee shall record and retain all information needed to demonstrate compliance with Conditions AR2.5, M5, M13, and M14. At minimum, the following recordkeeping applies:

- a) **Identification** [*Regulatory Origin: 40 CFR 63.998(d)(1)(i)*]. Identification of all parts of the closed vent system, that are designated as unsafe or difficult to inspect, an explanation of why the equipment is unsafe or difficult to inspect, and the plan for inspecting the equipment required by Condition M13.
- b) **Leak Repair** [*Regulatory Origin: 40 CFR 63.998(d)(1)(iii)*]. For each leak detected as specified in Conditions M13 and M14, the following information shall be recorded:
 - i. The instrument and the equipment identification number and the operator name, initials, or identification number.
 - ii. The date the leak was detected and the date of the first attempt to repair the leak.
 - iii. The maximum instrument reading measured after the leak is successfully repaired or determined to be nonrepairable.
 - iv. Reason and procedures for each repair delay if a leak is not repaired within 15 calendar days after discovery of the leak.
- c) **Monitoring Schedule** [*Regulatory Origin: 40 CFR 63.998(d)(1)(iv)*]. A written monitoring schedule with the frequencies specified in Table 10 shall be documented and updated when necessary, including record that an inspection was performed, the date of the inspection, and if applicable, a statement that no leaks were detected.
- d) **RTO Bypass Line Inspection** [*Regulatory Origin: 40 CFR 63.1416(d)(3)(ii)(B)*]. Whether the monthly visual inspection of each closed vent system RTO bypass valve or damper, if installed, that bypasses the RTO was completed, and shall record the occurrence of all periods when the seal mechanism is broken, the RTO bypass line damper or valve position has changed, or the key for a lock-and-key type configuration has been checked out, and records of any car-seal that has broken.

RK13. Resin Plant Heat Exchange System Records [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#04NOC365) Condition 8*]. The permittee shall record and retain all information needed to demonstrate compliance with Conditions AR2.9 and M12, retaining, at a minimum, the following:

- a) **Leak Repair**. For each leak detected as specified in Condition M12, the following information shall be retained:
 - i. The method and procedure used to confirm repair.
 - ii. The date the leak was detected (if demonstrated not to be a leak, the basis for that determination), and the date of the first attempt to repair the leak, including dates of all preceding efforts to repair the leak.
 - iii. Reason and procedures for each repair delay if a leak is not repaired within 45 calendar days after discovery of the leak.
- b) **Monitoring Schedule**. A monitoring schedule as outlined in Condition M12 shall be recorded and updated when necessary, including record that an inspection was performed, the date of the inspection, and if applicable, a statement that no leaks were detected.

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RK14. Resin Plant Equipment Leak Records [*Regulatory Origins: OA (#04NOC365) Condition 8; 40 CFR 63.1038*]. The permittee shall record and retain all information needed to demonstrate compliance with Conditions AR2.2 and M4. At a minimum, the following recordkeeping applies:

- a) **Equipment Leak Records** [*Regulatory Origins: 40 CFR 63.1038(b)-(c)*]. The following general and equipment specific recordkeeping:
 - i. If equipment is not physically tagged, the permittee must identify equipment according to paragraph (g) below.
 - ii. The identity of equipment designated as unsafe-to-repair and an explanation why the equipment is unsafe-to-repair.
 - iii. Records for leaking connectors complying with the 8 year monitoring period shall be kept 5 years beyond the date of its last use.
 - iv. Valve subgrouping records:
 - 1) Which valves are assigned to each subgroup.
 - 2) Monitoring results and calculations made for each subgroup for each monitoring period.
 - 3) Which valves are reassigned, the last monitoring result prior to reassignment, and when they were reassigned.
 - 4) The results of the semiannual overall performance calculations required by Condition M16(d).
 - v. Documentation of pump visual inspections.
 - vi. Dates and results of monitoring following pressure relief valve pressure releases.
 - vii. Records for enclosed-vented systems.
- b) **Leak Repair** [*Regulatory Origins: 40 CFR 63.1023(e)(2); 40 CFR 63.1024(f)*]. For each leak detected, the following information shall be recorded:
 - i. The date of first attempt to repair the leak.
 - ii. The date of successful repair of the leak.
 - iii. Maximum instrument reading measured by Method 21 at the time the leak is successfully repaired or determined to be nonrepairable.
 - iv. Reason and procedures for each repair delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - v. Dates of process or facility shutdowns that occur while the equipment is unrepaired.
- c) **Delay of Repair** [*Regulatory Origin: 40 CFR 63.1024(d)*]. The permittee shall maintain a record of the facts that explain any delay of repairs and, where appropriate, why the repair was technically infeasible without a process unit shutdown. If delay of repair is due to depleted stock, documentation that adequately proves that spare parts were adequately stocked before depletion and reason for depletion.
- d) **Monitoring Schedule** [*Regulatory Origin: 40 CFR 63.1038(c)(1)*]. Record of monitoring schedules according to Tables 8 and 9 and record of all inspections performed, including dates of inspections, and if applicable, a statement that no leaks were detected. Documentation of weekly pump visual inspections shall also be included when required.
- e) **Quality Improvement Program** [*Regulatory Origin: 40 CFR 63.1035(e)*]. The permittee shall maintain records for the period of the quality improvement program (QIP) for the resin plant (EU-2) as specified in 40 CFR Part 63, Subpart OOO.

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- f) **Batch Cycle Process Pressure Test Records** [*Regulatory Origins: 40 CFR 63.1038(c)(8); 40 CFR 63.1036(b)(7) and (d)*]. If the permittee chooses to monitor for leaks according to Condition M20 for the equipment train associated with the resin plant (EU-2) reactor kettle, heat exchange system, vacuum pump and vacuum receiver tank, the following records shall be maintained:
- i. Identification of each product or product code produced during the calendar year.
 - ii. If equipment train components is not physically tagged, the permittee must identify equipment according to paragraph (g) below.
 - iii. The dates of each pressure test as required per Condition M20, including the initial test pressure, and the pressure change observed during the test.
 - iv. Records of any visible, audible, or olfactory evidence of a leak.
 - v. When the equipment train fails two consecutive pressure tests, the following records shall be maintained in a log:
 - 1) The date of each pressure test and the date of each leak repair attempt.
 - 2) Repair methods applied in each attempt to repair the leak.
 - 3) The reason for the delay of repair.
 - 4) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.
 - 5) The date of successful repair.
 - vi. A list of new equipment added to the equipment train since the last monitoring period, including the time during the calendar year the equipment is in use.
 - vii. Records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to this permit.
 - viii. Records showing the date and results of the monitoring required in M20(g)(i)(1) for equipment added to the resin plant (EU-2) or facility since the last monitoring period. If no leaking equipment is found during this monitoring, the permittee shall record that the inspection was performed.
- g) **Equipment Identification** [*Regulatory Origin: 40 CFR 63.1022(a)*]. Equipment subject to 40 CFR Part 63, Subpart OOO and UU may be identified on a plant site plan, or by another ORCAA approved recordkeeping method. Identification documentation must include instrument equipment, unsafe or difficult-to-monitor equipment, unsafe-to-repair equipment, screwed connectors with broken seals, integrity of welds of removed connectors, and operator identification.
- h) **Additional Equipment Identification**. Unless the permittee elects to pressure test the batch product process equipment as described in Condition M20, the permittee shall specifically identify the following equipment in accordance with 40 CFR Part 63, Subpart OOO:
- i. Connectors.
 - ii. Equipment that the permittee elects to route to a process or fuel gas system or equip with a closed vent system and control device.
 - iii. Pressure relief devices.
 - iv. Instrumentation systems.
 - v. Equipment in service less than 300 hours per calendar year.

Continued – Section 9. Recordkeeping Requirements

RK15. Pressure Relief Device Records [*Regulatory Origins: OA (#04NOC365) Condition 8; 40 CFR 63.1411(c)(2); 40 CFR 63.1416(g)(5)*]. For pressure relief devices in regulated service within the resin plant (EU-2), the following recordkeeping applies:

- a) A list of identification numbers for pressure relief devices, including devices equipped with rupture disks.
- b) The dates and results of monitoring following a pressure release for each pressure relief device subject to Conditions M19. The results shall include:
 - i. The background level measured during each compliance test.
 - ii. The date maximum instrument reading measured at each piece of equipment during each compliance test.
- c) The following shall be recorded and kept:
 - i. The source, nature, and cause of the pressure release.
 - ii. The date, time, and duration of the pressure release.
 - iii. An estimate of the quantity of total HAP emitted during the pressure release and the calculations used for determining the emissions.
 - iv. Any actions taken to prevent the pressure release.
 - v. The measures adopted to prevent future pressure releases.

RK16. Boiler MACT Compliance Records [*Regulatory Origins: 40 CFR 63.7555*]. The permittee must keep all applicable records to demonstrate compliance with 40 CFR Part 63, Subpart DDDDD, including the following records:

- a) An annual tune-up report for each boiler or process heater system. The report must contain at a minimum the following information:
 - i. The concentrations of CO in the effluent stream in parts per millions by volume.
 - ii. Oxygen level in volume percent, measured at high fire or typical operating load, before and after the tune-up.
 - iii. A description of any corrective actions taken as a part of the tune-up.
- b) A copy of each Initial Notification or Notification of Compliance Status, including supporting documentation.

RK17. CPMS Records [*Regulatory Origins: OA (#03MOD335) Condition 8; OA (#04NOC365) Condition 8; 40 CFR 63.3410; 40 CFR 63.350(e)(5); 40 CFR 63.998(c)(1); 40 CFR 63.1416(c), (d), (e), and (f)*]. All information necessary, including actions taken, to demonstrate that the CPMS is operated and maintained in compliance with 40 CFR Part 63, Subparts A, SS, OOO and JJJJ shall be recorded and retained. At a minimum, the permittee shall retain and update on a monthly basis, unless otherwise specified, the following records:

- a) **QCP Recordkeeping** [*Regulatory Origin: 40 CFR 63.8(d)(3)*]. The written protocol(s) required by the QCP in Conditions M9(h). The protocol shall be made available for inspection, upon request, by the Administrator. If the site-specific performance evaluation plan is revised, the permittee shall keep previous (i.e., superseded) versions of the site-specific performance evaluation plan on record to be made available for inspection, upon request, by ORCAA or the Administrator, for a period of 5 years after each revision to the plan. Where relevant, e.g., program of corrective action for a malfunctioning CPMS, these protocol(s) may be incorporated into the SSMP to avoid duplication of efforts or documents.

Continued – Section 9. Recordkeeping Requirements

- b) **Data Handling** [*Regulatory Origins: OA (#03MOD335) Condition 8; OA (#04NOC365) Condition 8; 40 CFR 63.1416(c)(1), (2), and (3); 40 CFR 63.3350(e); 40 CFR 63.998(b)(1)-(3)(i), 40 CFR 63.1416(c)(3); 40 CFR 63.998(b)(3)(ii); 40 CFR 63.10(b)(2)(vii) and (ix); 40 CFR 63.10(c)(1)*]. The permittee shall continuously record and retain instantaneous parametric measured data, including parametric data needed to demonstrate compliance with emissions and operating limits (may include, but not limited to, 15-minute, 1-hour, 3-hour, and daily averages of CPMS data, raw performance testing measurements, and raw performance evaluation measurements, that supports data that the permittee is required to report). The following applies, as appropriate:
- i. For continuous parametric values measured more frequently than once per minute, a single value for each minute shall be recorded for the calculation of hourly averages.
 - ii. Parametric hourly (e.g. 1-hour and 3-hour averages) values and daily average values shall be recorded and calculated as the average of all parametric values measured during the averaging period, as appropriate, except for invalid data as specified in Condition M9(f). The daily averaging periods shall be the period the permittee operates in a given calendar day.
 - iii. For batch process vents, parametric measured values recorded during those batch emission episodes, or portions thereof, in the batch cycle that the permittee has selected to control shall be used to calculate and record any average.
 - iv. If a chart recorder is used to demonstrate compliance with established limits specified in Table 8, the permittee shall implement the Reduced Recordkeeping Program according to Condition RK18(b).
- c) **Operation and Maintenance** [*Regulatory Origins: 40 CFR 63.10(b)(2)(vi), (c)(5) and (c)(6); 40 CFR 63.10(c)(12); 40 CFR 63.10(c)(13); 40 CFR 63.3350(e)(5); 40 CFR 63.10(b)(2)(x); 40 CFR 63.10(b)(2)(xi); 40 CFR 63.10(b)(2)(viii); 40 CFR 998(c)*]. Recordkeeping applies to the following CPMS events:
- i. Documentation identifying each occurrence during which the CPMS was malfunctioning or inoperative (including out of control periods), except for zero (low-level) and high-level adjustments, and span or other daily calibration checks.
 - ii. The nature of repairs or adjustments performed on inoperative or out-of-control CPMS.
 - iii. All CPMS inspections, equipment calibrations (i.e. temperature probes, alarm sensors), system validation checks, maintenance and adjustments.
 - iv. Results of air pollution control device performance tests and CPMS evaluations.
 - v. Readily accessible up-to-date records of periods of CPMS operation during which the parametric boundaries specified in Table 8 are exceeded.
 - vi. At a minimum, each CPMS event record shall include the applicable information:
 - 1) Date and time the event or action commenced and completed.
 - 2) Description and duration of the event or action.
 - 3) Description of outcome or findings.
 - 4) The analytical techniques or methods used.
 - 5) Name of person or company performing the maintenance or analyses.
 - 6) Occurrence and duration when the CPMS was inoperable.

Continued – Section 9. Recordkeeping Requirements

RK18. Reduced Recordkeeping Program [*Regulatory Origins: 40 CFR 63.1416(b)*]. For any parametric indicator required to be monitored, the permittee may implement the following requirements to reduce recordkeeping:

- a) If ORCAA requires the permittee to calculate parametric 3-hour and daily average values, the permittee is not required to record and retain more frequent values, if the requirements of paragraphs (a)(i) through (vi) below are met. The permittee electing to comply with the requirements of this paragraph (a) shall notify the Administrator in the next Compliance Report as specified in Condition RP11.
 - i. The CPMS is capable of detecting unrealistic or impossible data during periods of operation (e.g., a temperature reading of $-200\text{ }^{\circ}\text{C}$ on a boiler) and alerting the operator by alarm or other means. The permittee shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.
 - ii. The CPMS generates, updated at least hourly throughout each operating day, a running 3-hour and daily average of the parametric indicator values that have been obtained during that operating day, and the capability to observe the running averages is readily available on-site to ORCAA or the Administrator during the operating day. The permittee shall record the occurrence of any period meeting the criteria in paragraphs (a)(ii)(1) and (2). All instances in an operating day constitute a single occurrence:
 - 1) The running 3-hour or daily averages are above the maximum or below the minimum established limits specified in Table 8; and,
 - 2) The excursion is based on at least six 1-hour average values.
 - iii. The CPMS is capable of detecting unchanging data during periods of operation, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (e.g., pH in some scrubbers) and will alert the operator by alarm or other means. The permittee shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.
 - iv. The CPMS will alert the permittee by an alarm or other means if the running 3-hour or daily average parameter values calculated under paragraph (a)(ii) reaches a set point that is appropriately related to the established limits for the parametric indicator that is being monitored.
 - v. The permittee shall verify the proper functioning of the CPMS, including its ability to comply with the requirements of paragraphs (a)(i) through (iv), at the times specified below in paragraphs (a)(v)(1) through (3). The permittee shall document that the required verifications occurred.
 - 1) Upon initial installation.
 - 2) Annually after initial installation.
 - 3) After any change to the programming or equipment constituting the monitoring system which might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this section.
 - vi. The permittee shall retain the following records:

Continued – Section 9. Recordkeeping Requirements

- 1) Identification of each parameter for each item of equipment for which the owner or operator has elected to comply with the requirements of paragraph (a) of this Condition RK18.
 - 2) A description of the CPMS and how compliance will be achieved with each requirement of paragraphs (a)(i) through (v). The description shall identify the location and format (e.g., on-line storage, log entries) for each required record. If the description changes, the permittee shall retain, as provided in paragraph (a) of this Condition RK18, except as provided in paragraph (a)(vi)(4) of this Condition RK18, both the current and the most recent superseded description.
 - 3) A description and the date of any change to the CPMS that would reasonably be expected to impair its ability to comply with the requirements of Condition RK18.
 - 4) The permittee shall retain the current description of the CPMS as long as the description is current. The current description shall, at all times, be retained on-site or be accessible from a central location by computer or other means that provides access within 2 hours after a request. The permittee shall retain all superseded descriptions for at least 5 years after the date of their creation. Superseded descriptions shall be retained on-site (or accessible from a central location by computer or other means that provides access within 2 hours after a request) for at least 6 months after their creation. Thereafter, superseded descriptions may be stored off-site.
- b) If the permittee has elected to use a chart recorder or is required to implement the requirements of paragraph (a) of this Condition RK18, and a period of 6 consecutive months has passed without any deviation as defined in paragraph (b)(iv) below, the permittee is no longer required to calculate, record, and retain hourly, 3-hour, daily averages for any operating day if all 3-hour and daily average values are less than the maximum or greater than the minimum established limits specified in Table 8.
- i. If the permittee elects not to calculate, record, and retain the 3-hour average and daily average values, the permittee shall notify the Administrator in the next Compliance Report as specified in Condition RP11. The notification shall identify the parametric indicator and emissions unit.
 - ii. If, on any operating day after the permittee has ceased calculating and recording the 3-hour average or daily average values as provided in paragraph (b) of this Condition RK18, there is a deviation as defined in paragraph (b)(iv) of this Condition RK18, the permittee shall immediately resume calculating, recording and retaining the running 3-hour average or daily average values for each operating day and shall notify the Administrator in the next Compliance Report. The permittee shall continue to calculate, record, and retain each 3-hour and daily average value until another period of 6 consecutive months has passed without a deviation as defined in paragraph (b)(iv) of this Condition RK18.
 - iii. The permittee shall retain the records specified in paragraphs (a)(i) through (iv) of this Condition RK18 for the duration specified in this Condition RK18. For any calendar week, if compliance with paragraphs (a)(i) through (iv) of this Condition

Continued – Section 9. Recordkeeping Requirements

RK18 does not result in retention of a record of at least one occurrence or measured parametric indicator value, the permittee shall record and retain at least one value during a period of operation.

- iv. For purposes of paragraph (b) of this Condition RK18, a deviation means that the 3-hour and daily average value of monitoring data for a parametric indicator is greater than the maximum, or less than the minimum established limits specified in Table 8.

RK19. RTO Records [*Regulatory Origins: OA (#03MOD335) Condition 8; OA (#04NOC365) Condition 8; 40 CFR 63.998*]. All information necessary, including actions taken, to demonstrate that the RTO is operated and maintained in compliance with 40 CFR Part 63, Subparts A, SS, OOO, and JJJJ shall be recorded and retained. At a minimum, the permittee shall retain and update on a monthly basis, unless otherwise specified, the following records:

- a) All required maintenance performed on the RTO, including calibrations, repairs, replacements, and adjustments to temperature controllers, flow control valves, heat transfer bedding, thermocouples, and burner and ignition system components.
- b) RTO inspection and performance evaluation results.
- c) Periods of RTO operation when CPMS was not operating.
- d) For every RTO bypassing event, the following information:
 - i. Inspections of seals or closure mechanisms.
 - ii. Broken or malfunctioning car-seals or seal mechanisms.
 - iii. Changes to line damper or valve position.
 - iv. When the key for a lock-and-key type configuration has been checked out.
- e) At a minimum, each RTO monitoring record shall include the applicable information:
 - i. Date and time the event or action commenced and completed.
 - ii. Description and duration of the event or action.
 - iii. Description of outcome or findings.
 - iv. The analytical techniques or methods used.
 - v. Name of person or company performing the maintenance or analyses.
 - vi. If applicable, occurrence and duration when the RTO was inoperable.

RK20. Performance Testing Records [*Regulatory Origins: OA (#03MOD335) Condition 8; OA (#04NOC365) Condition 8; 40 CFR 63.7(g); 40 CFR 63.10(b)(2)(iii); 40 CFR 63.988(a); 40 CFR 63.3360(e)(2)*]. The permittee shall retain all records of performance testing data. The following records shall be retained and updated when needed:

- a) **General Records.** The following general records shall be kept:
 - i. Average percent reduction of total VOC or TGNMOC, phenol, formaldehyde and methanol for all emissions vented to the air pollution control device, as determined in Condition M8.
 - ii. All measurements necessary to determine the conditions during RTO performance tests and CPMS evaluations [*40 CFR 63.10(ix)*].
 - iii. Analysis of samples, determination of emissions, and raw data [*40 CFR 63.7(g)*].
 - iv. Process and operating information existing at the time of each test run, including what emission units were running during the test.
 - v. Fire box temperature averaged over the full testing period [*40 CFR 63.998(a)(2)(ii)(B)(1)*].

Continued – Section 9. Recordkeeping Requirements

- vi. At a minimum, each record shall include:
 - 1) The date, location, and time of sampling or measurement.
 - 2) The date(s) analyses were performed.
 - 3) The company or entity that performed the analyses.
 - 4) The analytical techniques or methods used.
 - 5) All performance test results, including sample analyses and raw data.
- b) **Resin Plant (EU-2) Specific Records** [*Regulatory Origin: 40 CFR 63.1413(e)(ii)(B)(3)*]. The following records shall be kept:
 - i. All information used to verify that the control device efficiency for all the other batch emission episodes in the group will be greater than or equal to the control device efficiency achieved during the tested period of the most challenging batch emission episode in the group .
 - ii. All information used to calculate the batch cycle percent reduction(s) for the resin plant (EU-2), including definition(s) of the batch cycle(s) identifying all batch emission episodes [*40 CFR 63.1413(e)(iii)*], including:
 - 1) All information used to calculate the overall percent reduction for the collection of non-reactor batch process vents within the resin plant (EU-2), including a list of the non-reactor batch emission episodes.
 - 2) Information identifying which batch emission episodes, or portions thereof, were selected for control from the resin plant (EU-2).
 - 3) Estimates of uncontrolled organic HAP emissions for those batch episodes, or portions thereof, which are not selected for control from (EU-2).

RK21. Other Monitoring Equipment Records [*Regulatory Origin: OA (#04NOC365) Condition 8; 40 CFR 63.10(b)(2)(iii)*]. All information necessary, including actions taken, to demonstrate that emissions capture systems and RTO bypass lines, if installed, are operated and maintained in compliance with 40 CFR Part 64 and Part 63, Subparts A, SS, OOO and JJJJ shall be recorded and retained. At a minimum, the permittee shall retain and update on a monthly basis, unless otherwise specified, the following records:

- a) All required maintenance performed on monitoring equipment, including calibrations, repairs, replacements, and adjustments to pressure gages, automatic interlock systems, relief valve components, valve limit switch systems, including associated CPMS indicating and controller components.
- b) Results of all monitoring equipment inspections and evaluations.
- c) Any written QIP and any activities undertaken to implement a QIP required by 40 CFR 64.8.
- d) At a minimum, each monitoring equipment record shall include the applicable information:
 - i. Date and time the event or action commenced and completed.
 - ii. Description and duration of the event or action.
 - iii. Description of outcome or findings.
 - iv. The analytical techniques or methods used.
 - v. Name of person or company performing the maintenance or analyses.
 - vi. Occurrence and duration when emissions capture system and monitoring equipment was inoperable.

Continued – Section 9. Recordkeeping Requirements

RK22. Resin Dryer Recordkeeping [*Regulatory Origin: OA (#07NOC561), Condition 4*]. The permittee shall keep records of the types, quantities, and times of surplus resin curing sufficient to quantify emissions of all regulated air contaminants.

RK23. Malfunction Records [*Regulatory Origins: OA (#04NOC365) Condition 8; 40 CFR 63.1416(b)*]. The permittee shall keep the following records:

- a) In the event that an emissions unit fails to meet an emissions or operating standard, a record showing the number of failures. For each failure, the record shall show the date, time, and duration of the failure.
- b) For each failure to meet an applicable emissions or operating standard, a list of the emissions unit or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.
- c) A record of actions taken to minimize emissions and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

RK24. Records Required for Greenhouse Gas (GHG) Reporting [*Regulatory Origin: WAC 173-441-050(6) (state only)*]. If the permittee is required to prepare annual GHG reports to Ecology pursuant to Chapter 173-441 WAC, the permittee shall maintain records in accordance with WAC 173-441-050, retaining, at a minimum, the following:

- a) A list of all units, operations, processes, and activities for which GHG emissions were calculated.
- b) The data used to calculate the GHG emissions for each unit, operation, process, and activity, categorized by fuel or material type.
 - i. These data include, but are not limited to, the following information: The GHG emissions calculations and methods used, as required by WAC 173-441-120.
 - ii. Analytical results for the development of site-specific emissions factors.
 - iii. The results of all required analyses for high heat value, carbon content, and other required fuel or feedstock parameters.
 - iv. Any facility operating data/process information used for the GHG emission calculations.
- c) Copies of the annual GHG reports.
- d) Missing data computations. For each missing data event, also retain a record of the cause of the event and the corrective actions taken to restore malfunctioning monitoring equipment.
- e) The GHG Emissions Monitoring Plan required by Condition M32.
- f) The results of all required certification and quality assurance tests of continuous monitoring systems, fuel flow meters, and other instrumentation used to provide data for the GHGs reported under Chapter 173-441 WAC.
- g) Maintenance records for all continuous monitoring systems, flow meters, and other instrumentation used to provide data for the GHGs reported under this chapter.

Section 10. Reporting Requirements

RP1. Certification of Reports [*Regulatory Origin: WAC 173-401-630(1)*]. For reports required to be submitted under this AOP more than once every six months, the certification required by Condition P17 need only be submitted once every six months, covering all required reporting since the date of the last certification.

RP2. Annual Compliance Certification [*Regulatory Origin: WAC 173-401-630(5)*]. The permittee shall annually submit to ORCAA and to the Administrator, in care of Region 10 of the EPA, an Annual Compliance Certification report which shall certify the status of compliance with respect to all permit conditions during the previous 12 month period. Annual Compliance Certification Reports shall certify the status of compliance continuously over the reporting period, and the reporting period shall not exceed 12 months from the end of the reporting period covered in the previous report. Annual Compliance Certification Reports shall be submitted to ORCAA and EPA no later than 30 days after the end of the reporting period. The reports shall be certified by a responsible official in accordance with Condition RP1. Annual Compliance Certification reports shall include:

- a) Identification of each term or condition of the permit that is the basis of the certification;
- b) Certification of the status of compliance with each term or condition of the permit and whether compliance was continuous or intermittent over the reporting period; and,
- c) Identification of the method(s) or other means used by the permittee for determining the compliance status, and whether such methods or other means provide continuous or intermittent data.

RP3. MACT Initial Notification [*Regulatory Origins: ORCAA 8.11(b); 40 CFR 63.9(b)(2)*]. The permittee shall submit a notification in writing to ORCAA and to the Administrator, when an affected source becomes subject to a relevant standard in 40 CFR Part 63 that has an initial startup before the effective date of the relevant standard. The notification shall be submitted no later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard). The notification shall provide the following information:

- a) The name and address of the permittee, including physical location of the affected source.
- b) An identification of the relevant standard, or other requirement that is the basis of the notification and the source's compliance date.
- c) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted.
- d) A statement of whether the affected source is a major source or an area source.

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RP4. MACT Notification of Extension of Compliance [*Regulatory Origin: 40 CFR 63.9(c)*]. If the permittee is unable to comply with a relevant standard established under 40 CFR Part 63 pursuant to section 112(d) of the FCAA, the permittee may request that the Administrator or ORCAA grant an extension allowing the permittee up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. The request to extend compliance must be submitted in writing to the appropriate authority and meet the requirements of 40 CFR Section 63.6.

RP5. General MACT Reporting [*Regulatory Origins: OA (#04NOC365) Condition 9; ORCAA Rule 8.11(b); 40 CFR 63.6; 40 CFR 63.10*]. The permittee shall submit all reports required in 40 CFR Part 63 to ORCAA and the Administrator, in accordance with all applicable requirements in 40 CFR Part 63. All reporting to ORCAA shall be submitted in writing, unless otherwise specified by an AOP Condition. The permittee shall submit the following as appropriate:

- a) Pre-compliance reporting.
- b) Reporting results of performance tests.
- c) Electronic reporting (Administrator only requirements).
- d) Progress reports as a condition of receiving an extension of compliance under 40 CFR Part 63, Section 63.6(i).
- e) Immediate and periodic startup, shutdown, and malfunction (SSM) reports.
- f) Deviations, excursions and exceedances reporting.
- g) CPMS performance reporting, including evaluation test plan and evaluation results.
- h) Request to reduce or change frequency of excursion, exceedance, and CPMS reporting.
- i) Summary Report – Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance.
- j) Inspection and monitoring reporting.
- k) Quality assurance program reporting, including submittal of site-specific test plan required by Condition M8 and QIP required by Conditions AR1.11 and AR3.11.
- l) Request for a waiver of recordkeeping, reporting, and performance testing requirements.
- m) Request to monitor a different parameter than those listed in this permit.
- n) Request to use alternate continuous monitoring provisions or procedures.
- o) Request for extension of compliance.

RP6. General MACT Notifications [*Regulatory Origins: OA (#04NOC365) Condition 9; ORCAA Rule 8.11(b); 40 CFR 63.9; 40 CFR 63.7*]. The permittee shall submit all notifications required in 40 CFR Part 63 to ORCAA and the Administrator, in accordance with all applicable requirements in 40 CFR Part 63. All notifications to ORCAA shall be submitted in writing, unless otherwise specified by an AOP Condition. The permittee shall submit the following:

- a) Initial compliance notifications, including CPMS evaluation.
- b) Notification that a source is subject to special compliance requirements.
- c) Notifications of performance testing.
- d) Notifications of compliance statuses.
- e) Adjustment to time periods or postmark deadlines for submittal and review of required communications.
- f) Change in information already provided to ORCAA or to the Administrator.

Continued - Section 10. Reporting Requirements

RP7. Annual Inventory Report [*Regulatory Origin: WAC 173-401-615(1)(b); ORCAA Rule 4.3*]. No later than March 1st of each year, the permittee shall submit an inventory of the actual amount of pollutants emitted during the previous calendar year. The inventory shall be submitted to ORCAA on standard inventory reporting forms and shall be accompanied by associated calculations, data or other information used in calculating the reported emissions. A request for extension may be considered if a request from the Responsible Official is received by ORCAA prior to February 25th. The request must include a statement of the unexpected circumstances that occurred, how this affects your ability to submit the report on time, and the number of additional days needed.

RP8. Notification of Control Equipment Malfunction [*Regulatory Origin: WAC 173-401-615(1)(b)*]. The permittee shall notify ORCAA of air pollution control equipment malfunctions as defined in this AOP when repairs cannot be completed within the next business day. The notification shall include a description of the malfunction and any corrective actions taken or planned. In addition, the notification shall consist of a telephone call (or facsimile (FAX) transmission) to ORCAA within 2 working days of the malfunction, and it shall be followed by a written letter, delivered or postmarked within 7 working days after initial notification.

RP9. Permit Deviation Reporting [*Regulatory Origins: OA (#04NOC365) Condition 9; WAC 173-401-615(3)(b); WAC 173-400-107(3); 40 CFR 63.6(e)(3)(iv)*]. The permittee shall promptly report to ORCAA all deviations from permit conditions, including those attributable to upset conditions, exceedances, and excursions as defined in this AOP. The following applies:

- a) **Report Content.** Permit deviation reports shall describe the probable cause of such deviations, corrective actions taken or planned, and preventive measures taken. The deviation report may include demonstration that exceedances were unavoidable due to startup, shutdown or upset conditions consistent with the requirements of Condition P19. The deviation report may include demonstration that exceedances were due to an emergency, consistent with the requirements of Condition P18.
- b) **Prompt Reporting.** Unless otherwise specified, for purposes of this AOP, submitting a report or notification “promptly” means the following:
 - i. **Potential Threat to Human Health or Safety:** If the deviation or event presents a potential threat to human health or safety, “promptly” means as soon as possible but no later than 12 hours after discovery of the deviation or event consisting of a telephone call (or facsimile (FAX) transmission) to ORCAA. Notification or reporting shall be followed by a written letter, delivered or postmarked within 7 working days after the discovery of the deviation or event.
 - ii. **Other Circumstances:** For other deviations and events, “promptly” means as soon as possible consisting of a written notification, delivered or postmarked within 7 working days after the discovery of the deviation or event.
- c) **Reporting Exceedances.** The following exceedances shall be promptly reported:
 - i. Any exceedance due to a RTO malfunction or RTO bypassing event.
 - ii. Any exceedance due to an action taken by the permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) not consistent with the procedures specified in the SSMP.
 - iii. Any exceedance of a plant-wide emissions limit.

Continued - Section 10. Reporting Requirements

RP10. Periodic Reports [*Regulatory Origins: WAC 173-401-615(1)(a) and (b)*]. A written periodic report summarizing results of monitoring and compliance demonstration actions conducted during a continuous 6-month period shall be submitted to ORCAA on or before January 31 and July 31 of each year. Periodic reports submitted by January 31 shall summarize actions conducted during the previous July 1 through December 31. Periodic reports submitted by July 31 shall summarize actions conducted during the previous January 1 through June 30. Periodic reports shall include a summary of all monitoring conducted in accordance with Section 8 of this AOP, and shall include the following as applicable:

- a) A statistical summary of results of required monitoring conducted over the reporting period.
- b) Identification and characterization of all instances of deviations from permit requirements.
- c) Summary description of any corrective actions taken to maintain the RTO and CPMS.
- d) Summary information on the number, duration and cause (including unknown cause, if applicable) of downtime of the CPMS (other than downtime associated with zero and span or other daily calibration checks, if applicable).
- e) All information submitted for compliance reporting according to Condition RP11.

RP11. Compliance Reporting [*Regulatory Origins: WAC 173-401-615(1)(b); OA (#04NOC365) Condition 9; 40 CFR 63.10(d); 40 CFR 63.3400(c); 40 CFR 63.1417(f) and (g); 40 CFR 63.1039(b); 40 CFR 63.999(b); 40 CFR 63.7550*]. The permittee must conduct compliance reporting for all emissions units subject to 40 CFR Part 63 according to the applicable Subparts of 40 CFR Part 63. Except as specified below in paragraph (z), a written semiannual compliance report containing the applicable information specified below in paragraphs (a) through (y), shall be submitted to the Administrator on or before January 31 and July 31 of each year. The compliance report submitted by January 31 shall cover the previous July 1 through December 31. The compliance report submitted by July 31 shall cover the previous January 1 through June 30.

- a) Date of report, including beginning and ending dates of the reporting period.
- b) Company and Facility name and address.
- c) Emissions unit identifications, emissions limitations, and operating parameter limitations.
- d) Total operating time of each emissions unit during the reporting period.
- e) A description of the addition of emissions points to an emissions unit and applicability status (i.e., does the emission point require control) of added emissions points to an emissions unit.
- f) Summary of RTO bypass line inspections and occurrences of all periods when the seal mechanism is broken, the bypass line damper or valve position has changed, or the key for a lock-and-key type configuration has been checked out, or if any car-seal has broken.
- g) Times, duration, and cause (including unknown cause, if applicable) of periods when required monitoring parametric measurements were not collected or recorded.
- h) A statement that the permittee has elected to comply with a Reduced Recordkeeping Program.
- i) A statement that the permittee has elected to not retain parametric 3-hour, daily, or batch cycle average values.
- j) Results for each change made to a primary product determination for amino/phenolic resins.
- k) Number of failures to meet an applicable standard. Date, time, and duration of each failure. For each failure the report must include a list of the associated emissions units or equipment.
- l) A description of actions taken during a malfunction of an emissions unit or RTO or CPMS to minimize emissions, including actions taken to correct the malfunction.

Continued - Section 10. Reporting Requirements

- m) **Performance Testing.** If any performance tests are reported during the reporting period, the following information shall be included:
- i. One complete test report shall be submitted for each test method used for a particular kind of emission point tested. A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.
 - ii. For additional tests performed for the same kind of emission point using the same method, results and any other information required shall be submitted, but a complete test report is not required.
- n) **Excursions.** For each excursion the following shall be reported:
- i. The 3-hour average or daily average value of the monitored parametric indicator that triggered the excursion.
 - ii. Value of operating limit that was exceeded.
- o) **Exceedances.** For each exceedance the following shall be reported:
- i. The value or cumulative average value that triggered the exceedance.
 - ii. The individual emission rate data points making up the cumulative average that triggered the exceedance.
 - iii. Value of emissions limit that was exceeded, including an estimate of the quantity of the regulated pollutant emitted over the emissions limit, and a description of the method used to estimate the emissions.
- p) **Deviations.** For excursions, exceedances, and deviations from a monitoring requirement, the compliance report must additionally contain:
- i. The date and time that each excursion, exceedance, and deviation started and stopped and description of the nature of the excursion, exceedance, and deviation.
 - ii. The date and time the CPMS was inoperative, except for zero (low-level) and high-level checks.
 - iii. The date, time, and duration the CPMS was out of control, including the information in 40 CFR 63.8(c)(8).
 - iv. A summary of the total duration of the excursion, exceedance, and deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.
 - v. A breakdown of each excursion, exceedance, and deviation into those that are due to startup, shutdown, malfunctions, RTO problems, process problems, other known causes, and other unknown causes (including unknown cause), and a summary of all corrective actions taken.
 - vi. A summary of the total duration and cause of downtime for the CPMS during the reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that reporting period.
 - vii. A brief description of the source or emission unit for which there was an excursion, exceedance, or deviation.

Continued - Section 10. Reporting Requirements

- viii. The date of the latest CPMS certification or audit.
- ix. A description of any changes of the CPMS, processes, or controls since the last reporting period for the source for which there was a deviation.
- q) If there were no excursions or exceedances for each emissions unit, a statement that there were no deviations from the emission limits or operating limits during the reporting period.
- r) If there were no deviations from the monitoring requirements including no periods during which the CPMS, was out of control, a statement that there were no monitoring deviations and no periods during which the CPMS were out of control during the reporting period.
- s) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction and whether the malfunction caused or may have caused any exceedance.
- t) If applicable, A description of the actions taken to implement a Quality Improvement Program (QIP) under CAM during the reporting period as specific in 40 CFR 64.8.
- u) If applicable, upon completion of a QIP under CAM, information that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.
- v) **Pressure Relief Devices.** The following information shall be reported:
 - i. For pressure relief devices in organic HAP service subject, confirmation that all monitoring to show compliance was conducted within the reporting period.
 - ii. For pressure relief devices in organic HAP gas or vapor service, any instrument reading of 500 ppm above background or greater, more than 5 days after the relief device returns to organic HAP gas or vapor service after a pressure release.
 - iii. If any pressure relief device in organic HAP service releases to the atmosphere as a result of a pressure release event, the following shall be reported:
 - 1) Confirmation that all monitoring to show compliance was conducted within the reporting period.
 - 2) Any instrument reading of 500 ppm or greater above background levels, more than 5 days after a relief device returns to gas or vapor service after a pressure release.
 - 3) For each pressure release to the atmosphere, the following information:
 - The source, nature, and cause of the pressure release.
 - The date, time, and duration of the pressure release.
 - An estimate of the quantity of total HAP emitted during the pressure release and the method used for determining the quantity.
 - The actions taken to prevent this pressure release.
 - The measures adopted to prevent future pressure releases.
- w) **Equipment Leaks.** The following information shall be reported:
 - i. Number of valves, pumps, and connectors for which leaks were detected, percent leakers, and total number of valves.
 - ii. Number of valves, pumps, and connectors for which leaks were not repaired and number determined non repairable.
 - iii. Number of instances of delay of repair, including facts that explain any delay of repair and were appropriate why a process unit shutdown was technically infeasible.
 - iv. If applicable, notification of the initiation of a monthly monitoring program.

Continued - Section 10. Reporting Requirements

- v. If applicable, notification of the initiation of a Quality Improvement Program (QIP) under 40 CFR Part 63, Subpart UU.
- vi. Alternate monitoring information listed in 40 CFR Part 63, Section 63.1036.
- x) **SSMP Reporting.** The following startup, shutdown, and malfunction information shall be reported:
 - i. If actions taken by the permittee during a startup, shutdown, or malfunction of EU-1 or EU-3 (including actions taken to correct a malfunction) are not consistent with the procedures specified in the permittee's SSMP, the permittee must state such information in the report.
 - ii. If actions taken by the permittee during a startup or shutdown (and the startup or shutdown causes an exceedance), or malfunction of EU-1 or EU-3 (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSMP, the permittee shall state such information in the report.
 - iii. Actions taken to minimize emissions during such startups, shutdowns, and malfunctions shall be summarized in the report and may be done in checklist form; if actions taken are the same for each event, only one checklist is necessary.
 - iv. The number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any exceedance. Reporting shall only be required if a startup or shutdown caused the source to exceed any applicable emission limitation in the relevant emission standards, or if a malfunction occurred during the reporting period.
- y) **Boiler MACT Specific Reporting.** The permittee shall submit the following for EU-4:
 - i. Initial compliance reporting for the resin plant boiler (EU-4) must be postmarked or submitted no later than January 31, 2017 and must cover the period beginning on January 31, 2016 and ending July 31, 2016.
 - ii. The date of the most recent tune-up for the boiler.
 - iii. The date of the most recent burner inspection.
- z) **Quarterly Reporting.** The permittee shall submit quarterly reports for particular emissions points as specified in the following:
 - i. The permittee shall submit quarterly reports for a period of 1 year for an emissions point if the Administrator requests the permittee to submit quarterly reports for the emission point.
 - ii. The quarterly reports shall include all information specified above in paragraphs (a) through (x) applicable to the emissions point for which quarterly reporting is required. Information applicable to other emissions points within the affected source shall be submitted in the semiannual compliance reports.
 - iii. Quarterly reports shall be submitted no later than 60 days after the end of each quarter.
 - iv. After quarterly reports have been submitted for an emission point for 1 year, the permittee may return to semiannual compliance reporting for the emission point unless the Administrator requests the permittee to continue to submit quarterly reports.

Continued - Section 10. Reporting Requirements

RP12. Notification of Need for Improved Monitoring for CAM [*Regulatory Origins: WAC 173-401-615(1)(b); 40 CFR 64.7(e)*]. With respect to emissions units subject to CAM, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify ORCAA and, if necessary, submit a written proposed permit modification application to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

RP13. Immediate SSMP Reporting [*Regulatory Origins 40 CFR 63.3400(g); 40 CFR 63.10(d)(5)*]. Notwithstanding the allowance to reduce the frequency of reporting for startup, shutdown, and malfunction reports under Conditions RP10 and RP11, any time an action taken by the permittee during a startup or shutdown that caused an exceedance or excursion, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the permittee's SSMP, the permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate SSMP report shall consist of a telephone call (or facsimile (FAX) transmission) to ORCAA and the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a written letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSMP, describing all exceedances and excursions which are believed to have occurred (or could have occurred in the case of malfunctions), and actions taken to minimize emissions in conformance with operation and maintenance requirements.

RP14. Electronic Reporting [*Regulatory Origins: WAC 173-401-615(1)(b); 40 CFR 63.1417(b)(8)*]. The permittee must submit results of performance testing within 60 days after the date of completing the performance test and Compliance Reports electronically, including any required associated fuel analyses, according to the following methods:

- a) For data collected using test methods supported by the EPA-provided software, the permittee shall submit the results of the performance test to the Administrator by direct computer-to-computer electronic transfer via EPA-provided software, unless otherwise approved by the Administrator. The permittee, claiming that some of the information being submitted for performance tests is confidential business information (CBI), must submit a complete file using EPA-provided software that includes information claimed to be CBI on a compact disc, flash drive, or other commonly used electronic storage media to the Administrator. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the Administrator by direct computer-to-computer electronic transfer via EPA-provided software.

Continued - Section 10. Reporting Requirements

- b) For any performance test conducted using test methods that are not compatible with the EPA-provided software, the permittee shall submit the results of the performance test to the Administrator at the appropriate address listed in 40 CFR 60.13.
- c) The permittee must submit Compliance Reports required by condition RP11 electronically using CEDRI. However, if a specific reporting form is not available in CEDRI at the time that the report is due the report the permittee must submit the report to the Administrator at the appropriate address listed in 40 CFR 63.13. At the discretion of the Administrator, the permittee must also submit these reports, to the Administrator in the format specified by the Administrator.

RP15. Notification of Complaint Received [*Regulatory Origins: WAC 173-401-615(1)(b)*]. The permittee shall notify ORCAA of any complaint received within 24 hours of the time when the complaint or allegation was received. The notification shall consist of a telephone call (or facsimile (FAX) transmission) to ORCAA, and it shall be followed by a written letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the responsible official who is certifying its accuracy. The notification shall include a short description of the complaint, time it was received, actions taken, actions planned and preliminary assessment.

RP16. Additional Resin Plant Reporting [*Regulatory Origins: OA (#04NOC365) Condition 9; 40 CFR 63.1417(b)(4) and (5)*]. If the permittee adds an APPU or and emissions point to EU-2 (except for equipment leak components), the following requirements apply to the addition:

- a) The permittee shall promptly submit a report to ORCAA and the Administrator that shall include the following information:
 - i. A description of the process change or addition, as appropriate.
 - ii. The planned start-up date and the appropriate compliance date.
 - iii. Identification of the following emission points, as applicable:
 - 1) All the emission points in an added APPU.
 - 2) All the emission points in an affected source that becomes a new affected source.
 - 3) All the added or created emission points resulting from a process change.
- b) If the permittee wishes to request approval to use alternative monitoring parameters, alternative continuous monitoring or recordkeeping, alternative controls, engineering assessment to estimate organic HAP emissions from a batch emissions episode, or wishes to establish parameter monitoring levels according to the procedures contained in 40 CFR 63.1413(a)(1)(ii) or (ii), a Precompliance Report shall be submitted no later than 180 days prior to the appropriate compliance date.
- c) During redeterminations of applicability to APPU that are flexible operations process units or APPU terminating production of all amino/phenolic resins, notification of changes to the primary product for an APPU or process unit shall be submitted to ORCAA and the Administrator. When a notification is made in response to a change in the primary product, rationale for why it is anticipated that no amino/phenolic resins will be produced in the process unit in the future shall be included.

Continued - Section 10. Reporting Requirements

RP17. Performance Testing Notification [*Regulatory Origins: WAC 173-401-630(1); OA (#03MOD335) Condition 9; 40 CFR 63.3400(d); 40 CFR 63.7(b); 40 CFR 63.9(e)*]. The following notifications and plans must be submitted in writing by the due dates specified to ORCAA and the Administrator:

- a) **Notification of performance testing** at least 60 calendar days before the performance test is initially scheduled.
- b) **Delay of performance testing.** In the event the permittee is unable to conduct the performance test on the date specified in the Notification of Performance Testing due to unforeseeable circumstances beyond the permittee's control, the permittee must provide notification as soon as practicable and prior to the scheduled performance test date specifying the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the permittee of legal responsibility for compliance with any other applicable provisions of 40 CFR Part 63.
- c) **Submission of site-specific test plan.** The permittee shall submit a site-specific test plan simultaneously with the notification of performance testing at least 60 calendar days before the performance test is scheduled, or on a mutually agreed upon date.

RP18. Performance Test Results [*Regulatory Origins: WAC 173-401-630(1); OA (#03MOD335) Condition 9; 40 CFR 63.7(g); 40 CFR 63.999(2)*]. Whenever performance testing is conducted, the permittee shall submit a written report detailing the performance test results to ORCAA before the close of business on the 60th day following the completion of the performance test. A performance test is "completed" when field sample collection is terminated. The performance test report submitted to ORCAA, shall at minimum, include:

- a) A description of the source and sampling location.
- b) The time and date of the test.
- c) A summary of results, reported in units and for averaging periods consistent with the applicable emission standard.
- d) A description of the test methods and quality assurance procedures used, including any modifications to standard procedures.
- e) Quality assurance procedures.
- f) The amount of fuel burned and/or raw material processed by the source during the test.
- g) Emissions units operating conditions.
- h) Operating parameters of equipment during the test.
- i) Raw field sampling data and all hand calculations.
- j) Raw data sheets for field and laboratory analyses.
- k) Determination of emissions and assumptions.
- l) Any other information required by a test method.

Continued - Section 10. Reporting Requirements

RP19. State Greenhouse Gas (GHG) Reporting [*Regulatory Origin: (State Only) WAC 173-441, dated 12/1/10*]. If the permittee emits 10,000 metric tons of GHGs or more per calendar year, as defined under WAC 173-441-020(1)(g), reporting of GHG to Ecology is mandatory and the following provisions and requirements shall apply:

- a) WAC 173-441-030(5) details reporting requirements for facilities that historically exceed the threshold, but currently have lower CO_{2e} emissions.
- b) Permittee shall develop a written GHG monitoring plan in accordance with WAC 173-441-050(6)(e). The permittee shall revise the GHG monitoring plan as needed to reflect changes in processes, monitoring instrumentation, and quality assurance procedures; or to improve procedures for the maintenance and repair of monitoring systems to reduce the frequency of monitoring equipment downtime.
- c) Reports must meet the requirements of WAC 173-441-050, and include the annual emissions of the GHGs listed in WAC 173-441-040 from source categories listed in WAC 173-441-120. The annual GHG report shall be submitted electronically in accordance with the requirements of WAC 173-441-050 and 173-441-060 and in a format specified by Ecology.
Report submission due dates:
 - i. Facilities required to report GHG emissions to the EPA under 40 C.F.R. Part 98 must submit a report to Ecology no later than March 31st of each calendar year for GHG emissions in the previous calendar year.
 - ii. Facilities not required to report GHG emissions to the EPA under 40 C.F.R. Part 98 must submit a report to Ecology no later than October 31st of each calendar year for GHG emissions in the previous calendar year.
- d) All requests, notifications, and communications to Ecology pursuant to GHG emissions reporting, other than submittal of the annual GHG report, shall be submitted to the following address:
Greenhouse Gas Report
Air Quality Program
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
- e) The permittee shall submit a revised annual GHG report within 45 days of discovering that an annual GHG report previously submitted contains one or more substantive errors. A substantive error is an error that impacts the quantity of GHG emissions reported or otherwise prevents the reported data from being validated or verified. The revised report must correct all substantive errors.
- f) Ecology may notify the permittee in writing that an annual GHG report previously submitted contains one or more substantive errors. Such notification will identify each such error. The permittee shall, within 45 days of receipt of the notification, either resubmit the report that, for each identified substantive error, corrects the identified substantive error (in accordance with the applicable requirements of this permit) or provide information demonstrating that the previously submitted report does not contain the identified substantive error or that the identified error is not a substantive error.

Continued - Section 10. Reporting Requirements

RP20. Boiler MACT Reporting [*Regulatory Origin: WAC 173-401-630(1); 40 CFR 63.7545(e)*].

Before the close of business on the 60th day following the completion of the energy assessment required by Condition AR4.1, the permittee must submit in writing a Notification of Compliance Status report to the Administrator and ORCAA that contains the following information:

- a) A description of EU-4 including identification of which subcategories the unit is in and the design heat input capacity of EU-4.
- b) For any deviation from any emission limit, work practice standard, or operating limit, a description of the deviation, the duration of the deviation, and the corrective action(s) taken.
- c) The following certification(s) of compliance, as applicable, and signed by a responsible official:
 - i. “This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR part 63 subpart DDDDD at this site according to the procedures in 40 CFR 63.7540(a)(10)(i) through (vi).”
 - ii. “This facility has had an energy assessment performed according to 40 CFR 63.7530(e).”

Section 11. Permit Shield

S1. Permit Shield [*Regulatory Origin: WAC 173-401-640(1)*]. Compliance with a permit condition shall be deemed compliance with the applicable requirements upon which that condition is based, as of the date of permit issuance. The permit shield does not apply to any insignificant emissions units or activity designated under WAC 173-401-530.

S2. Inapplicable or Exempt Requirements [*Regulatory Origin: WAC 173-401-640(2)*]. The requirements shown in Table 11¹, as of the date of permit issuance, have been determined not to apply to the corresponding emissions units indicated due to either inapplicability of the requirement or an exemption. Commencing the date of permit issuance, the AOP shield shall cover the requirements specified in Table 11 with respect to the specific emissions units indicated unless applicability of the requirement is triggered by a future action or emissions increase.

S3. Exclusions [*Regulatory Origin: WAC 173-401-640(4)*]. Nothing in this permit shall alter or affect the following:

- b) The provisions of Section 303 of the FCAA (emergency orders), including the authority of the Administrator under that section,
- c) The liability of an permittee of a source for any violation of applicable requirements prior to or at the time of permit issuance,
- d) The applicable requirements of the acid rain program, consistent with section 408(a) of the FCAA,
- e) The ability of EPA to obtain information from a source pursuant to section 114 of the FCAA, or
- f) The ability of the permitting authority to establish or revise requirements for the use of reasonably available control technology (RACT) as provided in chapter 252, Laws of 1993.

¹ Note: The requirements listed in Table 11 include only those requirements for which inapplicability must be based on a determination or comparison of the size, age, emissions or other characteristic of an emission unit with respect to applicability criteria and threshold contained in the requirement. All other requirements are considered obviously inapplicable to the facility, and are not included in the table.

Continued – Section 11. Permit Shield

Table 11: Requirements Determined Inapplicable or Exempt

| Requirement | Emissions Unit | Exempt or Inapplicable | Brief Description of Requirement | Basis |
|-----------------------|----------------|------------------------|--|---|
| 40 CFR 60 Subpart D | IEU | Inapplicable | Standards for performance for fossil-fuel fired generators for which construction is commenced after August 17, 1971 | Paneltech does not generate electricity with steam |
| 40 CFR 60 Subpart Db | IEU | Exempt | Standards of performance for industrial-commercial-institutional steam generating units | Boilers smaller than 100 MMBtu/hr. |
| 40 CFR 60 Subpart Dc | IEU | Exempt | Standards of performance for small industrial-commercial-institutional steam generating units. | Boilers smaller than 10 MMBtu/hr. |
| 40 CFR 60 Subpart E | EU-2 | Exempt | Standards of performance for Incinerators. | Waste water will not be incinerated |
| 40 CFR 60 Subpart Kb | EU-1 and EU-2 | Exempt | Standards of performance for volatile organic liquid storage tanks | Tanks less than 75 m ³ volume |
| 40 CFR 60 Subpart VV | EU-2 | Inapplicable | Standards of performance for equipment leaks of VOC in the synthetic organic chemicals manufacturing industry | Paneltech does not produce one of the listed chemicals |
| 40 CFR 60 Subpart DDD | EU-2 | Inapplicable | Standards of performance for VOC emissions from the polymer manufacturing industry | Resin plant does not produce polyethylene, polypropylene, polystyrene, or poly (ethylene terephthalate) |
| 40 CFR 60 Subpart RRR | EU-2 | Exempt | Standards of performance for VOC emissions from synthetic organic chemical manufacturing industry reactor processes | Does not produce a chemical in 40 CFR 60.707 |
| 40 CFR 60 Subpart VVV | EU-1 | Inapplicable | Standards of performance for polymeric coating of supporting substrates facilities | Definition of polymeric coating of supporting substrates does not include paper coating (40 CFR 60.741) |
| 40 CFR 63 Subpart F | EU-2 | Exempt | National emissions standards for organic hazardous air pollutants from the synthetic organic chemical manufacturing industry | Does not produce a chemical on Table 1 of the NESHAP |

Continued – Section 11. Permit Shield

Continued – Table 11: Requirements Determined Inapplicable or Exempt

| Requirement | Emissions Unit | Exempt or Inapplicable | Brief Description of Requirement | Basis |
|------------------------|----------------|------------------------|--|--|
| 40 CFR 63 Subpart G | EU-2 | Inapplicable | National emissions standards for organic hazardous air pollutants from the synthetic organic chemical manufacturing industry for process vents, storage vessels, transfer operations, and wastewater | Not subject to Subpart F |
| 40 CFR 63 Subpart H | EU-1 and EU-2 | Inapplicable | National emissions standard for organic hazardous air pollutants for equipment leaks | Not subject to a subpart that references Subpart H |
| 40 CFR 63 Subpart Q | EU-2 | Inapplicable | National emissions standard for hazardous air pollutants for industrial process cooling towers | Does not use chromium as an additive |
| 40 CFR 63 Subpart S | Facility | Inapplicable | National emissions standard for hazardous air pollutants from the pulp and paper industry | Does not produce own paper or pulp |
| 40 CFR 63 Subpart OO | EU-1 and EU-2 | Inapplicable | National emissions standard for tanks – control level 1 | Not subject to a subpart that references Subpart OO |
| 40 CFR 63 Subpart PP | EU-1 and EU-2 | Inapplicable | National emissions standard for containers | No containers as defined in subpart. |
| 40 CFR 63 Subpart TT | EU-1 and EU-2 | Inapplicable | National emissions standard for equipment leaks – control level 1 | Not subject to a subpart that references Subpart TT |
| 40 CFR 63 Subpart WW | EU-1 and EU-2 | Inapplicable | National emissions standard for tanks – control level 2 | Not subject to a subpart that references Subpart WW |
| 40 CFR 63 Subpart JJJ | EU-2 | Inapplicable | National emissions standards for hazardous air pollutants: group IV polymers and resins | Does not produce a polymer or resin listed in Subpart JJJ |
| 40 CFR 63 Subpart FFFF | EU-2 | Inapplicable | National emissions standards for hazardous air pollutants: miscellaneous organic chemical manufacturing | The process unit is subject to another subpart of 40 CFR Part 63 |

Continued – Section 11. Permit Shield

Continued – Table 11: Requirements Determined Inapplicable or Exempt

| Requirement | Emissions Unit | Exempt or Inapplicable | Brief Description of Requirement | Basis |
|------------------------|----------------------|------------------------|--|--|
| 40 CFR 63 Subpart DDDD | EU-1, EU-2, and EU-3 | Inapplicable | National emissions standards for hazardous air pollutants: Plywood and Composite Wood Products | The process units are subject to other subparts of 40 CFR Part 63 |
| 40 CFR 72 – 78 | Facility | Inapplicable | Permits for acid rain program | The facility is not required to obtain such a permit |
| ORCAA 8.1 | Facility | Inapplicable | Solid fuel burning devices (wood stoves) | The facility does not have any wood stoves |
| ORCAA 8.4 | Facility | Inapplicable | Incineration operation | No incinerator is operated |
| ORCAA 8.9 | Facility | Inapplicable | Burning used oil | No oil burner |
| WAC 173-400-040(1)(d) | Facility | Inapplicable | Alternative opacity limits | The facility does not have any alternative opacity limits. |
| WAC 173-400-040(3)(b) | Facility | Inapplicable | Emission unit identified as a significant contributor to nonattainment must use reasonable and available control methods to control emission of contaminants for which the area is designated nonattainment. | No emission units at the facility have been identified as a significant contributor to non-attainment. |
| WAC 173-400-040(8)(b) | Facility | Inapplicable | Fugitive dust sources identified as significant contributors to PM10 nonattainment must apply RACT. | The facility is not located in a PM10 nonattainment area. |
| WAC 173-400-050(2) | Facility | Inapplicable | Incinerator carbonyl emission limit of 100 ppmv total carbonyls | The facility does not have this type of emission unit. |
| WAC 173-433 | Facility | Inapplicable | Solid fuel burning devices | This regulation is intended to apply to wood stoves and fireplaces only. |
| WAC 173-434 | Facility | Inapplicable | Standards for incinerator facilities | The facility does not operate an incinerator |
| WAC 173-435 | Facility | Inapplicable | Emergency episode plan requirements | The facility has not been requested to prepare such a plan. |
| WAC 173-490 | Facility | Inapplicable | Emissions standards for sources emitting VOCs. | Not located in an ozone non-attainment area |

ATTACHMENT 1
Chapter 173-460 WAC

Chapter 173-460 WAC

CONTROLS FOR NEW SOURCES OF TOXIC AIR POLLUTANTS

WAC

Effective Date: 8/21/98

| | |
|-------------|--|
| 173-460-010 | Purpose. |
| 173-460-020 | Definitions. |
| 173-460-030 | Requirements, applicability and exemptions. |
| 173-460-040 | New source review. |
| 173-460-050 | Requirement to quantify emissions. |
| 173-460-060 | Control technology requirements. |
| 173-460-070 | Ambient impact requirement. |
| 173-460-080 | Demonstrating ambient impact compliance. |
| 173-460-090 | Second tier analysis. |
| 173-460-100 | Request for risk management decision. |
| 173-460-110 | Acceptable source impact levels. |
| 173-460-120 | Scientific review and amendment of acceptable source impact levels and lists. |
| 173-460-130 | Fees. |
| 173-460-140 | Remedies. |
| 173-460-150 | Class A toxic air pollutants: Known, probable and potential human carcinogens and acceptable source impact levels. |
| 173-460-160 | Class B toxic air pollutants and acceptable source impact levels. |

WAC 173-460-010 Purpose. (1) Pursuant to chapter 70.94 RCW, Washington Clean Air Act, the purpose of this chapter is to establish the systematic control of new sources emitting toxic air pollutants (TAPs) in order to prevent air pollution, reduce emissions to the extent reasonably possible, and maintain such levels of air quality as will protect human health and safety. Toxic air pollutants include carcinogens and noncarcinogens listed in WAC 173-460-150 and 173-460-160.

(2) This chapter establishes three major requirements:

- (a) Best available control technology for toxics;
- (b) Toxic air pollutant emission quantification;
- (c) Human health and safety protection demonstration.

(3) Policy. It is the policy of ecology to reduce, avoid, or eliminate toxic air pollutants prior to their generation whenever economically and technically practicable.

[Statutory Authority: RCW 70.94.331, 91-13-079 (Order 90-62), § 173-460-010, filed 6/18/91, effective 9/18/91.]

WAC 173-460-020 Definitions. The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. In the event of a conflict between the definitions provided in chapter 173-400 WAC and the definitions provided in this section, the definitions in this section shall govern. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter shall have the following meanings. Note: For copies of the above mentioned rule and any other rule cited in this chapter, contact the Department of Ecology, Records Section, P.O. Box 47600, Olympia, WA 98504-7600.

(1) "Acceptable source impact analysis" means a procedure for demonstrating compliance with WAC 173-460-070 and 173-460-080, that compares maximum incremental ambient air impacts with applicable acceptable source impact levels (ASIL).

(2) "Acceptable source impact level (ASIL)" means a concentration of a toxic air pollutant in the outdoor atmosphere in any area which does not have restricted or controlled public access that is used to evaluate the air quality impacts of a single source. There are three types of acceptable source impact levels: Risk-based, threshold-based, and special. Concentrations for these three types of ASILs are determined as provided in WAC 173-460-110. ASILs are listed in WAC 173-460-150 and 173-460-160.

(3) "Authority" means an air pollution control authority activated pursuant to chapter 70.94 RCW that has jurisdiction over the subject source. Ecology is the authority if an air pollution control authority has not been activated or if ecology has jurisdiction over the source pursuant to RCW 70.94.395.

(7/21/98)

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(4) "Best available control technology for toxics (T-BACT)" applies to each toxic air pollutant (TAP) discharged or mixture of TAPs, taking in account the potency quantity and toxicity of each toxic air pollutant or mixture of TAPs discharged in addition to the meaning given in WAC 173-400-030(10).

(5) "Carcinogenic potency factor" means the upper 95th percentile confidence limit of the slope of the dose-response curve and is expressed in units of (mg/kg-day)⁻¹.

(6) "Class A toxic air pollutant (Class A TAP)" means a substance or group of substances listed in WAC 173-460-150.

(7) "Class B toxic air pollutant (Class B TAP)" means any substance that is not a simple asphyxiant or nuisance particulate and that is listed in WAC 173-460-160.

(8) "EPA's Dispersion Modeling Guidelines" means the United States Environmental Protection Agency Guideline on Air Quality Models, EPA (Revised) 40 CFR Part 51 Appendix W, and is hereby incorporated by reference.

(9) "EPA's Risk Assessment Guidelines" means the United States Environmental Protection Agency's Guidelines for Carcinogenic Risk Assessment, 51 FR 33992 (September 24, 1986) and is hereby incorporated by reference.

(10) "Increased cancer risk of one in one hundred thousand" means the 95th percent upper bound on the estimated risk of one additional cancer above the background cancer rate per one hundred thousand individuals continuously exposed to a Class A toxic air pollutant at a given average dose for a specified time.

(11) "Increased cancer risk of one in one million" means the 95th percent upper bound on the estimated risk of one additional cancer above the background cancer rate per one million individuals continually exposed to a Class A toxic air pollutant at a given average dose for a specified time.

(12) "Inhalation Reference Concentration (Inhalation RfC)" means a reference concentration published in the United States Environmental Protection Agency Integrated Risk Information System (IRIS).

(13) "Mixture" means a combination of two or more substances mixed in arbitrary proportions.

(14) "Modification" means any physical change in, or change in the method of operation of, a stationary source that increases the amount of any air contaminant emitted by such source or that results in the emission of any air contaminant not previously emitted. The term modification shall be construed consistent with the definition of modification in Section 7411, Title 42, United States Code, and with rules implementing that section. For purposes of this chapter, the term "air contaminant" shall mean "toxic air contaminant" or "toxic air pollutant" as defined in subsection (20) of this section.

(15) "New toxic air pollutant source" means:

(a) The construction or modification of a stationary source that increases the amount of any toxic air pollutant emitted by such source or that results in the emission of any toxic air pollutant not previously emitted; and

(b) Any other project that constitutes a new source under section 112 of the Federal Clean Air Act.

(16) "Second Tier Analysis" means an optional procedure used after T-BACT and acceptable source impact analysis for demonstrating compliance with WAC 173-460-070. The second tier analysis uses a health impact assessment as provided in WAC 173-460-090, instead of an acceptable source impact level.

(17) "Simple asphyxiant" means a physiologically inert gas or vapor that acts primarily by diluting atmospheric oxygen below the level required to maintain proper levels of oxygen in the blood. Examples of simple asphyxiants are given in Appendix X of the TLV Booklet referred to in subsection (19) of this section and incorporated by reference.

(18) "Threshold limit value-time weighted average (TLV-TWA)" means a concentration limit recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) for a normal eight-hour workday and forty-hour workweek.

(19) "TLV Booklet" means "TLVs, Threshold Limit Values and Biological Exposure Indices for 1991-92," published by the American Conference of Governmental Industrial Hygienists and is hereby incorporated by reference.

(20) "Toxic air pollutant (TAP)" or "toxic air contaminant" means any Class A or Class B toxic air pollutant listed in WAC 173-460-150 and 173-460-160. The term toxic air pollutant may include particulate matter and volatile organic compounds if an individual substance or a group of substances within either of these classes is listed in WAC 173-460-150 and/or 173-460-160. The term toxic air pollutant does not include particulate matter and volatile organic compounds as generic classes of compounds.

(21) "Upper bound unit risk factor" means the 95 percent upper confidence limit of an estimate of the extra risk of cancer associated with a continuous 70 year exposure to 1 ug/m³ of a Class A toxic air pollutant.

[Statutory Authority: Chapter 70.94 RCW, 94-03-072 (Order 93-19), § 173-460-020, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331, 91-13-079 (Order 90-62), § 173-460-020, filed 6/18/91, effective 9/18/91.]

WAC 173-460-030 Requirements, applicability and exemptions. (1) Applicability.

(a) The provisions of this chapter shall apply state-wide. The authority shall enforce WAC 173-460-010, 173-460-020, 173-460-030, 173-460-040, 173-460-050, 173-460-060, 173-460-070, 173-460-080, 173-460-130, 173-460-140, 173-460-150, and 173-460-160.

(b) Except as provided in this chapter, any new toxic air pollutant source listed in (b)(i), (ii), or (iii) of this subsection that may emit a Class A or Class B TAP into the ambient air is subject to these regulations:

(i) Standard industrial classifications:

(A) Major group 10-Metal mining.

(B) Major group 12-Bituminous coal and lignite mining.

(C) Major group 13-Oil and gas extraction.

(D) Manufacturing industries major groups 20-39.

(E) Major group 49-Electric, gas, and sanitary services except 4971 irrigation systems.

(F) Dry cleaning plants, 7216.

(G) General medical surgical hospitals, 8062.

(H) Specialty hospitals, 8069.

(I) National security, 9711.

(ii) Any source or source category listed in WAC 173-400-100, 173-400-115(2), or 173-490-030(1) except WAC 173-490-030 (1)(e) gasoline dispensing facilities.

(iii) Any of the following sources:

(A) Landfills.

(B) Sites subject to chapter 173-340 WAC Model Toxics Control Act—Cleanup regulation.

(2) Exempt sources.

(a) Containers such as tanks, barrels, drums, cans, and buckets are exempt from the requirements of this chapter unless equipped with a vent other than those required solely as safety pressure release devices.

(b) Nonprocess fugitive emissions of toxic air pollutants from stationary sources, such as construction sites, unpaved roads, coal piles, waste piles, and fuel and ash handling operations are exempt from WAC 173-460-060.

(c) The following sources are generally exempt from the requirements of WAC 173-460-050, 173-460-070, 173-460-080, and 173-460-090. However, the authority may on a case-by-case basis, require compliance with these sections if the authority determines that the amount of emissions, nature of pollutant, or source location indicate that the ambient impact should be evaluated.

(i) Perchloroethylene dry cleaners

(ii) Petroleum solvent dry cleaning systems

(iii) Solvent metal cleaners

(iv) Chromic acid plating and anodizing

(v) Abrasive blasting

(d) Demolition and renovation projects involving asbestos removal and disposal are exempt from the requirements of this chapter.

(e) Process vents subject to 40 C.F.R. Parts 264 and 265, Subpart AA are exempt from the requirements of this chapter.

[Statutory Authority: Chapter 70.94 RCW, 94-03-072 (Order 93-19), § 173-460-030, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331, 91-13-079 (Order 90-62), § 173-460-030, filed 6/18/91, effective 9/18/91.]

WAC 173-460-040 New source review. (1) Applicability. This chapter supplements the new source review requirements of WAC 173-400-110 by adding additional new source review requirements for toxic air pollutant sources. If a notice of construction is required under both chapter 173-400 WAC and this chapter, the written applications shall be combined. A notice of construction is a written application to permit construction of a new source.

(a) The owner or operator of a new toxic air pollutant source listed in WAC 173-460-030(1) shall notify the authority prior to the construction, installation, or establishment of a new toxic air pollutant source and shall file a notice of construction application with the authority for the proposed emission unit(s). Notification and notice of construction are not required if the source is an exempt source listed in WAC 173-460-030(2) or subsection (2) of this section.

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(b) The notice of construction and new source review applies only to the affected emission unit(s) and the contaminants emitted from the emission unit(s).

(c) New source review of a modification shall be limited to the emission unit or units proposed to be modified and the toxic air contaminants whose emissions would increase as a result of the modification.

(2) The owner or operator of a new toxic air pollutant source listed in WAC 173-460-030 (1) is not required to notify or file a notice of construction with the authority if any of the following conditions are met:

(a) Routine maintenance or repair requires equivalent replacement of air pollution control equipment; or

(b) The new source is a minor process change that does not increase capacity and total toxic air pollutant emissions do not exceed the emission rates specified in small quantity emission rate tables in WAC 173-460-080; or

(c) The new source is the result of minor changes in raw material composition and the total toxic air pollutant emissions do not exceed the emission rates specified in the small quantity emission rate tables in WAC 173-460-080.

(3) Additional information. Within thirty days of receipt of a notice of construction, the authority may require the submission of additional plans, specifications, and other information necessary for the review of the proposed new or modified source.

(4) Requirements for new toxic air pollutant sources. The authority shall review notice(s) of construction, plans, specifications, and other associated information to determine that:

(a) The source will be in accord with applicable federal, state, and authority air pollution control rules and regulations;

(b) The source will use T-BACT for emissions control for the toxic air pollutants which are likely to increase; and

(c) Sources required to use T-BACT for emission control demonstrate compliance with WAC 173-460-070 by using the procedures established in WAC 173-460-080 or, failing that, demonstrates compliance, by using the additional procedures in WAC 173-460-090 and/or 173-460-100.

(5) Preliminary determination. Within thirty days after receipt of all information required, the authority shall:

(a) Make preliminary determinations on the matters set forth in this section; and

(b) Initiate compliance with the provisions of WAC 173-400-171 relating to public notice and public comment, as applicable.

(6) Final determination. If, after review of all information received including public comment, the authority finds that all the conditions in this section are satisfied, the authority shall issue a regulatory order to approve the notice of construction for the proposed new source or modification. If the authority finds that the conditions in this section are not satisfied, the authority shall issue an order for the prevention of construction, installation, or establishment of the toxic air pollution source(s). Where ecology has jurisdiction, it will endeavor to make final determinations as promptly as possible.

(7) Appeal of decision. A final notice of construction decision may be appealed to the pollution control hearings board pursuant to chapter 43.21B RCW.

(8) Commencement of construction. The owner(s) or operator(s) of the new source shall not commence construction until the applicable notice of construction has been approved.

(9) Operation and maintenance plan. As a condition of notice of construction approval, prior to start up, the authority may require a plan for the operation and maintenance of all equipment and procedures to assure continuous compliance with this chapter.

(a) A copy of the plan shall be filed with the authority upon request.

(b) The plan shall reflect good industrial practice and may include operating parameters and maintenance procedures, and shall be updated to reflect any changes in good industrial practice.

(c) Submittal of all plans should coincide with the authorities reporting requirements where applicable.

(10) Jurisdiction. Emission of toxic air pollutants that exceed the acceptable source impact levels listed in WAC 173-460-150 and 173-460-160 requires ecology and, if applicable, authority approval as specified in WAC 173-460-090 and 173-460-100.

[Statutory Authority: Chapter 70.94 RCW. 94-03-072 (Order 93-19), § 173-460-040, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-040, filed 6/18/91, effective 9/18/91.]

WAC 173-460-050 Requirement to quantify emissions. (1) New sources.

(a) When applying for a notice of construction, an owner or operator of a new toxic air pollution source shall quantify those emissions of each TAP or combination of TAPs that:

- (i) Will be used for the modeling procedures in WAC 173-460-080; and
 - (ii) That may be discharged after applying required control technology. The information shall be submitted to the authority.
- (b) Emissions shall be quantified in sufficient detail to determine whether the source complies with the requirements of this chapter.

(2) Small quantity sources.

Sources that choose to use small quantity emission rate tables instead of using dispersion modeling shall quantify emissions as required under WAC 173-460-080, in sufficient detail to demonstrate to the satisfaction of the authority that the emissions are less than the applicable emission rates listed in WAC 173-460-080.

(3) Level of detail.

An acceptable source impact level analysis under WAC 173-460-080, may be based on a conservative estimate of emissions that represents good engineering judgment. If compliance with WAC 173-460-070 and 173-460-080 cannot be demonstrated, more precise emission estimates shall be used to demonstrate compliance with WAC 173-460-090.

(4) Mixtures of toxic air pollutants.

(a) An owner or operator of a source that may discharge more than one toxic air pollutant may demonstrate compliance with WAC 173-460-070 and 173-460-080 by:

- (i) Quantifying emissions and performing modeling for each TAP individually; or
 - (ii) Calculating the sum of all TAP emissions and performing modeling for the total TAP emissions and comparing maximum ambient levels to the smallest ASIL; or
 - (iii) Equivalent procedures may be used if approved by ecology.
- (b) Dioxin and furan emissions shall be considered together as one TAP and expressed as an equivalent emission of 2,3,7,8 TCDD based on the relative potency of the isomers in accordance with United States Environmental Protection Agency (EPA) guidelines.

Note: Copies of EPA "Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and dibenzofurans (CDDs and CDFs). 1989 Update" are available by requesting EPA/625/3-89/016, March 1989 from ORD Publications (513) 684-7562.

(c) Polyaromatic hydrocarbon (PAH) emissions. The owner or operator of a source that may emit a mixture of polyaromatic hydrocarbon emissions shall quantify the following PAHs and shall consider them together as one TAP equivalent in potency to benzo(a)pyrene: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The acceptable source impact analysis shall be conducted using the polyaromatic hydrocarbon emission ASIL contained in WAC 173-460-150(3).

(d) Uncontrolled roof vent emissions from primary aluminum smelters. The owner or operator of a primary aluminum smelter that may emit a mixture of polyaromatic hydrocarbons from uncontrolled roof vents shall quantify PAH emissions using either of the following methods:

- (i) Quantify PAH emissions using the procedures in (c) of this subsection; or
- (ii) Multiply the total particulate emission mass from the uncontrolled roof vents by the percent of the particulate that is extractable organic matter. The percent extractable organic matter shall be considered one percent of total particulate matter unless ecology determines that there is compelling scientific data which demonstrates that the use of this value is inappropriate. The acceptable source impact analysis shall be conducted using the primary aluminum smelter uncontrolled roof vent PAH emission ASIL contained in WAC 173-460-150(3). Note: For example, 100 grams of particulate air emission mass times one percent yields one gram of PAH emissions.

[Statutory Authority: Chapter 70.94 RCW. 94-03-072 (Order 93-19), § 173-460-050, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-050, filed 6/18/91, effective 9/18/91.]

WAC 173-460-060 Control technology requirements. Except as provided for in WAC 173-460-040, a person shall not establish, operate, or cause to be established or operated any new toxic air pollutant source which is likely to increase TAP emissions without installing and operating T-BACT. Satisfaction of the performance requirements listed below fulfill the T-BACT requirement for those particular sources. Local air pollution authorities may develop and require performance requirements in lieu of T-BACT provided that ecology approves the performance requirements as equivalent to T-BACT.

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(1) Perchloroethylene dry cleaners. The requirements for perchloroethylene dry cleaners found in WAC 173-400-075 are considered T-BACT.

(2) Petroleum solvent dry cleaning systems. A petroleum solvent dry cleaning system shall include the following:

(a) All cleaned articles are dried in a solvent recovery dryer or the entire dryer exhaust is vented through a properly functioning control device which will reduce emissions to no more than 3.5 kg of VOC per 100 kg dry weight of cleaned articles; and

(b) All cartridge filtration systems are drained in their sealed housing or other enclosed container before discarding the cartridges; and

(c) All leaking components shall be repaired immediately.

(3) Chromic acid plating and anodizing. The facility-wide uncontrolled hexavalent chromium emissions from plating or anodizing tanks shall be reduced by at least ninety-five percent using either of the following control techniques:

(a) An antimist additive or other equally effective control method approved by ecology or authority; or

(b) The tank is equipped with:

(i) A capture system which represents good engineering practice and which shall be in place and in operation at all times electrical current is applied to the tank; and

(ii) An emission control system which limits hexavalent chromium emissions to no more than 0.15 milligrams per ampere-hour of electrical charge applied to the tank or uncontrolled emissions shall be reduced by ninety-five percent.

(4) Chromic acid plating and anodizing (greater than 1 kilogram). If the facility-wide hexavalent chromium emissions from chromic acid plating and anodizing are greater than 1 kilogram per year after the application of control techniques required by subsection (3) of this section, the facility-wide hexavalent chromium emissions shall be reduced by at least ninety-nine percent using either of the following control techniques:

(a) An antimist additive or other equally effective control method approved by ecology or authority; or

(b) The tank is equipped with:

(i) A capture system which represents good engineering practice and which shall be in place and in operation at all times electrical current is applied to the tank; and

(ii) An emissions control system which limits hexavalent chromium emissions to no more than 0.03 milligrams per ampere-hour of electrical charge applied to the tank or uncontrolled emissions shall be reduced by ninety-nine percent.

(5) Solvent metal cleaners.

(a) Any solvent metal cleaner shall include all of the following equipment:

(i) A cover for the solvent tank which shall be closed at all times except when processing work in the degreaser. However, the cover shall be closed to the maximum extent possible when parts are being degreased;

(ii) A facility for draining cleaned parts such that the drained solvent is returned to the solvent tank;

(iii) For cold solvent cleaners, a freeboard ratio greater than or equal to 0.75;

(iv) Vapor degreasers shall have:

(A) A high vapor cutoff thermostat with manual reset; and

(B) For degreasers with spray devices, a vapor-up thermostat which will allow spray operation only after the vapor zone has risen to the design level; and

(C) Either a freeboard ratio greater than or equal to 1.00 or a refrigerated freeboard chiller; and

(v) Conveyorized vapor degreasers shall have:

(A) A drying tunnel or a rotating basket sufficient to prevent cleaned parts from carrying liquid solvent out of the degreaser; and

(B) A high vapor cutoff thermostat with manual reset; and

(C) A vapor-up thermostat which will allow conveyor movement only after the vapor zone has risen to the design vapor level.

(b) The operation of any solvent metal cleaner shall meet the following requirements:

(i) Solvent shall not leak from any portion of the degreasing equipment;

(ii) Solvent, including waste solvent, shall be stored in closed containers and shall be disposed of in such a manner as to prevent its evaporation into the atmosphere;

(iii) For cold cleaners, cleaned parts shall be drained until dripping ceases; and

(iv) Degreasers shall be constructed to allow liquid solvent from cleaned parts to drain into a trough or equivalent device and return to the solvent tank.

(c) For open-top vapor degreasers, solvent drag-out shall be minimized by the following measures:

- (i) Racked parts shall be allowed to drain fully;
- (ii) The work load shall be degreased in the vapor zone until condensation ceases;
- (iii) Spraying operations shall be done within the vapor layer;
- (iv) When using a powered hoist, the vertical speed of parts in and out of the vapor zone shall be less than three meters per minute (ten feet per minute);

(v) When the cover is open, the lip of the degreaser shall not be exposed to steady drafts greater than 15.3 meters per minute (fifty feet per minute); and

(vi) When equipped with a lip exhaust, the fan shall be turned off when the cover is closed.

(d) For conveyORIZED vapor degreasers, solvent drag-out shall be minimized by the following measures:

- (i) Racked parts shall be allowed to drain fully; and
- (ii) Vertical conveyor speed shall be maintained at less than three meters per minute (ten feet per minute).

(6) Abrasive blasting.

(a) Abrasive blasting shall be performed inside a booth or hangar designed to capture the blast grit or overspray.

(b) Outdoor blasting of structures or items too large to be reasonably handled indoors shall employ control measures such as curtailment during windy periods and enclosure of the area being blasted with tarps.

(c) Outdoor blasting shall be performed with either steel shot or an abrasive containing less than one percent (by mass) which would pass through a No. 200 sieve.

(d) All abrasive blasting with sand shall be performed inside a blasting booth or cabinet.

[Statutory Authority: RCW 70.94.860, 70.94.510 and 70.94.331. 98-15-129 (Order 98-04), § 173-460-060, filed 7/21/98, effective 8/21/98. Statutory Authority: Chapter 70.98 RCW. 98-04-062 (Order 97-38), § 173-460-060, filed 2/2/98, effective 3/5/98. Statutory Authority: Chapter 70.94 RCW. 94-03-072 (Order 93-19), § 173-460-060, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-060, filed 6/18/91, effective 9/18/91.]

WAC 173-460-070 Ambient impact requirement. When applying for a notice of construction under WAC 173-460-040, the owner or operator of a new toxic air pollutant source which is likely to increase TAP emissions shall demonstrate that emissions from the source are sufficiently low to protect human health and safety from potential carcinogenic and/or other toxic effects. Compliance shall be demonstrated in any area which does not have restricted or controlled public access. The source shall demonstrate compliance by using procedures established in this chapter after complying with the control technology requirements in WAC 173-460-060.

[Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-070, filed 6/18/91, effective 9/18/91.]

WAC 173-460-080 Demonstrating ambient impact compliance. (1) When applying for a notice of construction under WAC 173-460-040, the owner or operator of a new toxic air pollutant source which is likely to increase TAP emissions shall complete an acceptable source impact level analysis for Class A and Class B TAPs. The authority may complete this analysis.

(2) Acceptable source impact analysis.

(a) Carcinogenic effects. The owner or operator shall use dispersion modeling to estimate the maximum incremental ambient impact of each Class A TAP from the source and compare the estimated incremental ambient values to the Class A acceptable source impact levels in WAC 173-460-150. If applicable, the source may use the small quantity emission rate tables in (e) of this subsection.

(b) Other toxic effects. The owner or operator shall use dispersion modeling to estimate the maximum incremental ambient impact of each Class B TAP from the source and compare the estimated ambient values to the Class B acceptable source impact levels in WAC 173-460-160. If applicable, the source may use the small quantity emission rate tables in (e) of this subsection.

(c) Dispersion modeling. The owner or operator shall use dispersion modeling techniques in accordance with EPA guidelines. If concentrations predicted by dispersion screening models exceed applicable acceptable source impact levels, more refined modeling and/or emission estimation techniques shall be used. Refined modeling techniques shall be approved by ecology and the authority. (Note: EPA's Guideline on Air Quality Models, EPA 450/2-78-027R, can be obtained through NTIS (703) 487-4650 or can be downloaded from the OAQPS Technology Transfer Network electronic bulletin board system).

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(d) Averaging times. The owner or operator shall use the averaging times in (d)(i), (ii), (iii) of this subsection unless alternate averaging times are approved by ecology. Ecology may allow the use of an alternate averaging time if it determines that the operating procedures of the source may cause a high concentration of a TAP for a short period and that consideration of potential health effects due to peak exposures may be warranted for the TAP.

(i) An annual average shall be used for Class A TAPs listed in WAC 173-460-150(2).

(ii) The averaging times specified in WAC 173-460-150(3) shall be used for Class A TAPs listed in WAC 173-460-150(3).

(iii) A twenty-four-hour averaging time shall be used for Class B TAPs listed in WAC 173-460-160.

(e) Small quantity emission rates. Instead of using dispersion modeling to show compliance with ambient impact demonstration requirements in WAC 173-460-080 and 173-460-090, a source may use the small quantity emission rate tables for all toxic air pollutants with acceptable source impact levels equal to or greater than 0.001 ug/m³. A source must first meet control technology and emission quantification requirements of WAC 173-460-050 and 173-460-060, then demonstrate that the source emission rate does not exceed the rates specified in the appropriate table below.

| SMALL QUANTITY EMISSION RATES CLASS A TOXIC AIR POLLUTANTS | |
|---|--|
| Acceptable Source Impact Level (Annual ug/m ³) | TAP Emissions Pounds per Year (10 meter stack and downwash) |
| 0.001 to 0.0099 | 0.5 |
| 0.01 to 0.06 | 10 |
| 0.07 to 0.12 | 20 |
| 0.13 to 0.99 | 50 |
| 1.0 to 10 | 500 |

| SMALL QUANTITY EMISSION RATES CLASS B TOXIC AIR POLLUTANTS | | |
|--|-----------------|-----------------|
| Acceptable Source Impact Level (24 hour ug/m ³) | TAP Emissions | |
| | Pounds per Year | Pounds per Hour |
| Less than 1 | 175 | 0.02 |
| 1 to 9.9 | 175 | 0.02 |
| 10 to 29.9 | 1,750 | 0.20 |
| 30 to 59.9 | 5,250 | 0.60 |
| 60 to 99.9 | 10,500 | 1.20 |
| 100 to 129.9 | 17,500 | 2.0 |
| 130 to 250 | 22,750 | 2.6 |
| Greater than 250 | 43,748 | 5.0 |

(3) Criteria for compliance. Compliance with WAC 173-460-070 is demonstrated if the authority determines that, on the basis of the acceptable source impact analysis, the source's maximum incremental ambient air impact levels do not exceed the Class A or Class B acceptable source impact levels in WAC 173-460-150 and 173-460-160; or, if applicable, the source TAP emission rates do not exceed the rates specified in subsection (2)(e) of this section.

[Statutory Authority: Chapter 70.94 RCW. 94-03-072 (Order 93-19), § 173-460-080, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-080, filed 6/18/91, effective 9/18/91.]

WAC 173-460-090 Second tier analysis. (1) Applicability.

(a) The owner or operator who cannot demonstrate class A or class B TAP source compliance with WAC 173-460-070 and 173-460-080 using an acceptable source impact level analysis as provided in WAC 173-460-080(2), may submit a petition requesting ecology perform a second tier analysis evaluation to determine a means of compliance with WAC 173-460-070 and 173-460-080 by establishing allowable emissions for the source. Petitions for second tier analysis evaluation shall be submitted to the local authority or ecology if ecology has jurisdiction over the source. Petitions received by local authorities shall be submitted to ecology within ten days of receipt. A second tier analysis evaluation may be requested when a source wishes to more accurately characterize risks, to justify risks greater than acceptable source impact levels, or to otherwise modify assumptions to more accurately represent risks. Risks may be more accurately characterized by utilizing updated EPA unit risk factors, inhalation reference concentrations, or other

EPA recognized or approved methods. Ecology shall specify the maximum allowable emissions of any class A or class B TAP source based on ecology's second tier analysis evaluation.

(b) Ecology shall evaluate a source's second tier analysis only if:

(i) The authority has advised ecology that other conditions for processing the notice of construction have been met; and

(ii) Emission controls contained in the conditional notice of construction represent at least T-BACT; and

(iii) Ambient concentrations exceed acceptable source impact levels after using more refined emission quantification and air dispersion modeling techniques.

(c) Ecology shall determine whether the conditions in (b)(i), (ii), and (iii) of this subsection for a second tier analysis have been satisfied within ten working days of receipt of all information needed to make the determination. The matter shall be returned to the authority if ecology finds the conditions for a second tier analysis evaluation have not been met.

(2) Jurisdiction.

(a) Any second tier analysis application submitted by a source wishing to emit toxic air pollutants at levels greater than the acceptable source impact level contained in WAC 173-460-150 or 173-460-160 shall be approved or rejected by ecology.

(b) Any new emission limits approved by ecology as a result of the second tier analysis evaluation shall be enforced by the authority provided the authority approves the new emission limits.

(3) Approval criteria.

(a) Based on the second tier analysis, ecology may approve the emissions of TAPs from a source where ambient concentrations exceed acceptable source impact levels only if it determines that emission controls represent at least T-BACT and the source demonstrates that emissions of Class A TAPs are not likely to result in an increased cancer risk of more than one in one hundred thousand. The emission of Class A TAPs at levels likely to result in an increased cancer risk of more than one in one hundred thousand requires the approval of the director after complying with WAC 173-460-100.

(b) Ecology shall consider the second tier analysis and other information submitted by the applicant as well as department of health comments.

(i) Comments from other agencies and universities with appropriate expertise may also be considered in the decision to approve emissions that exceed acceptable source impact levels.

(ii) Public comments shall be considered if the source applies for a risk management decision under WAC 173-460-100.

(4) Contents of the second tier analysis.

(a) The second tier analysis consists of a health impact assessment. The applicant shall complete and submit a health impact assessment to ecology which includes the following information. Ecology may approve the submittal of less information if it determines that such information is sufficient to perform the second tier analysis evaluation. The health impact assessment shall be prepared in accordance with EPA's risk assessment guidelines as defined in WAC 173-460-020(9).

(i) Demographics such as population size, growth, and sensitive subgroups;

(ii) Toxicological profiles of all toxic air pollutants that exceed the ASIL;

(iii) Characterization of existing pathways and total daily intake for toxic air pollutants that exceed the ASIL;

(iv) Contribution of the proposed source toward total daily intake for toxic air pollutants that exceed the ASIL;

(v) Using existing data, characterization of risk from current exposure to the toxic air pollutants that exceed the ASIL. This includes existing TAP sources in the area, and anticipated risk from the new source;

(vi) Additive cancer risk for all Class A toxic air pollutants which may be emitted by the source;

(vii) Other information requested by ecology and pertinent to ecology's decision to approve the second tier application;

(viii) Uncertainty in the data; and

(ix) Length of exposure and persistence in the environment.

(b) The health assessment shall utilize current scientific information. New scientific information on the toxicological characteristics of toxic air pollutants may be used to justify modifications of upper bound unit risk factors used to calculate ASILs in WAC 173-460-150 and/or absorption rates of individual toxic air pollutants if ecology determines there is compelling scientific data which demonstrates that the use of EPA recognized or approved methods are inappropriate.

(5) Additional information.

(a) If approved by ecology, newly discovered scientific information which was unavailable at the time of the original submission of the health assessment may be used to justify modifications of the original health assessment. Ecology may approve the additional information if the source exercised due diligence at the time of original submission.

(b) Within thirty days after receipt of the second tier analysis and all supporting data and documentation, ecology may require the submission of additional information needed to evaluate the second tier analysis.

(6) Determination.

(a) If the second tier analysis is approved by ecology, ecology will return the petition to the authority and the authority may approve the notice of construction.

(b) The authority shall specify allowable emissions consistent with ecology's second tier analysis evaluation determination expressed in weight of pollutant per unit time for each emissions unit involved in the application. The notice of construction shall also include all requirements necessary to assure that conditions of this chapter and chapter 173-400 WAC are satisfied.

(7) Public notification requirements.

Ecology decisions regarding second tier analysis or decisions under WAC 173-460-100 shall comply with public notification requirements contained in WAC 173-400-171.

[Statutory Authority: Chapter 70.94 RCW. 94-03-072 (Order 93-19), § 173-460-090, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-090, filed 6/18/91, effective 9/18/91.]

WAC 173-460-100 Request for risk management decision. (1) Applicability. The owner or operator of a source that emits Class A TAPs that are likely to result in an increased cancer risk of more than one in one hundred thousand may request that ecology establish allowable emissions for the source.

(2) Contents of the application.

The applicant shall meet the submittal requirements of WAC 173-460-090(1) and submit all materials required under WAC 173-460-090 (4) and (5). The applicant may submit the request for a risk management decision concurrently with the second tier analysis application. Prior denial of the second tier analysis application under WAC 173-460-090(6) is not required.

(3) Criteria for approval. Ecology may approve the emissions of TAPs from a source where ambient concentrations are likely to result in an increased cancer risk of more than one in one hundred thousand only if the source first demonstrates the following:

(a) Proposed emission controls represent all known available and reasonable technology; and

(b) Application of all known available toxic air pollution prevention methods to reduce, avoid, or eliminate toxic air pollutants prior to their generation including recycling, chemical substitution, and efforts to redesign processes; and

(c) The proposed changes will result in a greater benefit to the environment as a whole.

(4) Additional methods to reduce toxic air pollutants. In addition to the requirements in subsection (3) of this section, the owner or operator may propose and ecology may consider measures that would reduce community exposure, especially exposure of that portion of the community subject to the greatest additional risk, to comparable toxic air pollutants provided that such measures are not already required.

(5) Public involvement. Ecology will initiate public notice and comment within thirty days of receipt of a completed risk management decision application. In addition to the public notice and comment requirements of WAC 173-400-171, the owner or operator shall hold a public hearing to:

(a) Present the results of the second tier analysis, the proposed emission controls, pollution prevention methods, additional proposed measures, and remaining risks; and

(b) Participate in discussions and answer questions.

(6) Time limitation. The owner or operator shall commence construction within eighteen months of the director's approval.

[Statutory Authority: Chapter 70.94 RCW. 94-03-072 (Order 93-19), § 173-460-100, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-100, filed 6/18/91, effective 9/18/91.]

WAC 173-460-110 Acceptable source impact levels. There are three types of acceptable source impact levels: Risk-based, threshold-based, and special acceptable source impact levels. They are computed as follows:

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(1) Risk-based acceptable source impact levels for Class A TAPs. Risk-based acceptable source impact levels means the annual average concentration, in micrograms per cubic meter, that may cause an increased cancer risk of one in one million. Ecology shall calculate the risk-based acceptable source impact levels for Class A TAPs in WAC 173-460-150(2) using the following equation:

$$\text{Risk based ASIL (ug/m}^3\text{)} = \frac{\text{RISK}}{\text{URF}}$$

*Where:

RISK = Cancer risk level (1 in 1,000,000)
 URF = Upper bound unit risk factor as published in IRIS data base or other appropriate sources (ug/m³)-1.

(2) Threshold-based acceptable source impact levels for Class B TAPs. Threshold-based acceptable source impact levels in WAC 173-460-160 shall be determined as follows:

(a) If a Class B TAP has an Environmental Protection Agency Inhalation Reference Concentration, the inhalation reference concentration and specified averaging time shall be used.

(b) Other Class B TAP acceptable source impact levels shall be determined by dividing the TLV-TWA by three hundred to calculate a twenty-four hour TWA acceptable source impact level.

(3) Special acceptable source impact levels.

(a) Ecology may establish special acceptable source impact levels for TAPs for which upper bound risk factors or TLVs have not been established, or for mixtures of compounds if it determines that the above acceptable source impact level methods are not appropriate, do not adequately protect human health or are overly stringent.

(b) The averaging times for special ASILs are listed in WAC 173-460-150(3).

[Statutory Authority: Chapter 70.94 RCW, 94-03-072 (Order 93-19), § 173-460-110, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331, 91-13-079 (Order 90-62), § 173-460-110, filed 6/18/91, effective 9/18/91.]

WAC 173-460-120 Scientific review and amendment of acceptable source impact levels and lists.

(1) Ongoing scientific review.

(a) To use the best available scientific information, ecology shall conduct an ongoing review of information concerning whether to add or delete toxic air pollutants to WAC 173-460-150 or 173-460-160, what acceptable source impact levels should be used to review emissions of TAPs, source applicability and exemptions.

(b) A complete review shall be made at least once every three years at which time ecology shall consider scientific information developed by the E.P.A., Washington department of health, other states or other scientific organizations, scientific information provided by any person, and results of second tier analyses evaluations.

(2) Criteria for listing as Class A or Class B TAP.

(a) Ecology shall list a substance or group of substances as Class A or Class B TAPs if the department has reason to believe that the compound or group of compounds are likely to be emitted to the air from an air pollution source and the air emission of such compound or compounds could impact public health. The compounds shall be removed from the list if ecology determines that these conditions no longer exist.

(b) Ecology may list mixtures of compounds as Class A and/or Class B TAPs if ecology determines that the health impact of the emission mixture is likely to be different from the known individual chemical impacts.

(3) Acceptable source impact level (ASIL).

Ecology may adopt an ASIL only if ecology determines that concentrations at that level will not unreasonably endanger human health.

[Statutory Authority: RCW 70.94.331, 91-13-079 (Order 90-62), § 173-460-120, filed 6/18/91, effective 9/18/91.]

WAC 173-460-130 Fees. (1) Pursuant to RCW 70.94.152, ecology or the authority may charge a fee for the review of notices of construction.

(2) The fee imposed under this section may not exceed the cost of reviewing plans, specifications, and other information and administering such notice.

[Statutory Authority: RCW 70.94.331, 91-13-079 (Order 90-62), § 173-460-130, filed 6/18/91, effective 9/18/91.]

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WAC 173-460-140 Remedies. Violations of this chapter are subject to the penalty provisions and/or other remedies provided in chapter 70.94 RCW.

[Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-140, filed 6/18/91, effective 9/18/91.]

WAC 173-460-150 Class A toxic air pollutants: Known, probable and potential human carcinogens and acceptable source impact levels.

(1) TABLE 1
CLASS A TOXIC AIR POLLUTANTS
Known and Probable Carcinogens

| CAS # | SUBSTANCE |
|------------|--|
| 75-07-0 | Acetaldehyde |
| 53-96-3 | 2-Acetylaminofluorene |
| 79-06-1 | Acrylamide |
| 107-13-1 | Acrylonitrile |
| 309-00-2 | Aldrin |
| — | Aluminum smelter polyaromatic hydrocarbon emissions |
| 117-79-3 | 2-Aminoanthraquinone |
| 97-56-3 | o-Aminoazotoluene |
| 92-67-1 | 4-Aminobiphenyl |
| 61-82-5 | Amitrole |
| 62-53-3 | Aniline |
| 90-04-0 | o-Anisidine |
| C7440-38-2 | Arsenic and inorganic arsenic compounds |
| 1332-21-4 | Asbestos |
| 2465-27-2 | Auramine (technical grade) |
| 71-43-2 | Benzene |
| 92-87-5 | Benzidine and its salts |
| 56-55-3 | Benzo(a)anthracene |
| 50-32-8 | Benzo(a)pyrene |
| 205-99-2 | Benzo(b)fluoranthene |
| 205-82-3 | Benzo(j)fluoranthene |
| 207-08-9 | Benzo(k)fluoranthene |
| 1694-09-3 | Benzyl violet 4b |
| 7440-41-7 | Beryllium and compounds |
| 111-44-4 | Bis(2-chloroethyl)ether |
| 117-81-7 | Bis(2-ethylhexyl)phthalate (DEHP) |
| 542-88-1 | Bis(chloromethyl)ether |
| 75-25-2 | Bromoform |
| 106-99-0 | 1,3-Butadiene |
| 3068-88-0 | B-Butyrolactone |
| 7440-43-9 | Cadmium and compounds |
| 56-23-5 | Carbon tetrachloride |
| 57-74-9 | Chlordane |
| 510-15-6 | Chlorobenzilate |
| 67-66-3 | Chloroform |
| 107-30-2 | Chloromethyl methyl ether (technical-grade) |
| 108-43-0 | Chlorophenols |
| 126-99-8 | Chloroprene |
| C7440-47-3 | Chromium, hexavalent metal and compounds |
| — | Coke oven emissions |
| 8001-58-9 | Creosote |
| 135-20-6 | Cupferron |
| 94-75-7 | 2,4-D and esters |
| 3547-04-4 | DDE (p,p'-Dichlorodiphenyldichloroethylene) |
| 50-29-3 | DDT (1,1,1 Trichloro-2,2-Bis(p-chlorophenyl)-ethane) |
| 613-35-4 | N,N-Diacetylbenzidine |
| 101-80-4 | 4,4'-Diaminodiphenyl ether |
| 226-36-8 | Dibenz(a,h)acridine |
| 53-70-3 | Dibenz(a,h)anthracene |
| 224-42-0 | Dibenz(a,j)acridine |
| 132-64-9 | Dibenzofurans |
| 189-64-0 | Dibenzo(a,h)pyrene |
| 191-30-0 | Dibenzo(a,l)pyrene |
| 189-55-9 | 1,2,7,8-Dibenzopyrene (dibenzo(a,i)pyrene) |
| 192-65-4 | Dibenzo(a,e)pyrene |
| 764-41-0 | 1,4-Dichloro-2-butene |
| 28434-86-8 | 3,3'-Dichloro-4,4'-diaminodiphenyl ether |
| 106-46-7 | 1,4-Dichlorobenzene |
| 91-94-1 | 3,3'-Dichlorobenzidine |
| 107-06-2 | 1,2-Dichloroethane (ethylene chloride) |
| 75-09-2 | Dichloromethane (methylene chloride) |
| 696-28-6 | Dichlorophenylarsine (arsenic group) |

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New Sources of Toxic Air Pollutants

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| CAS # | SUBSTANCE |
|------------|---|
| 78-87-5 | 1,2-Dichloropropane |
| 60-57-1 | Dieldrin |
| 1615-80-1 | 1,2-Diethylhydrazine |
| 101-90-6 | Diglycidyl resorcinol ether |
| 119-90-4 | 3,3'-Dimethoxybenzidine (ortol-dianisidine) |
| 119-93-7 | 3,3-Dimethyl benzidine |
| 77-78-1 | Dimethyl sulfate |
| 540-73-8 | 1,2-Dimethylhydrazine |
| 123-91-1 | 1,4-Dioxane |
| — | Dioxins and furans |
| 122-66-7 | 1,2-Diphenylhydrazine |
| 106-89-8 | Epichlorohydrin |
| 106-93-4 | Ethylene dibromide (dibromethane) |
| 75-21-8 | Ethylene oxide |
| 96-45-7 | Ethylene thiourea |
| 50-00-0 | Formaldehyde |
| 67-45-8 | Furazolidone |
| — | Furium (nitrofurans group) |
| 765-34-4 | Glyciadaldehyde |
| 76-44-8 | Heptachlor |
| 118-74-1 | Hexachlorobenzene |
| 319-84-6 | Hexachlorocyclohexane (Lindane) Alpha BHC |
| 319-85-7 | Hexachlorocyclohexane (Lindane) Beta BHC |
| 58-89-9 | Hexachlorocyclohexane (Lindane) Gamma BHC |
| 680-31-9 | Hexamethylphosphoramide |
| 302-01-2 | Hydrazine |
| 193-39-5 | Indeno(1,2,3-cd)pyrene |
| — | Isopropyl oils |
| — | Lead compounds |
| 301-04-2 | Lead acetate |
| 7446-27-7 | Lead phosphate |
| 129-15-7 | 2-Methyl-1-nitroanthraquinone |
| 592-62-1 | Methyl azoxymethyl acetate |
| 3697-24-3 | 5-Methylchrysene |
| 101-14-4 | 4,4'-Methylenebis(2-chloroaniline) (MBOCA) |
| 838-88-0 | 4,4'-Methylenebis(2-methylaniline) |
| 101-77-9 | 4,4-Methylene dianiline |
| 13552-44-8 | 4,4-Methylenedianiline dihydrochloride |
| 64091-91-4 | 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone |
| 2385-85-5 | Mirex |
| 139-91-3 | 5-(Morpholinomethyl)-3-amino-2-oxazolidinone (furaltudone) |
| 134-32-7 | 1-Naphthylamine |
| C7440-02-0 | Nickel and compounds (as nickel subsulfide or nickel refinery dust) |
| 531-82-8 | N-(4-(5-Nitro-2-furyl)-2-thiazolyl)acetamide |
| 602-87-9 | 5-Nitroacenaphthene |
| 1836-75-5 | Nitrofen |
| — | Nitrofurans |
| 59-87-0 | Nitrofurazone |
| 555-84-9 | 1-(5-Nitrofurfurylidene)amino)-2-imidazolidinone |
| 126-85-2 | Nitrogen mustard N-oxide |
| 302-70-5 | Nitrogen mustard N-oxide hydrochloride |
| 79-46-9 | 2-Nitropropane |
| 924-16-3 | N-Nitrosodi-n-butylamine |
| 759-73-9 | N-Nitroso-N-ethylurea (NEU) |
| 615-53-2 | N-Nitroso-N-methylurethane |
| 621-64-1 | N-Nitrosodi-n-propylamine |
| 10595-95-6 | N-Nitrosomethylethylamine |
| 59-89-2 | N-Nitrosomorpholine |
| 86-30-6 | N-Nitrosodiphenylamine |
| 55-18-5 | N-Nitrosodiethylamine (diethylnitrosoamine) (DEN) |
| 62-75-9 | N-Nitrosodimethylamine |
| 2646-17-5 | Oil orange SS |
| 794-93-4 | Panfuran S (dihydroxymethylfuratrazine) |
| 87-86-5 | Pentachlorophenol |
| 127-18-4 | Perchloroethylene (tetrachloroethylene) |
| 63-92-3 | Phenoxybenzamine hydrochloride |
| — | N-Phenyl-2-naphthylamine |
| — | Polyaromatic hydrocarbons (PAH) |
| 1336-36-3 | Polychlorinated biphenyls (PCBs) |
| 3761-53-3 | Ponceau MX |
| — | P(p)(alpha, alpha, alpha)-Tetra-chlorotoluene |
| 1120-71-4 | 1,3-Propane sulfone |

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New Sources of Toxic Air Pollutants

| CAS # | SUBSTANCE |
|------------|--|
| 75-56-9 | Propylene oxide |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) |
| 139-65-1 | 4,4'-Thiodianiline |
| 1314-20-1 | Thorium dioxide |
| 95-80-7 | 2,4-Toluene diamine |
| 584-84-9 | 2,4-Toluene diisocyanate |
| 95-53-4 | o-Toluidine |
| 636-21-5 | o-Toluidine hydrochloride |
| 8001-35-2 | Toxaphene |
| 55738-54-0 | Trans-2((Dimethylamino)methylimino)-5-(2-(5-nitro-2-furyl) vinyl)-1,3,4-oxadiazole |
| 79-01-6 | Trichloroethylene |
| 88-06-2 | 2,4,6-Trichlorophenol |
| 75-01-4 | Vinyl chloride |

(2) TABLE II
CLASS A TOXIC AIR POLLUTANTS
WITH ESTABLISHED
ACCEPTABLE SOURCE IMPACT LEVELS

| CAS # | SUBSTANCE | 10-6 RISK ASIL MICRO- GRAMS/M ³ ANNUAL AVERAGE |
|------------|---|---|
| 75-07-0 | Acetaldehyde | 0.4500000 |
| 79-06-1 | Acrylamide | 0.0007700 |
| 107-13-1 | Acrylonitrile | 0.0150000 |
| 309-00-2 | Aldrin | 0.0002000 |
| 62-53-3 | Aniline | 6.3000000 |
| C7440-38-2 | Arsenic and inorganic arsenic compounds | 0.0002300 |
| 1332-21-4 | Asbestos (Note: fibers/ml) | 0.0000044 |
| 71-43-2 | Benzene | 0.1200000 |
| 92-87-5 | Benzidine and its salts | 0.0000150 |
| 50-32-8 | Benzo(a)pyrene | 0.0004800 |
| 7440-41-7 | Beryllium and compounds | 0.0004200 |
| 111-44-4 | Bis(2-chloroethyl)ether | 0.0030000 |
| 117-81-7 | Bis(2-ethylhexyl)phthalate (DEHP) | 2.5000000 |
| 542-88-1 | Bis(chloromethyl)ether | 0.0000160 |
| 75-25-2 | Bromoform | 0.9100000 |
| 106-99-0 | 1,3-Butadiene | 0.0036000 |
| 7440-43-9 | Cadmium and compounds | 0.0005600 |
| 56-23-5 | Carbon tetrachloride | 0.0670000 |
| 57-74-9 | Chlordane | 0.0027000 |
| 510-15-6 | Chlorobenzilate | 0.2000000 |
| 67-66-3 | Chloroform | 0.0430000 |
| 108-43-0 | Chlorophenols | 0.1800000 |
| C7440-47-3 | Chromium, hexavalent metal and compounds | 0.0000830 |
| — | Coke oven emissions | 0.0016000 |
| 3547-04-4 | DDE (p,p'-dichlorodiphenyldichloroethylene) | 0.1000000 |
| 50-29-3 | DDT (1,1,1 Trichloro-2,2-Bis-(p-chlorophenyl)-ethane) | 0.0100000 |
| 764-41-0 | 1,4-Dichloro-2-butene | 0.0003800 |
| 106-46-7 | 1,4-Dichlorobenzene | 1.5000000 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 0.0770000 |
| 107-06-2 | 1,2-Dichloroethane (ethylene chloride) | 0.0380000 |
| 75-09-2 | Dichloromethane (methylene chloride) | 0.5600000 |
| 60-57-1 | Dieldrin | 0.0002200 |
| 119-93-7 | 3,3-Dimethyl benzidine | 0.0038000 |
| 123-91-1 | 1,4-Dioxane | 0.0320000 |
| 122-66-7 | 1,2-Diphenylhydrazine | 0.0045000 |
| 106-89-8 | Epichlorohydrin | 0.8300000 |
| 106-93-4 | Ethylene dibromide (dibromethane) | 0.0045000 |
| 75-21-8 | Ethylene oxide | 0.0100000 |
| 96-45-7 | Ethylene thiourea | 1.0000000 |
| 50-00-0 | Formaldehyde | 0.0770000 |
| 76-44-8 | Heptachlor | 0.0007700 |
| 118-74-1 | Hexachlorobenzene | 0.0022000 |
| 58-89-9 | Hexachlorocyclohexane (Lindane) gamma BHC | 0.0026000 |
| 302-01-2 | Hydrazine | 0.0002000 |

New Sources of Toxic Air Pollutants

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| CAS # | SUBSTANCE | 10-6 RISK ASIL MICRO- GRAMS/M ³ ANNUAL AVERAGE |
|------------|---|---|
| C7440-02-0 | Nickel and compounds (as nickel subsulfide or nickel refinery dust) | 0.0021000 |
| 924-16-3 | N-Nitrosodi-n-butylamine | 0.0006300 |
| 55-18-5 | N-Nitrosodiethylamine (diethylnitrosoamine)(DEN) | 0.0000230 |
| 62-75-9 | N-Nitrosodimethylamine | 0.0000710 |
| 79-46-9 | 2-Nitropropane | 0.0003700 |
| 87-86-5 | Pentachlorophenol | 0.3300000 |
| 127-18-4 | Perchloroethylene (tetrachloroethylene) | 1.1000000 |
| 1336-36-3 | Polychlorinated biphenyls (PCB) | 0.0045000 |
| 75-56-9 | Propylene oxide | 0.2700000 |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) | 0.00000003 |
| 95-80-7 | 2,4-Toluene diamine | 0.0110000 |
| 95-53-4 | o-Toluidine | 0.1400000 |
| 636-21-5 | o-Toluidine hydrochloride | 0.1400000 |
| 8001-35-2 | Toxaphene | 0.0031000 |
| 79-01-6 | Trichloroethylene | 0.5900000 |
| 88-06-2 | 2,4,6-Trichlorophenol | 0.3200000 |
| 75-01-4 | Vinyl chloride | 0.0120000 |

(3) TABLE III
CLASS A TOXIC AIR POLLUTANTS
WITH SPECIAL ACCEPTABLE SOURCE
IMPACT LEVELS

| CAS # | SUBSTANCE | ASIL MICRO- GRAMS/M ³ | AVERAGING TIME |
|----------|--|--|-------------------|
| — | Primary aluminum smelter uncontrolled roof vent polyaromatic hydrocarbon (PAH) emissions (Note: Quantify according to WAC 173-460-050 (4)(d)) | 0.0013 | Annual |
| 61-82-5 | Amitrole | 0.06 | 24 hour |
| 90-04-0 | o-Anisidine | 1.7 | 24 hour |
| 126-99-8 | β-Chloroprene | 120 | 24 hour |
| 94-75-7 | 2,4-D and esters | 33 | 24 hour |
| 78-87-5 | 1,2-Dichloropropane | 4.0 | 24 hour |
| 77-78-1 | Dimethyl sulfate | 1.7 | 24 hour |
| 540-73-8 | 1,2-Dimethylhydrazine | 4.0 | 24 hour |
| 319-84-6 | Hexachlorocyclohexane (Lindane) alpha BHC | 1.7 | 24 hour |
| 319-85-7 | Hexachlorocyclohexane (Lindane) beta BHC | 1.7 | 24 hour |
| — | Lead compounds | 0.5 | 24 hour |
| 101-14-4 | 4,4'-Methylenebis (2-Chloroaniline) (MBOCA) | 0.7 | 24 hour |
| 101-77-9 | 4,4-Methylene dianiline | 2.7 | 24 hour |
| — | Polyaromatic hydrocarbon (PAH) emissions (Note: Quantify according to WAC 173-460-050 (4)(d)) | 0.00048 | Annual |
| 584-84-9 | 2,4-Toluene diisocyanate | 0.12 | 24 hour |

[Statutory Authority: Chapter 70.94 RCW. 94-03-072 (Order 93-19), § 173-460-150, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331. 91-13-079 (Order 90-62), § 173-460-150, filed 6/18/91, effective 9/18/91.]

WAC 173-460-160 Class B toxic air pollutants and acceptable source impact levels. The following table lists Class B toxic air pollutants and acceptable source impact levels:

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New Sources of Toxic Air Pollutants

CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE
SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO- GRAMS/M ³ TWENTY-FOUR- HOUR AVERAGE |
|------------|--|--|
| 86-88-4 | ANTU | 1.0 |
| 60-35-5 | Acetamide | — |
| 64-19-7 | Acetic acid | 83 |
| 108-24-7 | Acetic anhydride | 67 |
| 67-64-1 | Acetone | 5900 |
| 75-05-8 | Acetonitrile | 220 |
| 98-86-2 | Acetophenone | — |
| 79-27-6 | Acetylene tetrabromide | 47 |
| 107-02-8 | Acrolein | 0.02 |
| 79-10-7 | Acrylic acid | 0.30 |
| 107-18-6 | Allyl alcohol | 17 |
| 107-05-1 | Allyl chloride | 1.0 |
| 106-92-3 | Allyl glycidyl ether (AGE) | 77 |
| 2179-59-1 | Allyl propyl disulfide | 40.0 |
| C7429-90-5 | Aluminum, Al alkyls | 6.7 |
| 7429-90-5 | Aluminum, as AL metal dust | 33 |
| C7429-90-5 | Aluminum, as AL pyro powders | 17 |
| C7429-90-5 | Aluminum, as Al soluble salts | 6.7 |
| C7429-90-5 | Aluminum, as Al welding fumes | 17 |
| 504-29-0 | 2-Aminopyridine | 6.3 |
| 7664-41-7 | Ammonia | 100 |
| 12125-02-9 | Ammonium chloride fume | 33 |
| 3825-26-1 | Ammonium perfluorooctanoate | 0.33 |
| 7773-06-0 | Ammonium sulfamate | 33 |
| 628-63-7 | n-Amyl acetate | 1800 |
| 626-38-0 | sec-Amyl acetate | 2200 |
| 62-53-3 | Aniline & homologues | 1.0 |
| 29191-52-4 | Anisidine (o-,p- isomers) | 1.7 |
| C7440-36-0 | Antimony & compounds as Sb | 1.7 |
| 1309-64-4 | Antimony trioxide, as Sb | 1.7 |
| 7784-42-1 | Arsine | 0.53 |
| 8052-42-4 | Asphalt (petroleum) fumes | 17 |
| 1912-24-9 | Atrazine | 17 |
| 86-50-0 | Azinphos-methyl | 0.67 |
| C7440-39-3 | Barium, soluble compounds Ba | 1.7 |
| 17804-35-2 | Benomyl | 33 |
| 98-07-7 | Benzotrithloride | — |
| 94-36-0 | Benzoyl Peroxide | 17 |
| 100-44-7 | Benzyl chloride | 17 |
| 92-52-4 | Biphenyl | 4.3 |
| 1304-82-1 | Bismuth telluride | 33 |
| 1304-82-1 | Bismuth telluride Se doped | 17 |
| C1303-96-4 | Borates, anhydrous | 3.3 |
| C1303-96-4 | Borates, decahydrate | 17 |
| C1303-96-4 | Borates, pentahydrate | 3.3 |
| 1303-86-2 | Boron oxide | 33 |
| 10294-33-4 | Boron tribromide | 33 |
| 76737-07-2 | Boron trifluoride | 9.3 |
| 314-40-9 | Bromacil | 33 |
| 7726-95-6 | Bromine | 2.2 |
| 7789-30-2 | Bromine pentafluoride | 2.4 |
| 106-97-8 | Butane | 6300.0 |
| 111-76-2 | 2-Butoxyethanol | 400 |
| 123-86-4 | n-Butyl acetate | 2400 |
| 105-46-4 | sec-Butyl acetate | 3200 |
| 540-88-5 | tert-Butyl acetate | 3200 |
| 141-32-2 | Butyl acrylate | 170 |
| 71-36-3 | n-Butyl alcohol | 500 |
| 78-92-2 | sec-Butyl alcohol | 1000 |
| 75-65-0 | tert-Butyl alcohol | 1000 |
| 1189-85-1 | tert-Butyl chromate, as CrO ₃ | 0.33 |
| 2426-08-6 | n-Butyl glycidyl ether (BGE) | 440 |
| 138-22-7 | n-Butyl lactate | 83 |
| 109-79-5 | n-Butyl mercaptan | 6.0 |
| 109-73-9 | n-Butylamine | 50.0 |

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CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO-GRAMS/M ³ TWENTY-FOUR-HOUR AVERAGE |
|------------|---|--|
| 89-72-5 | o-sec-Butylphenol | 100 |
| 98-51-1 | p-tert-Butyltoluene | 200 |
| 156-62-7 | Calcium cyanamide | 1.7 |
| 1305-62-0 | Calcium hydroxide | 17 |
| 1305-78-8 | Calcium oxide | 6.7 |
| 76-22-2 | Camphor, synthetic | 40 |
| 105-60-2 | Caprolactam, dust | 3.3 |
| 105-60-2 | Caprolactam, vapor | 67 |
| 2425-06-1 | Captafol | 0.33 |
| 133-06-2 | Captan | 17 |
| 63-25-2 | Carbaryl | 17 |
| 1563-66-2 | Carbofuran | 0.33 |
| 1333-86-4 | Carbon black | 12 |
| 75-15-0 | Carbon disulfide | 100 |
| 558-13-4 | Carbon tetrabromide | 4.7 |
| 353-50-4 | Carbonyl fluoride | 18 |
| 463-58-1 | Carbonyl sulfide | — |
| 120-80-9 | Catechol | 77 |
| 21351-79-1 | Cesium hydroxide | 6.7 |
| 133-90-4 | Chloramben | — |
| 55720-99-5 | Chlorinated diphenyl oxide (hexachlorophenyl ether) | 1.7 |
| 7782-50-5 | Chlorine | 5.0 |
| 10049-04-4 | Chlorine dioxide | 0.2 |
| 7790-91-2 | Chlorine trifluoride | 1.3 |
| 600-25-9 | 1-Chloro-1-nitropropane | 33 |
| 107-20-0 | Chloroacetaldehyde | 11 |
| 79-11-8 | Chloroacetic acid | — |
| 532-27-4 | a-Chloroacetophenone | 1.1 |
| 79-04-9 | Chloroacetyl chloride | 0.67 |
| 2698-41-1 | o-Chlorobenzylidene malonitrile | 1.3 |
| 108-90-7 | Chlorobenzene | 150 |
| 74-97-5 | Chlorobromomethane | 3500 |
| 75-45-6 | Chlorodifluoromethane | 12000 |
| 76-15-3 | Chloropentafluoroethane | 21000 |
| 76-06-2 | Chloropicrin | 2.2 |
| 2039-87-4 | o-Chlorostyrene | 940 |
| 95-49-8 | o-Chlorotoluene | 860 |
| 2921-88-2 | Chlorpyrifos | 0.67 |
| C7440-47-3 | Chromium (II) compounds, as Cr | 1.7 |
| C7440-47-3 | Chromium (III) compounds, Cr | 1.7 |
| 7440-47-3 | Chromium (metal) | 1.7 |
| 14977-61-8 | Chromyl chloride | 0.53 |
| 2971-90-6 | Clopidol | 33 |
| 7440-48-4 | Cobalt as Co metal Dust and fume | 0.17 |
| 10210-68-1 | Cobalt carbonyl as Co | 0.33 |
| 16842-03-8 | Cobalt hydrocarbonyl | 0.33 |
| C7440-50-8 | Copper, Dusts and mists, as Cu | 3.3 |
| 7440-50-8 | Copper, Fume | 0.67 |
| — | Cotton dust, raw | 0.67 |
| 1319-77-3 | Cresol, all isomers | 73 |
| 4170-30-3 | Crotonaldehyde | 20 |
| 299-86-5 | Crufomate | 17 |
| 98-82-2 | Cumene | 820 |
| 420-04-2 | Cyanamide | 6.7 |
| 51-12-5 | Cyanides, as CN | 17 |
| 460-19-5 | Cyanogen | 67 |
| 506-77-4 | Cyanogen chloride | 2.5 |
| 110-82-7 | Cyclohexane | 3400 |
| 108-93-0 | Cyclohexanol | 690 |
| 108-94-1 | Cyclohexanone | 330 |
| 110-83-8 | Cyclohexene | 3400 |
| 108-91-8 | Cyclohexylamine | 140 |
| 121-82-4 | Cyclonite | 5.0 |
| 542-92-7 | Cyclopentadiene | 680 |

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New Sources of Toxic Air Pollutants

CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE
SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO- GRAMS/M ³ TWENTY-FOUR- HOUR AVERAGE |
|------------|---|--|
| 287-92-3 | Cyclopentane | 5700 |
| 13121-70-5 | Cyhexatin | 17 |
| 17702-41-9 | Decaborane | 0.83 |
| 8065-48-3 | Demeton | 0.37 |
| 123-42-2 | Diacetone alcohol | 790 |
| 333-41-5 | Diazinon | 0.33 |
| 334-88-3 | Diazomethane | 1.1 |
| 19287-45-7 | Diborane | 0.37 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.20 |
| 107-66-4 | Dibutyl phosphate | 29 |
| 84-74-2 | Dibutyl phthalate | 17 |
| 102-81-8 | 2-N-Dibutylaminoethanol | 47 |
| 594-72-9 | 1,1-Dichloro-1-nitroethane | 40 |
| 118-52-5 | 1,3-Dichloro-5,5-Dimethyl hydantoin | 0.67 |
| 7572-29-4 | Dichloroacetylene | 1.3 |
| 95-50-1 | o-Dichlorobenzene (1,2-Dichlorobenzene) | 1000 |
| 75-71-8 | Dichlorodifluoromethane | 16000 |
| 75-34-3 | 1,1-Dichloroethane | 2700 |
| 540-59-0 | 1,2-Dichloroethylene | 2600 |
| 75-43-4 | Dichlorofluoromethane | 130 |
| 542-75-6 | Dichloropropene | 20 |
| 75-99-0 | 2,2-Dichloropropionic acid | 19 |
| 76-14-2 | Dichlorotetrafluoroethane | 23000 |
| 62-73-7 | Dichlorvas | 3.3 |
| 141-66-2 | Dicrotophos | 0.83 |
| 77-73-6 | Dicyclopentadiene | 100 |
| 102-54-5 | Dicyclopentadienyl iron | 33 |
| 111-42-2 | Diethanolamine | 43 |
| 96-22-0 | Diethyl ketone | 2300 |
| 84-66-2 | Diethyl phthalate | 17 |
| 64-67-5 | Diethyl sulfate | — |
| 109-89-7 | Diethylamine | 100 |
| 100-37-8 | Diethylaminoethanol | 170 |
| 111-40-0 | Diethylene triamine | 14 |
| 75-61-6 | Difluorodibromomethane | 2900 |
| 2238-07-5 | Diglycidyl ether | 1.7 |
| 108-83-8 | Diisobutyl ketone | 480 |
| 108-18-9 | Diisopropylamine | 67 |
| 127-19-5 | Dimethyl acetamide | 120 |
| 60-11-7 | Dimethyl aminoazobenzene | — |
| 79-44-7 | Dimethyl carbamoyl chloride | — |
| 124-40-3 | Dimethylamine | 60 |
| 121-69-7 | Dimethylamine | 83 |
| 68-12-2 | Dimethylformamide | 30 |
| 57-14-7 | 1,1-Dimethylhydrazine | 4.0 |
| 131-11-3 | Dimethylphthalate | 17 |
| 148-01-6 | Dinitolmide | 17 |
| 534-52-1 | Dinitro-o-cresol | 0.67 |
| 528-29-0 | Dinitrobenzene, all isomers | 3.3 |
| 51-28-5 | 2,4-Dinitrophenol | — |
| 121-14-2 | 2,4-Dinitrotoluene | 5.0 |
| 78-34-2 | Dioxathion | 0.67 |
| 122-39-4 | Diphenylamine | 33 |
| 123-19-3 | Dipropyl ketone | 780 |
| 34590-94-8 | Dipropylene glycol methyl ether | 2000 |
| 85-00-7 | Diquat | 1.7 |
| 97-77-8 | Disulfiram | 6.7 |
| 298-04-4 | Disulfuton | 0.33 |
| 128-37-0 | 2,6-Ditert. butyl-p-cresol | 33 |
| 330-54-1 | Diuron | 33 |
| 1321-74-0 | Divinyl benzene | 180 |
| 2104-64-5 | EPN | 1.7 |
| 115-29-7 | Endosulfan | 0.33 |
| 72-20-8 | Endrin | 0.33 |
| 13838-16-9 | Enflurane | 1900 |

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CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO-GRAMS/M ³ TWENTY-FOUR-HOUR AVERAGE |
|------------|----------------------------|--|
| 106-88-7 | 1,2-Epoxybutane | 20 |
| 141-43-5 | Ethanolamine | 25 |
| 563-12-2 | Ethion | 1.3 |
| 110-80-5 | 2-Ethoxyethanol | 200 |
| 111-15-9 | 2-Ethoxyethyl acetate | 90 |
| 141-78-6 | Ethyl acetate | 4800 |
| 140-88-5 | Ethyl acrylate | 66 |
| 64-17-5 | Ethyl alcohol | 6300 |
| 541-85-5 | Ethyl amyl ketone | 440 |
| 100-41-4 | Ethyl benzene | 1000 |
| 74-96-4 | Ethyl bromide | 3000 |
| 106-35-4 | Ethyl butyl ketone | 780 |
| 51-79-5 | Ethyl carbamate | — |
| 75-00-3 | Ethyl chloride | 10000 |
| 60-29-7 | Ethyl ether | 4000 |
| 109-94-4 | Ethyl formate | 1000 |
| 75-08-1 | Ethyl mercaptan | 4.3 |
| 78-10-4 | Ethyl silicate | 280 |
| 75-04-7 | Ethylamine | 60 |
| 107-07-3 | Ethylene chlorohydrin | 11 |
| 107-15-3 | Ethylene diamine | 83 |
| 107-21-1 | Ethylene glycol | 420 |
| 628-96-6 | Ethylene glycol dinitrate | 1.0 |
| 151-56-4 | Ethylenimine | 2.9 |
| 16219-75-3 | Ethylidene norbornene | 83 |
| 100-74-3 | N-Ethylmorpholine | 77 |
| 22224-92-6 | Fenamiphos | 0.33 |
| 115-90-2 | Fensulfothion | 0.33 |
| 55-38-9 | Fenthion | 0.67 |
| 14484-64-1 | Ferbam | 33 |
| 12604-58-9 | Ferrovandium dust | 3.3 |
| — | Fibrous glass dust | 33 |
| — | Fine mineral fibers | 33 |
| 16984-48-8 | Fluorides, as F | 8.3 |
| 7782-41-4 | Fluorine | 5.3 |
| 944-22-9 | Fonofos | 0.33 |
| 75-12-7 | Formamide | 60 |
| 64-18-6 | Formic acid | 31 |
| 98-01-1 | Furfural | 26 |
| 98-00-1 | Furfuryl alcohol | 130 |
| 7782-65-2 | Germanium tetrahydride | 2.1 |
| 111-30-8 | Glutaraldehyde | 2.5 |
| 556-52-5 | Glycidol | 250 |
| — | Glycol ethers | — |
| 7440-58-6 | Hafnium | 1.7 |
| 151-67-7 | Halothane | 1300 |
| 142-82-5 | Heptane (n-Heptane) | 5500 |
| 87-68-3 | Hexachlorobutadiene | 0.70 |
| 77-47-4 | Hexachlorocyclopentadiene | 0.33 |
| 67-72-1 | Hexachloroethane | 32 |
| 1335-87-1 | Hexachloronaphthalene | 0.67 |
| 684-16-2 | Hexafluoroacetone | 2.3 |
| 822-06-0 | Hexamethylene diisocyanate | 0.11 |
| 100-54-3 | Hexane (n-Hexane) | 200 |
| — | Hexane, other isomers | 5900 |
| 591-78-6 | 2-Hexanone (MBK) | 67 |
| 108-84-9 | sec-Hexyl acetate | 980 |
| 107-41-5 | Hexylene glycol | 400 |
| 10035-10-6 | Hydrogen bromide | 33 |
| 7647-01-0 | Hydrogen chloride | 7.0 |
| 74-90-8 | Hydrogen cyanide | 37 |
| 7664-39-3 | Hydrogen fluoride, as F | 8.7 |
| 7722-84-1 | Hydrogen peroxide | 4.7 |
| 7783-07-5 | Hydrogen selenide, as Se | 0.53 |
| 7783-06-4 | Hydrogen sulfide | 0.9 |

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New Sources of Toxic Air Pollutants

CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE
SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO- GRAMS/M ³ TWENTY-FOUR- HOUR AVERAGE |
|------------|--|--|
| 123-31-9 | Hydroquinone | 6.7 |
| 999-61-1 | 2-Hydroxypropyl acrylate | 9.3 |
| 95-13-6 | Indene | 160 |
| C7440-74-6 | Indium, & compounds as In | 0.33 |
| 7553-56-2 | Iodine | 3.3 |
| 75-47-8 | Iodoform | 33 |
| 1309-37-1 | Iron oxide fume, Fe ₂ O ₃ as Fe | 17 |
| 13463-40-6 | Iron pentacarbonyl, as Fe | 0.83 |
| — | Iron salts, soluble as Fe | 3.3 |
| 123-92-2 | Isoamyl acetate | 1700 |
| 123-51-3 | Isoamyl alcohol | 1200 |
| 110-19-0 | Isobutyl acetate | 2400 |
| 78-83-1 | Isobutyl alcohol | 510 |
| 26952-21-6 | Isocetyl alcohol | 890 |
| 78-59-1 | Isophorone | 93 |
| 4098-71-9 | Isophorone diisocyanate | 0.15 |
| 109-59-1 | Isopropoxyethanol | 350 |
| 108-21-4 | Isopropyl acetate | 3500 |
| 67-63-0 | Isopropyl alcohol | 3300 |
| 108-20-3 | Isopropyl ether | 3500 |
| 4016-14-2 | Isopropyl glycidyl ether (IGE) | 790 |
| 75-31-0 | Isopropylamine | 40 |
| 768-52-5 | N-Isopropylaniline | 37 |
| 463-51-4 | Ketene | 2.9 |
| 3687-31-8 | Lead arsenate, as Pb ₃ (As ₂ O ₄) ₂ | 0.50 |
| 7758-97-6 | Lead chromate, as Cr | 0.040 |
| 68476-85-7 | Liquified petroleum gas | 6000 |
| 7580-67-8 | Lithium hydride | 0.080 |
| 1309-48-4 | Magnesium oxide fume | 33 |
| 121-75-5 | Malathion | 33 |
| 108-31-6 | Maleic anhydride | 3.3 |
| C7439-96-5 | Manganese dust & compounds | 0.40 |
| C7439-96-5 | Manganese fume | 3.3 |
| 12079-65-1 | Manganese cyclopentadienyl tricarbonyl | 0.33 |
| C7439-97-6 | Mercury, Aryl & inorganic compd | 0.33 |
| C7439-97-6 | Mercury, as Hg Alkyl compounds | 0.33 |
| C7439-97-6 | Mercury, vapors except alkyl | 0.17 |
| 141-79-7 | Mesityl oxide | 200 |
| 79-41-4 | Methacrylic acid | 230 |
| 16752-77-5 | Methylal | 8.3 |
| 72-43-5 | Methoxychlor | 33 |
| 109-86-4 | 2-Methoxyethanol | 20 |
| 110-49-6 | 2-Methoxyethyl acetate | 80 |
| 150-76-5 | 4-Methoxyphenol | 17 |
| 137-05-3 | Methyl 2-cyanoacrylate | 30 |
| 79-20-9 | Methyl acetate | 2000 |
| 74-99-7 | Methyl acetylene | 5500 |
| 59355-75-8 | Methyl acetylene-propadiene mixture (MAPP) | 5500 |
| 96-33-3 | Methyl acrylate | 120 |
| 67-56-1 | Methyl alcohol | 870 |
| 100-61-8 | N-Methyl aniline | 7.3 |
| 74-83-9 | Methyl bromide | 5.0 |
| 74-87-3 | Methyl chloride | 340 |
| 71-55-6 | Methyl chloroform (1,1,1-Trichloroethane) | 6400 |
| 8022-00-2 | Methyl demeton | 1.7 |
| 78-93-3 | Methyl ethyl ketone (MEK) | 1000 |
| 1338-23-4 | Methyl ethyl ketone peroxide | 5.0 |
| 107-31-3 | Methyl formate | 820 |
| 60-34-4 | Methyl hydrazine | 1.2 |
| 74-88-4 | Methyl iodide | 40 |
| 110-12-3 | Methyl isoamyl ketone | 780 |
| 108-11-2 | Methyl isobutyl carbinol | 350 |
| 108-10-1 | Methyl isobutyl ketone (MIBK) | 680 |
| 624-83-9 | Methyl isocyanate | 0.16 |

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CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO-GRAMS/M ³ TWENTY-FOUR-HOUR AVERAGE |
|------------|--|--|
| 563-80-4 | Methyl isopropyl ketone | 2300 |
| 74-93-1 | Methyl mercaptan | 3.3 |
| 80-62-6 | Methyl methacrylate | 1400 |
| 110-43-0 | Methyl n-amyl ketone | 780 |
| 591-78-6 | Methyl n-butyl ketone | 67 |
| 298-00-0 | Methyl parathion | 0.67 |
| 107-87-9 | Methyl propyl ketone | 2300 |
| 681-84-5 | Methyl silicate | 20 |
| 1634-04-4 | Methyl tert-butyl ether | 500 |
| 98-83-9 | a-Methyl styrene | 810 |
| 126-98-7 | Methylacrylonitrile | 9.0 |
| 109-87-5 | Methylal | 10000 |
| 74-89-5 | Methylamine | 43 |
| 108-87-2 | Methylcyclohexane | 5400 |
| 25639-42-3 | Methylcyclohexanol | 780 |
| 583-60-8 | o-Methylcyclohexanone | 760 |
| 12108-13-3 | Methylcyclopentadienyl manganese tricarbonyl | 0.67 |
| 5124-30-1 | Methylene bis (4-cyclo-hexylisocyanate) | 0.18 |
| 101-68-8 | Methylene bis(phenyl isocyanate) | 0.2 |
| 21087-64-9 | Metribuzin | 17 |
| 7786-34-7 | Mevinphos | 0.33 |
| C7439-98-7 | Molybdenum, as Mo soluble cpds | 17 |
| C7439-98-7 | Molybdenum, insoluble cpds | 33 |
| 6923-22-4 | Monocrotophos | 0.83 |
| 110-91-8 | Morpholine | 240 |
| 300-76-5 | Naled | 10 |
| 91-20-3 | Napthalene | 170 |
| 54-11-5 | Nicotine | 1.7 |
| 1929-82-4 | Nitrapyrin | 33 |
| 7697-37-2 | Nitric acid | 17 |
| 10102-43-9 | Nitric oxide | 100 |
| 100-01-6 | p-Nitroaniline | 10 |
| 98-95-3 | Nitrobenzene | 1.7 |
| 100-00-5 | p-Nitrochlorobenzene | 2.0 |
| 79-24-3 | Nitroethane | 1000 |
| 7783-54-2 | Nitrogen trifluoride | 97 |
| 92-93-3 | 4-Nitrobiphenyl | — |
| 55-63-0 | Nitroglycerin | 1.5 |
| 75-52-5 | Nitromethane | 830 |
| 100-02-7 | 4-Nitrophenol | — |
| 108-03-2 | 1-Nitropropane | 20 |
| 684-93-5 | N-Nitroso-N-methylurea | — |
| 88-72-2 | Nitrotoluene | 37 |
| 111-84-2 | Nonane | 3500 |
| 2234-13-1 | Octachloronaphthalene | 0.33 |
| 111-65-9 | Octane | 4700 |
| 8012-95-1 | Oil mist, mineral | 17 |
| 20816-12-0 | Osmium tetroxide, as Os | 0.0053 |
| 144-62-7 | Oxalic acid | 3.3 |
| 7783-41-7 | Oxygen difluoride | 0.37 |
| 8002-74-2 | Parafin wax fume | 6.7 |
| 4685-14-7 | Paraquat | 4.5 |
| 56-38-2 | Parathion | 0.33 |
| 19624-22-7 | Pentaborane | 0.043 |
| 1321-64-8 | Pentachloronaphthalene | 1.7 |
| 82-68-8 | Pentachloronitrobenzene (quintobenzene) | 1.7 |
| 109-66-0 | Pentane | 6000 |
| 594-42-3 | Perchloromethyl mercaptan | 2.5 |
| 7616-94-6 | Perchloryl fluoride | 43 |
| 108-95-2 | Phenol | 63 |
| 92-84-2 | Phenothiazine | 1.7 |
| 101-84-8 | Phenyl ether | 23 |
| 122-60-1 | Phenyl glycidyl ether | 2000 |
| 108-98-5 | Phenyl mercaptan | 7.7 |

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CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE
SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO- GRAMS/M ³ TWENTY-FOUR- HOUR AVERAGE |
|------------|-----------------------------------|--|
| 106-50-3 | p-Phenylenediamine | 0.33 |
| 100-63-0 | Phenyldiazine | 1.5 |
| 638-21-1 | Phenylphosphine | 0.77 |
| 298-02-2 | Phorate | 0.17 |
| 75-44-5 | Phosgene | 1.3 |
| 7803-51-2 | Phosphine | 1.3 |
| 7664-38-2 | Phosphoric acid | 3.3 |
| 7723-14-0 | Phosphorus | 0.33 |
| 10025-87-3 | Phosphorus oxychloride | 2.1 |
| 10026-13-8 | Phosphorus pentachloride | 2.8 |
| 1314-80-3 | Phosphorus pentasulfide | 3.3 |
| 7719-12-2 | Phosphorus trichloride | 3.7 |
| 85-44-9 | Phthalic anhydride | 20 |
| 626-17-5 | m-Phthalodinitrile | 17 |
| 1918-02-1 | Picloram | 33 |
| 88-89-1 | Picric acid | 0.33 |
| 83-26-1 | Pindone | 0.033 |
| 142-64-3 | Piperazine dihydrochloride | 17 |
| 7440-06-4 | Platinum, Metal | 3.3 |
| C7440-06-4 | Platinum, Soluble salts as Pt | 0.0067 |
| 1310-58-3 | Potassium hydroxide | 6.7 |
| 107-19-7 | Propargyl alcohol | 7.7 |
| 57-57-8 | B-Propiolactone | 5.0 |
| 123-38-6 | Propionaldehyde | — |
| 114-26-1 | Propoxur | 1.7 |
| 79-09-4 | Propionic acid | 100 |
| 109-60-4 | n-Propyl acetate | 2800 |
| 71-23-8 | n-Propyl alcohol | 1600 |
| 627-13-4 | n-Propyl nitrate | 360 |
| 6423-43-4 | Propylene glycol dinitrate | 1.1 |
| 107-98-2 | Propylene glycol monomethyl ether | 2000 |
| 75-55-8 | Propylene imine | 16 |
| 8003-34-7 | Pyrethrum | 1.7 |
| 110-86-1 | Pyridine | 53 |
| 91-22-5 | Quinoline | — |
| 106-51-4 | Quinone | 1.5 |
| 108-46-3 | Resorcinol | 150 |
| 7440-16-6 | Rhodium Metal | 3.3 |
| C7440-16-6 | Rhodium, Insoluble compounds | 3.3 |
| C7440-16-6 | Rhodium, Soluble compounds | 0.033 |
| 299-84-3 | Ronnel | 33 |
| 83-79-4 | Rotenone | 17 |
| — | Rubber solvent (Naphtha) | 5300 |
| C7782-49-2 | Selenium compounds, as Se | 0.67 |
| 7783-79-1 | Selenium hexafluoride, as Se | 0.53 |
| 136-78-7 | Sesone | 33 |
| 7803-62-5 | Silicon tetrahydride | 22 |
| 7440-22-4 | Silver, Metal | 0.33 |
| C7440-22-4 | Silver, soluble compounds as Ag | 0.033 |
| 26628-22-8 | Sodium azide | 1.0 |
| 7631-90-5 | Sodium bisulfite | 17 |
| 62-74-8 | Sodium fluoroacetate | 0.17 |
| 1310-73-2 | Sodium hydroxide | 6.7 |
| 7681-57-4 | Sodium metabisulfite | 17 |
| 7803-52-3 | Stibine | 1.7 |
| 57-24-9 | Strychnine | 0.5 |
| 100-42-5 | Styrene | 1000 |
| 96-9-3 | Styrene oxide | — |
| 1395-21-7 | Subtilisins | 0.0002 |
| 3689-24-5 | Sulfotep | 0.67 |
| 2551-62-4 | Sulfur hexafluoride | 20000 |
| 10025-67-9 | Sulfur monochloride | 18 |
| 5714-22-7 | Sulfur pentafluoride | 0.33 |
| 7783-60-0 | Sulfur tetrafluoride | 1.5 |
| 7664-93-9 | Sulfuric acid | 3.3 |

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New Sources of Toxic Air Pollutants

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CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO-GRAMS/M ³ TWENTY-FOUR-HOUR AVERAGE |
|-------------|--|--|
| 2699-79-8 | Sulfuryl fluoride | 67 |
| 35400-43-2 | Sulprofos | 3.3 |
| 93-76-5 | 2,4,5-T | 33 |
| 107-49-3 | TEPP | 0.16 |
| C7440-25-7 | Tantalum, metal & oxide dusts | 17 |
| C13494-80-9 | Tellurium & compounds as Te | 0.33 |
| 7783-80-4 | Tellurium hexafluoride, as Te | 0.33 |
| 3383-96-8 | Temephos | 33 |
| 26140-60-3 | Terphenyls | 16 |
| 76-12-0 | 1,1,2,2-Tetrachloro-1,2-difluoroethane | 14000 |
| 76-11-9 | 1,1,1,2-Tetrachloro-2,2-difluoroethane | 14000 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 23 |
| 1335-88-2 | Tetrachloronaphthalene | 6.7 |
| 78-00-2 | Tetraethyl lead, as Pb | 0.33 |
| 109-99-9 | Tetrahydrofuran | 2000 |
| 75-74-1 | Tetramethyl lead, as Pb | 0.5 |
| 3333-52-6 | Tetramethyl succinonitrile | 9.3 |
| 509-14-8 | Tetranitromethane | 27 |
| 7722-88-5 | Tetrasodium pyrophosphate | 17 |
| 479-45-8 | Tetryl | 5.0 |
| C7440-28-0 | Thallium, soluble compounds, Tl | 0.33 |
| 96-69-5 | 4,4-Thiobis(6-tert, butyl-m-cresol) | 33 |
| 68-11-1 | Thioglycolic acid | 13 |
| 7719-09-7 | Thionyl chloride | 16 |
| 137-26-8 | Thiram | 3.3 |
| 7440-31-5 | Tin, Metal | 6.7 |
| C7440-31-5 | Tin, Organic compounds, as Sn | 0.33 |
| 7440-31-5 | Tin, oxide & inorganic except SnH ₄ | 6.7 |
| 7550-45-0 | Titanium tetrachloride | — |
| 108-88-3 | Toluene | 400 |
| 108-44-1 | m-Toluidine | 29 |
| 106-49-0 | p-Toluidine | 29 |
| 126-73-8 | Tributyl phosphate | 7.3 |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 27000 |
| 76-03-9 | Trichloroacetic acid | 22 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 120 |
| 79-00-5 | 1,1,2-Trichloroethane | 180 |
| 75-69-4 | Trichlorofluoromethane | 19000 |
| 1321-65-9 | Trichloronaphthalene | 17 |
| 95-95-4 | 2,4,5-Trichlorophenol | — |
| 96-18-4 | 1,2,3-Trichloropropane | 200 |
| 121-44-8 | Triethylamine | 7.0 |
| 75-63-8 | Trifluorobromomethane | 20000 |
| 1582-09-8 | Trifluralin | — |
| 552-30-7 | Trimellitic anhydride | 0.13 |
| 2551-13-7 | Trimethyl benzene | 420 |
| 540-84-1 | 2,2,4-Trimethylpentane | — |
| 121-45-9 | Trimethyl phosphite | 33 |
| 75-50-3 | Trimethylamine | 80 |
| 118-96-7 | 2,4,6-Trinitrotoluene | 1.7 |
| 78-30-8 | Triorthocresyl phosphate | 0.33 |
| 603-34-9 | Triphenyl amine | 17 |
| 115-86-6 | Triphenyl phosphate | 10 |
| C7440-33-7 | Tungsten, Insoluble compounds | 17 |
| C7440-33-7 | Tungsten, Soluble compounds | 3.3 |
| 8006-64-2 | Turpentine | 1900 |
| C7440-61-1 | Uranium, insoluble & soluble | 0.67 |
| 8032-32-4 | VM & P Naphtha | 4600 |
| 110-62-3 | n-Valeraldehyde | 590 |
| 1314-62-1 | Vanadium, as V ₂ O ₅ | 0.17 |
| 108-05-4 | Vinyl acetate | 200 |
| 593-60-2 | Vinyl bromide | 73 |
| 106-87-6 | Vinyl cyclohexene dioxide | 200 |
| 75-35-4 | Vinylidene chloride | 67 |
| 25013-15-4 | Vinyl toluene | 800 |

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New Sources of Toxic Air Pollutants

CLASS B TOXIC AIR POLLUTANTS AND ACCEPTABLE
SOURCE IMPACT LEVELS

| CAS# | SUBSTANCE | ASIL MICRO- GRAMS/M ³ TWENTY-FOUR- HOUR AVERAGE |
|------------|------------------------------|--|
| 81-81-2 | Warfarin | 0.33 |
| — | Welding fumes | 17 |
| 1477-55-0 | m-Xylene a,a'-diamine | 0.33 |
| 1330-20-7 | Xylenes (m-,o-,p-isomers) | 1500 |
| 1300-73-8 | Xylidine | 8.3 |
| C7440-65-5 | Yttrium, metal and cpds as Y | 3.3 |
| 7646-85-7 | Zinc chloride fume | 3.3 |
| 13530-65-9 | Zinc chromates | 0.033 |
| 1314-13-2 | Zinc oxide, fume | 17 |
| C7440-67-7 | Zirconium compounds, as Zr | 17 |

[Statutory Authority: Chapter 70.94 RCW, 94-03-072 (Order 93-19), § 173-460-160, filed 1/14/94, effective 2/14/94. Statutory Authority: RCW 70.94.331, 91-13-079 (Order 90-62), § 173-460-160, filed 6/18/91, effective 9/18/91.]

ATTACHMENT 2

Equations to
40 CFR Part 63, Subpart OOO

Batch process vent performance testing procedures – Average batch vent flow rate determination. The average batch vent flow rate for a batch emission episode shall be calculated using the following equation:

$$AFR_{episode} = \frac{\sum_{i=1}^n FR_i}{n} \quad [Eq. 1]$$

Where:

$AFR_{episode}$ = Average batch vent flow rate for the batch emission episode, scmm.

FR_i = Volumetric flow rate for individual measurement i , taken every 15 minutes using the procedures in paragraph (a)(2) of this Attachment, scmm.

n = Number of flow rate measurements taken during the batch emission episode.

Average batch vent concentration determination using an integrated sample. If an integrated sample is taken over the entire batch emission episode to determine the average batch vent concentration of total organic HAP, organic HAP emissions shall be calculated using the following equation:

$$E_{episode} = K \left[\sum_{j=1}^n (C_j)(M_j) \right] AFR(T_b) \quad [Eq. 2]$$

Where:

$E_{episode}$ = Emissions, kg/episode.

K = Constant, $2.494 \times 10^{-6} (\text{ppmv})^{-1} (\text{gm-mole/scm}) (\text{kg/gm}) (\text{min/br.})$, where standard temperature is 20 °C.

C_j = Average batch vent concentration of sample organic HAP component j of the gas stream, dry basis, ppmv.

M_j = Molecular weight of sample organic HAP component j of the gas stream, gm/gm-mole.

AFR = Average batch vent flow rate of gas stream, dry basis, scmm.

T_b = Hours/episode.

n = Number of organic HAP in stream.

Average batch vent concentration determination using grab samples. If grab samples are taken to determine the average batch vent concentration of total organic HAP, organic HAP emissions shall be calculated as follows:

For each measurement point, the emission rate shall be calculated using the following equation:

$$E_{point} = K \left[\sum_{j=1}^n C_j M_j \right] FR \quad [Eq. 3]$$

Where:

E_{point} = Emission rate for individual measurement point, kg/br.

K = Constant, $2.494 \times 10^{-6} (\text{ppmv})^{-1} (\text{gm-mole/scm}) (\text{kg/gm}) (\text{min/br.})$, where standard temperature is 20 °C.

C_j = Concentration of sample organic HAP component j of the gas stream, dry basis, ppmv.

M_j = Molecular weight of sample organic HAP component j of the gas stream, gm/gm-mole.

FR = Flow rate of gas stream for the measurement point, dry basis, scmm.

n = Number of organic HAP in stream.

The organic HAP emissions per batch emission episode shall be calculated using the following equation:

$$E_{episode} = (DUR) \left[\sum_{i=1}^n \frac{E_i}{n} \right] \quad [Eq. 4]$$

Where:

$E_{episode}$ = Emissions, kg/episode.

DUR = Duration of the batch emission episode, br./episode.

E_i = Emissions for measurement point i , kg/br.

n = Number of measurements.

Control device efficiency determination for a batch emission episode. The control efficiency for the control device shall be calculated using the following equation:

$$R = \frac{\sum_{i=1}^n E_{inlet,i} - \sum_{i=1}^n E_{outlet,i}}{\sum_{i=1}^n E_{inlet,i}} (100) \quad [Eq. 5]$$

Where:

R = Control efficiency of control device, percent.

E_{inlet} = Mass rate of total organic HAP in kilograms per episode for batch emission episode i at the inlet to the control device as calculated using Equations 2, or 3 and 4 of this Attachment.

E_{outlet} = Mass rate of total organic HAP in kilograms per episode for batch emission episode i at the outlet of the control device, as calculated Equations 2, or 3 and 4 of this Attachment.

n = Number of batch emission episodes in the batch cycle selected to be controlled.

Percent oxygen correction for combustion control devices. If the control device is a combustion device, total organic HAP concentrations shall be corrected to 3 percent oxygen when supplemental combustion air is used to combust the emissions. The integrated sampling and analysis procedures of Method 3B, 40 CFR part 60, appendix A, shall be used to determine the actual oxygen concentration (%O₂). The samples shall be taken during the same time that the total organic HAP samples are taken. The concentration corrected to 3 percent oxygen (C_c) shall be computed using the following equation:

$$C_c = C_m \left(\frac{17.9}{20.9 - \%O_{2d}} \right) \quad [Eq. 6]$$

Where:

C_c = Concentration of total organic HAP corrected to 3 percent oxygen, dry basis, ppmv.

C_m = Total concentration of TOC in vented gas stream, average of samples, dry basis, ppmv.

%O_{2d} = Concentration of oxygen measured in vented gas stream, dry basis, percent by volume.

Emissions from purging of empty vessels. Organic HAP emissions from the purging of an empty vessel shall be calculated using the following equation (evaporation of any residual liquid in the vessel is not accounted for in this equation):

$$E_{episode} = \frac{(V_{res})(P)(MW_{wavg})}{RT} (1 - 0.37^m) \quad [Eq. 7]$$

Where:

$E_{episode}$ = emissions, kg/episode.

V_{res} = volume of vessel, m^3 .

P = total organic HAP partial pressure, kPa.

MW_{wavg} = weighted average molecular weight of organic HAP in vapor, determined in accordance with Equation 13 of this Attachment, kg/kmol.

R = ideal gas constant, $8.314 m^3 \cdot kPa / kmol \cdot K$.

T = temperature of vessel vapor space, K.

m = number of volumes of purge gas used.

Emissions from purging of filled vessels. Organic HAP emissions from the purging of a filled vessel shall be calculated using the following equation:

$$E_{episode} = \frac{(y)(V_{dr})(P^2)(MW_{wavg})}{RT \left(P - \sum_{i=1}^n P_i x_i \right)} (T_m) \quad [Eq. 8]$$

Where:

$E_{episode}$ = emissions, kg/episode.

y = saturated mole fraction of all organic HAP in vapor phase.

V_{dr} = volumetric gas displacement rate, m^3 / min .

P = pressure in vessel vapor space, kPa.

MW_{wavg} = weighted average molecular weight of organic HAP in vapor, determined in accordance with Equation 13 of this Attachment, kg/kmol.

R = ideal gas constant, $8.314 m^3 \cdot kPa / kmol \cdot K$.

T = temperature of vessel vapor space, K.

P_i = vapor pressure of individual organic HAP i , kPa.

x_i = mole fraction of organic HAP i in the liquid.

n = number of organic HAP in stream.

T_m = minutes/episode.

Emissions from vapor displacement. Organic HAP emissions from vapor displacement due to transfer of material into or out of a vessel shall be calculated using the following equation:

$$E_{episode} = \frac{(y)(V)(P)(MW_{wavg})}{RT} \quad [Eq. 9]$$

Where:

$E_{episode}$ = emissions, kg/episode.

y = saturated mole fraction of all organic HAP in vapor phase.

V = volume of gas displaced from the vessel, m^3 .

P = pressure in vessel vapor space, kPa .

MW_{wavg} = weighted average molecular weight of organic HAP in vapor, determined in accordance with Equation 13 of this Attachment, $kg/kmol$.

R = ideal gas constant, $8.314 m^3 \cdot kPa / kmol \cdot K$.

T = temperature of vessel vapor space, K .

Emissions from heating of vessels. Organic HAP emissions caused by the heating of a vessel shall be calculated using the equations in either Equations 4 through 7, Equation 8, or Equation 9 of this Attachment, as appropriate.

If the final temperature to which the vessel contents is heated is lower than 50 K below the boiling point of the HAP in the vessel, then organic HAP emissions shall be calculated using the Equations 4 through 7. Organic HAP emissions caused by heating of a vessel shall be calculated using Equation 4. The assumptions made for this calculation are atmospheric pressure of 760 millimeters of mercury (mm Hg) and the displaced gas is always saturated with volatile organic compounds (VOC) vapor in equilibrium with the liquid mixture:

$$E_{episode} = \left[\frac{\frac{\sum_{i=1}^n (P_i) T1}{101.325 - \sum_{i=1}^n (P_i) T1} + \frac{\sum_{i=1}^n (P_i) T2}{101.325 - \sum_{i=1}^n (P_i) T2}}{2} \right] * (\Delta\eta) \left[\frac{(MW_{wavg,T1} + MW_{wavg,T2})}{2} \right] \quad [Eq. 10]$$

Where:

$E_{episode}$ = Emissions, $kg/episode$.

$(P_i)_{T1}$, $(P_i)_{T2}$ = Partial pressure (kPa) of each organic HAP i in the vessel headspace at initial ($T1$) and final ($T2$) temperature.

n = Number of organic HAP in stream.

$\Delta\eta$ = Number of kilogram-moles (kg -moles) of gas displaced, determined in accordance with Equation 11.

101.325 = Constant, kPa .

$(MW_{wavg, T1})$, $(MW_{wavg, T2})$ = Weighted average molecular weight of total organic HAP in the displaced gas stream, determined in accordance with Equation 13, $kg/kmol$.

The moles of gas displaced, Δ , is calculated using the following equation:

$$\Delta\eta = \frac{V_{fs}}{R} \left[\left(\frac{Pa_1}{T_1} \right) - \left(\frac{Pa_2}{T_2} \right) \right] \quad [Eq. 11]$$

Where:

$\Delta\eta$ = Number of kg-moles of gas displaced.

V_f = Volume of free space in the vessel, m^3 .

R = Ideal gas constant, $8.314 m^3 \cdot kPa / kmol \cdot K$.

Pa_1 = Initial non-condensable gas partial pressure in the vessel, kPa .

Pa_2 = Final non-condensable gas partial pressure in the vessel, kPa .

T_1 = Initial temperature of vessel, K .

T_2 = Final temperature of vessel, K .

The initial and final pressure of the non-condensable gas in the vessel shall be calculated using the following equation

$$Pa = 101.325 - \sum_{i=1}^n (P_i) T \quad [Eq. 12]$$

Where:

Pa = Initial or final partial pressure of non-condensable gas in the vessel headspace, kPa .

101.325 = Constant, kPa .

$(P_i)_T$ = Partial pressure of each organic HAP i in the vessel headspace, kPa , at the initial or final temperature (T_1 or T_2).

n = Number of organic HAP in stream.

The weighted average molecular weight of organic HAP in the displaced gas, MW_{wavg} , shall be calculated using the following equation

$$MW_{wavg} = \frac{\sum_{i=1}^n (\text{mass of } C)_i (\text{molecular weight of } C)_i}{\sum_{i=1}^n (\text{mass of } C)_i} \quad [Eq. 13]$$

Where:

C = Organic HAP component

n = Number of organic HAP components in stream.

If the vessel contents are heated to a temperature greater than 50 K below the boiling point, then organic HAP emissions from the heating of a vessel shall be calculated as the sum of the organic HAP emissions calculated as indicated below:

- For the interval from the initial temperature to the temperature 50 K below the boiling point, organic HAP emissions shall be calculated using Equation 10, where T_2 is the temperature 50 K below the boiling point.
- For the interval from the temperature 50 K below the boiling point to the final temperature, organic HAP emissions shall be calculated as the summation of emissions for each 5 K increment, where the emissions for each increment shall be calculated using Equation 10 of this Attachment.

If the final temperature of the heatup is at or lower than 5 K below the boiling point, the final temperature for the last increment shall be the final temperature for the heatup, even if the last increment is less than 5 K.

If the final temperature of the heatup is higher than 5 K below the boiling point, the final temperature for the last increment shall be the temperature 5 K below the boiling point, even if the last increment is less than 5 K.

If the vessel contents are heated to the boiling point and the vessel is not operating with a condenser, the final temperature for the final increment shall be the temperature 5 K below the boiling point, even if the last increment is less than 5 K.

If the vessel is operating with a condenser, and the vessel contents are heated to the boiling point, the process condenser, as defined in 40 CFR Part 63, Subpart OOO, is considered part of the process. Organic HAP emissions shall be calculated as the sum of emissions calculated using Equation 10 of this Attachment, which calculates organic HAP emissions due to heating the vessel contents to the temperature of the gas exiting the condenser, and emissions calculated using Equation 9 of this Attachment, which calculates emissions due to the displacement of the remaining saturated non-condensable gas in the vessel. The final temperature in Equation 10 shall be set equal to the exit gas temperature of the condenser. Equation 9 of this Attachment shall be used as written below in Equation 14 of this Attachment, using free space volume, and T is set equal to the condenser exit gas temperature:

$$E_{episode} = \frac{(y)(V_{fs})(P)(MW_{avg})}{RT} \quad [Eq. 14]$$

Where:

$E_{episode}$ = Emissions, kg/episode.

y = Saturated mole fraction of all organic HAP in vapor phase.

V_{fs} = Volume of the free space in the vessel, m^3 .

P = Pressure in vessel vapor space, kPa.

MW_{avg} = Weighted average molecular weight of organic HAP in vapor, determined in accordance with Equation 13 of this Attachment, kg/kmol.

R = Ideal gas constant, $8.314 m^3 \cdot kPa / kmol \cdot K$.

T = Temperature of condenser exit stream, K.

Emissions determined by direct measurement. The permittee may estimate annual organic HAP emissions for a batch emission episode by direct measurement. The test methods and procedures specified below shall be used for direct measurement. If direct measurement is used, the permittee shall perform a test for the duration of a representative batch emission episode. Alternatively, the permittee may perform a test during only those periods of the batch emission episode for which the emission rate for the entire episode can be determined or for which the emissions are greater than the average emission rate of the batch emission episode. The permittee choosing either of these options shall develop an emission profile illustrating the emission rate (kilogram per unit time) over the entire batch emission episode, based on either process knowledge or test data, to demonstrate that test periods are representative. Examples of information that could constitute process

knowledge include calculations based on material balances and process stoichiometry. Previous test results may be used to develop the emission profile provided the results are still relevant to the current batch process vent conditions. The emission profile shall be included in the site-specific test plan.

Emissions determined by engineering assessment. To use engineering assessment to estimate organic HAP emissions from a batch emission episode, owners or operators shall use the methods below.

If the criteria specified below are met for a specific batch emission episode, the permittee may use engineering assessment to estimate organic HAP emissions from that batch emission episode.

- Previous test data, where the measurement of organic HAP emissions was an outcome of the test, that show a greater than 20 percent discrepancy between the test value and the value estimated using the applicable Equations 7 through 14 of this Attachment. Test data that will be acceptable:
 - 1) Test data for the batch emission episode obtained during production of the product for which the demonstration is being made.
 - 2) Test data obtained for a batch emission episode from another process train where the test data were obtained during production of the product for which the demonstration is being made. Test data from another process train may be used only if the permittee can demonstrate that the data are representative of the batch emission episode for which the demonstration is being made, taking into account the nature, size, operating conditions, production rate, and sequence of process steps (e.g., reaction, distillation, etc.) of the equipment in the other process train.
- Previous test data for the batch emission episode with the highest organic HAP emissions on a mass basis where the measurement of organic HAP emissions was an outcome of the test, where data were obtained during the production of the product for which the demonstration is being made, and where the data show a greater than 20 percent discrepancy between the test value and the value estimated using the applicable Equations 7 through 14 of this Attachment. If the criteria in this paragraph are met, then engineering assessment may be used for all batch emission episodes associated with that batch cycle for the batch unit operation.
- The permittee has requested and been granted approval to use engineering assessment to estimate organic HAP emissions from a batch emissions episode. The request to use engineering assessment to estimate organic HAP emissions from a batch emissions episode shall contain sufficient information and data to demonstrate to the Administrator that engineering assessment is an accurate means of estimating organic HAP emissions for that particular batch emissions episode. The request to use engineering assessment to estimate organic HAP emissions for a batch emissions episode shall be submitted in the Precompliance Report as required by 40 CFR Part 63, Subpart OOO.

Engineering assessment includes, but is not limited to, the following:

- Previous test results, provided the tests are representative of current operating practices.

- Bench-scale or pilot-scale test data obtained under conditions representative of current process operating conditions
- Flow rate or organic HAP emission rate specified or implied within a permit limit applicable to the batch process vent.
- Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:
 - 1) Use of material balances.
 - 2) Estimation of flow rate based on physical equipment design such as pump or blower capacities.
 - 3) Estimation of organic HAP concentrations based on saturation conditions.
 - 4) Estimation of organic HAP concentrations based on grab samples of the liquid or vapor.

Data or other information used to demonstrate that the criteria specified above have been met shall be reported as specified in paragraphs 40 CFR Part 63, Section 63.1414(d)(6)(iii)(A) and (B).

- Data or other information used to demonstrate that the criteria have been met shall be reported in the Notification of Compliance Status, as required by 40 CFR Part 63, Subpart OOO.
- The request for approval to use engineering assessment to estimate organic HAP emissions from a batch emissions episode as allowed under paragraph 40 CFR Part 63, Section 63.1414(d)(6)(i)(C), and sufficient data or other information for demonstrating to the Administrator that engineering assessment is an accurate means of estimating organic HAP emissions for that particular batch emissions episode shall be submitted with the Precompliance Report, as required by 40 CFR Part 63, Subpart OOO.

Emissions for a single batch cycle. For each batch process vent, the organic HAP emissions associated with a single batch cycle shall be calculated using the following equation:

$$E_{cycle} = \sum_{i=1}^n E_{episode_i} \quad [Eq. 15]$$

Where:

E_{cycle} = Emissions for an individual batch cycle, kg/ batch cycle.

$E_{episode_i}$ = Emissions from batch emission episode i , kg/ episode.

n = Number of batch emission episodes for the batch cycle.

Annual emissions from a batch process vent. Annual organic HAP emissions from a batch process vent shall be calculated using the following equation:

$$AE = \sum_{i=1}^n (N_i) (E_{cycle_i}) \quad [Eq. 16]$$

Where:

AE = Annual emissions from a batch process vent, kg/yr.

N_i = Number of type *i* batch cycles performed annually, cycles/year.

E_{cycle_i} = Emissions from the batch process vent associated with a single type *i* batch cycle, as determined in Equation 15 of this Attachment, kg/batch cycle.

n = Number of different types of batch cycles that cause the emission of organic HAP from the batch process vent.

Partial pressures in multicomponent systems. Individual HAP partial pressures in multicomponent systems shall be determined using the following appropriate methods:

- If the components are miscible, use Raoult's law to calculate the partial pressures.
- If the solution is a dilute aqueous mixture, use Henry's law constants to calculate partial pressures.
- If Raoult's law or Henry's law is not appropriate or available, the permittee may use any of the options in the following:
 1. Experimentally obtained activity coefficients, Henry's law constants, or solubility data.
 2. Models, such as group-contribution models, to predict activity coefficients.
 3. Assume the components of the system behave independently and use the summation of all vapor pressures from the HAPs as the total HAP partial pressure.

For continuous process vent emissions determined by engineering assessment, the engineering assessment includes, but is not limited to, the examples provided in 40 CFR Part 63, Section 63.1412(k)(3).

ATTACHMENT 3

Valve Subgrouping and Equations for Monitoring Frequency

The initial assignment or subsequent reassignment of valves to subgroups shall be determined by the following procedures.

- The permittee shall determine which valves are assigned to each subgroup. Valves with less than one year of monitoring data or valves not monitored within the last twelve months must be placed initially into the most frequently monitored subgroup until at least one year of monitoring data have been obtained.
- Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with that less frequently monitored subgroup's associated percent leaking valves calculation for that monitoring event.
- Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

If the overall performance of total valves in the resin plant (EU-2) is two (2) percent leaking valves or greater, the permittee shall no longer subgroup. The permittee can again elect to comply with the valve subgrouping procedures if future overall performance of total valves in the resin plant (EU-2) is again less than two (2) percent. The overall performance of total valves in the resin plant (EU-2) shall be calculated as a weighted average of the percent leaking valves of each subgroup according to the following equation:

$$\%V_{LO} = \frac{\sum_{i=1}^n (\%V_{Li} \times V_i)}{\sum_{i=1}^n V_i} \quad [\text{Eq. 1}]$$

Where:

$\%V_{LO}$ = Overall performance of total valves in the applicable process unit or group of process units

$\%V_{Li}$ = Percent leaking valves in subgroup i , most recent value calculated according to Equation 2 of this Attachment.

V_i = Number of valves in subgroup i .

n = Number of subgroups.

Calculation for valve monitoring frequency. When determining monitoring frequency for each valve subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each process unit or valve subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

Percent leaking valves calculation — Calculation basis and procedures. The percent leaking valves for each monitoring period for each process unit or valve subgroup, shall be calculated using the following equation:

$$\%V_L = (V_L/V_T) \times 100 \quad [\text{Eq. 2}]$$

Where:

$\%V_L$ = Percent leaking valves.

V_L = Number of valves found leaking as determined per this permit, excluding nonrepairable valves.

V_T = The sum of the total number of valves monitored.

Nonrepairable valves. Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking valves calculation in a previous period) up to a maximum of 1 percent of the total number of valves in regulated material service at a process unit or affected facility may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

If the number of nonrepairable valves exceeds 1 percent of the total number of valves in regulated material service at a process unit or affected facility, the number of nonrepairable valves exceeding 1 percent of the total number of valves in regulated material service shall be included in the calculation of percent leaking valves.

Percent leaking pump calculation — Calculation basis and procedures. The number of pumps at the resin plant (EU-2) or affected facility shall be the sum of all the pumps in regulated material service, except that pumps found leaking in a continuous process unit or affected facility within 1 month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

Percent leaking pumps shall be determined by the following equation:

$$\%P_L = ((P_L - P_S)/(P_T - P_S)) \times 100 \quad [\text{Eq. 3}]$$

Where:

$\%P_L$ = Percent leaking pumps

P_L = Number of pumps found leaking as determined through monthly monitoring as required in this permit. Do not include results from inspection of unsafe-to-monitor pumps.

P_S = Number of pumps leaking within 1 month of start-up during the current monitoring period.

P_T = Total pumps in regulated material service.

Percent leaking connectors calculation. For use in determining the monitoring frequency, as specified in this permit, the percent leaking connectors shall be calculated by using the following equation:

$$\%C_L = C_f/C_i \times 100 \quad [\text{Eq. 4}]$$

Where:

$\%C_L$ = Percent leaking connectors as determined through periodic monitoring.

C_L = Number of connectors measured at 500 parts per million or greater, by the method specified in Condition M28.

C_i = Total number of monitored connectors in the resin plant or facility.

Gas pressure test procedure for pressure or vacuum loss. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\Delta(P/t) = (|P_f - P_i|)/(t_f - t_i) \quad [\text{Eq. 5}]$$

Where:

$\Delta(P/t)$ = Change in pressure, pounds per square inch gauge per hour.

P_f = Final pressure, pounds per square inch gauge.

P_i = Initial pressure, pounds per square inch gauge.

$t_f - t_i$ = Elapsed time, hours.

ATTACHMENT 4

Categorically Exempt, Insignificant Emissions Units Located at Paneltech

WAC 173-401-532(3) - Lubricating oil storage tanks.

WAC 173-401-532(4) - Storage tanks, reservoirs and pumping and handling equipment any size, limited to soaps, lubricants, hydraulic fluid, vegetable oil, grease, animal fat, aqueous salt solutions or other materials and processes using appropriate lids and covers where there is no generation of objectionable odor or airborne particulate matter.

WAC 173-401-532(5) - Pressurized storage of oxygen, nitrogen, carbon dioxide, air, or inert gases.

WAC 173-401-532(7) - Vehicle exhaust from auto maintenance and repair shops.

WAC 173-401-532(8) - Vents from continuous emissions monitors and other analyzers.

WAC 173-401-532(9) - Vents from rooms, buildings and enclosures that contain permitted emissions units or activities from which local ventilation, controls and separate exhaust are provided.

WAC 173-401-532(10) - Internal combustion engines for propelling or powering a vehicle.

WAC 173-401-532(11) - Recreational fireplaces including the use of barbecues, campfires and ceremonial fires.

WAC 173-401-532(12) - Brazing, soldering and welding equipment and oxygen-hydrogen cutting torches for use in cutting metal where in components of the metal do not generated HAPs or HAPs precursors.

WAC 173-401-532(14) - Metal finishing or cleaning using tumblers.

WAC 173-401-532(18) - Drop hammers or hydraulic presses for forging or metal working.

WAC 173-401-532(22) - Inspection equipment for metal products.

WAC 173-401-532(29) - Plastic pipe welding.

WAC 173-401-532(32) - Wax application

WAC 173-401-532(33) - Plant upkeep, including routine housekeeping, preparation for and painting of structures of equipment, retarring roofs, applying insulation to buildings in accordance with applicable environmental and health and safety requirements and paving or stripping parking lots.

WAC 173-401-532(35) - Cleaning and sweeping of streets and paved surfaces.

WAC 173-401-532(39) - Steam cleaning operations.

WAC 173-401-532(41) - Food preparation for human consumption including cafeterias, kitchen facilities and barbecues located at a source for providing food service on the premises.

WAC 173-401-532(42) - Portable drums and totes.

WAC 173-401-532(43) - Lawn and landscaping activities.

WAC 173-401-532(45) - General vehicle maintenance including vehicle exhaust.

WAC 173-401-532(46) - Comfort air conditioning or air cooling systems, not used to remove air contaminants from specific equipment.

WAC 173-401-532(47) - Natural draft hoods, natural draft stacks, or natural draft ventilators for sanitary and storm drains, safety valves, and storage tanks subject to size and service limitations expressed elsewhere in this section.

WAC 173-401-532(48) - Natural and forced air vents and stacks for bathroom/toilet facilities.

WAC 173-401-532(49) - Office activities.

WAC 173-401-532(50) - Personal care activities.

WAC 173-401-532(51) - Sampling connections used exclusively to withdraw materials for laboratory analysis and testing.

WAC 173-401-532(52) - Firefighting and similar safety equipment and equipment used to train fire fighters excluding fire drill pits.

WAC 173-401-532(53) - Materials and equipment used by, and activity related to operation of infirmary; infirmary is not the sources business activity.

WAC 173-401-532(54) - Fuel and exhaust emissions from vehicles in parking lots.

WAC 173-401-532(55) - Carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, polishing: ceramics, glass, metals, plastics. Indoor activity with particulate control exhaust vented into building.

WAC 173-401-532(60) - Batch loading and unloading of solid phase catalysts.

WAC 173-401-532(65) - Gas cabinets using only gasses that are not regulated air pollutants.

WAC 173-401-532(67) - Structural changes not having air contaminant emissions.

WAC 173-401-532(70) - Photographic process equipment by which an image is reproduced upon material sensitized to radiant energy, e.g., blueprint activity, photocopiers, mimeograph, telefax, photographic developing, and microfiche.

WAC 173-401-532(72) - Paper trimmers/binders.

WAC 173-401-532(73) - Sample gathering, preparation and management.

WAC 173-401-532(74) - Repair and maintenance activities, not involving installation of an emission unit and not increasing potential emissions of a regulated air pollutant.

WAC 173-401-532(75) - Handling equipment and associated activities for glass and aluminum which is destined for recycling, not the re-refining process itself.

WAC 173-401-532(76) - Hydraulic and hydrostatic testing equipment.

WAC 173-401-532(77) - Batteries and battery charging.

WAC 173-401-532(79) - Solid waste (as defined in the Washington Administrative Code) containers.

WAC 173-401-532(83) - Humidity chambers.

WAC 173-401-532(86) - Totally enclosed conveyors.

WAC 173-401-532(87) - Steam vents and safety relief valves.

WAC 173-401-532(88) - Air compressors, pneumatically operated equipment, systems and hand tools.

WAC 173-401-532(89) - Steam leaks.

WAC 173-401-532(90) - Recovery boiler blow-down tank.

WAC 173-401-532(94) - Process water and white water storage tanks.

WAC 173-401-532(95) - Demineralizer tanks.

WAC 173-401-532(96) - Clean condensate tanks.

WAC 173-401-532(108) - Vacuum systems exhausts.

WAC 173-401-532(112) - Chipping.

WAC 173-401-532(113) - Debarking.

WAC 173-401-532(114) - Sludge dewatering and handling.

WAC 173-401-532(116) - Pond dredging.

WAC 173-401-532(118) - Non-PCB oil filled circuit breakers, oil filled transformers and other equipment that is analogous to, but not considered to be, a tank.

WAC 173-401-532(119) - Electric or steam-heated drying ovens and autoclaves.

WAC 173-401-532(120) - Sewer manholes, junction boxes, sumps and lift stations associated with wastewater treatment systems.

WAC 173-401-532(121) - Water cooling towers processing exclusively non-contact cooling water.

**Insignificant Emissions Units Based on Size or Emissions
Located at Paneltech**

| Insignificant Emission Unit | Location | Justification for IEU Designation | Capacity | Comment |
|-----------------------------|---|-----------------------------------|-------------------------|--|
| Propane Tank | Warehouse G | WAC 173-401-533(2)(d) | 450 gallons | Propane used for space heaters |
| Welding | Used in maintenance areas throughout facility | WAC 173-401-533(2)(i) | Less than 1 ton per day | Welding operations use less than one ton per day of welding rod. |
| Space Heaters | Used throughout facility | WAC 173-401-533(2)(r) | <5 MMBtu/hr. | Space heaters less than 5 MMBtu/hr. using natural gas, kerosene, or propane. |
| Chemical Lab Operations | Warehouse G | WAC 173-401-533(3)(c) | Bench Scale | Deemed insignificant by ORCAA |

ATTACHMENT 5

Organic HAP Subject to Cooling Tower Monitoring Requirements

| Organic HAP | CAS Number | Organic HAP subject to cooling tower monitoring requirements in 40 CFR 63.1409 (Yes/No) | |
|----------------------------------|------------|---|---|
| | | Column A (Recirculating Heat Exchange System) | Column B (Once-Through Heat Exchange System) |
| Acrylamide | 79-06-1 | No | No |
| Aniline | 62-53-3 | Yes | No |
| Biphenyl | 92-52-4 | Yes | Yes |
| Cresol and cresylic acid (mixed) | 1319-77-3 | Yes | No |
| Cresol and cresylic acid (m-) | 108-39-4 | Yes | No |
| Cresol and cresylic acid (o-) | 95-48-7 | Yes | No |
| Cresol and cresylic acid (p-) | 106-44-5 | Yes | No |
| Diethanolamine | 111-42-2 | No | No |
| Dimethylformamide | 68-12-2 | No | No |
| Ethylbenzene | 100-41-4 | Yes | Yes |
| Formaldehyde | 50-00-0 | Yes | No |
| Methanol | 67-56-1 | Yes | Yes |
| Methyl ethyl ketone | 78-93-3 | Yes | Yes |
| Methyl isobutyl ketone | 108-10-1 | Yes | Yes |
| Naphthalene | 91-20-3 | Yes | Yes |
| Phenol | 108-95-2 | Yes | No |
| Styrene | 100-42-5 | Yes | Yes |
| Toluene | 108-88-3 | No | Yes |
| Xylenes (NOS) | 1330-20-7 | Yes | Yes |
| Xylene (m-) | 108-38-3 | Yes | Yes |
| Xylene (o-) | 95-47-6 | Yes | Yes |
| Xylene (p-) | 106-42-3 | Yes | Yes |