

**Inspector Checklist for  
The Printing, Coating and Dyeing of Fabrics and Other Textiles  
Maximum Achievable Control Technologies (MACT)**

**National Emission Standards for Hazardous Air Pollutants (NESHAP)  
For Printing, Coating, and Dyeing of Fabrics and Other Textiles  
40 CFR Parts 63.4280 – 63.4371 (Subpart OOOO) and General Provisions in 40 CFR Part 63**

**Summary:** The purpose of this rule is to reduce emissions of HAP from printing, coating, and dyeing of fabrics and other textiles major sources. The source category is for major sources only -- area sources are not included. This Subpart OOOO describes the actions that must be taken to reduce emissions of organic hazardous air pollutants (HAP) from printing, coating, and dyeing of fabrics and other textile operations. It also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

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## I. Pre Site Visit Review

### 1. What should I do before I visit the facility to be inspected?

- Review any available information on the facility. This can be found in agency files containing construction and/or operating permits, reports, enforcement actions or by contacting facility personnel.

Facility ID/Permit Number(s):	
Facility Name/Address:	
Facility Contact Name:	
Facility Number/E-mail/Fax:	
Facility Contact Address:	

- Review Inspection History

Inspector	Title/Agency	Phone Number	Date of Inspection

- Review any agency or facility specific safety procedures.

## II. Applicability and Affected Sources

### 2. Is facility subject to the NESHAP? 63.4281

- New, Reconstructed, or Existing Major Source facility for HAP emissions that own or operate any printing, coating, slashing, dyeing or finishing operation.
- Is the facility a Major Source?  Yes  No  N/A
  - Does the facility operate equipment which coats or prints fabrics or other textiles?  Yes  No  N/A
  - Does the facility operate any slashing operations?  Yes  No  N/A
  - Does the facility operate equipment that dye or finish fabrics or other textiles?  Yes  No  N/A
  - This facility is subject to this NESHAP (if yes to the above)  Yes  No  N/A

- Does the New, Reconstructed or Existing Major Source facility for HAP emissions own or operate any printing, coating, slashing, dyeing or finishing operation **excluded** from this rule:
- Any coating and printing, slashing, or dyeing and finishing operations that use only regulated materials that contain no organic HAP as defined in 63.6371?  Yes  No  N/A
  - Any coating, printing, slashing, dyeing or finishing operation at a research or laboratory operation that is part of janitorial, building and facility maintenance?  Yes  No  N/A
  - Any coating, printing, slashing, dyeing or finishing operation at ambient temperature that does not involve drying or curing equipment?  Yes  No  N/A
  - Any coating, printing, slashing, dyeing or finishing operations that are used by the facility and not for commerce, unless organic HAP emissions from the operations are as high as major source HAP emissions?  Yes  No  N/A
  - Any coating, printing, slashing, dyeing or finishing operations that are performed on-site at installations owned or operated by the Armed Forces of the United States?  Yes  No  N/A
  - Any web coating operations that is part of the affected source of Subpart JJJJ (NESHAP for Paper and Other Web Coatings)?  Yes  No  N/A
  - Any web coating operations that is part of the affected source of Subpart XXXX (NESHAP for Tire Manufacturing)?  Yes  No  N/A
  - Any coating, slashing, dyeing or finishing operations that are performed at a synthetic fiber manufacturing facility?  Yes  No  N/A

**3. What emission sources at the facility are affected by this subpart? 63.4282**

- Does the affected sources identified by the facility include the collection of all web coating and printing operations at the facility, which may include:
- Web coating lines and printing equipment used to apply cleaning materials to a substrate or equipment used to clean web/coating printing operation equipment?  Yes  No  N/A
  - All containers used for storage and all vessels used for mixing, coating, printing, thinning, or cleaning materials?  Yes  No  N/A
  - All equipment and containers used for conveying, coating, printing, thinning or cleaning materials?  Yes  No  N/A
  - All containers used for storage and all equipment and containers used for conveying waste materials?  Yes  No  N/A
  - All equipment, structures and/or devices used to convey, treat, or dispose of wastewater streams or residuals?  Yes  No  N/A

Does the affected sources identified by the facility include the collection of all slashing operations at the facility, which may include:

- Slashing equipment used to apply and dry size on warp yarn?  Yes  No  N/A
- All containers used for storage and all vessels used for mixing slashing materials?  Yes  No  N/A
- All equipment and containers used for conveying slashing materials?  Yes  No  N/A
- All containers used for storage and all equipment and containers used for conveying waste materials?  Yes  No  N/A
- All equipment, structures and/or devices used to convey, treat, or dispose of wastewater streams or residuals?  Yes  No  N/A

Does the affected sources identified by the facility include the collection of all dyeing and finishing operations at the facility, which may include:

- All dyeing and finishing equipment used to apply dyeing or finishing materials, to fix dyeing or finishing materials to a substrate, to rinse the textile substrate, or to dye or cure the dyeing or finishing materials?  Yes  No  N/A
- All containers used for storage and all vessels used for mixing dyeing or finishing materials?  Yes  No  N/A
- All equipment and containers used for conveying, dyeing or finishing materials?  Yes  No  N/A
- All containers used for storage and all equipment and containers used for conveying waste materials?  Yes  No  N/A
- All equipment, structures and/or devices used to convey, treat, or dispose of wastewater streams or residuals?  Yes  No  N/A

Is the facility identified as a new affected source, including the following:

- The construction of the source was commenced after July 11, 2002?  Yes  No  N/A
- The web coating and printing, slashing, or dyeing and finishing operation is performed *at a source* where no web coating and printing, slashing, or dyeing and finishing operation was previously performed?  Yes  No  N/A
- The web coating and printing, slashing, or dyeing and finishing operation is performed *in a subcategory* where no web coating and printing, slashing, or dyeing and finishing operation was previously performed?  Yes  No  N/A

Is the facility identified as a reconstructed affected source?  Yes  No  N/A



### III. Emission Standards, Operating Limits and Compliance Dates

#### 5. Does the facility meet applicable emissions standards for affected sources? 63.4290

- Does the facility limit HAP emissions according to **Table 1** for the affected sources present in the facility (Identify the option chosen and evaluate compliance to the limit)  Yes  No  NA

**Table 1 to Subpart OOOO** – Emission Limits for New or Reconstructed and Existing Affected Sources in the Printing, Coating, and Dyeing of Fabrics and Other Textiles

If your affected source is a...	And it conducts...	The organic HAP emission limit for each compliance period is...
New or reconstructed coating and printing affected source	Coating operations only, or Printing operations only, or both coating and printing operations	Any one of the following limits: <ul style="list-style-type: none"> <li>Reduce organic HAP emissions to the atmosphere by achieving at least a 98 percent organic HAP overall control efficiency;</li> <li>Limit organic HAP emissions to the atmosphere to no more than 0.08 kg of organic HAP per kg of solids applied;</li> <li>Or if you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 ppmv on a dry basis is achieved and the efficiency of the capture system is 100 percent</li> </ul>
Existing coating and printing affected source	Coating operations only, or Printing operations only, or both coating and printing operations	Any one of the following limits: <ul style="list-style-type: none"> <li>Reduce organic HAP emissions to the atmosphere by achieving at least a 97 percent organic HAP overall control efficiency;</li> <li>Limit organic HAP emissions to the atmosphere to no more than 0.12 kg of organic HAP per kg of solids applied; or</li> <li>If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 ppmv on a dry basis is achieved and the efficiency of the capture system is 100 percent.</li> </ul>
New, reconstructed, or existing dyeing and finishing affected source	Dyeing operations only	Limit organic HAP emissions to the atmosphere to no more than 0.016 kg of organic HAP per kg of dyeing materials applied.
	Finishing operations only	Limit organic HAP emissions to the atmosphere to no more than 0.0003 kg of organic HAP per kg of finishing materials applied.
	Both dyeing and finishing operations	Limit organic HAP emissions to the atmosphere to no more than 0.016 kg of organic HAP per kg of dyeing and finishing materials applied
New, reconstructed or existing slashing affected source	Slashing Operations Only	Limit organic HAP emissions to the atmosphere to no more than zero kg organic HAP per kg of slashing materials as determined according to § 63.4321(e)(1)(iv) of this subpart.

**Note:** The facility must include all regulated materials used in the affected source when determining whether the organic HAP emission rate is less than or equal to the applicable emission limit.

**6. Based on the option chosen to meet the emission limits, did the facility meet the criteria corresponding to the option? 63.4291**

Web Coating and Printing Operations

- If the facility has chosen the Compliant Materials Option, have all the following criteria been met:
- The organic HAP content, as purchased, of each coating and printing material applied is less than or equal to the applicable emission limit in Table 1, and  Yes  No  NA
  - Each thinning and cleaning material, as purchased, contains no organic HAP, and  Yes  No  NA
  - All compliance requirements of the Compliant Materials Option have been met?  Yes  No  NA
- If the facility has chosen the Emission Rate without Add-On Controls Option, have all the following criteria been met:
- Based on the regulated materials applied, the organic HAP emission rate is less than or equal to the applicable emission rate in Table 1, calculated as a rolling 12 month average emission rate, and  Yes  No  NA
  - All compliance requirements of the Emission Rate without Add-On Controls Option been met?  Yes  No  NA
- If the facility has chosen the Emission Rate with Add-On Controls Option, have all the following criteria been met:
- Based on the regulated materials applied, the organic HAP emission reductions achieved by emission capture systems and add-on controls, the organic HAP emission rate is less than or equal to the applicable emission limit in Table 1, calculated as a rolling 12 month average, and  Yes  No  NA
  - All capture and add-on control devices meet the operating limits required in 63.4292, except for solvent recovery systems for which you conduct liquid-liquid material balances, and  Yes  No  NA
  - Work practice standards of 63.4293, and  Yes  No  NA
  - All compliance requirements of Emission Rate with Add-On Controls Option and all Performance Test and Monitoring Requirements been met?  Yes  No  NA
- If the facility has chosen the Organic HAP Overall Control Efficiency Option, have all the following criteria been met:
- All capture and add-on control efficiencies achieved, the organic HAP overall control efficiency is greater than or equal to the applicable organic HAP overall control efficiency limit in Table 1, and  Yes  No  NA

- All capture systems and control devices meet the operating limits required in 63.4292, except for solvent recovery systems for which the facility conducted liquid-liquid material balance, and  Yes  No  NA
  - All compliance requirements of the Organic HAP Overall Control Efficiency Option and Performance Test and Monitoring Requirements been met?  Yes  No  NA
- If the facility has chosen the Oxidizer Outlet Organic HAP Concentration Limit Option, have all the following criteria been met:
- The oxidizer is operated such that the outlet organic HAP concentration is no greater than 20 ppmv on a dry basis, and  Yes  No  NA
  - Efficiency of the capture system is 100 percent, and  Yes  No  NA
  - All capture systems and oxidizers meet the operating limits required in 63.4292, and  Yes  No  NA
  - All work practice standards required in 63.4293 have been met, and  Yes  No  NA
  - All compliance requirements for the Oxidizer Outlet Organic HAP Concentration Limit and Performance Testing and Monitoring Requirements have been met?  Yes  No  NA

#### Slashing Operations

- The facility must use the Compliant Materials Option and demonstrate that the following criteria is met:
- The mass fraction of organic HAP in each slashing material as purchased is less than or equal to the applicable emission limit in Table 1, and  Yes  No  NA
  - All the compliance requirements for the Compliant Materials Option?  Yes  No  NA

#### Dyeing and Finishing Operations

- If the facility has chosen the Compliant Materials Option, have all the following criteria been met:
- The mass fraction of organic HAP, as purchased, of each dyeing and finishing material applied is less than or equal to the applicable emission limit in Table 1, and  Yes  No  NA
  - Each thinning and cleaning material, as purchased, contains no organic HAP, and  Yes  No  NA
  - All compliance requirements for the Compliant Materials Option have been met?  Yes  No  NA
- If the facility has chosen the Emission Rate without Add-On Controls Option, have all the following criteria been met:

- Based on the regulated materials applied, the organic HAP emission rate is less than or equal to the applicable emission rate in Table 1, calculated as a rolling 12 month average emission rate, and  Yes  No  NA
  - All compliance requirements the Emission Rate without Add-On Controls Option have been met?  Yes  No  NA
- If the facility has chosen the Emission Rate with Add-On Controls Option, have all the following criteria been met:
- Based on the regulated materials applied, the organic HAP emission reductions achieved by emission capture systems and add-on controls, the organic HAP emission rate is less than or equal to the applicable emission limit in Table 1, calculated as a rolling 12 month average, and  Yes  No  NA
  - All capture and add-on control devices meet the operating limits required in 63.4292, except for solvent recovery systems for which the facility conducted liquid-liquid material balances, and  Yes  No  NA
  - Work practices of 63.4293, and  Yes  No  NA
  - All compliance requirements of the Emission Rate with Add-On Controls Option and the Performance Testing and Monitoring Requirements?  Yes  No  NA
- If the facility has chosen the Equivalent Emission Rate Option, have all the following criteria been met:
- The fraction of organic HAP applied in the dyeing/finishing affected source that is discharged to the wastewater is at least 90 percent, and  Yes  No  NA
  - The wastewater is discharged to a POTW or to an onsite secondary wastewater treatment, and  Yes  No  NA
  - The total organic HAP emissions from the dyeing/finishing affected source is less than 10 tons per year, and  Yes  No  NA
  - The applicable requirements of initial compliance demonstration and maintain records in accordance with 63.4312(c)(2)(iv) have been met?  Yes  No  NA

Notes/Comments:

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**7. Does the facility meet the applicable operating limits for its affected sources? 63.4292**

**Note:** If the facility operates any web coating/printing, slashing or dyeing/finishing operation in which the compliant material option, emission rate without add-on controls option or equivalent emission rate limit option is chosen, there are no operating limits required.

**Table 2 to Subpart OOOO – Operating Limits if Using Add-On Control Devices and Capture System**

For the Following Device:	Meet the following Operating Limit:	Demonstrate Continuous compliance with Operating Limits By:
Thermal Oxidizer	The average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to 63.4363(a).	<ul style="list-style-type: none"> <li>Collecting the combustion temperature data according to 63.4364(c).</li> <li>Reducing the data to 3-hour block averages; and</li> <li>Maintaining the 3-hour average combustion temperature at or above the temperature limit</li> </ul>
Catalytic oxidizer	The average temperature at the inlet to the catalyst in any 3-hour period must not fall below the combustion temperature limit established according to 63.4363(b).	<ul style="list-style-type: none"> <li>Collecting the catalyst bed inlet temperature data according to 63.4364(c);</li> <li>Reducing the data to 3-hour block averages; and</li> <li>Maintaining the 3-hour average catalyst bed inlet temperature at or above the temperature limit.</li> </ul>
	The temperature rise across the catalyst bed must not fall below the limit established according to 63.4363(b)(2).	<ul style="list-style-type: none"> <li>Collecting the catalyst bed inlet and outlet temperature data according to 63.4363(c);</li> <li>Reducing the data to 3-hour block average temperature rise across the catalyst bed at or above the limit.</li> <li>Maintaining the 3-hour average catalyst bed temperature rise at or above the temperature limit.</li> </ul>
	Develop and implement an inspection maintenance plan according to §63.4363(b)(4).	<ul style="list-style-type: none"> <li>Maintaining an up-to-date inspection and maintenance plan</li> <li>Keep records of annual catalyst activity check</li> <li>Keep records of the monthly inspections of the oxidizer system</li> <li>Keep records of the annual internal inspections of the catalyst bed<sup>1</sup></li> </ul>
Emission Capture System	Submit monitoring plan to the Administrator that identifies operating parameters to be monitored according to 63.4364(e)	<ul style="list-style-type: none"> <li>Conduct monitoring according to the plan <b>[63.4364(e)(3)]</b>.</li> </ul>

**Note1:** If a problem is discovered during a monthly or annual inspection, you must take corrective action as soon as practicable consistent with the manufacturer's recommendations

- If the facility has a web coating/printing operation or dyeing/finishing operation in which the emission rate with add-on controls option is used has the facility met the operating limits specified in Table 2?  
 Yes  No  NA
- If the facility has a web coating/printing operation in which the organic HAP overall control efficiency option or the oxidizer outlet organic HAP concentration option is used (except for operations in which a solvent recovery system is used and a liquid-liquid material balance is conducted) has the facility met the operating limits specified in Table 2?  
 Yes  No  NA
- If the facility has a dyeing/finishing operation in which a solvent recovery system is used and a liquid-liquid material balance is conducted has the facility met the operating limits specified in Table 2?  
 Yes  No  NA
- Were the operating limits established during the performance test according to 63.4363?  
 Yes  No  NA

- Were these operating limits met at all times after they were established?  Yes  No  NA
- If the facility uses an add-on control device other than those listed in Table 2, or monitors an alternative parameter and complies with a different operating limit, has the facility applied to the Administrator for approval of alternative monitoring [63.8(f)]?  Yes  No  NA

**8. Does the facility meet the applicable work practice standards? 63.4293**

**Note: Facilities are not required to meet any work practice standards for any slashing operation, web coating/printing or dyeing/finishing operation in which the compliant materials option or the emission rate without add-on controls option is chosen or for dyeing/finishing operation in which the equivalent emission rate limit option is chosen.**

- For facilities that use the emission rate with add-on controls option, the organic HAP overall control efficiency option or the oxidizer outlet organic HAP concentration option for web coating/printing or the emission rate with add-on controls option for the dyeing/finishing operation, did the facility:
- Develop and implement a work practice plan to minimize organic HAP emissions; or  Yes  No  NA
  - Meet an alternative standard [as provided in General Provisions 63.6(g)] that specifies practices and procedures to ensure that, at a minimum, all of the following elements are implemented:
    - All organic HAP containing regulated materials and waste materials are stored in closed containers  Yes  No  NA
    - Spills of organic HAP containing regulated materials and waste materials are minimize  Yes  No  NA
    - Organic HAP containing regulated materials and waste materials are transported in closed containers or pipes  Yes  No  NA
    - Mixing vessels which contain organic HAP must be closed except when adding to, removing, or mixing the contents  Yes  No  NA
    - Emissions of organic HAP must be minimized during cleaning of web coating/printing or dyeing/finishing storage, mixing, and conveying equipment  Yes  No  NA

**IV. General Requirements for Compliance with Emissions Standards**

**9. Has the facility met applicable general compliance requirements of this subpart? 63.4300**

- Did the facility with any web coating/printing, slashing or dyeing/finishing operation that chooses the compliant materials option meet the applicable emission limit in Table 1?  Yes  No  NA
- Did the facility with any web coating/printing or dyeing/finishing operation that chose the emission rate without add-on controls option meet the applicable emission limit in Table 1?  Yes  No  NA
- Did the facility with any web coating/printing or dyeing/finishing operation that chose the emission rate with add-on controls option or any web coating/printing operation that chose the organic HAP overall

control efficiency or the oxidizer outlet organic HAP concentration option meet the following emission limitations:

- The web coating/printing or dyeing/finishing operation must be in compliance with the emission limit in Table 1 or comply with the startup, shutdown and malfunction plan at all times  
 Yes  No  NA
  - The controlled web coating/printing or dyeing/finishing operation must be in compliance with the operating limits for emission capture systems and add-on control devices except for solvent recovery systems  
 Yes  No  NA
  - The controlled web coating/printing or dyeing/finishing operation must be in compliance with the work practice standards in 63.4293 at all times.  
 Yes  No  NA
- Did the facility with any dyeing/finishing operation that chose the equivalent emission rate option operate within the operating scenarios in 63.4371?  Yes  No  NA
- Did the facility operate and maintain their affected source, including air pollution and monitoring equipment, according to the provisions in 63.6(e)(1)(i).  Yes  No  NA
- If the affected source uses an emission capture system and add-on control device, has a startup, shutdown and malfunction plan been developed and implemented?  Yes  No  NA

**10. Has the facility determined and complied with the General Provisions? 63.4301**

- Did the facility determine which parts of the General Provisions in 63.1 through 63.15 (See Table 3) apply?  Yes  No  NA

**V. Notifications, Reports and Records**

**11. Has the facility prepared and submitted the required notifications and reports? 63.4310**

Initial Notification

- If the facility has an existing source, was an initial notification submitted by the due date of May 29, 2004?  Yes  No  NA
- If the facility has a new or reconstructed source, was the initial notification submitted by the due date of 120 days after initial startup or 120 days after May 29, 2003, whichever is later?  Yes  No  NA

Compliance Status Notification

- Was the semi-annual compliance reports submitted no later than 30 calendar days after the end of the initial compliance period?  Yes  No  NA
- Did the Notification of Compliance Status contain the following:
- Company name and address  Yes  No  NA

- Statement by a responsible official with name, title and signature certifying the accuracy of the content of the report?  Yes  No  NA
- Date of report and beginning and ending dates of the reporting period?  Yes  No  NA
- Identification of which compliance option was chosen during the initial compliance period for each operation?  Yes  No  NA
- Statement that shows whether or not the affected source achieved the emission limitations?  Yes  No  NA
- Detail on all deviations from emission limits or a statement that no deviations occurred during the reporting period and that no CMS was inoperative, inactive, malfunctioning, out-of-control, repaired or adjusted?  Yes  No  NA
- If slashing operations or finishing operations are performed, did the facility include calculations and supporting data for the mass fraction of organic HAP and mass fraction of solids for one coating or printing?  Yes  No  NA
- If the facility chose the compliant materials option for web coating/printing operations, was an example calculation of organic HAP content provided for one coating and one printing material provided using Equation 1 of 63.4321?  Yes  No  NA
- If the facility chose the emission rate without add-on controls option for web coating/printing operations, was the calculation of total mass of organic HAP emissions, the calculation of the total mass of coating and printing solids applied and the calculation of the organic HAP emission rate using Equations 1, 2 and 3 of 63.4331 respectively provided?  Yes  No  NA
- If the facility chose the emission rate without add-on controls option for dyeing/finishing operations, was the calculation of total mass of organic HAP emissions, the calculation of the total mass of dyeing and finishing materials applied and the calculation of the organic HAP emission rate using Equations 4, 5 and 6 of 63.4331 respectively provided?  Yes  No  NA
- If the facility chose the emission rate with add-on controls option for web coating/printing operations, was the calculation of the organic HAP emission rate using Equation 4 of §63.4341 and the calculation of the total mass of organic HAP emissions before add-on controls using Equation 1 of 63.4331 provided?  Yes  No  NA
- If the facility chose the organic HAP overall control efficiency option, was the calculation of the total mass of organic HAP emissions before add-on controls using Equation 1 of 63.4331 and the calculation of the organic HAP overall control efficiency using Equation 1 of 63.4351 provided?  Yes  No  NA
- If the facility chose the organic HAP overall efficiency option for dyeing and finishing operations, were the calculation of the total mass of organic HAP emissions before add-on controls and the calculation of the organic HAP overall control efficiency, both using Equation 1 of 63.4351, provided?  Yes  No  NA
- If the facility chose the equivalent emission rate were the following things provided:
  - The calculation of the fraction organic HAP applied in affected processes that is discharged to wastewater?  Yes  No  NA

- The calculation of the total organic HAP emissions from dyeing/finishing operation using Equation 11 of 63.4331?  Yes  No  NA
  - The documentation that organic HAP containing wastewater is either discharged to a POTW or treated onsite with some form of secondary (biological) treatment?  Yes  No  NA
- If the facility chose the emission rate with add-on controls option, the organic HAP overall control efficiency option or the oxidizer outlet organic HAP concentration option that uses an emission capture system and add-on control device other than a solvent recovery system, were the following items provided:
- A summary of the data and copies of calculations supporting the determination that the emission capture system is a permanent total enclosure (PTE) or a measurement of the emission capture system efficiency (If using the oxidizer outlet organic HAP concentration option, the emission capture system must be a PTE)  Yes  No  NA
  - A description of the protocol followed for measuring capture efficiency  Yes  No  NA
  - Summaries of any capture efficiency tests conducted  Yes  No  NA
  - Calculations supporting the capture efficiency determination ( If using the data quality objective (DQO) or the lower confidence limit (LCL) approach, statistical calculations must be included to show that criteria in Appendix A to subpart KK is met)  Yes  No  NA
  - Summary of the results of each add-on control device performance test  Yes  No  NA
  - List of each emission capture system's and add-on control device's operating limits  Yes  No  NA
  - Statement of whether a work practice plan was developed and implemented  Yes  No  NA

**12. Has the facility submitted the required reports? 63.4311**

Semi-annual Reports

- Were the semi-annual compliance reports submitted in a timely manner (Due by July 31 and January 31 each year)?  Yes  No  NA
- Does each semi-annual report submitted cover the appropriate compliance period?  Yes  No  NA
- Were each semiannual compliance report postmarked and delivered by July 31 or January 31, whichever is the first date following the end of the semiannual reporting period?  Yes  No  NA
- If the facility submits semiannual reports does each report contain the following (*web coating/printing and dyeing/finishing operations only*):
- Company name and address  Yes  No  NA

- Statement by a responsible official with name, title and signature certifying the accuracy of the content of the report?  Yes  No  NA
  - Date of report and beginning and ending dates of the reporting period?  Yes  No  NA
  - Identification of the compliance option chosen for each web coating/printing and dyeing/finishing operation?  Yes  No  NA
  - If a switch in compliance option occurred, the dates beginning and ending dates for the new option?  Yes  No  NA
  - The calculation results for each compliance period for web coating/printing operations that chose the emission rate without add-on controls option, emission rate with add-on controls option or the organic HAP overall control efficiency or for dyeing/finishing operations that chose the emission rate without add-on controls option or emission rate with add-on controls option?  Yes  No  NA
- If the facility submits semiannual reports does each report contain the following (*slashing operations only*):
- Company name and address  Yes  No  NA
  - Statement by a responsible official with name, title and signature certifying the accuracy of the content of the report?  Yes  No  NA
  - Date of report and beginning and ending dates of the reporting period?  Yes  No  NA
- If there were no deviations, did the semiannual report contain a statement stating that there were no deviations or a statement stating that there were no periods during which the continuous parameter monitoring system (CPMS) were out of control?  Yes  No  NA
- If there was a deviation from the applicable organic HAP content requirements using the compliant material option, did the semiannual compliance report include the following:
- Identification of each material applied that deviated from the emission limit and dates and time periods each material was applied?  Yes  No  NA
  - Calculation of the organic HAP content using Equation 1 of 63.4321?  Yes  No  NA
  - Determination of mass fraction of organic HAP for each regulated material?  Yes  No  NA
  - Statement of the cause of each deviation?  Yes  No  NA
- If there was a deviation from the applicable organic HAP content requirements using the emission rate without add-on controls option, did the semiannual compliance report include the following:
- The beginning and ending dates of each compliance period in which the emission limit was not met?  Yes  No  NA

- Calculation of the organic HAP emission rate for the compliance period during which the deviation occurred?  Yes  No  NA
  - Calculation used to determine the mass of organic HAP in waste materials?  Yes  No  NA
  - Mass of organic HAP in wastewater streams calculation?  Yes  No  NA
  - Statement of the cause of each deviation?  Yes  No  NA
- If there was a deviation from the applicable organic HAP content requirements (including periods when emissions bypassed the add-on control device) using the emission rate with add-on controls option, did the semiannual compliance report include the following:
- The beginning and ending dates of each compliance period in which the emission limit was not met?  Yes  No  NA
  - Calculation of the organic HAP emission rate for the compliance period during which the deviation occurred?  Yes  No  NA
  - Calculation used to determine the mass of organic HAP overall control efficiency?  Yes  No  NA
  - Date and time each malfunction started and stopped?  Yes  No  NA
  - A brief description of the CPMS?  Yes  No  NA
  - The date of the latest CPMS certification or audit?  Yes  No  NA
  - The date, time, and duration that each CPMS was out-of-control?  Yes  No  NA
  - The date and time period of each deviation from an operating limit, date and time period of any bypass of the add-on control device, and whether each deviation occurred during a period of startup, shutdown, or malfunction of during another period?  Yes  No  NA
  - A summary of the total duration of each deviation and the duration as a percent of the total source operating time?  Yes  No  NA
  - A summary of the total duration of CPMS downtime?  Yes  No  NA
  - A description of any changes in the CPMS?  Yes  No  NA
  - For each deviation, a description of the deviation, date and time period of the deviation and the actions taken to correct the deviation?  Yes  No  NA
  - A statement of the cause of the deviation?  Yes  No  NA
- If there was a deviation from the operating scenarios used to demonstrate initial compliance using the equivalent emission rate option, did the semiannual compliance report include the following:
- The beginning and ending dates of each compliance period in which the emission limit was not met?  Yes  No  NA

- An explanation of the deviation, the duration of the deviation and the determination of the mass of organic HAP that was discharged to the wastewater, if the deviation was caused by failure to treat organic HAP wastewater?  Yes  No  NA
- A determination of the fraction of organic HAP applied in the dyeing/finishing affected source?  Yes  No  NA
- A calculation of the total organic HAP emissions from the dyeing/finishing affected source?  Yes  No  NA

#### Performance Tests and Test Reports

- If the facility is complying with one of the add on controls option, has the performance test report results submitted no later than 60 days after completing the tests?  Yes  No  NA

#### Startup, Shutdown and Malfunction Reports

- If the facility is complying with one of the add-on controls option and has a startup, shutdown or malfunction during the semiannual reporting period:
- If actions taken were consistent with the startup, shutdown, and malfunction plan was the information specified in §63.10(d) included in the report?  Yes  No  NA
  - If actions taken were inconsistent with the startup, shutdown, and malfunction plan was the following information included in the report:
    - A description of the actions taken during the event submitted within 2 working days after starting actions that were inconsistent?  Yes  No  NA
    - A letter to the administrator within 7 working days after the end of the event, unless alternative arrangements have been made?  Yes  No  NA

#### **13. Did the facility keep adequate records? 63.4312**

- Did the facility keep a copy of each notification and report that was submitted to comply with this subpart, including supporting documentation?  Yes  No  NA
- Did the facility keep a current copy of formulation data or test data provided by materials suppliers or manufacturer?  Yes  No  NA
- If the facility performed web coating/printing operations, was a copy of the following items recorded:
- A record of the operations on which each compliance option was used and time period the option was used?
  - For the compliant materials option, a record of the calculation of the organic HAP content, as purchased, for each material applied?  Yes  No  NA
  - For the emission rate without add-on controls option:

- A record of the calculation of the total mass of organic HAP emissions for the materials applied?  Yes  No  NA
- A record of the calculation used to determine the mass of organic HAP in waste materials?  Yes  No  NA
- A record of the calculation of the organic HAP emission rate for each compliance period?  Yes  No  NA
- For the emission rate with add-on controls option:
  - A record of the calculation of the total mass of organic HAP in waste materials?  Yes  No  NA
  - A record of the calculation used to determine the mass of the solids contained in all coating and printing materials applied?  Yes  No  NA
  - A record of the calculation of mass of organic HAP emission reduction by emission capture systems and add-on control devices?  Yes  No  NA
  - A record of the calculation of the organic HAP emission rate for each compliance period?  Yes  No  NA
- For the organic HAP overall control efficiency option or the oxidizer outlet organic HAP concentration option:
  - A record of whether a deviation occurred during a period of startup, shutdown, or malfunction?  Yes  No  N/A
  - Records in 63.6(e)(iii) through (v) related to startup, shutdown, or malfunction?  Yes  No  N/A
  - Records required showing continuous compliance with the operating limits in Table 2?  Yes  No  N/A
- For each capture system that is not a PTE, data and documentation used to support a determination that the capture system meets criteria in Method 204 of Appendix M (and capture efficiency of 100%??)  Yes  No  N/A
- For each capture system that is a PTE,
  - Data and documentation used to determine capture efficiency?  Yes  No  N/A
  - Capture efficiency of 100 percent?  Yes  No  N/A
- For each capture system that is not a PTE, data and documentation used to determine capture efficiency?  Yes  No  N/A
- If using a liquid-to-fugitive protocol using a temporary enclosure or building enclosure:
  - Records of the mass of total volatile hydrocarbon (TVH) for each regulated material?  Yes  No  N/A

- Records of the total TVH (Total Volatile Hydrocarbon) for all materials applied during each capture efficiency and test run?  Yes  No  N/A
- Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run?  Yes  No  N/A
- Records documenting showing that the enclosure used for the capture efficiency test run meets the criteria in Method 204 of Appendix M?  Yes  No  N/A
- If using a gas-to-gas protocol with a temporary total enclosure or building enclosure:
  - Records of the mass of TVH emissions captured by the emission capture system?  Yes  No  N/A
  - Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during the each capture efficiency test?  Yes  No  N/A
  - Records documenting that the enclosure used for the capture efficiency tests met the criteria in Method 204 of appendix M?  Yes  No  N/A
- If using an alternative protocol:
  - Records needed to document a capture efficiency determination using an alternative method?  Yes  No  N/A
- For each capture system that is an add-on control device organic HAP destruction, removal efficiency determination or oxidizer outlet organic HAP concentration:
  - Records of each add-on control device performance test?  Yes  No  N/A
  - Records of the operating conditions during the add-on control device performance tests?  Yes  No  N/A
  - Records of the data and calculations used to establish emission capture and add-on control device operating limits?  Yes  No  N/A
  - Record of the work practice plan required and documentation of the implementation of the work practice plan?  Yes  No  N/A

**14. Are records kept in the proper format and for the correct amount of time? 63.4313**

- Were the records in a suitable form and ready for expeditious review?  Yes  No  NA
- Were the records kept for 5 years following the date of each occurrence?  Yes  No  NA
- Were the records kept on-site for 2 years after the date of the occurrence?  Yes  No  NA

## VI. Compliance Requirements for the Compliant Materials Option

### 15. Did the facility meet the initial compliance date for the Compliant Materials Option? 63.4320

- Did the facility begin its initial compliance period on the applicable compliance date specified in 63.4283 and end on the last day of the first full month after the compliance date?  Yes  No  NA

### 16. How did the facility demonstrate initial compliance with the emissions limitations for the Compliant Materials Option? 63.4321

**Note:** If the facility operates any web coating/printing, slashing or dyeing/finishing operation in which the compliant material option, there are no operating limits or work practice standards to meet.

- For web coating/printing operations, did the facility apply coating or printing material with an organic HAP content that does not exceed the applicable emission limit in Table 1 and apply coating or printing material that contains no organic HAP?  Yes  No  NA
- For slashing operations, did the facility apply slashing material with no organic HAP?  Yes  No  NA
- For dyeing/finishing operations, did the facility avoid applying dyeing or finishing material with a mass fraction of organic HAP that exceeds the applicable emission limit in Table 1?  Yes  No  NA
- If the facility determines compliance with the compliant materials option, does the facility determine the organic HAP mass fraction of each coating material by one of the following:
- Method 311 is used to determine organic HAP content. Each organic HAP present  $\geq 0.1$  weight percent for OSHA defined carcinogens and  $\geq 1.0$  weight percent for other organic HAP is included in the determination. The mass fraction is expressed as a value truncated to four decimal places. The total mass fraction is the sum of the individual HAP mass fraction, truncated to three decimal places. (Note: This determination may be completed by the manufacturer.), or  Yes  No  NA
  - Method 24 is used to determine the volatile organic content (for each coating) as mass fraction of non-aqueous volatile matter and use it as a substitute for organic HAP? (Note: This determination may be completed by the manufacturer.), or  Yes  No  NA
  - Alternative test method to determine the mass fraction of organic HAP, mass fraction of solids, or fraction of organic HAP emitted from a reactive coating. (Note: This method must be Administrator approved according the 63.7f.), or  Yes  No  NA
  - Formulation data is used to determine the organic HAP mass fraction. Each organic HAP present  $\geq 0.1$  weight percent for OSHA defined carcinogens and  $\geq 1.0$  weight percent for other organic HAP is included. (Note: The formulation data may be provided by the manufacturer.)  Yes  No  NA
  - For solvent blends, if the test and manufacturer's data is not available, did the facility use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 4 or 5?  Yes  No  NA

**Note 1:** If there a discrepancy between Method 311 test data and the formulation data, and the Method 311 data is higher, the facility must use the Method 311 data.

**Note 2:** If the facility does not use one of the methods above to determine organic HAP content values, has approval from the Administrator for an alternative test method been obtained? The recovery efficiency of the test method must be determined for all target organic HAP and a correction factor, if necessary must be determined and applied (63.7(f)).

If the facility determines compliance with emission standards by the compliant materials option, does the facility determine the mass fraction of each coating and printing material “**as-applied**” by one of the following:

- Method 24 is used to determine the mass fraction of solids of coating materials?  
 Yes  No  NA
- Alternative test method to determine the solids content of each coating material. (Note: This method must be Administrator approved according the 63.7f.)  Yes  No  NA
- Information from the supplier or manufacturer of the material for obtaining the mass fraction of solids for each coating and printing material.  Yes  No  NA

**Note 1:** If there a discrepancy between information from the supplier and the test method results the facility must use the test method results.

Does the facility calculate the organic HAP content of each coating and printing material using Equation 1 of 63.4321?  Yes  No  NA

Does the facility follow proper compliance demonstration by each of the following:

- The calculated organic HAP content is less than or equal to the applicable emission limit in Table 1?  Yes  No  NA
- Each thinning and cleaning material applied during the initial compliance period contains no organic HAP?  Yes  No  NA
- Each slashing material applied contains no organic HAP as defined in 63.4371?  Yes  No  NA
- The mass fraction of organic HAP for each dyeing/finishing material applied must be less than or equal to the applicable emission limit in Table 1?  Yes  No  NA
- All records are kept according to Notifications, Reports, and Records Section?  Yes  No  NA
- The Notification of Compliance Status requirements are met by identifying all operations that the compliant materials option was chosen and submitted statements saying each operation was in compliance with the emission limitations during the initial compliance period?  Yes  No  NA

**17. How has the facility demonstrated continuous compliance with the emission limitations for the Compliant Materials Option? 63.4321**

**Note:** If applicable, the facility must answer yes to all of the following to be in continuous compliance and avoid deviations.

- Did the facility avoid applying coating or printing material for which the organic HAP content determined using Equation 1 of 63.4321 exceeds the applicable emission limit?  Yes  No  NA
- Did the facility apply only slashing material that contains no organic HAP as defined in 63.4371?  Yes  No  NA
- Did the facility avoid applying dyeing or finishing materials for which the mass fraction of organic HAP exceeds the applicable emission limit in Table 1?  Yes  No  NA
- Did the facility only apply thinning cleaning materials that contains no organic HAP?  Yes  No  NA
- Did the facility identify any web coating/printing, slashing, or dyeing/finishing operation that used the compliant materials option?  Yes  No  NA
- Did the facility submit a statement stating that there were no deviations from the applicable emission limits in Table 1, if applicable?  Yes  No  NA
- Did the facility maintain records as specified in 63.4312 and 63.4313?  Yes  No  NA

**VII. Compliance Requirements for the Emission Rate without Add-On Controls Option**

**18. What is the initial compliance date for the Emission Rate without Add-On Controls Option? 63.4330**

- Did the facility begin its initial compliance period on the applicable compliance date specified in 63.4283 and end on the last day of the 12th full month after the compliance date?  Yes  No  NA

**19. Did the facility demonstrate initial compliance with the emission limitations for the Emission Rate without Add-On Controls Option? 63.4331**

**Note:** If the facility operates any web coating/printing operation in which the emission rate without add-on controls option, there are no operating limits or work practice standards in §§63.4292 and 63.4293, respectively.

Web coating/printing operations

- Did the facility meet the applicable emission limit in Table 1?  Yes  No  NA
- Did the facility determine the mass fraction of organic HAP for each material?  Yes  No  NA

- Did the facility determine the mass fraction of solids (kg of solids per kg of coating or printing material) for each material?  Yes  No  NA
- Did the facility determine the mass of each coating, printing, thinning or cleaning material applied?  Yes  No  NA
- Did the facility determine the combined mass of organic HAP emissions for each coating, printing, thinning or cleaning material applied using Equation 1 of 63.4331?  Yes  No  NA
- Did the facility calculate the kg organic HAP in the coating and printing materials using Equation 1A of 63.4331?  Yes  No  NA
- Did the facility calculate the kg of organic HAP in the thinning and cleaning materials in Equation 1B of 63.4331?  Yes  No  NA
- If the facility chose to account for the mass of organic HAP contained in the waste materials sent or designated for shipment to a hazardous waste TSDF, did the facility complete all of the following?
  - Include only waste materials that are generated by web coating/printing operations and materials that will be treated or disposed of by a facility that is regulated as a TSDF?  Yes  No  NA
  - Determine the amount of waste materials sent to a TSDF or determine the amount collected and stored during the compliance period?  Yes  No  NA
  - Determine the total mass of organic HAP contained in the waste materials?  Yes  No  NA
  - Document the methodology used to determine the amount of waste materials and the total mass of organic HAP?  Yes  No  NA
- Did the facility calculate the total mass of coating and printing solids applied using Equation 2 of 63.4331?  Yes  No  NA
- Did the facility calculate the organic HAP emission rate for the compliance period using Equation 3 of 63.4331?  Yes  No  NA
- Did the facility show the proper compliance demonstration by keeping the organic HAP emission rate for the initial compliance period less than the applicable limit in Table 1; keeping all records as required by Notifications, Records and Reports Section; identify the web coating/printing operations for which the emission rate without add-on controls option was chosen and submit a statement that the web coating/printing operations were in compliance?  Yes  No  NA

For dyeing/finishing operations

- Did the facility meet the applicable emission limit in Table 1?  Yes  No  NA
- Did the facility determine the mass fraction of organic HAP for each material?  Yes  No  NA
- Did the facility determine the mass of each dyeing and finishing material applied?  Yes  No  NA
- Did the facility determine the mass of each coating, printing, thinning or cleaning material applied?  Yes  No  NA

- Did the facility determine the combined mass of organic HAP emissions for all dyeing and finishing materials applied (not including the organic HAP in certain waste materials and wastewater streams) using Equation 4 of 63.4331?  Yes  No  NA
- Did the facility calculate the kg organic HAP in the dyeing and finishing materials using Equation 6 of 63.4331?  Yes  No  NA
- Did the facility calculate the kg of organic HAP in the thinning and cleaning materials in Equation 1B of 63.4331?  Yes  No  NA
- If the facility chose to account for the mass of organic HAP contained in the waste materials sent or designated for shipment to a hazardous waste TSDF, did the facility complete all of the following?
- Include only waste materials that are generated by web coating/printing operations and materials that will be treated or disposed of by a facility that is regulated as a TSDF?  Yes  No  NA
  - Determine the amount of waste materials sent to a TSDF or determine the amount collected and stored during the compliance period?  Yes  No  NA
  - Determine the total mass of organic HAP contained in the waste materials?  Yes  No  NA
  - Document the methodology used to determine the amount of waste materials and the total mass of organic HAP?  Yes  No  NA
- Did the facility calculate the total mass of dyeing and finishing materials applied using Equation 2 of 63.4331?  Yes  No  NA
- Did the facility calculate the organic HAP emission rate for the compliance period using Equation 3 of 63.4331?  Yes  No  NA
- Did the facility show the proper compliance demonstration by keeping the organic HAP emission rate for the initial compliance period less than the applicable limit in Table 1; keeping all records as required by Notifications, Records and Reports Section; identify the web coating/printing operations for which the emission rate without add-on controls option was chosen and submit a statement that the web coating/printing operations were in compliance?  Yes  No  NA
- If the facility chose to account for the mass of organic HAP contained in the wastewater discharged to a POTW or treated onsite prior to discharged, did the facility determine the average organic HAP concentration of each wastewater stream by completing the following options, as required:
- Sampling, or  Yes  No  NA
  - Methods (Method 305, or Method 624 and 625, or Method 1624 and 1625, or other EPA methods, or methods other than EPA methods), or  Yes  No  NA
  - Sampling Plan, or  Yes  No  NA
  - Validation of Methods other than Method 305, 624, 625, 1624 and 1625 using procedures in section 5.1 to 5.3 or procedures in "Alternative Validation Procedure for EPA Waste Methods, or  Yes  No  NA

- Calculation of the average concentration for each individual value, or  
 Yes  No  NA
  - Adjustments for concentrations determined downstream from point of determination?  
 Yes  No  NA
- Did the facility determine the annual average mass flow rate of the wastewater stream at the point of determination or downstream from the point of determination by one of the following procedures?
- Did the facility use knowledge of wastewater in which the maximum expected annual average production capacity, knowledge of the process, or mass balance information to estimate the average wastewater mass flow rate, or  
 Yes  No  NA
  - Did the facility use historical records to determine the average annual mass flow rate?  
 Yes  No  NA

**Note 1:** Measurements shall be made at a point of determination or downstream of the point of determination with adjustments for mass flow rates.

**Note 2:** Corrections to the average annual mass flow rate must be made if it is determined downstream of the point of determination at a location where wastewater streams from outside of the affected operation have been mixed with the affected wastewater stream.

- Did the facility document the wastewater being treated onsite with secondary wastewater treatment or discharged to a POTW?  
 Yes  No  NA
- Did the facility determine the total mass of organic HAP contained in the wastewater streams according to Equation 7 of 63.4331?  
 Yes  No  NA
- If the facility is using the wastewater allowance in continuous compliance demonstrations, was the fraction of organic HAP applied in affected dyeing/finishing processes that are discharged to wastewater according to Equation 4A of 63.4331 determined?  
 Yes  No  NA
- Is the facility going to determine the fraction of organic HAP that is discharged to the wastewater to demonstrate compliance with the equivalent emission rate option? (If yes, then the 1-5 must be met.)  
 Yes  No  NA
- 1) Did the facility determine the average organic HAP concentration of each wastewater stream?  
 Yes  No  NA
  - 2) Did the facility determine the annual average mass flow rate of the wastewater stream at the point of determination or downstream of the point of determination with adjustment for flow rate changes?  
 Yes  No  NA
  - 3) Did the facility document whether the wastewater is discharged to a POTW or onsite secondary wastewater treatment?  
 Yes  No  NA
  - 4) Did the facility determine the total mass of organic HAP contained in the wastewater streams using Equation 7 of 63.4331?  
 Yes  No  NA
  - 5) Did the facility determine the fraction of organic HAP that is discharged to the wastewater as calculated by Equation 4A of 63.4331?  
 Yes  No  NA

**20. Did the facility demonstrate continuous compliance with the emission limitations of the Emission Rate without Add-On Controls Option? 63.4332**

- Was the organic HAP emission rate for each compliance period less than or equal to the applicable emission limit in Table 1?  Yes  No  NA
- If the facility did not meet the emission limitation in Table 1, was the deviation reported as required?  Yes  No  NA
- Did the facility identify any web coating/printing or dyeing/finishing operation in which the emission rate without add-on controls option was used?  Yes  No  NA
- If there were no deviations, did the facility submit a statement, as required, stating that the operations were in compliance?  Yes  No  NA
- Did the facility maintain records as specified by the Notifications, Reports and Records section?  Yes  No  NA

**VIII. Compliance Requirements for the Emission Rate with Add-On Controls Option**

**21. What is the initial compliance date for the Emission Rate with Add-On Controls Option? 63.4330**

- If the facility is a new or reconstructed affected source, then have all of the following been met:
  - Did the facility install and operate all emission capture systems, add-on control devices, and CPMS no later than May 29, 2003 (excluding solvent recovery systems)?  Yes  No  NA
  - If the facility used solvent recovery systems in which they conducted liquid-liquid material balances then did the facility conduct a performance test of each capture system and add-on control device and establish operating limits within 180 days of May 29, 2003?  Yes  No  NA
  - Did the facility develop and begin implementing a work practice plan no later than May 29, 2003?  Yes  No  NA
  - Did the facility complete the compliance demonstration for the initial compliance period as required?  Yes  No  NA
  - Did the facility maintain a log detailing the operation and maintenance of the emission capture system, add-on control device and continuous parameter monitors during the periods between the compliance period and the performance tests (This does not apply to solvent recovery systems)?  Yes  No  NA
- If the facility is an existing affected source, then have all of the following been met:
  - Did the facility install and operate all emission capture systems, add-on control devices, and CPMS no later than May 29, 2006 (excluding solvent recovery systems)?  Yes  No  NA
  - If the facility used solvent recovery systems in which they conducted liquid-liquid material balances then did the facility conduct a performance test of each capture system and add-on control device and establish operating limits within 180 days of May 29, 2006?

Yes  No  NA

- Did the facility develop and begin implementing a work practice plan no later than May 29, 2006?  Yes  No  NA
- Did the facility complete the compliance demonstration for the initial compliance period as required?  Yes  No  NA

**22. Did the facility demonstrate initial compliance with the emission limitations for the Emission Rate with Add-On Controls Option? 63.4341**

For Web coating/printing operations

- Did the facility meet the applicable emission limits in Table 1?  Yes  No  NA
- Did the facility establish and demonstrate continuous compliance with the operating limits during the initial compliance period, except for solvent recovery systems in which a liquid-liquid material balance is conducted?  Yes  No  NA
- Did the facility develop, implement and document implementation of the work practice plan during the initial compliance period?  Yes  No  NA
- Did the facility comply with all of the following requirements:
  - Did the facility determine the mass fraction of organic HAP, the mass fraction of solids applied and the mass of materials applied during the compliance period?  Yes  No  NA
  - Did the facility calculate the mass of organic HAP emissions before add-on controls using Equation 1 of 63.4331?  Yes  No  NA
  - Did the facility calculate the organic HAP emissions reduction for each controlled web coating/printing operation?  Yes  No  NA
  - Did the facility calculate the organic HAP emission reduction using Equation 1 of 63.4341 for each controlled web coating/printing operation that does not use the liquid-liquid material balance by completing all of the following:
    - Did the facility calculate the total mass of organic HAP in the coating and printing materials applied using Equation 1A of 63.4341?  Yes  No  NA
    - Did the facility calculate the total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operations using Equation 1B of 63.4341?  Yes  No  NA
    - Did the facility calculate the mass of organic HAP in the coating, printing, thinning, and cleaning materials applied in the controlled web coating/printing operation using Equation 1C of 63.4341?  Yes  No  NA
  - Did the facility calculate the organic HAP emissions reduction for controlled web coating/printing operation using liquid-liquid materials balances (solvent recovery systems) by completing all of the following:

- Did the facility install, calibrate, maintain and operate, according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system?  Yes  No  NA
- Did the facility determine the mass of volatile organic matter recovered for the compliance period for each solvent recovery system?  Yes  No  NA
- Did the facility determine the mass fraction of volatile organic matter for each coating, printing, cleaning, and thinning material applied in the web coating/printing operation controlled by the solvent recovery system?  Yes  No  NA
- Did the facility measure the mass of each coating, printing, thinning and coating material applied in the web coating/printing operation controlled by the solvent recovery system?  Yes  No  NA
- Did the facility calculate the solvent recovery system's volatile organic matter collection and recovery efficiency using Equation 2 of 63.4341?  Yes  No  NA
- Did the facility calculate the mass of organic HAP emission reductions using Equation 3 of 63.4341 for the web coating/printing operation controlled by the solvent recovery system by completing the following:
  - Did the facility calculate the total mass of organic HAP in the coating and printing materials applied in the coating and printing materials applied in the web coating/printing operation controlled by the solvent recovery system using Equation 3A of 63.4341?  Yes  No  NA
  - Did the facility calculate the total mass of organic HAP in the thinning and cleaning materials applied in the web coating/printing operation using Equation 3B of 63.4341?  Yes  No  NA
- Did the facility calculate the total mass of coating and printing solids applied?  Yes  No  NA
- Did the facility calculate the organic HAP emission rate with add-on controls for the compliance period using Equation 4 of 63.4341?  Yes  No  NA
- Did the facility show the proper compliance demonstration by keeping the organic HAP emission rate for the compliance period less than the applicable limit in Table 1; keeping all records as required by Notifications, Records and Reports Section; identify the web coating/printing operations for which the emission rate without add-on controls option was chosen and submit a statement that the web coating/printing operations were in compliance?  Yes  No  NA

For dyeing/finishing operations

- Did the facility meet the applicable emission limits in Table 1?  Yes  No  NA
- Did the facility establish and demonstrate continuous compliance with the operating limits during the initial compliance period, except for solvent recovery systems in which a liquid-liquid material balance is conducted?  Yes  No  NA
- Did the facility develop, implement and document implementation of the work practice plan during the initial compliance period?  Yes  No  NA

- Did the facility comply with all of the following requirements:
- Determine the mass fraction of organic HAP and the mass of materials applied during the compliance period?  Yes  No  NA
  - Calculate the mass of organic HAP emissions before add-on controls using Equation 1 of 63.4331?  Yes  No  NA
  - Calculate the organic HAP emissions reduction for each controlled dyeing/finishing operation?  Yes  No  NA
  - Calculate the organic HAP emission reduction using Equation 5 of 63.4341 for each controlled dyeing/finishing operation that does not use the liquid-liquid material balance by completing all of the following:
    - Calculating the total mass of organic HAP in the dyeing and finishing materials applied using Equation 5A of 63.4341?  Yes  No  NA
    - Calculating the mass of organic HAP in the dyeing and finishing materials applied in the controlled web coating/printing operations using Equation 5B of 63.4341?  Yes  No  NA
  - Calculate the organic HAP emissions reduction for controlled dyeing/finishing operation using liquid-liquid materials balances (solvent recovery systems) by completing all of the following:
    - Installing, calibrating, maintaining and operating, according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system?  Yes  No  NA
    - Determining the mass of volatile organic matter recovered for the compliance period for each solvent recovery system?  Yes  No  NA
    - Determining the mass fraction of volatile organic matter for each dyeing and finishing material applied in the dyeing and finishing operation controlled by the solvent recovery system?  Yes  No  NA
    - Measuring the mass of each dyeing and finishing material applied in the dyeing/finishing operation controlled by the solvent recovery system?  Yes  No  NA
    - Calculating the solvent recovery system's volatile organic matter collection and recovery efficiency using Equation 6 of 63.4341?  Yes  No  NA
    - Calculating the mass of organic HAP emission reductions using Equation 7 of 63.4341 for the dyeing/finishing operation controlled by the solvent recovery system by completing both of the following:
      - Calculating the total mass of organic HAP in the coating and printing materials applied in the dyeing and finishing materials applied in the dyeing/finishing operation controlled by the solvent recovery system using Equation 3A of 63.4341?  Yes  No  NA
      - Calculating the total mass of dyeing and finishing materials applied?  Yes  No  NA

- Did the facility calculate the organic HAP emission rate with add-on controls for the compliance period using Equation 8 of 63.4341?  Yes  No  NA
- Did the facility show the proper compliance demonstration by keeping the organic HAP emission rate for the compliance period less than the applicable limit in Table 1; keeping all records as required by Notifications, Records and Reports Section; identify the web coating/printing operations for which the emission rate without add-on controls option was chosen and submit a statement that the web coating/printing operations were in compliance?  Yes  No  NA

**23. Did the facility demonstrate continuous compliance with the emission limitations of the Emission Rate with Add-On Controls Option? [Note: All of the following must be yes to fully demonstrate continuous compliance] 63.4342**

- Was the organic HAP emission rate for each compliance period less than or equal to the applicable emission limit in Table 1?  Yes  No  NA

**Note:** Each month following the initial compliance period is a compliance period consisting of that month and the 11 preceding months. The calculations must be performed on a monthly basis.

- If the organic HAP emission rate with add-on controls for any compliance period exceeded the applicable limit in Table 1, was the deviation reported?  Yes  No  NA

- Did the facility demonstrate continuous compliance with each operating limit that is applicable in Table 2?  Yes  No  NA

- If there was a deviation from the operating limit in Table 2, was the deviation reported?  Yes  No  NA
- If there was a deviation, did the facility treat the regulated materials applied during the deviation on a controlled operation as if they were applied on an uncontrolled operation?  Yes  No  NA

**Note:** This includes assuming that the emission capture system and add-on control device were achieving zero percent efficiency during the time of the deviation.

- Did the facility meet the requirements for bypass lines for controlled operations that do not perform liquid-liquid material balances?  Yes  No  NA

- If there was a deviation, did the facility treat the regulated materials applied during the deviation on a controlled operation as if they were applied on an uncontrolled operation?  Yes  No  NA

- Did the facility demonstrate continuous compliance with the work practice standards?  Yes  No  NA

- Did the facility identify the coating/printing or dyeing/finishing operations for which the emission rate with add-on controls option was used?  Yes  No  NA

- If there were no deviations from the applicable emission limit in Table 1, did the facility submit a statement stating this?  Yes  No  NA

- Did the facility operate in accordance with the startup, shutdown, or malfunction plan during periods of startup, shutdown, or malfunction of the emission capture system?  Yes  No  NA

**Note:** Deviations that occur during a period of startup, shutdown, or malfunction that may affect the emission capture or control device efficiency are not violations if it is demonstrated, to the administrator's satisfaction, that the startup, shutdown, and malfunction plan was operated accordingly.

- Did the facility maintain records as specified in the Notification, Reports, and Recordkeeping section?  
 Yes  No  NA

## **IX. Compliance Requirements for the Organic HAP Overall Control Efficiency and Oxidizer Outlet Organic HAP Concentration Option**

### **24. What is the initial compliance date for the Organic HAP Overall Efficiency and Oxidizer Outlet Organic HAP Concentration Option? 63.4350**

- If the facility is a new or reconstructed affected source, then have all of the following been met:
- Did the facility install and operate all emission capture systems, add-on control devices, and CPMS no later than May 29, 2003 (excluding solvent recovery systems)?  
 Yes  No  NA
  - If the facility used solvent recovery systems in which they conducted liquid-liquid material balances then did the facility conduct a performance test of each capture system and add-on control device and establish operating limits within 180 days of May 29, 2003?  
 Yes  No  NA
  - Did the facility develop and begin implementing a work practice plan no later than May 29, 2003?  
 Yes  No  NA
  - Did the facility complete the compliance demonstration for the initial compliance period as required?  
 Yes  No  NA
  - Did the facility maintain a log detailing the operation and maintenance of the emission capture system, add-on control device and continuous parameter monitors during the periods between the compliance period and the performance tests (This does not apply to solvent recovery systems)?  
 Yes  No  NA
- If the facility is an existing affected source, then have all of the following been met:
- Did the facility install and operate all emission capture systems, add-on control devices, and CPMS no later than May 29, 2006 (excluding solvent recovery systems)?  
 Yes  No  NA
  - If the facility used solvent recovery systems in which they conducted liquid-liquid material balances then did the facility conduct a performance test of each capture system and add-on control device and establish operating limits within 180 days of May 29, 2006?  
 Yes  No  NA
  - Did the facility develop and begin implementing a work practice plan no later than May 29, 2006?  
 Yes  No  NA
  - Did the facility complete the compliance demonstration for the initial compliance period as required?  
 Yes  No  NA

**25. Did the facility demonstrate initial compliance with the emission limitations for Organic HAP Overall Control Efficiency and Oxidizer Outlet Organic HAP Concentration Option? 63.4351**

- Did the facility meet the applicable emission limits in Table 1?  Yes  No  NA
- Did the facility establish and demonstrate continuous compliance with the operating limits during the initial compliance period, except for solvent recovery systems in which a liquid-liquid material balance is conducted?  Yes  No  NA
- Did the facility develop, implement and document implementation of the work practice plan during the initial compliance period?  Yes  No  NA
- To show compliance with the organic HAP overall control efficiency limits were all of the following requirements meet:
- Did the facility determine the mass fraction of organic HAP, the mass each coating, thinning, printing and cleaning material applied during the compliance period:  Yes  No  NA
  - Did the facility calculate the mass of organic HAP emissions before add-on controls using Equation 1 of 63.4331?  Yes  No  NA
  - Did the facility calculate the organic HAP emissions reduction for each controlled web coating/printing operation?  Yes  No  NA
  - Did the facility calculate the organic HAP emission reduction using Equation 12 for each controlled web coating/printing operation that does not use the liquid-liquid material balance by completing all of the following:
    - Did the facility calculate the total mass of organic HAP in the coating and printing materials applied using Equation 1A of 63.4341?  Yes  No  NA
    - Did the facility calculate the total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operations using Equation 1B of 63.4341?  Yes  No  NA
    - Did the facility calculate the mass of organic HAP in the coating, printing, thinning, and cleaning materials applied in the controlled web coating/printing operation using Equation 1C of 63.4341?  Yes  No  NA
  - Did the facility calculate the organic HAP emissions reduction for controlled web coating/printing operation using liquid-liquid materials balances (solvent recovery systems) by completing all of the following:
    - Did the facility install, calibrate, maintain and operate, according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system?  Yes  No  NA
    - Did the facility determine the mass of volatile organic matter recovered for the compliance period for each solvent recovery system?  Yes  No  NA
    - Did the facility determine the mass fraction of volatile organic matter for each coating, printing, cleaning, and thinning material applied in the web coating/printing operation controlled by the solvent recovery system?  Yes  No  NA

- Did the facility measure the mass of each coating, printing, thinning and coating material applied in the web coating/printing operation controlled by the solvent recovery system?  Yes  No  NA
  - Did the facility calculate the solvent recovery system's volatile organic matter collection and recovery efficiency using Equation 2 of 63.4341?  Yes  No  NA
  - Did the facility calculate the mass of organic HAP emission reductions using Equation 3 of §63.4341 for the web coating/printing operation controlled by the solvent recovery system?  Yes  No  NA
  - Did the facility calculate the organic HAP overall control efficiency before add-on controls using Equation 1 of 63.4351?  Yes  No  NA
  - Did the facility show the proper compliance demonstration by keeping the organic HAP overall control efficiency for the compliance period less than the applicable limit in Table 1; keeping all records as required by Notifications, Records and Reports Section; identify the web coating/printing operations for which the organic HAP overall control efficiency option was chosen and submit a statement that the web coating/printing operations were in compliance with the emission limitations, operating limits and work practice standards?  Yes  No  NA
- To show compliance with the oxidizer outlet organic HAP concentration limit were all of the following requirements met:
- Did the facility install and operate a PTE around each work station and associated drying or curing oven in the web coating/printing operation?  Yes  No  NA
  - Did the facility determine the oxidizer outlet organic HAP concentration through performance test?  Yes  No  NA
  - Did the facility show the proper compliance demonstration by keeping the organic HAP overall control efficiency for the compliance period less than the applicable limit in Table 1; keeping all records as required by Notifications, Records and Reports Section; identify the web coating/printing operations for which the organic HAP overall control efficiency option was chosen and submit a statement that the web coating/printing operations were in compliance with the emission limitations, operating limits and work practice standards?  Yes  No  NA

**26. Did the facility demonstrate continuous compliance with the emission limitations of the Organic HAP Overall Control Efficiency and Oxidizer Outlet Organic HAP Concentration Option? 63.4352**

*\*All of the following must be yes to fully demonstrate continuous compliance*

- Was the organic HAP overall control efficiency for each compliance period equal to or greater than the applicable emission limit in Table 1?  Yes  No  NA
- If the organic HAP overall control efficiency failed to meet the applicable organic HAP overall control efficiency in Table 1, was the deviation reported?  Yes  No  NA
- Did the facility demonstrate continuous compliance with each operating limit that is applicable in Table 2?  Yes  No  NA
- If there was a deviation from the operating limit in Table 2, was the deviation reported?  Yes  No  NA

- If there was a deviation, did the facility treat the regulated materials applied during the deviation on a controlled operation as if they were applied on an uncontrolled operation? (NOTE: This includes assuming that the emission capture system and add-on control device were achieving zero percent efficiency during the time of the deviation.)  Yes  No  NA
- Did the facility meet the requirements for bypass lines for controlled operations that do not perform liquid-liquid material balances?  Yes  No  NA
- If there was a deviation, did the facility treat the regulated materials applied during the deviation on a controlled operation as if they were applied on an uncontrolled operation?  Yes  No  NA
- Did the facility demonstrate continuous compliance with the work practice standards?  Yes  No  NA
- Did the facility identify the coating/printing for which the organic HAP overall control efficiency or the oxidizer outlet organic HAP concentration option was used?  Yes  No  NA
- If there were no deviations from the organic HAP overall control efficiency or oxidizer outlet organic HAP concentration limit in Table 1, did the facility submit a statement stating this?  Yes  No  NA
- Did the facility operate in accordance with the startup, shutdown, or malfunction plan during periods of startup, shutdown, or malfunction of the emission capture system? (Note: Deviations that occur during a period of startup, shutdown, or malfunction that may affect the emission capture or control device efficiency are not violations if it is demonstrated, to the administrator's satisfaction, that the startup, shutdown, and malfunction plan was operated accordingly.)  Yes  No  NA
- Did the facility maintain records as specified in the Notification, Reports, and Recordkeeping section?  Yes  No  NA

## **X. Performance Testing and Monitoring Requirements**

### **27. Did the facility meet the requirements to correctly perform the performance tests? 63.4360**

- Did the facility conduct the performance test under representative conditions for web coating/printing or dyeing/finishing operations?  Yes  No  NA
- Did the facility record the process information that is necessary to document operating conditions?  Yes  No  NA
- Did the facility conduct the performance test for the emission capture system and add-on control device are operating at representative flow rate and inlet concentration, respectively?  Yes  No  NA
- Did the facility conduct each performance test of an emission capture system and add-on control device according to the requirements?  Yes  No  NA

### **28. Did the facility determine the emission capture efficiency? 63.4361**

- Did the facility determine the emission capture efficiency as part of the performance test by one of the following options below:

- Assuming 100 percent capture efficiency; in which both of the following below have to be performed,
  - Did the capture system meet the criteria in Method 204 appendix M to 40 CFR Part 51 and direct all exhaust gases to an add-on control device?  
 Yes  No  NA
  - Were all regulated materials applied in the operation applied within the capture system?  
 Yes  No  NA
- Measuring the capture efficiency; by liquid-to-uncaptured gas protocol using a temporary total enclosure or building enclosure by completing all of the following:
  - Did the facility use a building enclosure or construct an enclosure around the operation where regulated materials are applied?  Yes  No  NA
  - Did the facility use Method 204A or 204F of appendix M to 40 CFR Part 51 to determine the mass fraction of TVH liquid input from each regulated material?  
 Yes  No  NA
  - Did the facility calculate the total mass of TVH liquid input from all the regulated materials using Equation 1 of §63.4361?  Yes  No  NA
  - Did the facility use Method 204D or 204E of appendix M to 40 CFR Part 51 to measure the total mass of TVH emissions that are not captured by the system?  
 Yes  No  NA
  - Did the facility determine the percent capture efficiency of the emission capture system for each efficiency test run using Equation 2 of 63.4361?  
 Yes  No  NA
  - Did the facility determine the capture efficiency of the emission capture system as the average capture efficiencies?  Yes  No  NA
- Measuring the capture efficiency; by gas-to-gas protocol using a temporary total enclosure or building enclosure by completing all of the following:
  - Did the facility use a building enclosure or construct an enclosure around the operation where regulated materials are applied?  Yes  No  NA
  - Did the facility use Method 204B or 204C of appendix M to 40 CFR Part 51 to determine the total mass of TVH emissions captured by the emission capture system?  Yes  No  NA
  - Did the facility use Method 204D or 204E of appendix M to 40 CFR Part 51 to measure the total mass of TVH emissions that are not captured by the system?  
 Yes  No  NA
  - Did the facility determine the percent capture efficiency of the emission capture system for each efficiency test run using Equation 3 of 63.4361?  
 Yes  No  NA
  - Did the facility determine the capture efficiency of the emission capture system as the average capture efficiencies?  Yes  No  NA

- Measuring the capture efficiency by using any other capture efficiency protocol and test methods that satisfy the criteria of either the DQO or LCL approach as described in Appendix A to Subpart KK?  Yes  No  NA

**Note:** If the liquid-to-uncaptured gas protocol or the gas-to-gas protocol option is used then the capture efficiency measurement must consist of three test runs that are at least 3 hours duration or up to 8 hours.

**29. Did the facility determine the add-on control device emission destruction or removal efficiency? 63.4362 [Note: The facility must conduct three test runs that last at least one hour each.]**

- For all the different types of control devices, did the facility use the appropriate test method:
  - Did the facility use Method 1 or 1A of Appendix A to 40 CFR Part 60 to select sampling sites and velocity traverse points?  Yes  No  NA
  - Did the facility use Method 2, 2A, 2C, 2D, 2F, or 2G of Appendix A to 40 CFR Part 60 to measure the gas volumetric flow rate?  Yes  No  NA
  - Did the facility use Method 3, 3A, OR 3B of Appendix A to 40 CFR Part 60 for gas analysis to determine dry molecular weight?  Yes  No  NA
  - Did the facility use Method 4 of Appendix A to 40 CFR Part 60 to determine the stack gas moisture?  Yes  No  NA
  - Did the facility perform the methods for determining gas volumetric flow rate, dry molecular weight and stack gas moisture during each test run?  Yes  No  NA
- Did the facility measure the volatile organic matter concentration as carbon at the inlet and outlet of the add-on control device simultaneously by the following:
  - Use Method 25 if the ad-on control device is an oxidizer and the total gaseous organic concentration as carbon is expected to be more than 60 ppm at the outlet?  Yes  No  NA
  - Use Method 25A if the add-on control device is an oxidizer and the total gaseous organic concentration as carbon is expected to be more than 50 ppm at the outlet?  Yes  No  NA
  - Use Method 25A if the add-on control device is not an oxidizer?  Yes  No  NA
- Did the facility measure the emissions at the outlet to the atmosphere of each device if two or more add-on control devices are used for the same emission stream?  Yes  No  NA
- Did the facility determine the total gaseous organic emissions mass flow rate for the inlet and outlet of the add-on control device using Equation 1 of 63.4362?  Yes  No  NA
- Did the facility determine the emission destruction or removal efficiency of the add-on control device as an average of the efficiencies using Equation 2 of 63.4362?  Yes  No  NA

**30. Did the facility establish the add-on control device operating limits during the performance tests? 63.4363**

- If the facility add-on control device is an thermal oxidizer, was both of the following completed:
- Did the facility monitor and record the temperature at the firebox or immediately downstream of the firebox at least once every 15 minutes during each of the three test runs?  
 Yes  No  NA
  - Did the facility use the data collected during the performance test to calculate and record the average temperature maintained?  
 Yes  No  NA
- If the facility add-on control device is a catalytic oxidizer, was either 1 & 2 completed or 3 & 4 completed?
- 1) Did the facility monitor and record the temperature at the inlet to the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes?  
 Yes  No  NA
  - 2) Did the facility use the data collected during the performance tests to calculate and record the average temperature at the inlet to the catalyst bed and the average temperature difference across the catalyst bed?  
 Yes  No  NA
  - 3) Did the facility monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for the catalytic oxidizer?  
 Yes  No  NA
  - 4) Did the facility develop and implement an inspection and maintenance plan that addressed all of the following?
    - Annual sampling and analysis of the catalyst activity?  Yes  No  NA
    - Monthly inspection of the oxidizer system?  Yes  No  NA
    - Annual internal and monthly external visual inspection of the catalyst bed?  
 Yes  No  NA

**31. Did the facility fulfill the requirements for CPMS installation, operation, and maintenance?  
63.4364**

- If the facility consisted of oxidizers, other types of control device other than an oxidizer, or a capture system and control device, the facility must meet the following requirements:
- Did each CPMS complete a minimum of one cycle of operation for each successive 15 minute period?  
 Yes  No  NA
  - Did the facility have valid data from at least 90 percent of the hours operated?  
 Yes  No  NA
  - Did the facility determine the hourly average of all recorded readings by having e at least three or four equally spaced data values?  
 Yes  No  NA
- \*\*Note: Provided that all of the readings recorded clearly demonstrate continuous compliance with the standard, the facility is not required to determine the hourly average.
- Did the facility determine the rolling 3-hour average of all recorded readings for each operating period?  
 Yes  No  NA

- Did the facility record the results of each inspection, calibration, and validation check of the CPMS?  Yes  No  NA
  - Did the facility maintain the monitoring system in proper working order?  Yes  No  NA
  - Did the facility conduct all monitoring at all times the unit is operating?  Yes  No  NA
  - Did the facility notify the Administrator when the deviation of not having valid data for any averaging period?  Yes  No  NA
- If the facility consisted of capture system bypass line, the facility must meet the following requirements:
- Did the facility record the results of each inspection, calibration, and validation check of the CPMS?  Yes  No  NA
  - Did the facility maintain the monitoring system in proper working order?  Yes  No  NA
  - Did the facility conduct all monitoring at all times the unit is operating?  Yes  No  NA
- If the facility consisted of a capture system bypass line did the facility complete both 1 and 2?
- 1) Did the facility monitor or secure the valve closure mechanism controlling the bypass line in a non-diverting position by a method that meets one of the following requirements?
    - Flow control position indicator – Did the facility install, calibrate, maintain and operate according to the manufacturer’s specifications a flow control indicator that takes a reading at least every 15 minutes?  Yes  No  NA
    - Car-seal or lock-and-key valve closures – Did the facility secure any bypass line valve in the closed position with a car-seal or lock-and-key type configuration?  Yes  No  NA
    - Valve closure continuous monitoring – Did the facility ensure that any bypass line valve is in the closed position through monitoring of the valve position at least once every 15 minutes?  Yes  No  NA
    - Automatic shutdown system – Did the facility use an automatic shutdown system in which the operation is stopped when flow is diverted by the bypass line away from the add-on control device to the atmosphere when the operation is running?  Yes  No  NA
  - 2) If any bypass line is opened, did the facility include a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports?  Yes  No  NA
- If the facility consisted of oxidizers, did the facility complete all of the following:
- Did the facility install, calibrate, maintain and operate temperature monitoring equipment according to the manufacturer’s specification?  Yes  No  NA

- If the facility is using an oxidizer other than a catalytic oxidizer, did the facility install, calibrate, operate and maintain a temperature monitoring device equipped with a continuous recorder with an accuracy of  $\pm 1^{\circ}\text{C}$  and a temperature sensor that is installed in the combustion chamber?  
 Yes  No  NA
  
- If the facility is using a catalytic oxidizer, did the facility install, calibrate, operate and maintain a temperature monitoring device equipped with a continuous recorder with an accuracy of  $\pm 1^{\circ}\text{C}$  and a temperature sensor that is installed in the vent stream at the nearest feasible point to the inlet and outlet of the catalyst bed?  
 Yes  No  NA
  
- If the facility is using other types of control device other than an oxidizer and wish to comply with a different operating limit, did the facility apply to the Administrator for approval?  
 Yes  No  NA
  
- If the facility is complying with the emission standards through the use of a capture system and control device, did the facility develop a site-specific monitoring plan that does the following:
  - Identify the operating parameter to be monitored to ensure the capture efficiency is maintained, explain why this parameter is appropriate for demonstrating compliance, and identify the specific monitoring procedures?  
 Yes  No  NA
  
  - Specify the operating parameter value or range of values that demonstrate compliance with the emission standards?  
 Yes  No  NA

**Note:** All capture system monitoring must be conducted in accordance with the plan; any deviation from the operating parameter value that are monitored according to the plan will be considered a deviation; the capture system monitoring plan must be reviewed and updated at least once a year.

  - Did the facility use the data collected during the performance test to calculate and record the average temperature maintained?  
 Yes  No  NA

Notes/Comments:

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## XI. Definitions for Fabrics Printing NESHAP [63.3310]

The following definitions are for terms used in this Subpart JJJJ and are also defined in the Clean Air Act (CAA) in 40 CFR 63.2 and in the general provisions of this part.

**Add-on control** – an air pollution control device that reduces pollution in an air stream before discharge to the atmosphere

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

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

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

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

**Capture system** – a collection of capture devices intended to collect organic HAP emissions into a closed-vent system that exhausts to a control device.

**Cleaning Material** – a solvent used to remove contaminants and other materials from a textile or from equipment associated with an operation.

**Coating** – the application of all inks, varnishes, adhesives, primers, solvents, reducers, and other coating materials applied to a textile web substrate.

**Coating Material (s)** – all inks, coatings, sealants, inks and adhesives applied to a thin layer of textile web.

**Coating Operation** – equipment used to apply cleaning materials to a web substrate to prepare it for coating material application, to apply coating material to a web substrate and dry or cure the coating material after application or clean coating operation equipment.

**Container** – a device in which material is stored, conveyed, treated or handled with.

**Continuous Parameter Monitoring System** – the total equipment that may be required to meet the data acquisition and availability requirements that is used to provide a record of capture system or add-on control device parameters.

**Controlled Web Coating/Printing or Dyeing/Finishing Operation** – a web coating/printing or dyeing/finishing operation for which some or all of the organic HAP emissions are routed through an emission capture system or add-on control device

**Deviation** – any instance in which an affected source, subject to this subpart, or an owner or operator of such a source:

1. Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;
2. Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

3. Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during start-up, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

**Dyeing** – the process of applying color to the whole body of a textile substrate with either natural or synthetic dyes.

**Dyeing Materials** – the purchase dyes and dyeing auxiliaries that are used in the dyeing process

**Dyeing Operation** – the collection of equipment used to dye a textile substrate and includes equipment used for dye application, dye fixation, and textile substrate rinsing and drying.

**Emission Limitation** – an emission limit, operating limit or work practice standards

**Enclosure** – a structure that surrounds a source of emissions and captures and directs the emissions

**Fabric** – any woven, knitted, plaited, braided, felted, or non-woven material made of filaments, fibers, or yarns including thread. This term includes material made of fiberglass, natural fibers, synthetic fibers, or composite materials.

**Finishing** – the chemical treatment of a textile that improves the appearance and/or usefulness of the textile substrate

**Finishing Materials** – the purchased substances (including auxiliaries) that are applied individually or as mixtures to textile substrates to impart desired properties.

**Finishing Operations** – the collection of equipment used to finish a textile substrate including chemical finish applicators, flashoff areas and drying or curing ovens.

**Laminated Fabric** – fabric composed of a high-strength reinforcing base fabric between two piles of flexible thermoplastic film.

**Formulation Data** – data on the organic HAP mass fraction, volatile matter mass fraction, or coating solids mass fraction of a material that is generated by the manufacturer or means other than a test method specified in this subpart or an approved alternative method.

**Mass Fraction of Organic HAP** – the ratio of the mass of organic HAP to the mass of material in which it is contained.

**Month** – a calendar month or pre-specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

**No organic HAP** – no organic HAP is present at 0.1 percent by mass or more for OSHA-defined carcinogens.

**Operating Scenario** – for a group of operations, the combination of conditions affecting the fraction of organic HAP applied in the operations discharged to the operation

**Organic HAP** – the mass of organic HAP per mass of solids for a coating or printing material

**Overall Organic HAP Control Efficiency** – the total efficiency of a capture and control system.

**Permanent Total Enclosure (PTE)** – a permanently installed enclosure that meets the criteria of Method 204 Appendix M, 40 CFR part 51 (directs all the exhaust gases from the enclosure to an add-on control device).

**Point of Determination** – each point where process wastewater exits the dyeing/finishing process unit.

**Printing** – the application of color and patterns to textiles, usually in the form of a paste, using a variety of techniques.

**Printing Material** – the purchase substances that are mixed to produce the print pastes applied to textile substrates as patterns and colors

**Printing Operation** – equipment used to apply cleaning materials to a web substrate to prepare it for printing material application, to apply printing material to one or both sides of a web substrate, and to dry or cure the printing material after application by exposure to heat or radiation or to clean printing operation equipment

**Publically Owned Treatment Works (POTW)** – any device or system used in the treatment of municipal sewage or industrial wasters of a liquid nature that is owned by a “state” or “municipality”.

**Regulated Materials** – the organic containing materials used in the three printing, coating and dyeing subcategories.

**Research or Laboratory Equipment** – any equipment for which the primary purpose is to conduct research and development into new processes and products where such equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce except in a de-minimis manner.

**Responsible Official** – responsible official as defined in 40 CFR 70.2.

**Slashing** – the application of chemical sizing solution to wrap yarns prior to weaving to protect against snagging or abrasion

**Slashing Materials** – also known as sizing, are the purchased compounds that are applied to warp yarns prior to weaving

**Slashing Operation** – the equipment used to mix and prepare size for application and the slasher is the equipment used to apply and dry size on warp yarn

**Solids** – the nonvolatile portion of the coating and printing materials that makes up the dry film on a coated substrate

**Startup, initial** – the first time equipment is bought online to a facility

**Surface Preparation** – chemical treatment of part or all of a substrate to prepare it for coating or printing material application

**Temporary Total Enclosure** – an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source

**Textile** – may include one of the following,

1. Staple fibers and filaments suitable for conversion to or use as yarns
2. Yarns made from natural or manufactured fibers
3. Fabrics and other manufactured products made from staple fibers and filaments and form yarn
4. Garments and other articles fabricated from fibers, yarns or fabrics.

**Thinning Material** – means an organic solvent that is added to a coating or printing material after the coating and printing material is received from the supplier.

**Total Volatile Hydrocarbon (TVH)** – the total amount of non-aqueous volatile organic material determined according to Methods 204A through C

**Uncontrolled Web Coating/Printing or Dyeing/Finishing Operation** – a operation from which none of the organic HAP emissions are routed through an emission capture system and add-on control device

**Volatile Organic Compounds (VOC)** – any compounds defined as VOC in 40 CFR 51.100(s)

**Wastewater** – water that is generated in a web coating, web printing, slashing, dyeing or finishing operation and is collected, stored or treated prior to being discarded or discharged

**Web** – a continuous substrate (e.g. paper, film, foil) which is flexible enough to be wound or unwound as rolls.

## XII. Timeline: Printing, Coating and Dyeing of Fabrics & Other Textiles Compliance (68 FR 32172)

### A. Compliance Timeline for Existing Sources

Event	Timeline <sup>1</sup>
Effective Date	May 29, 2003 [68 FR 32172]
Submit Initial Notification <sup>3</sup>	May 29, 2004 [63.4310(b)]
Compliance Date	May 29, 2006 or one year after the area source becomes an existing major source, whichever is later [63.4283(c)(2)]
Conduct Initial Compliance Demonstrations <sup>5</sup>	June 30, 2008 (63.4320) <sup>4</sup> for Compliant Materials Option
	May 31, 2007 (63.4330) <sup>7</sup> for Emission Rate Without Add-on Controls Option
	May 31, 2007 [63.4340(b)(3)] <sup>9</sup> for Emission Rate with Add-On Controls Option
	June 30, 2006 [63.4350(b)(3)] <sup>10</sup> for Organic HAP Overall Control Efficiency and Oxidizer Outlet Organic HAP Concentration Option
Submit Notification of Intent to Conduct a Performance Test <sup>12</sup>	September 26, 2006. [63.7(b) and 63.9(e)]
Conduct Performance Test <sup>13</sup>	November 25, 2006 [63.4340(b)(1) and 63.4350(b)(1)]
Conduct Liquid-Liquid Material Balance <sup>14</sup>	By May 29, 2006 [63.4340(b)(1) and 64.4350(b)(1)]
Develop and Implement Work Practice Plan	By May 29, 2006 [63.4340(b)(2) and 63.4350(b)(2)]
Results of Initial Performance Test	No later than January 24, 2007 [63.4311(b)]
Notification of Compliance Status	July 30, 2006 [63.4310 (c)] for Compliant Materials, Organic HAP Overall Control Efficiency and Oxidizer Outlet Organic HAP Concentration Options
	June 30, 2007 [63.4310(c)] for Emission Rate without Add-On Control and Emission Rate with Add-On Controls Option
Semiannual Compliance Reports <sup>17</sup>	No later than July 31 or January 31, whichever date is the first date 6 months after the end of the initial compliance period, and semiannually thereafter [63.4311(a)(1)]

#### Notes:

- This timeline does not take into account special situations such as compliance extensions.
- New affected source: an affected source that the construction or reconstruction of which was begun after September 13, 2000 (63.3310).
- A Title V permit application may be used in lieu of the initial notification, provided that the information specified in 63.9(b) is included, the State has an approved Part 70 operating permit program, and the State has received delegation of authority from EPA.
- The initial compliance demonstration includes calculations and supporting documentation showing that during the initial compliance period the organic HAP content of each coating and printing material and the mass fraction of organic HAP were applied to coating and printing web operations (63.4320).
- Applies to all compliance options: compliant coatings option, emission rate without add-on controls option, emission rate with add-on controls option, organic HAP overall control efficiency option, and oxidizer outlet organic HAP concentration options.
- See footnote 4.
- The initial compliance demonstration includes calculations and supporting documentation showing that during the initial compliance period the organic HAP emission rate for web coating/printing operations and the mass fraction of organic HAP for dyeing/finishing operations was less than or equal to the applicable emission limit in Table 1 (63.4330).
- See footnote 7.
- The initial compliance demonstration includes results of the performance test or liquid/liquid material balance, if applicable; calculations and supporting documentation showing that during the initial compliance period the organic HAP emission rate was less than or equal to the applicable limit in Table 1; the operating limits established during the performance test and results of the continuous parameter monitoring; and documentation of whether a work practice plan was developed and implemented [63.4340(a)(3) and (b)(3)].
- The initial compliance demonstration includes results of the performance test or liquid/liquid material balance, if applicable; calculations and supporting documentation showing that during the initial compliance period the organic HAP emission rate was less than or equal to the applicable emission limit in Table 1 or the oxidizer outlet organic HAP concentration was no greater than 20 ppmw on a dry basis and the capture system efficiency was 100%; the operating limits established during the performance test and results of the continuous parameter monitoring; and documentation of whether a work practice plan was developed and implemented.
- See footnote 10.
- Applies to add-on controls option only.
- Performance tests must be performed for each capture system and add-on control device, except for solvent recovery systems.
- For solvent recovery systems, the first material balance must be initiated.
- The initial compliance period begins on the compliance date and ends on the last day of the first full month after the compliance date [63.4320 and 63.4350(a)(3) and (b)(3)].
- The initial compliance period begins on the compliance date and ends on the last day of the 12<sup>th</sup> full month after the compliance date (63.4330) or the later of the last day of the 12<sup>th</sup> full month after the compliance date, the date the performance test is conducted or the date the liquid/liquid material balance is initiated, whichever is later [63.4343(a)(3) and (b)(3)].
- The initial semiannual report must cover the period beginning on the day after the end of the initial compliance period and ends on June 30 or December 31, whichever date is the first date six months following the end of the initial compliance period. (63.4311(a)(1))

**B. All New<sup>2</sup> or Reconstructed Sources**

<b>Event</b>	<b>Timeline<sup>1</sup></b>
<b>Effective Date</b>	May 29, 2003 [68 FR 32172]
<b>Submit Initial Notification<sup>3</sup></b>	Within 120 days from start-up or September 26, 2003 [63.4310(b)]
<b>Compliance Date</b>	May 29, 2003, upon-startup, or upon becoming a new major source, whichever is later. [63.4283(c)(1)]
<b>Conduct Initial Compliance Demonstrations<sup>5</sup></b>	June 30, 2003 or the last day of the first full month after startup, whichever is later <sup>6</sup> for the Compliant Materials Option
	May 31, 2004 or the last day of the 12 <sup>th</sup> full month after startup, whichever is later (63.4320) <sup>8</sup> for the Emission Rate without Add-On Controls Option
	May 31, 2004 or the last day of the 12 <sup>th</sup> full month after startup, whichever is later, OR the date the facility conducts liquid-liquid material balance, if required [63.4340(a)(3)] for the Emission Rate with Add-On Controls Option
	June 30, 2003 or the last day of the first full month after startup, whichever is later [63.4350 (b)(3)] <sup>11</sup> for the Organic HAP Overall Control Efficiency and Oxidizer Outlet Organic HAP Concentration Options
<b>Submit Notification of Intent to Conduct a Performance Test<sup>12</sup></b>	By September 26, 2003 or within 60 days before the performance test is scheduled to begin, whichever is later. [63.7(b) and 63.9(e)]
<b>Conduct Performance Test<sup>13</sup></b>	By November 25, 2003 or 180 days after startup, whichever is later [63.4340(a)(1) and 63.4350(a)(1)]
<b>Conduct Liquid-Liquid Material Balance<sup>14</sup></b>	By May 29, 2003 or startup, whichever is later [63.4340(a)(1) and 63.4350(a)(1)]
<b>Develop and Implement Work Practice Plan</b>	By May 29, 2003 or startup, whichever is later [63.4340(a)(2) and 63.4350(a)(2)]
<b>Results of Initial Performance Test</b>	By January 24, 2004 or 60 days after completing the performance test, whichever is later [63.4311(b)]
<b>Notification of Compliance Status</b>	No later than 30 days following the completion the initial compliance period [63.4310(c)] <sup>15</sup> for the Compliant Materials, Organic HAP Overall Control Efficiency and Oxidizer Outlet Organic HAP Concentration Options
	No later than 30 days following the end of the initial compliance period [63.4310(c)] <sup>16</sup> for the Emission Rate without Add-On Control and Emission Rate with Add-On Controls Option
<b>Semiannual Compliance Reports<sup>17</sup></b>	No later than July 31 or January 31, whichever date is the first date 6 months after the end of the initial compliance period, and semiannually thereafter [63.4320(a)(1)]

**Notes:**

- This timeline does not take into account special situations such as compliance extensions.
- New affected source: an affected source that the construction or reconstruction of which was begun after September 13, 2000 (63.3310).
- A Title V permit application may be used in lieu of the initial notification, provided that the information specified in 63.9(b) is included, the State has an approved Part 70 operating permit program, and the State has received delegation of authority from EPA.
- The initial compliance demonstration includes calculations and supporting documentation showing that during the initial compliance period the organic HAP content of each coating and printing material and the mass fraction of organic HAP were applied to coating and printing web operations (63.4320).
- Applies to all compliance options: compliant coatings option, emission rate without add-on controls option, emission rate with add-on controls option, organic HAP overall control efficiency option, and oxidizer outlet organic HAP concentration options.
- See footnote 4.
- The initial compliance demonstration includes calculations and supporting documentation showing that during the initial compliance period the organic HAP emission rate for web coating/printing operations and the mass fraction of organic HAP for dyeing/finishing operations was less than or equal to the applicable emission limit in Table 1 (63.4330).
- See footnote 7.
- The initial compliance demonstration includes results of the performance test or liquid/liquid material balance, if applicable; calculations and supporting documentation showing that during the initial compliance period the organic HAP emission rate was less than or equal to the applicable limit in Table 1; the operating limits established during the performance test and results of the continuous parameter monitoring; and documentation of whether a work practice plan was developed and implemented [63.4340(a)(3) and (b)(3)].
- The initial compliance demonstration includes results of the performance test or liquid/liquid material balance, if applicable; calculations and supporting documentation showing that during the initial compliance period the organic HAP emission rate was less than or equal to the applicable emission limit in Table 1 or the oxidizer outlet organic HAP concentration was no greater than 20 ppmw on a dry basis and the capture system efficiency was 100%; the operating limits established during the performance test and results of the continuous parameter monitoring; and documentation of whether a work practice plan was developed and implemented.
- See footnote 10.
- Applies to add-on controls option only.
- Performance tests must be performed for each capture system and add-on control device, except for solvent recovery systems.
- For solvent recovery systems, the first material balance must be initiated.
- The initial compliance period begins on the compliance date and ends on the last day of the first full month after the compliance date [63.4320 and 63.4350(a)(3) and (b)(3)].
- The initial compliance period begins on the compliance date and ends on the last day of the 12<sup>th</sup> full month after the compliance date (63.4330) or the later of the last day of the 12<sup>th</sup> full month after the compliance date, the date the performance test is conducted or the date the liquid/liquid material balance is initiated, whichever is later [63.4343(a)(3) and (b)(3)].
- The initial semiannual report must cover the period beginning on the day after the end of the initial compliance period and ends on June 30 or December 31, whichever date is the first date six months following the end of the initial compliance period. (63.4311(a)(1))

### XIII. Table 3 – Applicability of General Provisions to Subpart OOOO

**Note:** As stated in this Subpart, facilities must comply with applicable general provisions

General Provision Reference	Subject	Applicable to Subpart OOOO	Explanation
63.1 (a)(1)-(12)	General Applicability	Yes	
63.1 (b)(1)-(3)	Initial Applicability Demonstration	Yes	Applicability in subpart OOOO is also specified in §63.4281
63.1 (c)(1)	Applicability After Standard Establisher	Yes	
63.1 (c)(2)-(3)	Applicability of Permit Program for Area Sources	No	Area sources are not subject to subpart OOOO
63.1 (c)(4)-(5)	Extensions and Notifications	Yes	
63.1 (e)	Applicability of Permit Program Before Relevant Standard is Set	Yes	
63.2	Definitions	Yes	Additional Definitions are specified in §63.4371
63.3 (a)-(c)	Units and Abbreviations	Yes	
63.4 (a)(1)-(5)	Prohibited Activities	Yes	
63.4 (b)-(c)	Circumvention/Severability	Yes	
63.5 (a)	Construction/Reconstruction	Yes	
63.5 (b)(1)-(6)	Requirements for Existing, Newly Constructed, and Reconstructed Sources	Yes	
63.5 (d)	Application for Approval of Construction/Reconstruction	Yes	
63.5 (e)	Approval of Construction/Reconstruction	Yes	
63.5 (f)	Approval of Construction/Reconstruction Based on Prior State Review	Yes	
63.6 (a)	Compliance With Standards and Maintenance Requirements – Applicability	Yes	
63.6 (b)(1)-(7)	Compliance Dates for New and Reconstructed Sources	Yes	Section 63.4283 specifies the compliance dates
63.6 (c)(1)-(5)	Compliance Dates for Existing Sources	Yes	Section 63.4283 specifies the compliance dates
63.6 (e)(1)-(2)	Operation and Maintenance	Yes	
63.6 (e)(3)	Startup, Shutdown, and Malfunction Plan	Yes	Only sources using an add-on control device to comply with the standards must complete startup, shutdown, and malfunction plans.
63.6 (f)(1)	Compliance Except During Startup, Shutdown and Malfunction	Yes	Applies only to sources using an add-on control device to comply with the standards
63.6 (f)(2)-(3)	Methods for Determining Compliance	Yes	
63.6 (g)(1)-(3)	Use an Alternative Standard	Yes	
63.6 (h)	Compliance With Opacity/Visible Emission Standards	No	Subpart OOOO does not establish opacity standards and does not require continuous opacity monitoring systems (COMS)
63.6 (i)(1)-(16)	Extension of Compliance	Yes	
63.6 (j)	Presidential Compliance Exemption	Yes	
63.7 (a)(1)	Performance Test Requirements – Applicability	Yes	Applies to all affected sources. Additional requirements for performance testing are specified in §§63.4360, 63.4361 and 63.4362.
63.7 (a)(2)	Performance Test Requirements – Dates	Yes	Applies only to performance tests for capture systems and control device efficiency at sources using these to comply with the standard.
63.7 (a)(3)	Performance Test Required by the Administrator	Yes	

General Provision Reference	Subject	Applicable to Subpart OOOO	Explanation
63.7(b) – (e)	Performance Test Requirements – Notification, Quality Assurance, Facilities Necessary for Safe Testing, Conditions During Test	Yes	Applies only to performance tests for capture system and control device efficiency at sources using these to comply with the standard
63.7 (f)	Performance Test Requirements – Use of Alternative Test Methods	Yes	Applies to all test methods except those used to determine capture system efficiency
63.7 (g)-(h)	Performance Test Requirements – Data Analysis, Recordkeeping, Waiver of Test	Yes	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standards.
63.8 (a)(1)-(3)	Monitoring Requirements – Applicability	Yes	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standards. Additional requirements for monitoring are specified in §63.4364.
63.8 (a)(4)	Additional Monitoring Requirements	No	Subpart OOOO does not have monitoring requirements for flares
63.8 (b)	Conduct of Monitoring	Yes	Reserved
63.8 (c)(1) – (3)	Continuous Monitoring System (CMS) Operation and Maintenance	Yes	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standards. Additional requirements for CMS operations and maintenance are specified in §63.4363
63.8 (c)(4)	CMS	No	Section 63.4364 specifies the requirements for operation of CMS for capture system and add-on control devices at sources using these to comply
63.8 (c)(5)	COMS	No	Subpart OOOO does not have opacity or visible emission standards
63.8 (c)(6)	CMS Requirements	No	Section 63.4364 specifies the requirements for monitoring systems for capture systems and add-on control devices at sources using these to comply.
63.8 (c)(7)-(8)	CMS Out of Control Periods and Reporting	Yes	
63.8 (d)-(e)	Quality Control Program and CMS Performance Evaluation	No	Subpart OOOO does not require the use of continuous emissions monitoring systems.
63.8 (f)(1)-(5)	Use of an Alternative Monitoring Method	Yes	
63.8 (g)(1)-(5)	Data Reduction	No	Sections 63.4342 and 63.4352 specify monitoring data reduction
63.9 (a)	Applicability and General Information	Yes	
63.9 (b)	Initial Notifications	No	Subpart OOOO provides 1 year for an existing source to submit an initial notification
63.9 (c)	Request for Extension of Compliance	Yes	
63.9 (d)	Notification that Source is Subject to Special Compliance Requirements	Yes	
63.9 (e)	Notification of Performance Test	Yes	Applies only to capture system and add-on control device performance tests at sources using these to comply with the standards
63.9 (f)	Notification of Visible Emissions/Opacity Tests	No	Subpart OOOO does not have opacity or visible emissions standards
63.9 (g)(1)-(3)	Additional Notifications when using CMS	No	Subpart OOOO does not require the use of continuous emissions monitoring systems
63.9 (h)	Notification of Compliance Status	Yes	Section 43.4310 specifies the dates for submitting the notification of compliance status
63.9 (i)	Adjustment of Submittal Deadlines	Yes	
63.9 (j)	Change in Previous Information	Yes	

General Provision Reference	Subject	Applicable to Subpart OOOO	Explanation
63.10 (a)	Recordkeeping/Reporting – Applicability and General Information	Yes	
63.10 (b)(1)	General Recordkeeping Requirements	Yes	Additional Requirements are specified in §§63.4312 and 63.4313
63.10 (b)(2)(i)-(v)	Recordkeeping Relevant to Startup, Shutdown, and Malfunction Periods	Yes	Requirements for Startup, Shutdown, and Malfunction records only apply to add-on control devices used to comply with the standards
63.10 (b)(2)(vi)-(xi)		Yes	
63.10 (b)(2)(xii)	Records	Yes	
63.10 (b)(2)(xiii)		No	Subpart OOOO does not require the use of continuous emissions monitoring systems
63.10 (b)(3)	Recordkeeping Requirements for Applicability Determinations	Yes	
63.10 (c)(1)-(6)	Additional Recordkeeping Requirements for Sources with CMS	Yes	
63.10 (c)(7)-(8)		No	The same records are required in §63.4311(a)(7)
63.10 (c)(9)-(15)		Yes	
63.10 (d)(1)	General Reporting Requirements	Yes	Additional Requirements are specified in §63.4311
63.10 (d)(2)	Report of Performance Test Results	Yes	Additional Requirements are specified in §63.4311(b)
63.10 (d)(3)	Reporting Opacity or Visible Emissions Observations	No	Subpart OOOO does not require opacity or visible emissions observations
63.10 (d)(4)	Progress Reports for Sources with Compliance Extensions	Yes	
63.10 (d)(5)	Startup, Shutdown, and Malfunction Reports	Yes	Applies only to add-on control devices at sources using these to comply with the standards
63.10 (e)(1)-(2)	Additional CMS Reports	No	Subpart OOOO does not require the use of continuous emissions monitoring systems
63.10 (e)(3)	Excess Emissions/CMS Performance Reports	No	Section 63.4311(a) specifies the contents of periodic compliance reports
63.10 (e)(4)	COMS Data Reports	No	Subpart OOOO does not specify requirements for opacity or COMS
63.10 (f)	Recordkeeping/Reporting Waiver	Yes	
63.11	Control Device Requirements/Flares	No	Subpart OOOO does not specify use of flares for compliance
63.12	State Authority and Delegations	Yes	
63.13	Addresses	Yes	
63.14	Incorporation by Reference	Yes	ASNI/ASME PTC 19.10-1981, Part 10
63.15	Availability of information/Confidentiality	Yes	

**XIV. Table 4 – Default Organic HAP Mass Fraction for Solvents and Solvent Blends to Subpart OOOO**

<b>Solvent/Solvent Blend</b>	<b>CAS No.</b>	<b>Average Organic HAP Mass Fraction</b>	<b>Typical Organic HAP, percent by mass</b>
Toluene	108-88-3	1.0	Toluene
Xylene(s)	1330-20-7	1.0	Xylenes, ethylbenzene
Hexane	110-54-3	0.5	n-hexane
Ethylbenzene	110-54-3	1.0	Ethylbenzene
Aliphatic 140		0	None
Aromatic 100		0.02	1% xylene, 1% cumene
Aromatic 150		0.09	Naphthalene
Aromatic naphtha	64742-95-6	0.02	1% xylene, 1% cumene
Aromatic solvent	64742-94-5	0.1	Naphthalene
Exempt mineral spirits	8032-32-4	0	None
Ligroines (VM & P)	8032-32-4	0	None
Lactol spirits	64742-89-6	0.15	Toluene
Low aromatic white spirit	64742-82-1	0	None
Mineral spirits	64742-88-7	0.01	Xylenes
Hydrotreated naphtha	64842-48-9	0	None
Hydrotreated light distillate	64742-47-8	0.001	Toluene
Stoddard solvent	8052-41-3	0.01	Xylenes
Super high-flash naphtha	64742-95-6	0.05	Xylenes
Varsol solvent	8052-49-3	0.05	0.5% xylenes, 0.5% ethylbenzene
VM & P naphtha	64742-89-8	0.06	3% toluene, 3% xylene
Petroleum distillate mixture	68477-31-6	0.08	4% naphthalene, 4% biphenyl

**XV. Table 5 – Default Organic HAP Mass Fraction for Petroleum Solvent Groups<sup>a</sup> to Subpart OOOO**

<b>Solvent Type</b>	<b>Average Organic HAP Mass Fraction</b>	<b>Typical Organic HAP, percent by mass</b>
Aliphatic <sup>b</sup>	0.03	1% Xylene, 1% Toluene, and 1% Ethylbenzene
Aromatic <sup>c</sup>	0.06	4% Xylene, 1% Toluene, and 1% Ethylbenzene

**Notes:**

- Use this table only if the solvent blend does not match any of the solvent blends in Table 4 to this subpart and you only know whether the blend is aliphatic or aromatic
- Mineral spirits 135, Mineral Spirits 150 EC, Naphtha, Mixed Hydrocarbon, Aliphatic Hydrocarbon, Aliphatic Naphtha, Naphthol Spirits, Petroleum Spirits, Petroleum Oil, Petroleum Naphtha, Solvent Naphtha, Solvent Blend
- Medium flash Naphtha, High-flash Naphtha, Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Hydrocarbons, Aromatic Hydrocarbons, Light Aromatic Solvent

## XVI. Summary of Equations for Subpart 0000

- **Section 63.4321 Equations – Emission Limitations for Compliant Materials Option**

**Equation 1:** Use this equation to calculate organic HAP content of each coating or printing material

$$H_C = W_C / W_F$$

Where:

- $H_C$  = Organic HAP content of the coating or printing material, kg organic HAP per kg of solids.
- $W_C$  = Mass fraction of organic HAP in the coating or printing material, kg organic HAP per kg material.
- $W_F$  = Mass fraction of solids in the coating or printing material, kg solids per kg of coating or printing material.

- **Section 63.4331 Equations – Emission Limitations for Emission Rate Without Add-On Controls Option**

**Equation 1:** Use this equation to calculate the mass of organic HAP emissions

$$H_E = A + B - R_W$$

Where:

- $H_E$  = Mass of organic HAP emissions during the compliance period, kg.
- $A$  = Total mass of organic HAP in the coating and printing materials applied during the compliance period, kg (Equation 3).
- $B$  = Total mass of organic HAP in the thinning and cleaning materials applied during the compliance period, kg (Equation 4).
- $R_W$  = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous TSDF, kg

**Equation 1A:** Use this equation to calculate the kg organic HAP in the coating and printing materials applied.

$$A = \sum_{i=1}^m (M_{C,i})(W_{C,i})$$

Where:

- $A$  = Total mass of organic HAP in the coating and printing materials applied during the compliance period, kg
- $M_{C,i}$  = Total mass of coating and printing material,  $i$ , applied during the compliance period
- $W_{C,i}$  = Mass fraction of organic HAP in coating or printing material,  $i$ , kg organic HAP per kg of material
- $m$  = Number of different coating and printing materials applied during the compliance period

**Equation 1B:** Use this equation to calculate the kg of organic HAP in the thinning and cleaning materials

$$B = \sum_{j=1}^n (M_{T,j})(W_{T,j})$$

Where:

- B = Total mass of organic HAP in the thinning and printing materials applied during the compliance period, kg
- $M_{T,j}$  = Total mass of thinning or cleaning material, j, applied during the compliance period
- $W_{T,j}$  = Mass fraction of organic HAP in thinning or cleaning material, j, kg organic HAP per kg of material
- n = Number of different coating and printing materials applied during the compliance period

**Equation 2:** Use this equation to calculate the total mass of coating and printing solids

$$H_T = \sum_{i=1}^m (M_{C,i})(W_{F,i})$$

Where:

- $H_T$  = Total mass of solids contained in coating and printing materials applied during the compliance period, kg
- $M_{C,i}$  = Total mass of coating and printing material, i, applied during the compliance period
- $W_{F,i}$  = Mass fraction of solids in coating or printing material, i, kg solids per kg of material
- m = Number of different coating and printing materials applied during the compliance period

**Equation 3:** Use this equation to calculate the organic HAP emission rate for the compliance period.

$$H_{Y,R} = \frac{H_E}{H_T}$$

Where:

- $H_{Y,R}$  = Organic HAP emission rate for the compliance period, kg of organic HAP emitted per kg of solids in coating and printing materials applied
- $H_E$  = Total mass organic HAP emissions from all coating, printing, thinning and cleaning materials applied during the compliance period, kg (Equation 2).
- $H_T$  = Total mass of coating and printing solids in materials applied during the compliance period, kg (Equation 5).

**Equation 4:** Use this equation to calculate the mass of organic HAP emissions.

$$H_E = A - R_W - WW$$

Where:

- $H_E$  = Mass of organic HAP emissions during the compliance period, kg.
- A = Total mass of organic HAP in the dyeing and finishing materials applied during the compliance period, kg (Equation 8).
- $R_W$  = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous TSDF, kg
- WW = Total mass of organic HAP in wastewater discharged to a POTW or receiving onsite secondary treatment during the compliance period.

**Equation 4A:** Use this equation to calculate the kg organic HAP in the dyeing and finishing materials during the compliance period.

$$A = \sum_{i=1}^m (M_{C,i})(W_{C,i})$$

Where:

- A = Total mass of organic HAP in the dyeing and finishing materials applied during the compliance period, kg
- $M_{C,i}$  = Mass of dyeing or finishing material, i, applied during the compliance period
- $W_{C,i}$  = Mass fraction of organic HAP in dyeing or finishing material, i, kg organic HAP per kg of material
- m = Number of different dyeing or finishing materials applied during the compliance period

**Equation 5:** Use this equation to calculate the total mass of dyeing and finishing materials.

$$M_T = \sum_{i=1}^m (M_{C,i})$$

Where:

- $M_T$  = Total mass of dyeing and finishing materials applied during the compliance period, kg
- $M_{C,i}$  = Mass of dyeing or finishing material, i, applied during the compliance period
- m = Number of dyeing and finishing materials applied during the compliance period

**Equation 6:** Use the equation to calculate the organic HAP emission rate.

$$H_{YR} = \frac{H_E}{M_T}$$

Where:

- $H_{YR}$  = Organic HAP emission rate for the compliance period, kg of organic HAP emitted per kg of dyeing and finishing materials
- $H_E$  = Total mass organic HAP emissions during the compliance period, kg (Equation 7).
- $M_T$  = Total mass of dyeing and finishing materials applied during the compliance period, kg (Equation 5).

**Equation 7:** Use this equation to determine the mass of organic HAP in the affected wastewater.

$$WW = \sum_{k=1}^o (H_{W,K}) (F_{W,K}) \times 10^{-3}$$

Where:

- WW = Total mass of organic HAP contained in the wastewater streams
  - $H_{W,K}$  = Average organic HAP concentration of wastewater stream k, ppmw
  - $F_{W,K}$  = Annual average mass flow rate of wastewater stream k, Mg/yr.
  - o = Number of wastewater streams
- **Section 63.4341 Equations – Initial Compliance Demonstration for Emission Rate with Add-On Controls**

**Equation 1:** When the operation is not performing a liquid-liquid material balance, use this equation to calculate the organic HAP emission reduction for each controlled web coating/printing operation.

$$H_C = (A_1 + B_1 - H_{UNC}) \left( \frac{CE}{100} \times \frac{DRE}{100} \right)$$

Where:

- $H_C$  = Mass of organic HAP emission reduction for the controlled operation during the compliance period, kg.
- $A_1$  = Total mass of organic HAP in the coating and printing materials applied in the controlled operation during the compliance period (Equation 13), kg.
- $B_1$  = Total mass of organic HAP in the thinning and cleaning materials applied in the controlled operation during the compliance period (Equation 14), kg.
- $H_{UNC}$  = Total mass of organic HAP in the coating, printing, thinning and cleaning materials applied during deviations in the controlled operation during the compliance period (Equation 15), kg.
- CE = Capture efficiency of the emission capture system vented to the add-on control device, %.
- DRE = Organic HAP destruction removal efficiency of the add-on control device, %.

**Equation 1A:** Use this equation to calculate the total mass of organic HAP in the coating and printing materials applied in the controlled web coating/printing operation during the compliance period.

$$A_1 = \sum_{i=1}^m (M_{C,I}) (W_{C,I})$$

Where:

- $A_1$  = Total mass of organic HAP in the coating and printing materials applied in the controlled operations during the compliance period, kg.
- $M_{C,I}$  = Mass of coating or printing material, i, applied during the compliance period, kg.
- $W_{C,I}$  = Mass fraction of organic HAP in coating or printing material, i, kg per kg.
- m = Number of different coating and printing materials applied during the compliance period.

**Equation 1B:** Use this equation to calculate the total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operations.

$$B_1 = \sum_{j=1}^n (M_{T,J}) (W_{T,J})$$

Where:

- $B_1$  = Total mass of organic HAP in the thinning and cleaning materials applied during the compliance period, kg.
- $M_{T,J}$  = Total mass of thinning or cleaning material, j, applied during the compliance period, kg.
- $W_{T,J}$  = Mass fraction of organic HAP in thinning or cleaning material, j, kg per kg.
- n = Number of different thinning and cleaning materials applied during the compliance period.

**Equation 1C:** Use this equation to calculate the mass of organic HAP in the coating, printing, thinning and cleaning materials applied in the controlled web coating/printing operation during deviations.

$$H_{UNC} = \sum_{h=1}^q (M_H) (W_H)$$

Where:

- $H_{UNC}$  = Total mass of organic HAP in the coating, printing, thinning and cleaning materials applied during all deviations that occurred during the compliance period, kg.
- $M_H$  = Total mass of coating, printing, thinning or cleaning material, j, applied during deviations, kg.

- $W_H$  = Mass fraction of organic HAP in coating, printing, thinning or cleaning material, j, kg organic HAP per kg material.
- $q$  = Number of different coating, printing, thinning and cleaning materials applied and used.

**Equation 2:** Use this equation to calculate the solvent recovery system's volatile organic matter collection and recovery efficiency when the controlled web coating/printing operation is using liquid-liquid material balances.

$$R_V = 100 \times \frac{M_{VR}}{\sum_{i=1}^m M_i WV_{c,i} + \sum_{j=1}^n M_j WV_{t,j}}$$

Where:

- $R_V$  = Volatile organic matter collection and recovery efficiency of the solvent recovery system during the compliance period, %.
- $M_{VR}$  = Mass of volatile organic matter recovered by the solvent recovery system during the compliance period.
- $M_i$  = Mass of coating or printing material, i, applied in the web coating/printing operation by the solvent recovery system, kg.
- $WV_{c,i}$  = Mass fraction of volatile organic matter for coating or printing material, kg volatile organic matter per kg coating or printing material.
- $M_j$  = Mass of thinning or cleaning material, i, applied in the web coating/printing operation by the solvent recovery system, kg
- $WV_{t,j}$  = Mass fraction of volatile organic matter for thinning or cleaning material, kg volatile organic matter per kg coating or printing material.
- $m$  = Number of different coating or printing materials applied in the operation controlled by the solvent recovery system.
- $n_j$  = Number of different thinning or cleaning materials applied in the operation controlled by the solvent recovery system.

**Equation 3:** Use this equation to calculate the mass of organic HAP emissions reduction for the web coating/printing operation controlled by the solvent recovery system.

$$H_{CSR} = (A_{CSR} + B_{CSR}) \left( \frac{R_V}{100} \right)$$

Where:

- $H_{CSR}$  = Mass of organic HAP emission reduction for the controlled operation controlled by the solvent recovery system during the compliance period, kg.
- $A_{CSR}$  = Total mass of organic HAP in the coating and printing materials applied in the controlled operation by the solvent recovery system during the compliance period (Equation 18), kg.
- $B_{CSR}$  = Total mass of organic HAP in the thinning and cleaning materials applied in the controlled operation by the solvent recovery system during the compliance period (Equation 19), kg.
- $R_V$  = Volatile organic matter collection and recovery efficiency of the solvent recovery system during the compliance period, %.

**Equation 3A:** Use this equation to calculate the total mass of organic HAP in the coating and printing materials applied in the web coating/printing operations controlled by the solvent recovery system.

$$A_{CSR} = \sum_{i=1}^m (M_{C,I})(W_{C,I})$$

Where:

- $A_{CSR}$  = Total mass of organic HAP in the coating and printing materials applied in the web coating/printing operations controlled by the solvent recovery system during the compliance period, kg.
- $M_{C,I}$  = Mass of coating or printing material, i, applied in the web coating/printing operations controlled by the solvent recovery system during the compliance period, kg.
- $W_{C,I}$  = Mass fraction of organic HAP in coating or printing material, i, kg per kg.
- $m$  = Number of different coating and printing materials applied during the compliance period.

**Equation 3B:** Use this equation to calculate the total mass of organic HAP in the thinning and cleaning materials applied in the web coating/printing operations controlled by the solvent recovery system.

$$B_{CSR} = \sum_{j=1}^n (M_{T,J})(W_{T,J})$$

Where:

- $B_{CSR}$  = Total mass of organic HAP in the thinning and cleaning materials applied in the web coating/printing operations controlled by the solvent recovery system during the compliance period, kg.
- $M_{T,J}$  = Total mass of thinning or cleaning material, j, applied in the web coating/printing operations controlled by the solvent recovery system during the compliance period, kg.
- $W_{T,J}$  = Mass fraction of organic HAP in thinning or cleaning material, j, kg per kg.
- $n$  = Number of different thinning and cleaning materials applied during the compliance period.

**Equation 4:** Use this equation to calculate the organic HAP emission rate with add-on controls for the compliance period.

$$H_{HAP} = \frac{H_E - \sum_{i=1}^q (H_{C,I}) - \sum_{j=i}^r (H_{CSR,J})}{H_T}$$

Where:

- $H_{HAP}$  = Organic HAP emission rate with add-on controls for the compliance period, kg organic HAP emitted per kg solids applied.
- $H_E$  = Total mass of organic HAP emissions before add-on controls from all the coating, printing, thinning, and cleaning materials applied during the compliance period, kg.
- $H_{C,I}$  = Total mass of organic HAP emissions reduction for controlled web coating/printing operation, i, not using a liquid-liquid material balance during the compliance period, kg.
- $H_{CSR,J}$  = Mass fraction of organic HAP emissions reduction for web coating/printing operation, j, controlled by a solvent recovery system using a liquid-liquid material balance during the compliance period, kg.
- $H_T$  = Total mass of coating and printing solids applied during the compliance period, kg.
- $q$  = Number of controlled web coating/printing operations not using a liquid-liquid material balance.
- $r$  = Number of web coating/printing operations controlled by a solvent recovery system using a liquid-liquid material balance.

**Equation 5:** Use this equation to calculate the organic HAP emission reduction for each controlled dyeing/finishing operation not using liquid-liquid material balance.

$$H_C = (A_1 - H_{UNC}) \left( \frac{CE}{100} \times \frac{DRE}{100} \right)$$

Where:

- $H_C$  = Mass of organic HAP emission reduction for the controlled dyeing/finishing operation during the compliance period, kg.
- $A_1$  = Total mass of organic HAP in the coating and printing materials applied in the controlled dyeing/finishing operation during the compliance period (Equation 13), kg.
- $H_{UNC}$  = Total mass of organic HAP in the dyeing and finishing materials applied during deviations in the controlled operation during the compliance period (Equation 15), kg.
- CE = Capture efficiency of the emission capture system vented to the add-on control device, %.
- DRE = Organic HAP destruction removal efficiency of the add-on control device, %.

**Equation 5A:** Use this equation to calculate the total mass of organic HAP in the dyeing and finishing materials applied in the controlled dyeing/finishing operation during the compliance period.

$$A_1 = \sum_{i=1}^m (M_{C,i}) (W_{C,i})$$

Where:

- $A_1$  = Total mass of organic HAP in the dyeing and finishing materials applied in the controlled operations during the compliance period, kg.
- $M_{C,i}$  = Mass of dyeing or finishing material, i, applied during the compliance period, kg.
- $W_{C,i}$  = Mass fraction of organic HAP in dyeing or finishing material, i, kg per kg.
- m = Number of different dyeing and finishing materials applied during the compliance period.

**Equation 5B:** Use this equation to calculate the mass of organic HAP in the coating dyeing and finishing materials applied in the controlled dyeing/finishing operation during deviations.

$$H_{UNC} = \sum_{h=1}^q (M_H) (W_H)$$

Where:

- $H_{UNC}$  = Total mass of organic HAP in the dyeing and finishing materials applied during all deviations that occurred during the compliance period, kg.
- $M_H$  = Total mass of dyeing and finishing material, j, applied during deviations, kg.
- $W_H$  = Mass fraction of organic HAP in dyeing or finishing material, h, kg organic HAP per kg material.
- q = Number of different dyeing and finishing materials applied and used.

**Equation 6:** Use this equation to calculate the solvent recovery system's volatile organic matter collection and recovery efficiency when the controlled web coating/printing operation is using liquid-liquid material balances.

$$R_V = 100 \times \frac{M_{VR}}{\sum_{i=1}^m M_i W_{V_{c,i}} + \sum_{j=1}^n M_j W_{V_{t,j}}}$$

Where:

- $R_V$  = Volatile organic matter collection and recovery efficiency of the solvent recovery system during the compliance period, %.
- $M_{VR}$  = Mass of volatile organic matter recovered by the solvent recovery system during the compliance period.
- $M_i$  = Mass of coating or printing material,  $i$ , applied in the web coating/printing operation by the solvent recovery system, kg.
- $WV_{C,i}$  = Mass fraction of volatile organic matter for coating or printing material, kg volatile organic matter per kg coating or printing material.
- $M_J$  = Mass of thinning or cleaning material,  $i$ , applied in the web coating/printing operation by the solvent recovery system, kg
- $WV_{T,j}$  = Mass fraction of volatile organic matter for thinning or cleaning material, kg volatile organic matter per kg coating or printing material.
- $m$  = Number of different coating or printing materials applied in the operation controlled by the solvent recovery system.
- $n_j$  = Number of different thinning or cleaning materials applied in the operation controlled by the solvent recovery system.

**Equation 7:** Use this equation to calculate the mass of organic HAP emissions reduction for the dyeing/finishing operation controlled by the solvent recovery system.

$$H_{CSR} = (A_{CSR}) \left( \frac{R_V}{100} \right)$$

Where:

- $H_{CSR}$  = Mass of organic HAP emission reduction for the controlled dyeing/finishing operation controlled by the solvent recovery system during the compliance period, kg.
- $A_{CSR}$  = Total mass of organic HAP in dyeing and finishing materials applied in the controlled operation by the solvent recovery system during the compliance period (Equation 18), kg.
- $R_V$  = Volatile organic matter collection and recovery efficiency of the solvent recovery system during the compliance period, %.

**Equation 7A:** Use this equation to calculate the total mass of organic HAP in the dyeing and finishing materials applied in the dyeing/finishing operations controlled by the solvent recovery system.

$$A_{CSR} = \sum_{i=1}^m (M_{C,i}) (W_{C,i})$$

Where:

- $A_{CSR}$  = Total mass of organic HAP in the dyeing and finishing materials applied in the dyeing/finishing operations controlled by the solvent recovery system during the compliance period, kg.
- $M_{C,i}$  = Mass of dyeing or finishing material,  $i$ , applied in the dyeing/finishing operations controlled by the solvent recovery system during the compliance period, kg.
- $W_{C,i}$  = Mass fraction of organic HAP in dyeing or finishing material,  $i$ , kg per kg.
- $m$  = Number of different dyeing and finishing materials applied during the compliance period.

**Equation 8:** Use this equation to calculate the organic HAP emission rate with add-on controls for the compliance period.

$$H_{HAP} = \frac{H_E - \sum_{i=1}^q (H_{C,I}) - \sum_{j=i}^r (H_{CSR,J})}{M_T}$$

Where:

- $H_{HAP}$  = Organic HAP emission rate with add-on controls for the compliance period, kg organic HAP emitted per kg solids applied.
  - $H_E$  = Total mass of organic HAP emissions before add-on controls from all the dyeing and finishing materials applied during the compliance period, kg.
  - $H_{C,I}$  = Total mass of organic HAP emissions reduction for controlled web coating/printing operation, i, not using a liquid-liquid material balance during the compliance period, kg.
  - $H_{CSR,J}$  = Total mass of organic HAP emissions reduction for dyeing/finishing operation, j, controlled by a solvent recovery system using a liquid-liquid material balance during the compliance period, kg.
  - $M_T$  = Total mass of dyeing and finishing materials applied during the compliance period, kg.
  - q = Number of controlled dyeing/finishing operations not using a liquid-liquid material balance.
  - r = Number of dyeing/finishing operations controlled by a solvent recovery system using a liquid-liquid material balance.
- **Section 63.4351 Equations – Initial Compliance Demonstration for Organic Control Efficiency and Oxidizer Outlet Organic HAP Concentration Options**

**Equation 1:** Use this equation to calculate the organic HAP overall control efficiency.

$$E_{HAP} = \frac{\sum_{i=1}^q (H_{C,I}) + \sum_{j=i}^r (H_{CSR,J})}{H_E}$$

Where:

- $E_{HAP}$  = Organic HAP overall control efficiency for the compliance period, kg organic HAP emissions per kg organic HAP emissions before add-on controls during the compliance period.
  - $H_E$  = Total mass of organic HAP emissions reductions for controlled web coating/printing operation, i, during the compliance period, kg.
  - $H_{C,I}$  = Total mass of organic HAP emissions reduction for controlled web coating/printing operation, i, during the compliance period, kg.
  - $H_{CSR,J}$  = Total mass of organic HAP emissions reduction for controlled web coating/printing operation, j, during the compliance period, kg.
  - $M_T$  = Total mass of dyeing and finishing materials applied during the compliance period, kg.
  - q = Number of controlled web coating/printing operations except those controlled with a solvent recovery system.
  - r = Number of web coating/printing operations controlled by a solvent recovery system.
- **Section 63.4361 Equations – Emission Capture System Efficiency for Performance Testing and Monitoring Requirements**

**Equation 1:** Use this equation to calculate the total mass of TVH liquid input from all the regulated materials applied in the operation during the capture efficiency test run.

$$TVH_{applied} = \sum_{i=1}^n (TVH_i)(M_i)$$

Where:

- $TVH_{applied}$  = Mass of liquid TVH in regulated materials applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run, kg.
- $TVH_i$  = Mass of fraction of TVH in regulated material, i, applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run, kg TVH per kg material.
- $M_i$  = Total mass of regulated material, i, applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run, kg.
- n = Number of different regulated materials applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run.

**Equation 2:** Use this equation to determine the percent capture efficiency of the emission capture system.

$$CE = \frac{(TVH_{applied} - TVH_{uncaptured})}{TVH_{applied}} \times 100$$

Where:

- CE = Capture efficiency of the emission capture system vented to the add-on control device, %.
- $TVH_{applied}$  = Total mass of TVH liquid input applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run, kg.
- $TVH_{uncaptured}$  = Total mass of TVH that is not captured by the emission capture system and that exits from the enclosure during the capture efficiency test run, kg.

**Equation 3:** Use this equation to determine the percent capture efficiency of the emission capture system for the capture efficiency test run.

$$CE = \frac{TVH_{captured}}{(TVH_{captured} + TVH_{uncaptured})} \times 100$$

Where:

- CE = Capture efficiency of the emission capture system vented to the add-on control device, %.
- $TVH_{captured}$  = Total mass of TVH captured by the emission capture system measured at the inlet of the add-on control device during the emission capture efficiency test run, kg.
- $TVH_{uncaptured}$  = Total mass of TVH that is not captured by the emission capture system and that exits from the enclosure during the capture efficiency test run, kg.

• **Section 63.4362 Equations – Add-On Control Device Emission Destruction or Removal Efficiency for Performance Testing and Monitoring Requirements**

**Equation 1:** Use this equation to determine the total gaseous organic emissions mass flow rates for the inlet and outlet of the add-on control device

$$M_f = Q_{sd} C_c [12][0.0416][10^{-6}].$$

Where:

- $M_f$  = Total gaseous organic emissions mass flow rate, kg/hour.

- $C_c$  = Concentration of organic compounds as carbon in the vent gas, ppmv, dry basis.
- $Q_{sd}$  = Volumetric flow rate of gases entering or exiting the add-on control device, dry standard cubic meters per hour.
- 0.0416 = Conversion factor for molar volume, kg-moles per cubic meter.

**Equation 2:** Use this equation to determine the add-on control device organic emissions destruction or removal efficiency

$$DRE = \frac{(M_{FI} - M_{FO})}{M_{FI}}$$

Where:

- DRE = Organic emissions destruction or removal efficiency of the add-on control device, %.
- $M_{FI}$  = Total gaseous organic emissions mass flow rate at the inlet to the add-on control device, kg/hour.
- $M_{FO}$  = Total gaseous organic emissions mass flow rate at the outlet(s) of the add-on control device, kg/hour.

## XVII. Startup, Shutdown and Malfunction (SSM) Plan Checklist

The following is a Summary of Requirements for MACT Standard's Startup, Shutdown, and Malfunction Plans. This document was originally prepared in September 2003 by EC/R Incorporated for the U.S. Environmental Protection Agency and is only a tool for assessing a facility's plan.

It should be noted that on April 20, 2006, EPA issued a final amendment to the general provisions of the national emissions standards for hazardous air pollutants (NESHAP) and other specific national emissions standards affecting the SSM plan requirements. An SSM plan is still required, as applicable, however, a source is now allowed to deviate from its SSM plan in order to have more flexibility to address emissions during such SSM periods. However, sources must still operate to minimize emissions during periods of startup, shutdown and malfunction. Refer to <http://www.epa.gov/ttn/oarpg/t3/factsheets/genprovfs.html> for additional details.

### • What is meant by Startup, Shutdown and Malfunction?

- **Startup** is defined as "setting in operation of an affected source or portion of an affected source for any purpose" (40 CFR 63.2). Startup is what you do when you start your process equipment.
- **Shutdown** is defined as "the cessation of operation of an affected source or portion of an affected source for any purpose" (40 CFR 63.2). Shutdown is what you do when you turn your process equipment off.
- **Malfunction** is defined as "any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner 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" (40 CFR 63.2). A malfunction is what happens when your equipment stops working properly because of unforeseeable equipment or other process-related failure. It does not include what happens to your equipment if you fail to maintain the equipment properly or are careless during operation so that the equipment breaks down or stops working properly.

### 2. What requires a facility to prepare a SSM Plan?

The Federal air pollution control requirements published by the EPA require owners and operators of MACT sources to write and put into use a Startup, Shutdown, and Malfunction Plan (SSM Plan). See Section 63.6(e)(3)(i) of the EPA "General Provisions" for these requirements.

### 3. What is the purpose of a SSM Plan?

The purpose of the SSM Plan is to make sure that:

- A facility runs (and keep in good running order) their MACT sources so that the facility's air emissions are minimized during all startups, shutdowns, and malfunctions (SSM) to the greatest extent which is consistent with safety and good air pollution control practices [§63.6(e)(3)(i)(A)];
- A facility is ready to correct (for example, repair) malfunctions as soon as practical after they happen so as to minimize any emissions that might occur as a result of the malfunction (§63.6(e)(3)(i)(B)); and

- A facility's reporting duty is simplified when a SSM happens since the procedures followed during the startup or shutdown or to correct a malfunction are already described in a SSM Plan [§63.6(e)(3)(i)(C)].

#### **4. When must an SSM Plan be developed?**

An SSM Plan must be developed by the compliance date of a facility's NESHAP [§63(e)(3)(i)] or as otherwise specified for its MACT source.

#### **5. What information should an SSM Plan contain?**

An SSM Plan should describe how a facility is going to startup and shutdown the MACT source. The SSM Plan should also describe how the facility will handle malfunctions of its processes to minimize emissions, as well as malfunctions of the devices that control and monitor the emissions from regulated air pollution sources including continuous emissions monitoring systems (CEMS) [§63.6(e)(3)].

A facility's SSM Plan should describe the information listed below [§63.6(e)(3)]:

- How the facility plans to operate, or in other words, how the facility will run the MACT process equipment during startups and shutdowns to minimize emissions;
- How the facility plans to operate the MACT source during malfunctions to minimize emissions; and
- How the facility plan's to correct/repair malfunctioning equipment as soon as practical after malfunctions occur.

It may also be helpful to address in the SSM Plan the information that will be recorded during each SSM [§§63.6(e)(3) and 63.10(b)]. See Item 9 of this document for the list of information that needs to be recorded. The records may take the form of a "checklist" or any other type of recordkeeping that keeps track of the same information [§§63.6(e)(3)(iii) and 63.10(b)(2)(v)].

A facility may use a standard operating procedures (SOP) manual, an Occupational Safety and Health Administration (OSHA) plan, or other plan to satisfy the requirements for writing a SSM Plan as long as the other plan meets all the requirements of a SSM Plan, as described here [§63.6(e)(3)(vi)]. Some MACT sources reference portions of their SOP manual in their SSM Plan.

#### **6. When is a facility required to use a SSM Plan?**

A facility must use the SSM Plan during all SSM occurrences of their MACT sources, and run and keep in good running order the MACT source using the procedures described in the SSM Plan [§63.6(e)(3)(ii)]. If it is impracticable in a given situation to follow the procedures in the SSM plan, newly promulgated amendments to the general provisions allows the flexibility to deviate from the SSM plan. See <http://www.epa.gov/ttn/oarpg/t3/factsheets/genprovfs.html> for additional details.

#### **7. Who sees the SSM Plan and how long should it be kept?**

- A facility's SSM Plan is a public document and may be requested by the public. You must submit your plan to your permitting authority when asked to do so in response to a request from the public. It may also need to be submitted as required by the NESHAP for your source.
- Under a facility's permit required by Title V (part 70 and 71) of the 1990 Clean Air Act

Amendments facilities are required to have an SSM plan. The Title V permit also requires facilities to follow the procedures in their SSM Plan during all times of startups, shutdowns, and malfunctions as they operate the equipment at their facility. Revisions made to an SSM Plan are not considered Title V permit revisions. Also, none of the procedures in the SSM Plan fall within the “permit shield” provision in Section 504(f) of the Clean Air Act [§63.6(e)(3)(ix)].

- Facilities should keep a copy of their SSM Plan in a safe place with other important records so that it can be read or copied by EPA or any other regulatory agency for as long as they continue to operate their MACT processes and for five (5) years after they stop operating the process [§63.6(e)(3)(v)].
- If an SSM Plan is ever revised, facilities should also keep the previous versions for five (5) years afterwards so that it can be available to EPA or any other regulatory agency and the public [§63.6(e)(3)(v)].

## **8. When must a facility modify the SSM Plan?**

A facility must modify their current SSM Plan in the following situations:

- To reflect changes to MACT operations or SSM procedures since the SSM Plan was last prepared [§63.6(e)(viii)]; and
- If the current SSM Plan:
  - Does not include instructions for a SSM that has occurred [§63.6(e)(3)(vii)(A)];
  - Does not include instructions for what will be done during a SSM -- i.e., safe procedures and good air pollution control practices that minimize emissions to the greatest extent [§63.6(e)(3)(vii)(B)];
  - Does not include enough instructions for correcting/repairing the malfunctioning process, air pollution control, or monitoring equipment as quickly as practical (§63.6(e)(3)(vii)(C)); or
  - Includes instructions for anything that is not a SS&M, as defined above (§63.6(e)(3)(vii)(D));

Note: If the current SSM Plan leaves out or does not include enough instructions to correctly handle any incident that occurs that can be called a malfunction, the facility must revise its SSM Plan within 45 days after the incident. The facility must add to the revised SSM Plan information on what will be done in case this type of incident happens again [§63.6(e)(3)(viii)]. Depending on what the SSM Plan revisions are, the permitting authority and/or EPA may ask to see a copy of the revised SSM Plan. If the facility revises its SSM Plan, it must report that the SSM Plan has been revised in the next semiannual SSM Report for its NESHAP (or Title V) compliance certification. These reports are typically due within 60 days following the end of each 6-month period [§§63.6(e)(viii) and 63.10(d)(5)(i); §70.5(c)(9)], although the permitting authority can approve less frequent reporting in some cases. If the revisions to the SSM Plan include changes to the scope of activities considered to be SSM events or otherwise changes how any emission limit, work practice requirement, or other requirement in your NESHAP will apply to the facility, the revised SSM Plan is not effective until the permitting authority receives written notice from the facility describing these SSM Plan revisions [§63.6(e)(3)(viii)]. Until then, continue following the existing approved SSM Plan.

## **9. Does a facility have to keep any SSM records?**

A facility is required to keep the following records (including all reports and notifications) for five years (§§63.6(e)(3) and 63.10(b)(2)):

- When and how long each malfunction of MACT operations, or air pollution control and monitoring equipment happened;
- What was done to correct/repair the malfunctioning equipment;

- Whether the facility followed their current SSM Plan;
- What was done, if at all, that was different from what is in the current SSM Plan; and
- Any other information required by the facility's NESHAP, such as the cause of the malfunctions.

#### 10. Does a facility have to submit SSM Reports?

If you revise your SSM Plan to reflect changes to your MACT source operation or procedures, you must report that you have revised your SSM Plan in your next semiannual SSM Report for your NESHAP (or Title V compliance certification) which is typically due within 60 days following the end of each 6-month period (§§63.6(e)(viii) and 63.10(d)(5)(i); §70.5(c)(9)).

If a SSM occurs and you correctly followed the procedures in your SSM Plan, you must submit the following in a letter in your next semiannual SSM Report, due within 60 days following the end of each 6-month period (§§63.6(e)(iii) and 63.10(d)(5)(i)):

- Facility contact name and title;
- Certifying signature of the owner/operator or other responsible official;
- Statement that current SSM Plan was followed or deviation occurred; and
- How many SSM happened, how long the SSM were, and a brief description of each SSM. (Note: This information may take the form of a checklist)

If what you did during a SSM was not as written in your SSM Plan and/or the type of SSM was not covered by your current SSM Plan and your source exceeds any of the applicable emission limitations in the relevant standard, you must report exactly what your actions were and/or the type of SSM that occurred by telephone or facsimile (FAX) transmission within two (2) working days afterwards. Also, you must send a letter within seven (7) working days after the end of the SSM. The letter should include the following information (§§63.6(e)(3)(iv) and 63.10(d)(5)(ii)):

- Facility contact name and title;
- Certifying signature of the owner/operator or other responsible official;
- How the recent SSM happened;
- What was done during the SSM;
- The reason(s) that current SSM Plan was not followed; and
- Whether any emissions and/or parameters that were monitored were higher or different than their allowable values during the SSM.

If, as above, what was done during a SSM was not as written in the current SSM Plan and/or the type of event was not covered by the current SSM Plan, the facility must also revise the SSM Plan within 45 days after the SSM so as to describe what will be done in case a similar SSM happens again.

A facility may also have reports to make that are required by the State Implementation Plan (SIP). Check with local permitting authority to find out about these additional requirements.

#### 11. Startup, Shutdown and Malfunction (SSM) Plan Checklist:

- a. Has the facility described what will be done to operate, in other words, how the facility run all **process equipment** at the MACT sources during **startups and shutdowns** to minimize emissions?
- b. Has the facility included how they will record what will be done during a **startup or shutdown** if this information is not already included in the plan?

- c. Has the facility included what they will do to find and record the circumstances of malfunctions of the **process, air pollution control, and air pollution monitoring** equipment?
- d. Has the facility included what they will do to correct (for example, repair) the malfunctioning **process, air pollution control, and air pollution monitoring** equipment as soon as practical after the malfunctions happens to minimize emissions, and how they will record these corrections?
- e. Has the facility included how they will obtain any other information required by the applicable NESHAP, such as the cause of the malfunction?

**Note:** This is the least amount of information that a facility should have in their SSM Plan. The facility can include more information so that employees can operate the facility as best as possible during any startup, shutdown, or malfunction. They may also include any or all of the following as additional requirements: (1) the SSM Plan should be kept in a place where everyone who operates any equipment can find it quickly; (2) a manager should sign off any SSM Plan revisions and be notified of each SSM; or (3) all employees must be trained in the SSM procedures.

## 12. Sample SSM Recordkeeping Checklist:

- a. At what piece of equipment or where in the process did the startup, shutdown, or malfunction occur?
- b. What was the date and time of the startup and how long did it last?
- c. What was the date and time of the shutdown and how long did it last?
- d. What was the date and time of the malfunction and how long did it last?
- e. What did you do to correct the malfunctioning equipment?
- f. Is what was done during the startup, shutdown, or malfunction exactly as described in the SSM Plan?
- g. If the facility did anything that was not in the current SSM Plan, what was the result?
- h. Did the facility include all other information required by the applicable NESHAP, such as the cause of the malfunctions?

**Note:** This is the least amount of information that a facility should write down during any startup, shutdown, and malfunctions. The facility can include more information so that they can describe as best as possible what happened during any startup, shutdown, or malfunction.