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Plain Language Guide to the Flexible Polyurethane Foam Production NESHAP 40 CFR 63, Subpart III



**Plain Language Guide to the
Flexible Polyurethane Foam Production
NESHAP
40 CFR 63, Subpart III**

Prepared for:

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What is the legal status of this guide?

The Office of Air Quality Planning and Standards (OAQPS) and the Office of Enforcement and Compliance Assistance (OECA) of the U. S. Environmental Protection Agency (EPA) have reviewed this document and approved it for publication.

When using this document, remember that it isn't legally binding and doesn't replace the final rule - "National Emission Standard for Hazardous Air Pollutants for Flexible Polyurethane Foam Production" (published in the *Federal Register*, 10/7/98, 63 FR 53980) or any State, local or tribal rules that may apply to your facility.

This document isn't intended, nor can you rely on it, to create any rights enforceable by any party in litigation with the United States. The EPA may change this document at any time without public notice.

This document includes only requirements from the final rule published in the *Federal Register* 10/7/98, 63 FR 53996.

Thank You

This document was prepared by a joint partnership among the Environmental Protection Agency (EPA, or we), State and local agencies for air pollution control, trade associations, and organizations who produce flexible polyurethane foam. At the time of publication, the development team had the following members:

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Why should I use this document?

This document can help plant owners and operators (you) understand the *Flexible Polyurethane Foam Production* NESHAP (also known as Subpart III) by helping you determine **four** main things:

- if the rule applies to your plant and process
- what compliance options are available
- what to monitor, record and report
- dates by which you must meet requirements

Is there anything I should know before using this document?

When using this document, remember that it **doesn't** replace the final rule and covers only requirements published on or before 12/31/98. You should keep up with new requirements printed after this date by periodically checking the *Federal Register* and the Code of Federal Regulations (CFR). You can download Federal Register notices by going to the Government Printing Office (GPO) website at www.access.gpo.gov/su_docs/aces/aces140.html.

Keep informed of rule changes by checking the Federal Register

We've included a copy of the final rule in **Appendix A** (as published in the *Federal Register*, 10/7/98, 63 FR 53980), so you can reference the rule while you're using this document.

How do I get copies of this document?

You can get copies of this document in **four** ways:

- EPA's Unified Air Toxics Website (www.epa.gov/ttn/uatw). Look under Rules and Implementation, flexible polyurethane foam, or www.epa.gov/ttn/uatw/foam/foampg.html
- Library Services Office, (MD-35), U.S. EPA, Research Triangle Park, NC 27711, or www.epa.gov/natlibra/ols.html (limited supply)

- National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, or 1-(800)- 553-6847, or www.fedworld.gov/ntis/ntishome.html (NTIS will charge you a fee for this document)
- National Center for Environmental Publications and Information, 1-(800)-490-9198 or www.epa.gov/ncepihom/index.html

We want your feedback

To serve you better, we've included a survey on the usefulness of this document. If you'd like to participate, please fill out the survey on page 3 and return it to the address indicated. We'll keep your responses confidential if you desire, but use them to help us improve future documents.

Help us publish better documents by filling out our survey.

Survey on the Plain Language Guide to the Flexible Polyurethane Foam Production NESHAP

Please help us gauge this document's usefulness by completing this short form. We'll keep your responses confidential if you desire, but use them to help improve future documents. **Check this box if you would like us to keep your responses confidential** ☐

1. What type of business do you work for? (check one of the following)

Manufacturing ☐ Contractor ☐ Tribe ☐ Government (specify Federal, State, local) _____
Other _____

2. What are your job responsibilities? (check any that apply)

Plant Operator ☐ Maintenance ☐ Plant Manager ☐ Environmental Staff ☐
Regulator ☐ Other: _____

3. How did you hear about this guidance? (check any that apply)

Co-worker ☐ EPA TTN via dial up modem ☐ EPA TTN via the Web ☐ Other _____

Please check the box under the number that most closely shows your agreement with the following statements

1 = Strongly Agree to 5 = Strongly Disagree

Statement	1	2	3	4	5	N/A
The guidance was timely.						
The document provides a good overview of the rule.						
The document provides the type of information my organization needs to comply.						
The guidance helped us achieve compliance more quickly than if we had developed our own.						
We have incorporated parts of this document into our own policy documents.						
The format of this document was well organized and easy to understand.						

4. What did you like about this document or **what helped you the most?** (be as specific as you can) _____

5. What did you **not like** about this document or **what helped you the least?** (be as specific as you can) _____

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7. Overall, did you find this document to be:

extremely useful ☐ very useful ☐ so-so useful ☐ not useful at all ☐

8. Other comments: _____

Provide additional comment on the back of this form or on a separate sheet of paper.

Return survey to: ATTN: Flexible Polyurethane Foam Implementation Contact, U.S. Environmental Protection Agency (EPA), Research Triangle Park (RTP) MD-12, Research Triangle Park, NC 27711. or fax (919) 541-2664

Chapter 2 - What this rule covers - An Overview

Why was this rule written?

We wrote the rule to reduce emissions of hazardous air pollutants and achieve the environmental benefits intended by the Clean Air Act (CAA) of 1990.

Our research has shown that emissions from a typical production plant may include a number of HAPs. We've estimated that **methylene chloride** accounts for more than 98 percent of the total HAP emissions from flexible polyurethane foam plants and is the primary HAP affected by the rule.

Some of the HAPs that might be emitted during the production of flexible polyurethane foam include:

- methylene chloride
- 1,2- propylene oxide
- 2,4- toluene diisocyanate
- diethanolamine
- methanol
- methyl chloroform
- methylene diphenyl diisocyanate
- methyl ethyl ketone
- toluene

How do I know if I'm subject to this rule?

You're subject to this rule if your plant meets **all** of the following:

- is a major source of HAPs
- produces flexible polyurethane (slabstock or molded) or rebond foam
- emits a HAP
- doesn't qualify for one of the exemptions

For a list of regulated HAPs, check our Unified Air Toxics Website (UATW) at <http://www.epa.gov/ttn/uatw/188polls.txt>.

If you have an enforceable limit on your facility that restricts your emissions to <10 tons per year of any single HAP and <25 tons per year of multiple HAPs, your facility would not be a major source and not subject to this rule. If, however, you determine that you're a major source, some processes at your plant may still be exempt from the rule. These exemptions are listed below.

Your facility is a major source if it can potentially emit ≥ 10 tons per year of a single HAP or ≥ 25 tons per year of all HAPs.

When do I need to comply?

If your facility is an existing source, you must comply by **10/8/01**, which is three years and a day after the rule's effective date of 10/7/98. The effective date is the date the final rule was published in the *Federal Register*. If you're a new source, comply before you begin operating.

If your initial startup is ...	Then you're ¹ ...	And must comply ...
on or before 12-27-96	an existing source	by 10/8/01
after 12-27-96	a new source	upon initial startup

¹When determining if a source is new or existing, the General Provisions (40 CFR 63, Subpart A, §63.2) requires us to use the proposal date of the rule as the cut-off date. In the case of Subpart III, the rule was proposed on 12/27/96.

Are any processes exempt from the rule?

Your process is exempt if it's **any** of the following:

- a research and development process
- exclusively dedicated to fabricating flexible polyurethane foam

If your process is exempt, make sure you document why it's exempt

- a slabstock foam operation where your plantwide HAPs used are less than five tons per year. You must use §63.1290(c)(3) to calculate HAP used.

This last exemption - the slabstock foam operation where your **whole facility** (plantwide) uses less than five tons per year (tpy) of HAP, is based on your **usage** of HAP, rather than the amount of HAP **emitted**. You can claim this exemption only if your slabstock foam production and foam-fabrication processes are the only processes at the plant site that emit HAP and emissions from your facility are <5 tpy. The exemption applies only to Subpart III and does not effect other CAA rules, for example other NESHAPs that apply to your facility. See **Chapter 6** for an example of how to calculate this exemption.

Note: Although foam fabrication isn't covered by the rule, you'll need to include emissions from your fabrication process to claim this exemption.

How do I know if I have a covered process?

The rule defines the terms "flexible polyurethane foam production," "slabstock," "molded," and "rebond" foam based on a typical process. Compare your process with these definitions in the rule.

If your operation doesn't fit one of the definitions exactly, use your judgment and talk to your State, local or Tribal agency for air pollution control. If all else fails, your EPA Regional Office can help you render a judgement on applicability.

Does this rule apply to fabrication of foam?

Your process for fabricating flexible polyurethane foam will fall under a different rule - the Flexible Polyurethane Foam Fabrication NESHAP. We expect to publish this rule in 2000.

Definition. The rule defines "*foam fabrication*" as a operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates. Typical bonding techniques include gluing, taping, and flame lamination.

What are my requirements for slabstock foam?

The rules for producing slabstock foam cover the **two** major uses of HAP in the slabstock process:

- diisocyanates used as a reactant in making foam
- HAP used as an auxiliary blowing agent (ABA) and for equipment cleaning

See Chapter 3 for details about your compliance options for slabstock foam

You must control **diisocyanate emissions** from **all** of the following types of equipment:

- storage vessels
- transfer pumps
- other components in service (such as connectors, valves, pressure-relief devices, etc.)

Definition. The rule defines *diisocyanate* as a compound containing two isocyanate groups per molecule. The most common diisocyanate compounds used in the flexible polyurethane foam industry are toluene diisocyanate (TDI) and methylene diphenyl diisocyanate (MDI).

You must control **HAP ABA emissions** from **all** of the following equipment and processes:

- storage vessels
- equipment leaks
- the production line
- equipment cleaning

Depending on which compliance option you choose, you'll have to meet **one or more** of the following requirements:

- use control equipment
- meet limits on point or sourcewide emissions
- restrict or eliminate the use of some materials
- inspect and monitor equipment for leaks

What are my requirements for molded and rebond foam?

If you have a molded or rebond foam plant, you **can't** use a HAP or HAP-based products to clean your equipment or use it as a mold-release agent.

See Chapter 4 & 5 for details about your compliance options for molded and rebond foam

The only exception is your molded foam plant using diisocyanates during startup or maintenance to flush the mixhead and associated piping. If you use diisocyanates for flushing, you must contain the diisocyanate in a closed-loop system and reuse it in production.

Chapter 3 - Complying with requirements for slabstock foam

What do the Slabstock sections of the rule cover?

Your slabstock foam production plant is covered under §§63.1293-1299 of the rule if your process meets **all** of the following conditions:

- emits a HAP
- is a slabstock foam production process
- is located at a plantsite that is a major source of HAPs
- is not exempt

The slabstock sections of the rule cover vessels for storing diisocyanates, pumps for transferring them, and other diisocyanate components you have in service (such as connectors, valves, pressure-relief valves, etc.) These sections also cover vessels for storing HAP auxiliary blowing agents (ABA). HAP ABA equipment leaks, HAP ABA emissions from the production line, and HAP ABA emissions from equipment cleaning.

Definition. *Slabstock flexible polyurethane foam* means "flexible polyurethane foam that is produced in large continuous buns that are then cut into the desired size and shape."

Definition. *Slabstock flexible polyurethane foam production line* means "all portions of the flexible polyurethane foam process from the mixhead to the point in the process where the foam is completely cured."

Definition. *Flexible polyurethane foam process* means "equipment used to produce a flexible polyurethane foam product. It includes raw material storage; production equipment and associated piping, ductwork, etc.; and curing and storage areas."

About this Chapter:

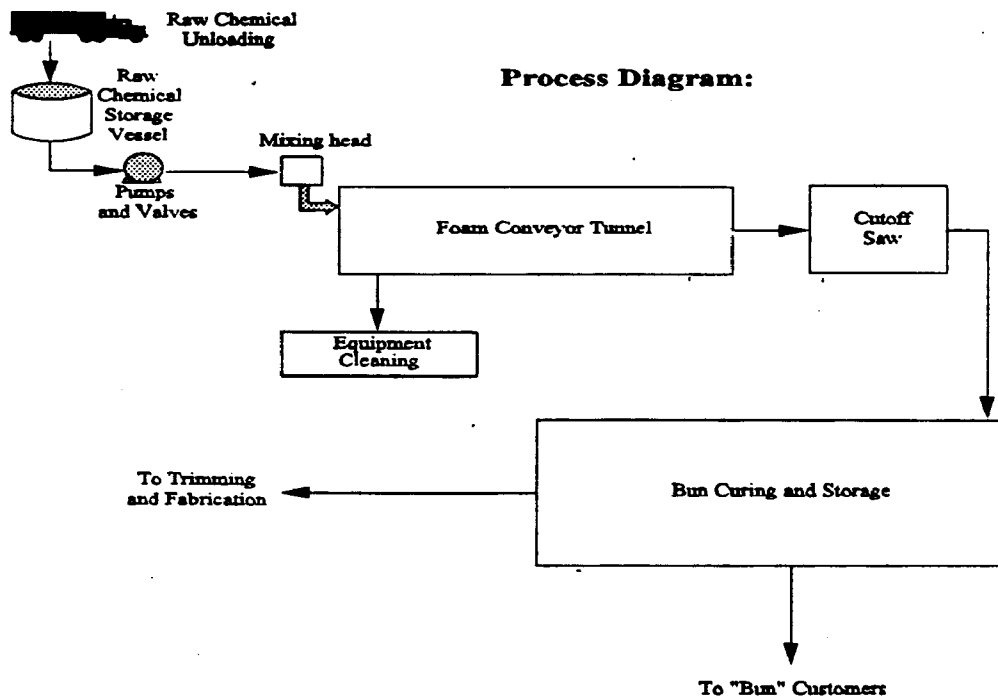
- *Whenever you see "§," we are referring to the section number of the rule. You can go to that section in the rule for more information*
 - *When you see a definition, it comes straight from the rule*
-

Figure 3.1 (on page 9) shows a typical process for producing slabstock foam.

Figure 3.1
A Typical Process for Slabstock-Foam Production

Process Description:

Flexible slabstock-foam is produced as a large continuous "bun." Raw chemicals are unloaded into storage vessels. The chemicals are then pumped to a mixing head where they are blended and form a reacting chemical mixture. The amount of each chemical sent to the mixing head is computer controlled and monitored on flow meters. The mixture is discharged through the mixing head into a trough or onto a moving conveyor belt, where the reactions continue. From this point the reacting mixture moves into the foam conveyor tunnel. The mixture quickly spreads evenly across the tunnel. The foam reaches its maximum height, or "full rise," about 25 feet from the mixing head nozzle. Additional time on the conveyor after full rise is required to allow the polymerization reactions to be completed. The bun then moves towards the cutoff saw. After being cut, the buns are cured and then stored. Cured buns are either sent to bun customers or to trimming and fabrication operations. Trimming and fabrication operations and bun customers are not covered by this rule.



What is exempt under these sections of the rule?

Your slabstock facility is exempt from the rule if HAP used at your foam production and fabrication facility is no more than five tons per year or if your process exclusively does either of the following [§63.1290]:

- fabricates foam
- does research and development

Definition. *Research and development process* means “a laboratory or pilot plant operation whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which is not engaged in the manufacture or products for commercial sale except in a *de minimis* manner.”

Definition. *Foam fabrication process* means “an operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates.”

You must use §63.1290(c)(3) of the rule (Equation 1) to calculate if your facility uses less than five tons per year HAP. Your facility will be able to take the five ton per year exemption only if your slabstock foam production and foam fabrication^{not} processes are the only processes at the plant site that emit HAP. See Chapter 6 for examples on how to calculate this exemption.

Note: Although foam fabrication isn't covered by the rule, you'll need to include emissions from your fabrication process to claim this exemption.

What compliance options do I have?

If you produce slabstock foam, you have **three** main regulatory options:

- **Option 1:** meet limits on HAP Auxiliary Blowing Agent (ABA) emissions (e.g. emission point specific limit) and control diisocyanate emissions [§§63.1295 - 63.1298, §63.1294]
- **Option 2:** meet a sourcewide emission limit and control diisocyanate emissions. Option 2 applies to plants that use **only one** HAP as an ABA and an equipment cleaner [§63.1299, §63.1294]
- **Option 3:** request an **alternate means of emission limitation** under §63.1305(d). Your request may be submitted in your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time. See Chapter 7 for additional information [§63.1305(d), §63.1309(b)]

To summarize, your options are as follows:

If ...	And you ...	Then use the following options ...	For more information, see figures ...
your slabstock foam plant is regulated under Subpart III	use multiple HAPs as an ABA and equipment cleaner	Option 1: comply with §63.1294 (diisocyanate emissions) and §63.1295 through 63.1298 (emission point specific limits)	3.2, 3.4 and 3.5
	use only one HAP as an ABA and equipment cleaner	Option 2: comply with §63.1294 (diisocyanate emissions) and §63.1299 (sourcewide emission limit)	3.3 and 3.4
	want to use an alternative means of emission limitation	Option 3: comply with §63.1305 (alternative means of emission limitation)	Not in table. see §63.1305(b)

Your specific requirements under Options 1 and 2 differ based on the type of equipment or processes at your plant. Depending on the option you choose, you may be required to monitor one or more pieces of equipment or processes. Each equipment or process you monitor may have subsequent options you can choose. Clearly understanding all your available options and sub-options can get confusing. To help you understand your choices, we've included several figures.

Figure 3.2 (on page 15) outlines your requirements if you choose Option 1. **Figure 3.3** (page 16) outlines your requirements if you choose Option 2. Finally, **Figure 3.4** (page 17) outlines your requirements for controlling diisocyanate emissions under Options 1 and 2.

What monitoring must I do?

Your monitoring requirements will depend on the compliance options you select. If you choose **Option 1**, your main types of monitoring include one or more of the following:

- diisocyanate equipment leaks and repairs made on transfer pumps and other components in diisocyanate service [§63.1294(b)]
- HAP ABA and diisocyanate vapor balancing (vapor-return line) used for storage vessels [§63.1295(b), §63.1294(a)]
- HAP ABA and diisocyanate carbon-adsorption systems used for storage vessels [§63.1295(c), §63.1303(a), §63.1294(a)]

- HAP ABA and polyol added to the foam production line at the mixhead **OR** an alternate monitoring program under §63.1303(b)(5) [§63.1303(b), §63.1303(b)(5)]
- HAP ABA recovery monitoring device used (you must develop a monitoring program and get it approved prior to its use) [§63.1303(c), §63.1303(c)(6)]
- HAP ABA level in storage vessels [§63.1303(d)]
- HAP ABA added to storage vessels **OR** an alternate monitoring program under §63.1303(e)(4) [§63.1303(e), §63.1303(e)(4)]
- Equipment leaks and repairs made to HAP ABA pumps, valves, connectors, pressure-relief devices, and diisocyanate transfer pumps and other components in diisocyanate service [§63.1296(a)-(e), §63.1294(b)]

If you choose the **alternative monitoring program** for HAP ABA and polyol added to the foam production line at the mixhead, you'll need to request and obtain approval from the EPA before you use your alternate. This is because we've chosen not to delegate §63.1303(b)(5) to your State, local or Tribal agency for air pollution control. See **Chapter 7** for additional information [§63.1303(b)(5), §63.1309(b)].

Also see **Chapter 7** for information on where to submit your **alternative monitoring program** for HAP ABA added to storage vessels, and, where to submit your HAP ABA **recovery monitoring program** [§63.1303(e)(4), §63.1303(c)(6)].

If you choose **Option 2**, your main types of monitoring include **one or more** of the following:

- diisocyanate vapor-balancing used for storage vessels [§63.1294(a)]
- diisocyanate carbon-adsorption systems used for storage vessels [§63.1294(a)]
- diisocyanate equipment leaks and repairs made on transfer pumps and other components in diisocyanate service [§63.1294(b)]
- emissions from HAP ABA storage vessels, equipment leaks, the production line and equipment cleaning [§63.1299]
- emissions from recovery devices [§63.1299(e)]

§63.1303 of the rule explains the requirements for each type of monitoring, except for vapor balancing and leak detection and repair, which are in §63.1294-1296. **Table 3.1** (on page 19) also gives you details about your monitoring requirements under Option 1 and 2.

What records must I keep?

For slabstock-production, you must keep one of more of the following types of information:

- records on storage vessels
- records on equipment leaks
- records on HAP ABA and polyol added to equipment
- records on recovery devices
- copies of data sheets on equipment cleaners
- records on your use of vapor-return lines

Maintain records for at least five years

The types of records required depend on whether you decide to comply with a specific emission point (Option 1 - emission point specific limit) or the sourcewide limits (Option 2). Your recordkeeping will also vary according to the control options you're using. Table 3.2 (on page 28) details these recordkeeping requirements as does §63.1307 of the rule.

What reports must I submit?

You must submit up to seven types of reports on each slabstock foam plant:

- an initial notification sent in within 120 days after the effective date of the rule [§§63.1306(a), 63.9(b)]
- an application for approval for construction or reconstruction sent in as soon as practical before construction [§§63.1306(b), 63.5(d)]
- a pre-compliance report sent in at least 12 months prior to the rule's compliance date [§63.1306(c)]
- a notification of compliance status sent in within 180 days after the rule's compliance date [§63.1306(d)]
- semiannual compliance reports sent in within 60 days after each 180 day period, with the first report due 240 days after the notification of compliance status [§63.1306(e)]
- an annual compliance certification sent in yearly [§63.1306(g)]

The seventh report is also necessary if want to change the option you are using to meet the emission limit or compliance method. You must send a notification of your intent to switch options at least 180 days prior to making the change [§63.1306(f)]. For example, if you wanted to switch from the rolling-annual to the monthly compliance method for your HAP ABA production line, you'd need to make notification at least 180 days prior to making the change.

Chapter 7 gives you more details on the reporting requirements above, as well as additional reporting information including dates and example forms. The forms are optional, but you may find them useful.

What test methods am I required to use?

You'll need to use the following two test methods if you produce Slabstock foam:

- use EPA Test Method 21 to monitor leaks from HAP ABA pumps, valves, connectors, pressure-relief devices, and open-ended valves or lines [§63.1304(a)]
- use the American Society for Testing and Materials (ASTM) D3574 to determine the density and IFD of each grade of foam produced [§63.1304(b)]

You can download a list of the latest ASTM versions by going to www.astm.org and clicking on "Search for ASTM standards," then continue as prompted. You can also order ASTM methods by calling (610) 832-9585.

How do I show compliance?

You can show compliance with §§63.1293-1299 by doing **all** of the following:

- control diisocyanate emissions from storage vessels, transfer pumps, and other components using the options in **Figure 3.4** [Option 1 and 2, §63.1294]
 - control HAP ABA emissions from either one of the following:
 - ▶ storage vessels, equipment leaks, the production line, and equipment cleaning as described in **Figures 3.2 and 3.5** (e.g. emission point specific limit) [Option 1, §63.1295 - 1298]
- OR**
- ▶ your entire slabstock production process if you use only one HAP as an ABA and an equipment cleaner (e.g. sourcewide emission limit) as described in **Figure 3.3** [Option 2, §63.1299]
 - do the monitoring described in **Table 3.1**
 - maintain the records described in **Table 3.2**
 - submit the reports described in **Chapter 7**

You must meet all of these requirements, otherwise, you'll be in violation of §§63.1293-1299. Check §63.1308 of the rule for more information.

Is an inspection checklist available?

We've included an inspection checklist in **Table 3.3** (on page 38) to help you check your slabstock foam plant for compliance with the rule.

Figure 3.2

Option 1
Emission Point Specific Limit

If you chose **Option 1** (§63.1293(a)) of the Slabstock standard, you must comply with §63.1294 through §63.1298, emission point specific limitations. This figure summarizes your regulatory options.

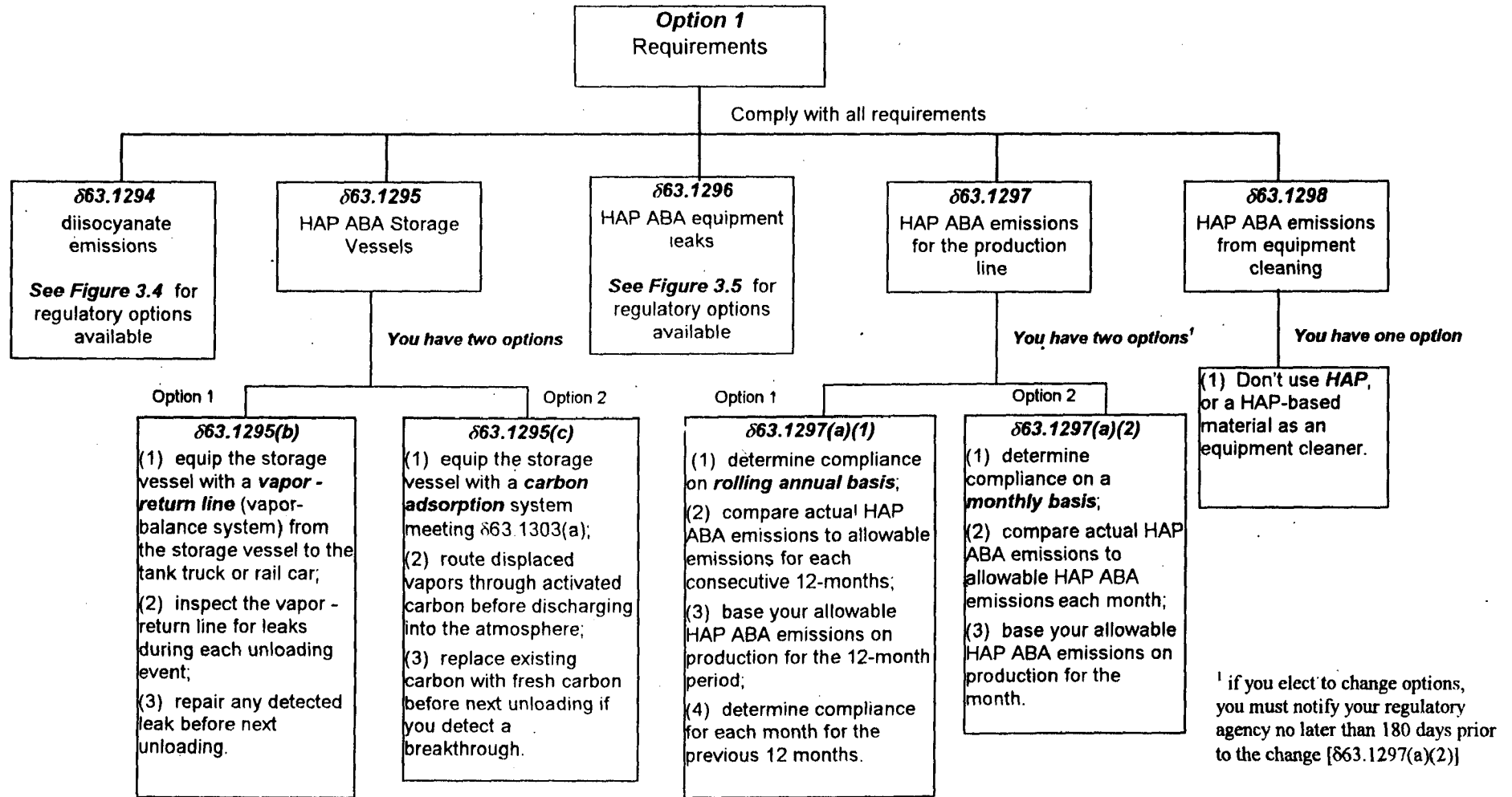
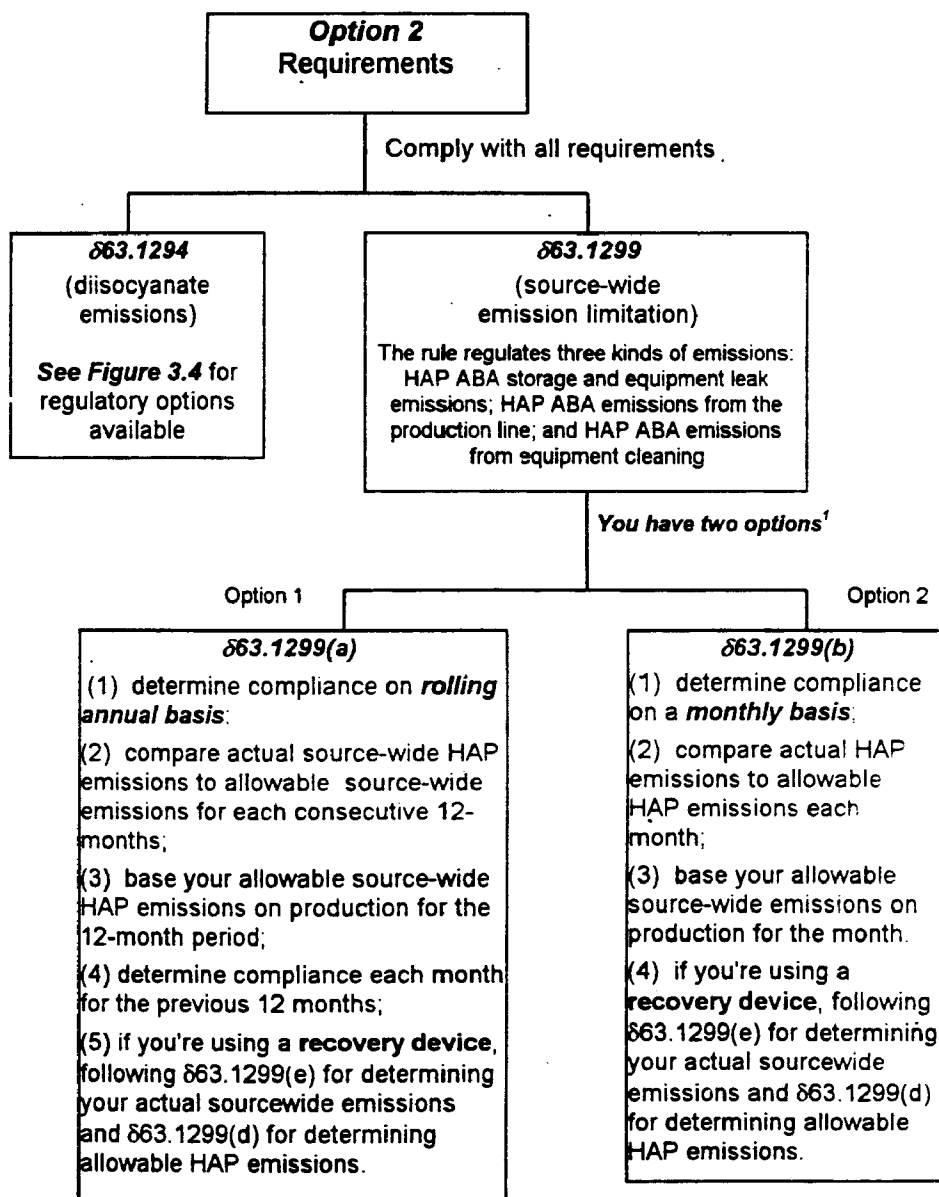


Figure 3.3

**Option 2
Sourcewide Emission Limit**

If you choose **Option 2** (§63.1293(b)) of the Slabstock standard, you must comply with §§63.1294 and 63.1299, sourcewide emission limitations. This figure summarizes your regulatory options.

This option provides a sourcewide emission limit. You can use this option **only** if you use one HAP as an ABA and equipment cleaner.



¹ if you elect to change options, you must notify your regulatory agency no later than 180 days prior to the change

Figure 3.4

Option 1 and 2
Diisocyanate Emissions

If you choose **Option 1 or 2** of the Slabstock standard, you're required to comply with §63.1294, diisocyanate emission. This figure summarizes your regulatory options.

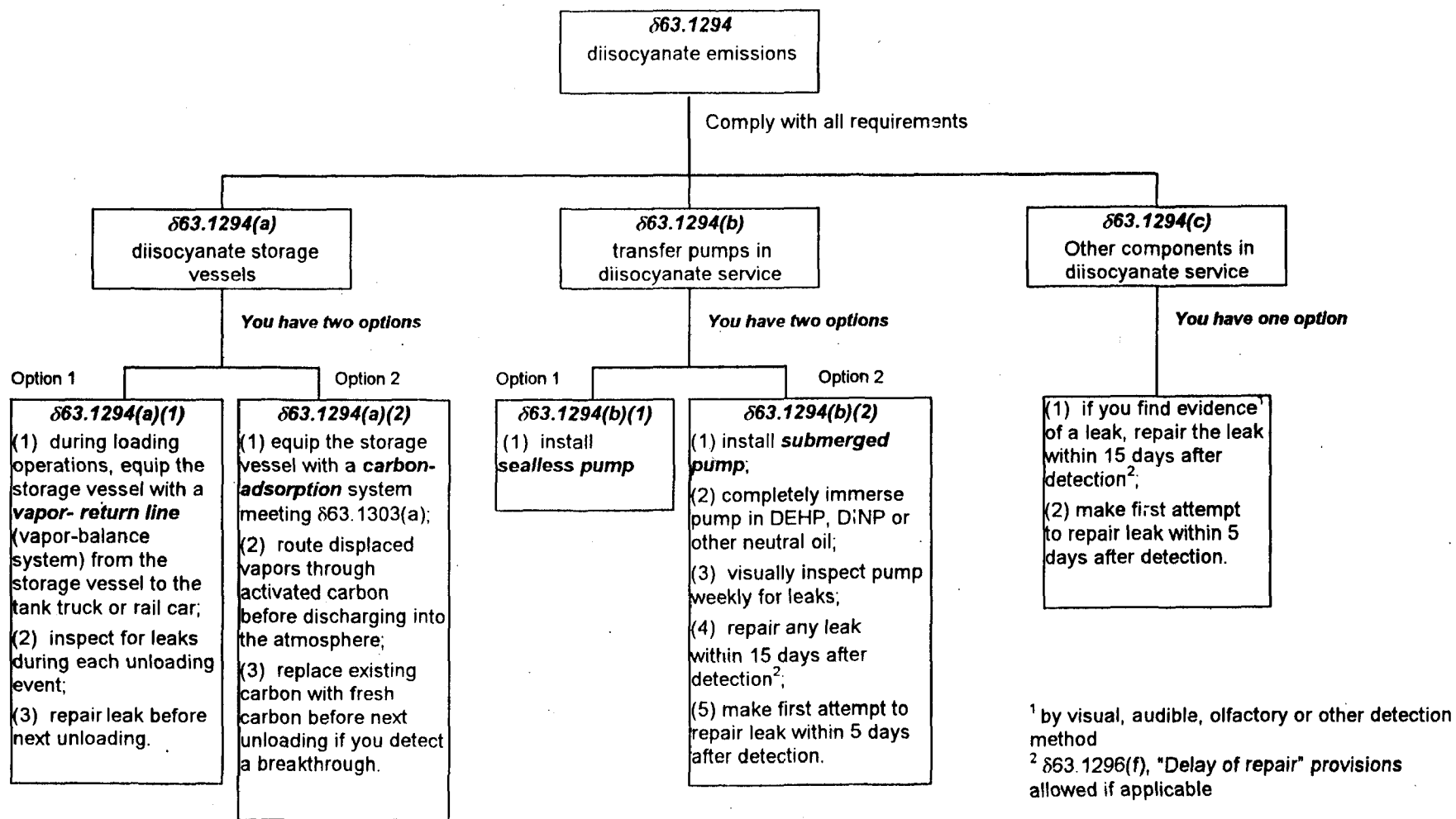
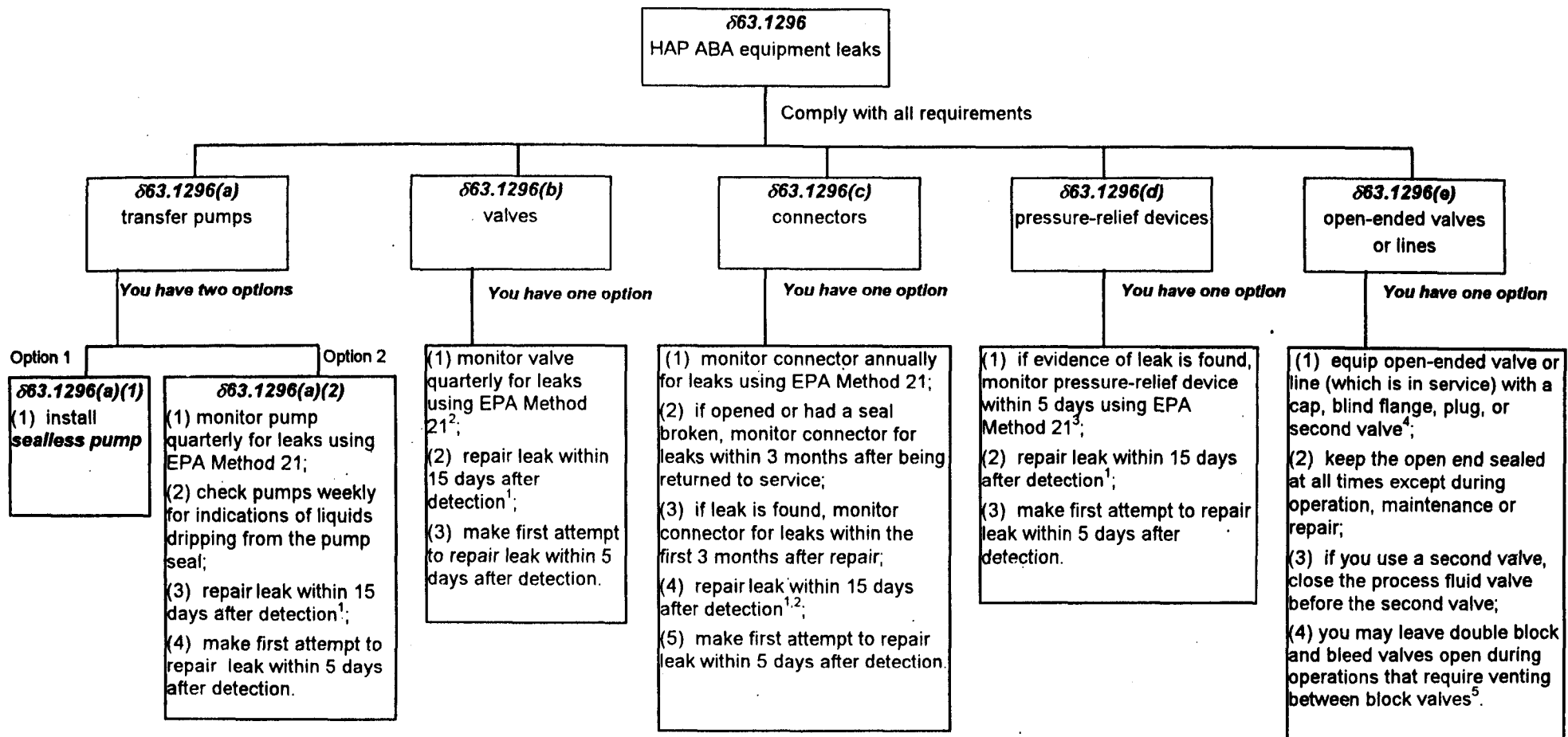


Figure 3.5

**Option 1
HAP ABA Equipment Leaks**

If you choose **Option 1** of the Slabstock standard, you must comply with §63.1296, HAP ABA leaks from equipment. This figure summarizes your options.



¹ §63.1296(f), "Delay of repair" provisions allowed if applicable

² §63.1296 provides some exemptions for unsafe and difficult to monitor

³ By visual, audible, olfactory or any other detection method

⁴ Except open-ended valves or line in an emergency (§63.1296(e)(5))

⁵ Valves must be equipped with cap, blind flange, plug, or second valve at all other times.

Table 3.1 Monitoring Requirements for Slabstock foam Production

If your emission point is	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
Diisocyanate storage vessels	Emission point specific limit	Vapor balance	Look, listen, and otherwise check for leaks in the vapor-return line each time diisocyanate is unloaded from a tank truck or rail car into the storage tank.	§63.1294(a)(1)(i)
(Option 1 or 2)	OR		Repair leaks found before the next unloading event.	§63.1294(a)(1)(ii)
	Sourcewide emission limit	Carbon-adsorber	Measure HAP or organic concentrations in the exhaust-vent stream or outlet stream's exhaust from the carbon-adsorption system during each unloading of diisocyanate from a tank truck or rail car. If diisocyanate is unloaded more often than once a month, you must monitor only one unloading event per month.	§63.1303(a)(1)
		OR	Instead of monthly monitoring, you can monitor at the frequency you've established during the design analysis as long as the monitoring is performed within 20 percent of the carbon replacement interval.	§63.1303(a)(2)
			Measure HAP concentration using 40 CFR part 60, Appendix A, Method 18 over at least a 5-minute period while the storage vessel is being filled.	§63.1303(a)(3)
			Measure organic concentration using 40 CFR part 60, Appendix A, Method 25A over at least a 5-minute period while the storage vessel is being filled.	§63.1303(a)(4)
			You must replace existing carbon with fresh carbon prior to the next unloading event if you detect breakthrough.	§63.1294(a)(2)

Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)

If your emission point is	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
Transfer pumps in diisocyanate service (Option 1 or 2)	Emission point specific limit	Sealless pump	None	
	OR			
	Sourcewide emission limit	Submerged pump	<p>Immerse each pump in bis(2-ethylhexyl)phthalate (DEHP, CAS#118-81-7), 2(methyloctyl)phthalate (DINP, CAS #68515-48-0), or another neutral oil.</p> <p>Look at each pump at least once a week to be sure it isn't leaking.</p> <p>If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1294(d)</p> <p><i>Note: First attempt at repair should include tightening of packing gland nuts and checking the seal flush to see if it is operating at design temperature and pressure.</i></p>	<p>§63.1294(b)(2)(i)</p> <p>§63.1294(b)(2)(ii)</p> <p>§63.1294(b)(2)(iii)</p>

Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)

If your emission point is	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
Other components in diisocyanate service (Option 1 or 2)	Emission point specific limit	N/A	None, but if you find a leak, you must make your first attempt to repair it within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1296(f)	§63.1294(c)
	OR Sourcewide emission limit			
HAP ABA storage vessels (Option 1)	Emission point specific limit	Vapor balancing or carbon-adsorber	Monitor the amount of HAP ABA in the storage vessel weekly using a level-measurement device. Calibrate the level-measurement device initially and at least once per year. Unless you visually read the device with permanent graduated marks, such as for a gauge glass, the device must have either a digital or printed output.	§63.1303(d)
			Monitor the amount of HAP ABA added to the storage vessel each time there is a delivery. You may determine the amount of HAP ABA added by using a level-measurement device, monitoring the flow rate, or measuring the weight. If the amount of HAP ABA added is determined using a scale, it must be approved by your State or local agency or checked once per year by a registered scale technician. §63.1303(e) describes each of these options.	§63.1303(e)
			The rule also allows you to develop and submit for approval an alternative monitoring plan for determining the amount of HAP ABA added to the storage vessel.	§63.1303(e)(4)

Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)

If your emission point is	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
<hr/>				
		Vapor balance	Look, listen, and otherwise check for leaks in the vapor-return line each time the HAP ABA is unloaded from a tank truck or rail care into the storage tank.	§63.1295(b)(1)
			If you detect a leak, repair it by the next unloading event.	§63.1295(b)(2)
<hr/>				
		Carbon-adsorber	Measure HAP or organic concentrations in the exhaust-vent stream or outlet stream's exhaust from the carbon-adsorption system during each unloading of diisocyanate from a tank truck or rail car. If diisocyanate is unloaded more often than once a month, you must monitor only one unloading event per month.	§63.1303(a)(1)
			OR	
			Instead of monthly monitoring, you can monitor at the frequency you've established during the design analysis as long as the monitoring is performed within 20 percent of the carbon replacement interval.	§63.1303(a)(2)
			Measure HAP concentration using 40 CFR part 60, Appendix A, Method 18 over at least a 5-minute period while the storage vessel is being filled .	§63.1303(a)(3)
			Measure organic concentration using 40 CFR part 60, Appendix A, Method 25A over at least a 5-minute period while the storage vessel is being filled.	§63.1303(a)(4)
			You must replace existing carbon with fresh carbon prior to the next unloading event if you detect breakthrough.	§63.1295(c)
<hr/>				

Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)

If your emission point is	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
HAP ABA equipment leaks, pumps	Emission point specific limit	Sealless pump	None	
(Option 1)		Other types of pumps	<p>Monitor each pump quarterly using EPA Method 21 to detect leaks. If you measure an instrument reading of 10,000 parts per million (ppm) or more, you have a leak.</p> <p>Look at each pump every calendar week to see if liquids are dripping from the pump's seal.</p> <p>If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f).</p> <p><i>Note: Your first attempt to repair should include tightening of packing land nuts and ensuring the seal flush is operating at it's design pressure and temperature.</i></p>	<p>§63.1296(a)(2)(i); §63.1304(a)</p> <p>§63.1296(a)(2)(ii)</p> <p>§63.1296(a)(2)(iii)</p>
HAP ABA equipment leaks, valves	Emission point specific limit	Valves not designated as Unsafe-to monitor or Difficult-to-monitor	<p>Monitor each valve quarterly using EPA Method 21 to detect leaks. If you measure an instrument reading of 10,000 parts per million (ppm) or more, you have a leak.</p> <p>If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1296(f).</p> <p><i>Note: Your first attempt to repair should include tightening of bonnet bolts, replacement of bonnet bolts, tightening gland nuts and lubricating the packing.</i></p>	<p>§63.1296 (b)(1); §63.1304(a)</p> <p>§63.1296(b)(2)</p>
(Option 1)				

Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd).

If your emission point is	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
		Unsafe-to-monitor valves	Unsafe-to-monitor valves are those where monitoring could expose personnel to an immediate danger situation. You must have a written plan for monitoring valves identified as unsafe-to-monitor. Monitor and repair leaks according to the written plan, which is at least as soon as practicable.	§63.1296(b)(3)
		Difficult-to-monitor valves	Difficult-to-monitor valves are those where the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or where the valve is not accessible at any time in a safe manner. You must have a written plan for monitoring valves identified as difficult-to-monitor. Monitor and repair leaks according to the written plan, which is at least once every calendar year.	§63.1296(b)(4)
HAP ABA equipment leaks, connectors	Emission point specific limit	Connectors not designated as Unsafe-to monitor or Unsafe-to-repair	Monitor each connector annually using EPA Method 21 to detect leaks.	§63.1296(c)(1)(i); §63.1304(a)
(Option 1)			If the connector has been opened or the seal is broken, you must monitor it using EPA Method 21 no later than 3 months after you start using it again.	§63.1296(c)(1)(ii); §63.1304(a)
			Whenever you repair a connector, you must monitor it using EPA Method 21 for leaks within 3 months after the repair.	
			If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1296(f).	§63.1296(c)(1)(iii); §63.1304(a)

Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)

If your emission point is	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
		Unsafe-to-monitor	Unsafe-to-monitor valves are those where monitoring could expose personnel to an immediate danger situation. You must have a written plan for monitoring connectors identified as unsafe-to-monitor. Monitor and repair leaks according to the written plan, which is at least as soon as practicable.	§63.1296(c)(3)
		Unsafe-to-repair	Unsafe-to-repair valves are those where repair personnel would be exposed to an immediate danger situation. You must have a written plan for monitoring connectors identified as unsafe-to-repair. Monitor and repair leaks according to the written plan, which is at least within 6 months after the leak was detected.	§63.1296(c)(4)
HAP ABA equipment leaks, pressure-relief devices	Emission point specific limit	N/A	None, unless you see, hear, or smell a leak. If you detect a leak, then you must monitor within 5 days using EPA Method 21. If you measure an instrument reading of 10,000 parts per million (ppm) or more, you have a leak.	§63.1296 (d)(1); §63.1304(a)
(Option 1)			If you find a leak, attempt your first repair within 5 calendar days and repair it within 15 calendar days unless you have determined that your equipment meets the delay of repair allowances in §63.1296(f).	§62.1296(d)(2)
HAP ABA equipment leaks, open-ended valves or lines	Emission point specific limit	N/A	None, but you must make sure that a cap, blind flange, plug, or second valve is appropriately sealed, except for emergency-shutdown system, at all times when you're not operating, maintaining or repairing the system. If your valve or line has a second valve, make sure that the valve on the process fluid end is closed before the second valve.	§63.1296(e)
(Option 1)				

Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)

If your emission point is	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
HAP ABA Production line	Emission point specific limit,	Recovery device	Monitor the cumulative amount of HAP ABA recovered by the solvent-recovery device each month using equations 2 and 4.	§63.1297(e); §63.1297(e)(1)
(Option 1)	rolling annual or monthly compliance alternative		You must submit a HAP ABA monitoring and recordkeeping program for approval. The program must contain information found in §63.1303(c)(1)-(5).	§63.1303(c)(6)
	<i>(You must make notification to switch between the monthly and yearly alternatives)</i>	All options other than recovery device	Continuously monitor the amount of HAP ABA and polyol added at the mixhead when foam is being poured. For polyol added to the mixhead, you can use pump revolutions or flow rate for the measurement. For HAP ABA added to the mixhead, you can use flow rate. You must measure at the beginning and end of the production of each grade of foam within a run of foam.	§63.1297(b); §62.1297(c); §63.1303(b)
			The rule also allows you to develop and submit for approval an alternative monitoring plan for determining the amount of HAP ABA and polyol added to the foam production line at the mixhead. The plan must be approved by the EPA prior to its use.	§63.1303(b)(5)
HAP ABA equipment cleaning	Emission point specific limit	NA	None, but you must make sure that you don't use a HAP or HAP-based materials as an equipment cleaner.	§63.1298
(Option 1)				

Table 3.1 Monitoring Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must monitor as described below . . .	According to these sections of the rule . . .
HAP ABA storage vessels, equipment leaks, production line, and equipment cleaning (Option 2)	Sourcewide emission limit, rolling annual or monthly compliance alternative	Recovery device	Monitor the actual and allowable cumulative amount of HAP ABA recovered by the solvent-recovery device each month using Equations 6 and 7	§63.1299(d); §63.1299(e)(1)
			You must submit a HAP ABA monitoring and recordkeeping program for approval before you wish to begin using the program. The program must contain information found in §63.1303(c)(1)-(5).	§63.1303(c)(6)
		All options other than recovery device	Calculate actual source-wide HAP emissions for a month using Equation 5. Calculate actual source-wide HAP emissions for each consecutive 12-month period by summing actual monthly source-wide HAP emissions for each of the individual 12 months.	§63.1299(c)
			Calculate allowable source-wide HAP emissions for each individual month by using equation 6. Calculate allowable source-wide HAP emissions for a consecutive 12-month period by summing allowable monthly source-wide HAP emissions for each individual 12 months in the period.	§63.1299(d)

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
Diisocyanate storage vessels	Emission point specific limit	All options	Keep a list of diisocyanate storage vessels, along with a record of the type of control used for each storage vessel.	§63.1307(a)(1)
(Option 1 or 2)	OR	Vapor balancing	Dates and times of each unloading event. Dates and times of each inspection of the vapor-return line. Dates and times when you detect a leak in the vapor-return line. Dates and times when you repair a leak in the vapor-return line.	§63.1307(a)(4)(i)-(iii); §63.1307(f)
	Sourcewide emission limit	Carbon-adsorption	Dates and times when you monitor the system for carbon breakthrough. Monitoring device reading each time monitored. Date when you replaced the carbon.	§63.1307(a)(3)(i); §63.1307(a)(3)(iii)
		Carbon-adsorption -- design analysis monitoring	Record the systems design analysis. Dates and times when you monitor the system for carbon breakthrough. Monitoring device reading each time you monitor. Date when you replaced the carbon.	§63.1307(a)(3)(ii); §63.1307(a)(3)(iii); §63.1303(a)(2)

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
Transfer pumps in diisocyanate service	Emission point specific limit	All options, except sealless pumps	For each pump, date of installation and type of control.	§63.1307(b)(2)
(Option 1 or 2)	OR			
	sourcewide emission limit		<p>If you detect a leak, you must record and identify on the equipment the following information:</p> <ul style="list-style-type: none"> • Instrument and operator identification numbers • Equipment identification number • Date you detected the leak and the dates of each attempt to repair the leak • Repair methods applied in each attempt to repair the leak • Words "above leak definition" if maximum leak reading is equal to or more than the leak definition for the equipment • Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days • Date you expect to successfully repair the leak if not repaired within 15 calendar days • Date you repaired the leak • Date you removed the identification 	§63.1307(b)(3)(ii)

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
Other components in diisocyanate service	Emission point specific limit	All options	List of components in diisocyanate service.	§63.1307(b)(1)(i)
(Option 1 or 2)	OR		If you detect a leak, you must record and identify on the equipment the following information:	§63.1307(b)(3)(ii)
	Sourcewide emission limit		<ul style="list-style-type: none"> • Instrument and operator identification numbers • Equipment identification number • Date you detected the leak and the dates of each attempt to repair the leak • Repair methods applied in each attempt to repair the leak • Words "above leak definition" if maximum leak reading is equal to or more than the leak definition for the equipment • Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days • Date you expect to successfully repair the leak if not repaired within 15 calendar days • Date you repaired the leak • Date you removed the identification 	

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
HAP ABA storage vessels (Option 1)	Emission point specific limit	All options	A list of HAP ABA storage vessels, along with a record of the type of control used for each storage vessel.	§63.1307(a)(2)
		Vapor balancing	Dates and times of each unloading event. Dates and times of each inspection of the vapor-return line. Dates and times when you detect a leak in the vapor-return line. Dates and times when you repair a leak in the vapor-return line.	§63.1307(a)(4); §63.1307(f)
		Carbon-adsorption	Dates and times when you monitor the system for carbon breakthrough. Monitoring device reading each time you monitor. Date when you replaced the carbon.	§63.1307(a)(3)(i); §63.1307(a)(3)(iii)
		Carbon-adsorption -- design analysis monitoring	Records of the systems design analysis. Dates and times when you monitor the system for carbon breakthrough. Monitoring device reading each time you monitor. Date when you replaced the carbon.	§63.1307(a)(3)(ii); §63.1307(a)(3)(iii); §63.1303(a)(2)

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
HAP ABA Equipment Leaks (e.g. transfer pumps, valves, connectors, pressure-relief devices, and open-ended lines) (Option 1)	Emission point specific limit	All options	List of components in HAP ABA service.	§63.1307(b)(1)(ii)
		All options, except sealless pumps	<p>If you detect a leak, you must record and identify on the equipment the following information:</p> <ul style="list-style-type: none"> • Instrument and operator identification numbers • Equipment identification number • Date you detected the leak and the dates of each attempt to repair the leak • Repair methods applied in each attempt to repair the leak • Words "above leak definition" if maximum leak reading is equal to or more than the leak definition for the equipment • Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days • Date you expect to successfully repair the leak if not repaired within 15 calendar days • Date you repaired the leak • Date you removed the identification 	§63.1307(b)(3)(ii)

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
HAP ABA Production line (Option 1)	Emission point specific limit, rolling annual or monthly compliance alternative	All options	<p>Record the following daily:</p> <ul style="list-style-type: none"> • Foam runs, with a list of the grades produced during each run • Amount of polyol added to the slabstock foam production line at the mixhead for each run (not required for grades of foam where you've designated the formulation limit for HAP ABA as zero) • Results of the density and IFD testing for each grade of foam produced during each run of foam (must be recorded within 10 days of production; not required for grades of foam where you've designated the formulation limit for HAP ABA as zero) <p>Record the following monthly:</p> <ul style="list-style-type: none"> • Listing of all foam grades produced during the month • Residual HAP formulation limit for each foam grade produced • Total amount of polyol used in the month for each foam grade produced (not required if zero is the HAP ABA formulation limit) • Total allowable HAP ABA emissions for the month • Total amount of HAP ABA added to the line at the mixhead during the month <p>If you're using rolling-annual compliance, also record the following:</p> <ul style="list-style-type: none"> • Sum of the total allowable HAP ABA emissions for the month and the previous 11 months • Sum of the total actual HAP ABA emissions for the month and the previous 11 months 	<p>§63.1307 (c)(1)(i)</p> <p>§63.1307(c)(1)(ii)</p> <p>§63.1307(c)(1)(iii)</p>

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
			<p>Also keep all of the following records:</p> <ul style="list-style-type: none"> Records of calibrations for each device used to measure polyol added at the mixhead Records of all calibrations for devices used to measure the amount of HAP ABA in storage vessels 	§63.1307(c)(1)(iv)

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
HAP ABA Production line (Option 2)	Sourcewide limit, rolling annual or monthly compliance alternative	All options	Record the following daily :	§63.1303 (c)(2)(i)
			<ul style="list-style-type: none"> • Foam runs, with a list of the grades produced during each run • Results of the density and IFD testing for each grade of foam produced during each run of foam (must be recorded within 10 days of production; not required for grades of foam where you've designated the formulation limit for HAP ABA as zero) • Amount of polyol added to the slabstock foam production line at the mixhead for each run (not required for grades of foam where you've designated the formulation limit for HAP ABA as zero) 	
			Record the following weekly :	§63.1303(c)(2)(ii)
			<ul style="list-style-type: none"> • storage tank level 	
			Record the following monthly :	§63.1303(c)(2)(iii)
			<ul style="list-style-type: none"> • Listing of all foam grades produced during the month • Residual HAP formulation limit for each foam grade produced • Total amount of polyol used in the month for each foam grade produced (not required if zero is the HAP ABA formulation limit) • Total allowable HAP ABA and equipment cleaning emissions for the month • Total actual sourcewide HAP ABA emissions for the month • Amounts of HAP ABA in the storage vessel at the beginning and end of the month • Amount of each delivery of HAP ABA to the storage vessel 	

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
			<p>If using rolling-annual compliance, also record the following:</p> <ul style="list-style-type: none"> Total allowable HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months Total actual HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months Records of all calibrations for each device measuring polyol added at the mixhead Records of all calibrations for each device used to measure the amount of HAP ABA in the storage vessel <p>Also keep all of the following records:</p> <ul style="list-style-type: none"> Records of calibrations for each device used to measure polyol added at the mixhead Records of all calibrations for devices used to measure the amount of HAP ABA in storage vessels Records to verify that all scales used to measure the amount of HAP ABA added to the storage vessel meet the requirements of §63.1303(c)(3) 	§63.1303(c)(2)(iv) §63.1307(c)(2)(v) - (vii)
HAP ABA Recovery device (Option 1 or 2)	Emission point specific limit OR Sourcewide limit	N/A	Copy of the monitoring and recordkeeping program for recovered HAP ABA. Certification of the monitoring device's accuracy. Records of periodic calibration of the monitoring devices. Records showing results of parameter monitoring. Amount of HAP ABA recovered each time it is measured.	§63.1307 (d)

Table 3.2 Recordkeeping Requirements for Slabstock foam Production (cont'd)

If your emission point is . . .	And you have chosen, as your overall compliance strategy, the . . .	And you are using the following control option . . .	Then you must keep records as described below . . .	According to these sections of the rule . . .
HAP ABA Equipment cleaning	Emission point specific limit	N/A	Product data-sheet for each equipment cleaner used, including HAP content, in kg of HAP/kg solids (lb HAP/lb solids).	§63.1307 (e)
(Option 1)				

Table 3.3 Checklist for Inspecting Slabstock Foam Plants

Facility Name: _____
Facility Location: _____
Facility TRI ID #: _____
Person Conducting Evaluation: _____
Date of Evaluation: _____

This inspection checklist is broken up into eleven sections as follows:

	<u>Section</u>	<u>Page</u>	<u>Option</u>
I.	Applicability	38	
II.	Diisocyanate storage vessels	39	1 or 2
III.	Diisocyanate transfer pumps	42	1 or 2
IV.	Other diisocyanate components in service	44	1 or 2
V.	HAP ABA storage vessels	45	1
VI.	HAP ABA equipment leaks	49	1
VII.	HAP ABA production line	54	1
VIII.	HAP ABA equipment cleanig	59	1
IX.	Sourcewide emission limit	60	2
X.	Testing	64	1 or 2
XI.	Reporting	65	1 or 2

Section I: Applicability checklist (All Options)

A. Applicability

Note: If you answer YES to any Section A questions, don't continue. Your slabstock foam process isn't covered.

- | | | Comments |
|---|--|--|
| 1 | Is your facility exclusively dedicated to the fabrication of flexible polyurethane foam? §63.1290(c)(1) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 2 | Is your slabstock process devoted solely to research and development of new products and processes? §63.1290(c)(2) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 3 | Are your plantwide HAP emissions, as calculated using Equation 1, no more than five tons per year? §63.1290(c)(3) | <input type="checkbox"/> Yes <input type="checkbox"/> No |

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section II: Diisocyanate storage vessels checklist (Option 1 or 2)

B. Requirements for Diisocyanate Storage Vessels			Comments
1	Does each diisocyanate storage vessel have a vapor-return line (vapor-balancing system) or a carbon-adsorption system? <i>§63.1294(a)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. vessels with vapor-return line: No. vessels with carbon-adsorption:
2	For each diisocyanate storage vessel with a vapor-return line , are you visually inspecting for leaks each time diisocyanate is unloaded from the tank truck or rail car? <i>§63.1294(a)(1)(i)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date of last unloading: Date of last visual inspection:
3	For each diisocyanate storage vessel with a vapor-return line , did you repair any leaks found before the next unloading event? <i>§63.1294(a)(1)(ii)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date of leak: Date leak repaired: Date next loading event: No. vessels with leaks: No. vessels repaired:
4	For each diisocyanate storage vessel with a carbon-adsorption system, do you route displaced vapors through activated carbon? <i>§63.1294(a)(2)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	For each carbon-adsorption system, do you replace the carbon after you find the breakthrough and before the next unloading? <i>§63.1294(a)(2)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date of breakthrough: Date of Carbon Replacement: Date of Next Unloading: No. vessels with breakthrough:
C. Monitoring Requirements for Diisocyanate Storage Vessels			Comments
SKIP this section if you don't use a carbon-adsorption system on your storage vessels			
1	Do you monitor the HAP or organic concentration in the exhaust-vent stream or outlet stream's exhaust from the carbon adsorption system during each unloading (or once a month if loading occurs more often than monthly)? Or, do you monitor at a regular interval established in your <u>design analysis</u> ? <i>§63.1303(a)(1),(2)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. storage vessels measured at the carbon adsorption system: No. vessels using design analysis:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

C. Monitoring Requirements for Diisocyanate Storage Vessels			Comments
SKIP this section if you don't use a carbon-adsorption system on your storage vessels			
2	If you monitor the HAP concentration in the carbon-adsorption system's exhaust, do you follow Method 18 and make the measurement for at least one 5-minute interval while the vessel is being filled? §63.1303(a)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Value Method 18:
3	If you monitor the organic concentration in the carbon-adsorption system's exhaust, do you follow Method 25A and make the measurement for at least one 5-minute interval while the vessel is being filled? §63.1303(a)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Value Method 24:
4	For each carbon-adsorption system monitored according to intervals in a <u>design analysis</u> , have you replaced the carbon at the specified interval? §63.1303(a)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design's Replacement Interval: Last Replacement of Carbon:
D. Recordkeeping Requirements for Diisocyanate Storage Vessels			Comments
1	Do you have a list of diisocyanate storage vessels that includes the type of control for each storage vessel? §63.1307(a)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. of storage vessels: No. of controls used:
2	If you're complying with the requirements for diisocyanate storage vessels using <u>carbon-adsorption</u> , do you keep the following records? §63.1307(a)(3)		No. vessels using carbon-adsorption:
	• Dates and times when you monitor the system for carbon breakthrough	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Reading from the monitoring device each time you monitor it	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Date when you replaced the carbon	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	If you're complying with the requirements for diisocyanate storage vessels using <u>carbon-adsorption</u> with alternative monitoring , do you keep the following records? §63.1307(a)(3)		No. vessels using carbon adsorption:
	• Records of design analysis	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Dates and times when you monitor the system for carbon breakthrough	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Reading from the monitoring device each time you monitor it	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Date when you replaced the carbon	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

D. Recordkeeping Requirements for Diisocyanate Storage Vessels	Comments
<p>4 If you're complying with the diisocyanate storage using a <u>vapor-return line</u>, do you keep the following records? <i>§63.1307(a)(4), §63.1307(f)</i></p> <ul style="list-style-type: none"> • Dates and times of each unloading event <input type="checkbox"/> Yes <input type="checkbox"/> No • Dates and times of each inspection of the vapor-return line <input type="checkbox"/> Yes <input type="checkbox"/> No • Dates and times each time you used the vapor-return line <input type="checkbox"/> Yes <input type="checkbox"/> No • Dates and times you detect a leak in the vapor-return line <input type="checkbox"/> Yes <input type="checkbox"/> No • Dates and times when you repair a leak in the vapor-return line <input type="checkbox"/> Yes <input type="checkbox"/> No 	<p>No. vessels using vapor-return:</p>

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section III: Diisocyanate transfer pump checklist (Option 1 or 2)

E. Requirements for Diisocyanate Transfer Pumps			Comments
1	Is each transfer pump in diisocyanate service either sealless or submerged? §63.1294(b)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. of sealless pumps: No. submerged pumps:
2	Have you completely immersed each submerged pump in bis(2-ethylhexyl)phthalate (DEHP, CAS #118-81-7), 2(methyloctyl)phthalate (DINP, CAS #68515-48-0), or another neutral oil? §63.1294(b)(2)(i)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Submerging oil used:
3	Do you visually monitor each submerged pump weekly to detect leaks? §63.1294(b)(2)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date last wkly inspection:
4	When you detect a leak from a submerged pump, do you first attempt to repair it within 5 calendar days and actually repair it within 15 calendar days unless you've determined that your equipment meets the delay of repair definition in §63.1294(d)? §63.1294(b)(2)(iii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Leak Detected: Date First Attempt at Repair: Date Leak Repaired: No. of pumps with leaks:
5	Does your first attempt to repair a leaking submerged pump include: tightening of packing gland nuts and checking the seal flush to see if it is operating at design temperature and pressure? §63.1294(b)(2)(iii)(B)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
F. Recordkeeping Requirements for Diisocyanate Transfer Pumps Complete this section only if you used submerged pumps			Comments
1	Do you have a list of all submerged transfer pumps in diisocyanate service, including the date of installation and type of control? §63.1307(b)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. transfer pumps:
2	For each submerged transfer pump that's leaking, do you attach to the equipment a readily visible identification number? §63.1307(b)(3)(i)(A)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. pumps with tags:
3	For each submerged transfer pump that's leaking, do you remove the tag only after you've repaired the pump? §63.1307(b)(3)(i)(C)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

	F. Recordkeeping Requirements for Diisocyanate Transfer Pumps	Comments
Complete this section only if you used submerged pumps		
4	<p>For each <u>submerged transfer pump</u> in diisocyanate service, do you keep the following records each time you detect a leak §63.1307(b)(3)(ii)</p> <ul style="list-style-type: none"> • Instrument and operator identification numbers and the equipment identification number <input type="checkbox"/> Yes <input type="checkbox"/> No • Date you detected the leak and dates of each attempt to repair the leak. <input type="checkbox"/> Yes <input type="checkbox"/> No • Repair methods applied in each attempt to repair the leak. <input type="checkbox"/> Yes <input type="checkbox"/> No • Words "above leak definition" if applicable <input type="checkbox"/> Yes <input type="checkbox"/> No • Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days. Date you expect to repair the leak if not repaired within 15 calendar days <input type="checkbox"/> Yes <input type="checkbox"/> No • Date you repaired the leak <input type="checkbox"/> Yes <input type="checkbox"/> No • Date you removed the identification <input type="checkbox"/> Yes <input type="checkbox"/> No 	No. pumps in diisocyanate service:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section IV: Other diisocyanate components checklist (Option 1 or 2)

G. Requirements for Other Components in Diisocyanate Service		Comments
1	If you detect a leak from other components in diisocyanate service, do you first attempt to repair the leak within 5 calendar days and actually repair it within 15 calendar days unless you've determined that your equipment meets the delay of repair definition in 63.1296(f)? §63.1294(c)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date Leak Detected: Date First Attempt at Repair: Date Leak Repaired: No. of components with leaks:
<hr/>		
H. Recordkeeping Requirements for Other Components in Diisocyanate Service		Comments
1	Do you have a list of all <u>other components</u> in diisocyanate service? §63.1307(b)(i)	<input type="checkbox"/> Yes <input type="checkbox"/> No No. of components in service:
2	For each <u>other component</u> in diisocyanate service that's leaking, do you attached to the equipment a readily visible identification number? §63.1307(b)(3)(i)(A)	<input type="checkbox"/> Yes <input type="checkbox"/> No No. components tags:
3	For each <u>other component</u> in diisocyanate service that's leaking, do you remove the tag only after you've repaired the leak? §63.1307(b)(3)(i)(C)	<input type="checkbox"/> Yes <input type="checkbox"/> No
4	For each <u>other component</u> in diisocyanate service, do you keep the following records each time you detect a leak §63.1307(b)(3)(ii)	
	• Instrument and operator identification numbers and the equipment identification number	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Date you detected the leak and dates of each attempt to repair the leak.	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Repair methods applied in each attempt to repair the leak.	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Words "above leak definition" if applicable	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days. Date you expect to repair the leak if not repaired within 15 calendar days	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Date you repaired the leak	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Date you removed the identification	<input type="checkbox"/> Yes <input type="checkbox"/> No

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section V: HAP ABA storage vessel checklist (Option 1)

I.	Requirements for HAP ABA Storage Vessels	<input type="checkbox"/> Yes <input type="checkbox"/> No	Comments
1	Have you equipped each HAP ABA storage vessel with a vapor return line (vapor-balance system) or a carbon-adsorption system ? §63.1295(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. vessels with vapor-return line: No. vessels with carbon-adsorption:
2	For each HAP ABA storage vessel with a vapor-return line , is the line connected from the storage vessel to the tank truck or rail car during each unloading? §63.1295(b)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	For each HAP ABA storage vessel with a vapor-return line , do you inspect (visual, audible, olfactory, or other detection method) for leaks each time HAP ABA is unloaded from the tank truck or rail car? §63.1295(b)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Last Unloading: Date last visible inspection:
4	For each HAP ABA storage vessel with a vapor-return line , if you found a leak, did you repair it before the next unloading event? §63.1295(b)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date of leak: Date Leak Repaired: Date Subsequent Unloading: No. of vessels with leaks: No. of vessels repaired:
5	For each HAP ABA storage vessel with a carbon-adsorption system , do you route displaced vapors through activated carbon before discharging into the atmosphere? §63.1295(c)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	For each carbon-adsorption system , do you replace the carbon after you find breakthrough and before the next unloading? §63.1295(c)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date of breakthrough: Date of carbon replacement: Date of Subsequent Unloading: No. vessels with breakthrough:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

J. Monitoring Requirements for HAP ABA in Storage Vessels			Comments
1	Do you determine the amount of HAP ABA in each storage vessel weekly? §63.1303(d)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Method used: Date Last Measurement:
2	Do you monitor the amount of HAP ABA in each storage vessel with a level-measurement device? §63.1303(d)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Did you calibrate each level-measurement device initially and then annually? §63.1303(d)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date of Annual Calibration:
4	Unless the level-measurement device is a visually read device, such as a gauge glass, does the device have a digital or printed output? §63.1303(d)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Type of output:
5	If the level-measurement device is a visually read device, does it have permanent graduated markings to show the HAP ABA level in the storage tank? §63.1303(d)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
K. Monitoring Requirements for HAP ABA added to Storage Vessels			Comments
1	Do you monitor the amount of HAP ABA added to a storage vessel by measuring the volume, weight or by an alternative monitoring program? §63.1303(e)	<input type="checkbox"/> volume <input type="checkbox"/> weight <input type="checkbox"/> alternate	No. vessels using volume: No. vessels using weight: No. vessels using alternate:
2	If you measure using volume, do you record the volume of HAP ABA in each storage vessel before and after each delivery? §63.1303(e)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Last Delivery: Volume before last delivery: Volume after last delivery:
3	If you measure using the volume of HAP ABA delivered, does your measurement device follow the requirements outlined in section J of this checklist? §63.1303(e)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	If measuring using volume, is volume flow rate measured using a device with an accuracy of $\pm 2.0\%$? §63.1303(e)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Device Accuracy:
5	If measuring using volume, did you calibrate your device initially and at least once every 6 months? §63.1303(e)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Initial Calibration: Date Last 2 Calibrations:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

K. Monitoring Requirements for HAP ABA added to Storage Vessels			Comments
6	If measuring weight , do you measure by calculating the difference of the full weight of the transfer vehicle prior to unloading and the empty weight of the transfer vehicle after unloading? §63.1303(e)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date of last transfer: Wt of last full transfer vehicle: Wt of last empty transfer vehicle:
7	If measuring weight , is your scale approved by your State or local agency using procedures in Handbook 44 or is it certified once per year by a registered scale technician? §63.1303(e)(3)(i) and (ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. scales approved by State: No. scales approved by technician:
8	If your using an alternative monitoring program , have you submitted the plan for approval? Has the plan been approved? §63.1303(e)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Plan Submitted: Date Plan Approved:
L. Monitoring Requirements for Storage Vessels with Carbon-Adsorption			Comments
SKIP this section if you don't use a carbon-adsorption system on your storage vessels			
1	Do you monitor the HAP or organic concentration in the exhaust-vent stream or outlet stream's exhaust from the carbon adsorption system during each unloading (or once a month if loading occurs more often than monthly)? Or, do you monitor at a regular interval established in your <u>design analysis</u> ? §63.1303(a)(1),(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. storage vessels measured at the carbon adsorption system: No. vessels using design analysis:
2	If you monitor the HAP concentration in the carbon-adsorption system's exhaust, do you follow Method 18 and make the measurement for at least one 5-minute interval while the vessel is being filled? §63.1303(a)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Value Method 18:
3	If you monitor the organic concentration in the carbon-adsorption system's exhaust, do you follow Method 25A and make the measurement for at least one 5-minute interval while the vessel is being filled? §63.1303(a)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Value Method 24:
4	For each carbon-adsorption system monitored according to intervals in a <u>design analysis</u> , have you replaced the carbon at the specified interval? §63.1303(a)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Design's Replacement Interval: Last Replacement of Carbon:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

M. Recordkeeping Requirements for HAP ABA Storage Vessels			Comments
1	Do you have a list of HAP ABA storage vessels that includes the type of control for each storage vessel? §63.1307(a)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. vessels using emission point specific limit:
2	If you're complying with the requirements for HAP ABA storage vessels using <u>carbon-adsorption</u> , do you keep the following records? §63.1307(a)(3)		No. vessels using carbon-adsorption:
	<ul style="list-style-type: none"> Dates and times when you monitor the system for carbon breakthrough 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Reading from the monitoring device each time you monitor it 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Date when you replaced the carbon 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	If you're complying with the requirements for HAP ABA storage vessels using <u>carbon-adsorption</u> with alternative monitoring , do you keep the following records? §63.1307(a)(3)		No. vessels using carbon adsorption:
	<ul style="list-style-type: none"> Records of design analysis 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Dates and times when you monitor the system for carbon breakthrough 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Reading from the monitoring device each time you monitor it 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Date when you replaced the carbon 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	If you're complying with the HAP ABA storage using a <u>vapor-return line</u> , do you keep the following records? §63.1307(a)(4), §63.1307(f)		No. vessels using vapor-return:
	<ul style="list-style-type: none"> Dates and times of each unloading event 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Dates and times of each inspection of the vapor-return line 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Dates and times of each use of the vapor-return line 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Dates and times you detect a leak in the vapor-return line 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Dates and times when you repair a leak in the vapor-return line 	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section VI: HAP ABA equipment leaks checklist (Option 1)

N. Requirements for HAP ABA Equipment Leaks			Comments
Note: Equipment leak requirements are for transfer pumps, valves, connectors, pressure-relief devices and open-ended lines			
1	Is each pump in HAP ABA service either sealless or monitored for leaks? §63.1296(a)	<input type="checkbox"/> sealless <input type="checkbox"/> monitored	No. sealless pumps: No. pumps monitored:
<i>if you're using a sealless pump, skip item 2-4 and go to 5</i>			
2	Do you monitor each pump quarterly by using Method 21 and weekly by visual inspection? §63.1296(a)(2)(i),(ii); §63.1304(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Last Quarterly Inspection: Value Method 21:
3	If you detect a pump leak, do you first attempt to repair it within 5 calendar days and actually repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f)? §63.1296(a)(2)(iii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Leak Detected: Date First Attempt at Repair: Date Leak Repaired: No. of pumps with leaks:
4	Does your first attempt to repair a leaking pump include: tightening of packing gland nuts and ensuring the seal flush is operating at it's design pressure and temperature? §63.1296(a)(2)(iii)(B)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Do you monitor each valve quarterly using Method 21? §63.1296(b)(1); §63.1304(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Last Quarterly Inspection: Value Method 21:
6	If you detect a valve leak using Method 21, do you attempt to repair it within 5 calendar days and repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f)? §63.1296(b)(2); §63.1304(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Leak Detected: Date First Attempt at Repair: Date Leak Repaired: No. of valves with leaks:
7	Does your first attempt to repair a leaking valve include: tightening of bonnet bolts, replacement of bonnet bolts, tightening gland nuts and lubricating the packing? §63.1296(b)(2)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

N. Requirements for HAP ABA Equipment Leaks			Comments
Note: Equipment leak requirements are for transfer pumps, valves, connectors, pressure-relief devices and open-ended lines			
8	For each valve you've designated as <u>unsafe-to-monitor</u> , do you have a written plan that requires monitoring as often as possible and repair of leaks as soon as possible? §63.1296(b)(3)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. of unsafe-to-monitor valves:
<p>Note: <u>unsafe-to-monitor</u> valves are those valves that can't be monitored because personnel would be exposed to an immediate danger situation. §63.1296(b)(3)(i)</p>			
9	Do you monitor and repair each <u>unsafe-to-monitor</u> valve according to your written plan? §63.1296(b)(3)(iii) and (iv)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Last Monitored: Plan Requirements for Monitoring: Date Leak Last Detected: Date Leak Repaired: Plan Requirements for Leak Repair:
10	For each valve you've designated as <u>difficult-to-monitor</u> , do you have a written plan that requires monitoring at least once per calendar year and repair of leaks as soon as possible? §63.1296(b)(4)(iii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. of difficult-to-monitor valves:
<p>Note: <u>difficult-to-monitor</u> valves are those valves that can't be monitored without elevating personnel more than 2 meters above a support surface or the valve is not accessible at any time in a safe manner. Your valve must be an existing source or a new source where you have designed <3% of your valves as difficult-to-monitor. §63.1296(b)(4)(i), (ii)</p>			
11	Do you monitor and repair each <u>difficult-to-monitor</u> valve according to your written plan? §63.1296(b)(4)(iv) and (v)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Plan Requirements for Monitoring: Date Last Monitored: Plan Requirements for Leak Repair: Date Leak Last Detected: Date Leak Repaired:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

N. Requirements for HAP ABA Equipment Leaks		Comments
Note: Equipment leak requirements are for transfer pumps, valves, connectors, pressure-relief devices and open-ended lines		
12	Do you monitor each connector annually using Method 21? §63.1296(c)(1); §63.1304(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No No of connectors monitored using Method 21: Date Last Monitored: Value Method 21:
13	If you've opened a connector or broken its seal, do you monitor it for leaks within the first 3 months after it's used for HAP ABA again? §63.1296(c)(1)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date Connector Opened/Seal Broken: Date Connector Monitored: No. Connectors Opened/Seal Broke:
14	If you've detected a leak, do you monitor the connector within the first 3 months after its repair? §63.1296(c)(1)(iii)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date Leak Detected: Date Leak Repaired: Date Leak Monitored: No. Connectors with Leaks:
15	If you detect a connector leaking, do you try to repair it within 5 calendar days and repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f)? §63.1296(c)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date Leak Detected: Date First Attempt at Repair:
16	For each connector designated as <u>unsafe-to-monitor</u> , do you have a written plan that requires monitoring as often as possible and repair of leaks within 6 months? §63.1296(c)(3), (c)(4)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No No. unsafe-to-monitor connectors:
Note: <u>unsafe-to-monitor</u> connectors are those that can't be monitored because personnel would be exposed to an immediate danger situation. §63.1296(c)(3)(i)		
17	Do you monitor and repair each <u>unsafe-to-monitor</u> connector according to your written plan? §63.1296(c)(3)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No Plan Requirements for Monitoring: Date Last Monitored:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

N. Requirements for HAP ABA Equipment Leaks			Comments
Note: Equipment leak requirements are for transfer pumps, valves, connectors, pressure-relief devices and open-ended lines			
18	For each connector designated as <u>unsafe-to-repair</u> , do you repair the connector as soon as possible but no later than 6 months after you detected the leak? §63.1296(c)(4)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Plan Requirement for Leak Repair: Date Leak Detected: Date Leak Repaired:
Note: <u>unsafe-to-repair</u> connectors are those that can't be repaired because personnel would be exposed to an immediate danger situation. §63.1296(c)(4)(i)			
19	If you find evidence of a potential leak by visual, audible, or olfactory detection, do you monitor the pressure-relief device using Method 21 within 5 calendar days? §63.1296(d)(1); §63.1304(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Potential Leak Last Detected: Date Monitored: Results Method 21:
20	If you detect a leak a pressure-relief device , do you first attempt repair it within 5 calendar days and actually repair it within 15 calendar days unless you've determined your pump meets the delay of repair under §63.1296(f)? §63.1296(d)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. pressure-relief devices with leaks: Date Leak Detected: Date First Attempt at Repair: Date Leak Repaired:
21	Have you equipped each open-ended valve or line in HAP ABA service (except those in an emergency-shutdown system designed to open automatically during a process upset) with a cap, blind flange, plug, or a second valve? §63.1296(e)(i)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
22	Do you keep open-ended valve or line sealed at all times, except when in use or during maintenance or repair? §63.1296(e)(1)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
23	For each open-ended valve or line with a second valve, do you close the valve on the process fluid end before closing the second valve? §63.1296(e)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. valves or lines with second valve:
24	For each open ended valve or line with a double-block-and-bleed system, do you keep the bleed-valve or line closed except during operations that require venting the line between the block-valves? §63.1296(e)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. valves or lines with double-block-and-bleed:
O. Recordkeeping Requirements for HAP ABA Equipment Leaks			Comments
1	Do you have a list of transfer pumps, valves, connectors, pressure-relief devices and open-ended lines in HAP ABA service (components in service)? §63.1307(b)(1)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. of components in service:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

O.	Recordkeeping Requirements for HAP ABA Equipment Leaks	Yes	No	Comments
2	For each component in service that's leaking, do you attached to the equipment a readily visible identification number? <i>§63.1307(b)(3)(i)(A)</i>	<input type="checkbox"/>	<input type="checkbox"/>	No. components with tags:
3	For each component in service that's leaking, do you remove the tag only after you've repaired the equipment or after 2 successive quarters of no leaks if your equipment is a valve? <i>§63.1307(b)(3)(i)(C)</i>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Do you keep the following records for components in service ? <i>§63.1307(b)(3)(ii)</i>			
	• Instrument and operator identification numbers and the equipment identification number	<input type="checkbox"/>	<input type="checkbox"/>	
	• Date you detected the leak and dates of each attempt to repair the leak.	<input type="checkbox"/>	<input type="checkbox"/>	
	• Repair methods applied in each attempt to repair the leak.	<input type="checkbox"/>	<input type="checkbox"/>	
	• Words "above leak definition" if applicable	<input type="checkbox"/>	<input type="checkbox"/>	
	• Words "repair delayed" and the reason for the delay if not repaired within 15 calendar days. Date you expect to repair the leak if not repaired within 15 calendar days	<input type="checkbox"/>	<input type="checkbox"/>	
	• Date you repaired the leak	<input type="checkbox"/>	<input type="checkbox"/>	
	• Date you removed the identification	<input type="checkbox"/>	<input type="checkbox"/>	

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Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section VII: HAP ABA production line checklist (Option 1)

P. Requirements for HAP ABA Emissions from the Production Line	Comments
1 Do you determine compliance with the HAP ABA emission limits from the production line by using a rolling-annual or monthly basis? §63.1297(a)	<input type="checkbox"/> rolling-annual <input type="checkbox"/> monthly No. lines using rolling-annual: No. lines using monthly:
2 If you switch between the rolling-annual and monthly compliance options, do you make notification 180 calendar days prior to making the change? §63.1297(a)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date switched options: Date of notification:
3 If you determine compliance on a rolling-annual basis, and don't use a recovery device, are actual HAP ABA emissions for each consecutive 12-month period less than allowable HAP ABA emissions for the same consecutive 12-months? §63.1297(b)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value actual HAP ABA: Value allowable HAP ABA:
4 If you determine compliance on a rolling-annual basis, and don't use a recovery device, do you calculate actual HAP ABA emissions as the sum of actual monthly HAP ABA emissions for each 12 month period? §63.1297(b)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value actual HAP ABA for last 12 months: Value allowable HAP ABA:
5 If you determine compliance on a rolling-annual basis, and don't use a recovery device, do you use Equation 2 in §63.1297(b)(2) to calculate allowable HAP ABA emissions on the production for the 12-month period? §63.1297(b)(2); §63.1297(c)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value Equation 2:
6 If you determine compliance monthly , and don't use a recovery device, do you compare actual HAP ABA emissions to allowable HAP ABA emissions for each month? Do you determine actual by using HAP ABA added to the production line at the mixhead? §63.1297(a)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value actual HAP ABA: Value allowable HAP ABA:
7 If you determine compliance monthly , and don't use a recovery device, are actual HAP ABA emissions less than the corresponding allowable level of HAP ABA emissions for the same month? §63.1297(c)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value actual HAP ABA: Value allowable HAP ABA:
8 If you determine compliance monthly , and don't use a recovery device, do you calculate actual monthly HAP ABA emissions as the amount of HAP ABA added to the production line at the mixhead? §63.1297(c)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value actual HAP ABA: Value allowable HAP ABA:
9 If you determine compliance monthly , and don't use a recovery device, do you use Equation 2 in §63.1297(b)(2) to calculate allowable HAP ABA emissions for the month? §63.1297(b)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value Equation 2:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

P.	Requirements for HAP ABA Emissions from the Production Line			Comments
10	Except for formulation limits of zero, do you determined a HAP ABA formulation limit for each grade of foam produced? §63.1297(d)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	No. grades produced: Formulation limit value:
11	Except for formulation limits of zero, for each <u>existing source</u> , do you use Equation 3 in §63.1297(d) to calculate HAP ABA formulation limit ? §63.1297(d)(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Value equation 3:
12	Except for formulation limits of zero, for each <u>new source</u> , do you use Equation 3 in §63.1297(d) to calculate the HAP ABA formulation limit for each grade of foam with a density of 0.95 pound per cubic foot or less? §63.1297(d)(2)(i)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Value equation 3:
13	Except for formulation limits of zero, for each <u>new source</u> , do you use Equation 3 in §63.1297(d) to calculate the HAP ABA formulation limit for each grade of foam with a density of 1.4 pound per cubic foot or less and an Indentation Force Deflection (IFD) of 15 pounds or less? §63.1297(d)(2)(ii)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Value equation 3:
14	Except for formulation limits of zero, for each <u>new source</u> , with a foam grade density greater than 0.95 pounds per cubic foot and an IFD greater than 15 pounds, is the HAP ABA formulation limit zero? §63.1297(d)(2)(iii)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Density: Formulation limit:
15	Except for formulation limits of zero, for each <u>new source</u> with a foam grade density greater than 1.40 pounds per cubic foot, is the HAP ABA formulation limit zero? §63.1297(d)(2)(iv)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Density: Formulation limit:
16	Except for formulation limits of zero, do you determine the IFD and density for each foam grade within 10 working days of its production using §63.1304(b)? §63.1297(d)(3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Last production start date: Last IFD and density determination:
17	If you're using a <u>recovery device</u> and determine compliance on a rolling-annual or monthly basis, do you calculate allowable HAP ABA emissions using Equation 2 in §63.1297(e) monthly? §63.1297(e)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Value equation 2:
18	If you're using a <u>recovery device</u> and determine compliance on a rolling-annual or monthly basis, do you calculate actual monthly HAP ABA emissions according to Equation 4 in §63.1297(e)? §63.1297(e)(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Value equation 4:
19	If you're using a <u>recovery device</u> and determine compliance on a rolling-annual or monthly basis, have you submitted a HAP ABA monitoring program for approval? §63.1297(e)(2); §63.1303(c)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	No. recovery-devices used: Date plan submitted:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Q. Monitoring Requirements for HAP ABA Emissions from the Production Line when a Recovery Device is Used			Comments
SKIP this section if you don't use a recovery device			
1	Have you sent a recovered HAP monitoring and recordkeeping plan in for approval? §63.1303(c)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Sent: Date Approved:
2	Does your equipment have a device showing the cumulative amount of HAP ABA recovered by the solvent-recovery device each month? §63.1303(c)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Last cumulative monthly value:
3	Has the manufacturer certified the device to be accurate within +/- 2.0 percent? §63.1303(c)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Device accuracy:
4	Do you measure after fully recovering the HAP ABA (i.e., after separating it from water introduced into the HAP ABA during regeneration)? §63.1303(c)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
R. Monitoring Requirements for HAP ABA and Polyol added to the Production Line at the mixhead			
1	Do you continuously monitor the amount of HAP ABA added at the mixhead when foam is being poured or monitor under an alternative monitoring program? §63.1303(b)(1)(i)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	When monitoring HAP ABA added, do you measure using flow rate? §63.1303(b)(1)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	When measuring HAP ABA added, does your monitoring device have an accuracy to within ±2.0 percent of the HAP ABA being measured? §63.1303(b)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Device Accuracy:
4	When measuring HAP ABA added, did you calibrate your measuring device initially and at least once each month? §63.1303(b)(3)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Initial Calibration: Date Last 2 Calibrations:
5	Are you measuring HAP ABA at the beginning and end of a run of foam for the production of each grade of foam? §63.1303(b)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Value last beginning run: Value last end run:
6	Do you continuously monitor the amount of polyol added at the mixhead according to the rule or an alternative monitoring program? §63.1303(b)(1)(i)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

R. Monitoring Requirements for HAP ABA and Polyol added to the Production Line at the mixhead			Comments
7	If you're monitoring the amount of polyol, are you measuring using pump revolutions or flow rate? §63.1303(b)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No	No. monitoring using revolutions: No. monitoring using flow rate:
8	If your monitoring the amount of polyol, does your monitoring device have an accuracy to within ±2.0 percent of the HAP ABA being measured? §63.1303(b)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Device Accuracy:
9	If your monitoring the amount of polyol, did you calibrate your measuring device initially and at least every 6 months? §63.1303(b)(3)(i)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Initial Calibration: Date Last 2 Calibrations:
10	Are you measuring polyol at the beginning and end of a run of foam for the production of each grade of foam? §63.1303(b)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Last beginning value: Last end value:
11	If your using an alternative monitoring program , have you submitted the plan for approval? Has the plan been approved? §63.1303(b)(5)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Plan Submitted: Date Plan Approved:
S. Recordkeeping Requirements for HAP ABA at the Production Line			Comments
1	Do you have a list of HAP ABA Production lines? §63.1307(b)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	If you're complying using the rolling-annual or monthly compliance option, do you keep the following production-line records daily? §63.1307(c)(1)(i)		
	• Foam run log, with a list of the grades produced during each run	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Amount of polyol added to the production line for slabstock foam at the mixhead for each run	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Results of the density and IFD testing for each grade of foam produced during each run of foam (not required on grades of foam for which you've designated a zero formulation limit for HAP ABA)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

	S. Recordkeeping Requirements for HAP ABA at the Production Line	Comments
3	<p>If you're complying using the rolling-annual or monthly compliance option, do you keep the following records for each month? §63.1307(c)(1)(ii)</p> <ul style="list-style-type: none"> • Listing of all foam grades produced during the month <input type="checkbox"/> Yes <input type="checkbox"/> No • Formulation limit for HAP ABA on each foam grade produced <input type="checkbox"/> Yes <input type="checkbox"/> No • Total allowable HAP ABA emissions for the month <input type="checkbox"/> Yes <input type="checkbox"/> No • Total amount of HAP ABA added at the mixhead during the month <input type="checkbox"/> Yes <input type="checkbox"/> No • Total amount of polyol used in the month for each foam grade produced (not required on grades of foam for which you've designated a zero formulation limit for HAP ABA) <input type="checkbox"/> Yes <input type="checkbox"/> No 	
4	<p>If you're complying using the rolling-annual or monthly compliance option, do you keep the following records for each month? §63.1307(c)(1)(iv)</p> <ul style="list-style-type: none"> • Calibrations for each device used to measure polyol and HAP ABA added at the mixhead <input type="checkbox"/> Yes <input type="checkbox"/> No 	
5	<p>If you're complying using the <u>emission point specific limit, rolling-annual</u> option, do you keep the following records for each month? §63.1307(c)(1)(iii)</p> <ul style="list-style-type: none"> • Sum of the total allowable HAP ABA emissions for the month and the previous 11 months <input type="checkbox"/> Yes <input type="checkbox"/> No • Sum of the total actual HAP ABA emissions for the month and the previous 11 months <input type="checkbox"/> Yes <input type="checkbox"/> No 	
	<hr/>	
	<p>T. Recordkeeping Requirements for HAP ABA Emissions from the Production Line when a Recovery Device is Used</p> <p>SKIP this section if you don't use a recovery device</p>	Comments
1	<p>If you're complying using a <u>recovery device</u>, do you keep the following records? §63.1307(d)</p> <ul style="list-style-type: none"> • Copy of your monitoring and recordkeeping program for recovered HAP ABA <input type="checkbox"/> Yes <input type="checkbox"/> No • Certification of the monitoring device's accuracy <input type="checkbox"/> Yes <input type="checkbox"/> No • Records of periodic calibration of the monitoring device <input type="checkbox"/> Yes <input type="checkbox"/> No • Records of parameter-monitoring results <input type="checkbox"/> Yes <input type="checkbox"/> No • Amount of HAP ABA recovered each time you measure it <input type="checkbox"/> Yes <input type="checkbox"/> No 	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section VIII: HAP ABA equipment cleaning checklist (Option 1)

U. Requirements for HAP ABA Equipment Cleaning	Comments
1 Are your cleaning operations free of HAP or HAP based materials? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>§63.1298</i>	
V. Recordkeeping Requirements for HAP ABA Equipment Cleaning	Comments
1 Do you have a product data-sheet for each equipment cleaner you used? Does the product data-sheet include the HAP content, in kg of HAP/kg solids (or lb of HAP/lb of solids)? <i>§63.1307(e)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section IX: Sourcewide emission limit checklist (Option 2)

W. Requirements for Sourcewide Emission Limit		Comments
Note: This includes emissions from HAP ABA storage and equipment leaks, HAP ABA emissions from the production line and equipment cleaning		
1	Do you use rolling-annual or monthly methods to comply with the sourcewide allowable limits on HAP ABA emissions? §63.1299	<input type="checkbox"/> annual <input type="checkbox"/> monthly
2	If you determine compliance on a rolling-annual basis and don't use a recovery device, are actual sourcewide HAP ABA emissions from the facility (including storage, equipment leaks, production line, and equipment cleaning) less than the sourcewide allowable HAP ABA emissions for each consecutive 12-month period? §63.1299(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No Actual sourcewide value: Allowable sourcewide value:
3	If you determine compliance on a rolling-annual basis and don't use a recovery device, do you calculate allowable HAP emissions for 12 consecutive months using equation 6? §63.1299(a); §63.1299(d)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value Equation 6:
4	If you determine compliance on a rolling-annual basis and don't use a recovery device, do you use Equation 5 in §63.1299(c) to calculate the actual, monthly sourcewide HAP emissions? §63.1299(c)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value Equation 5:
5	If you determine compliance on a rolling-annual basis and don't use a recovery device, do you determine the amount of HAP ABA in a storage vessel weekly by monitoring using a level measurement device? §63.1299(c)(2); §63.1303(d)	<input type="checkbox"/> Yes <input type="checkbox"/> No Last weekly value:
6	If you determine compliance on a rolling-annual basis and don't use a recovery device, do you determine the amount of HAP ABA added to the storage vessel monthly by summing the individual HAP ABA deliveries that occur in that month? §63.1299(c)(3); §63.1303(e)	<input type="checkbox"/> Yes <input type="checkbox"/> No Last monthly value:
7	If you determine compliance on a rolling-annual basis and don't use a recovery device, do you calculate annual emissions by summing the actual monthly sourcewide HAP emissions for each of the individual 12 months in the period? §63.1299(c)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No
8	If you determine compliance on a monthly basis and don't use a recovery device, do you compare actual HAP emissions for each month to allowable HAP emissions for that month? §63.1299(b)	<input type="checkbox"/> Yes <input type="checkbox"/> No Last actual HAP value: Last allowable HAP value:
9	If you determine compliance on a monthly basis and don't use a recovery device, do you use Equation 5 in §63.1299(c) to calculate actual, sourcewide, emissions? §63.1299(c)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value Equation 5:
10	If you determine compliance on a monthly basis and don't use a recovery device, do you determine the amount of HAP ABA in a storage vessel weekly by monitoring using a level measurement device? §63.1299(c)(2); §63.1303(d)	<input type="checkbox"/> Yes <input type="checkbox"/> No Last weekly value:

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

W. Requirements for Sourcewide Emission Limit			Comments
Note: This includes emissions from HAP ABA storage and equipment leaks, HAP ABA emissions from the production line and equipment cleaning			
11	If you <u>don't use a solvent-recovery device</u> and you determine compliance on a monthly basis, do you determine the amount of HAP ABA added to the storage vessel monthly by summing the individual HAP ABA deliveries that occur in that month? <i>§63.1299(c)(3); §63.1303(e)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Last monthly value:
12	If you determine compliance on a rolling-annual or monthly basis and you use a <u>solvent-recovery device</u> , do you use Equation 6 to calculate the allowable HAP emissions for each month? <i>§63.1299(e)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Value Equation 6:
13	If you determine compliance on a rolling-annual or monthly basis and you use a <u>solvent-recovery device</u> , do you use Equation 7 to calculate actual, monthly, HAP ABA emissions? <i>§63.1299(e)(1)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Value Equation 7:
14	If you determine compliance on a rolling-annual or monthly basis and you use a <u>solvent-recovery device</u> , have you submitted a HAP ABA monitoring program for approval? <i>§63.1299(e)(2); §63.1303(c)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Submittal date: Approval date:
X. Monitoring Requirements for Sourcewide Emissions when a Recovery Device is Used			Comments
SKIP this section if you don't use a recovery device			
1	Have you sent a recovered HAP monitoring and recordkeeping plan in for approval? <i>§63.1303(c)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Sent: Date Approved:
2	Does your equipment have a device showing the cumulative amount of HAP ABA recovered by the solvent-recovery device each month? <i>§63.1303(c)(1)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Last cumulative monthly value:
3	Has the manufacturer certified the device to be accurate within +/- 2.0 percent? <i>§63.1303(c)(1)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Device accuracy
4	Do you measure after fully recovering the HAP ABA (i.e., after separating it from water introduced into the HAP ABA during regeneration)? <i>§63.1303(c)(2)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

	Y. Recordkeeping Requirements for Sourcewide Emissions	Comments
1	<p>If you're complying using rolling-annual or monthly compliance option, do you keep the following production-line records daily? <i>§63.1303(c)(2)(i)</i></p> <ul style="list-style-type: none"> • Foam run log, with a list of the grades produced during each run <input type="checkbox"/> Yes <input type="checkbox"/> No • Amount of polyol added to the production line for slabstock foam at the mixhead for each run (not required if zero is the formulation limit for HAP ABA) <input type="checkbox"/> Yes <input type="checkbox"/> No • Results of the density and IFD testing for each grade of foam produced during each run of foam (not required on grades of foam for which you've designated a zero formulation limit for HAP ABA) <input type="checkbox"/> Yes <input type="checkbox"/> No 	
2	<p>If you're complying using rolling-annual or monthly compliance option, do you keep weekly records of the storage tank level? <i>§63.1303(c)(2)(ii)</i></p>	
3	<p>If you're complying using rolling-annual or monthly compliance option, do you keep the following records monthly? <i>§63.1307(c)(2)(iii)</i></p> <ul style="list-style-type: none"> • List of all foam grades produced during the month <input type="checkbox"/> Yes <input type="checkbox"/> No • Formulation limit on residual HAP for each foam grade produced <input type="checkbox"/> Yes <input type="checkbox"/> No • Total amount of polyol used in the month for each foam grade produced (not required if zero is the formulation limit for HAP ABA) <input type="checkbox"/> Yes <input type="checkbox"/> No • Total allowable HAP ABA and equipment-cleaning emissions for the month <input type="checkbox"/> Yes <input type="checkbox"/> No • Total actual sourcewide emissions of HAP ABA for the month <input type="checkbox"/> Yes <input type="checkbox"/> No • Amounts of HAP ABA in the storage vessel at the beginning and end of the month <input type="checkbox"/> Yes <input type="checkbox"/> No • Amount of each delivery of HAP ABA to the storage vessel <input type="checkbox"/> Yes <input type="checkbox"/> No 	
4	<p>If complying by the rolling-annual or monthly option, do you keep the following? <i>§63.1307(c)(2)(v) - (vii)</i></p> <ul style="list-style-type: none"> • Records of all calibrations for each device used to measure polyol added at the mixhead <input type="checkbox"/> Yes <input type="checkbox"/> No • Records of all calibrations for each device used to measure amount of HAP ABA in the storage vessel <input type="checkbox"/> Yes <input type="checkbox"/> No • Written confirmation of State or local approval of scales, or the registered scale technician's report for all scales used to measure the amount of HAP ABA added to storage vessels <input type="checkbox"/> Yes <input type="checkbox"/> No 	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Y. Recordkeeping Requirements for Sourcewide Emissions	Comments
<p>5 If you're complying using the rolling-annual option, do you keep the following records monthly? §63.1307(c)(2)(iv)</p> <ul style="list-style-type: none"> • Total allowable HAP ABA and equipment-cleaning emissions of HAP for the month and the previous 11 months. <input type="checkbox"/> Yes <input type="checkbox"/> No • Total actual HAP ABA and equipment-cleaning emissions of HAP for the month and the previous 11 months. <input type="checkbox"/> Yes <input type="checkbox"/> No 	
<p>Z. Recordkeeping Requirements for Sourcewide Emissions when a Recovery Device is Used</p> <p>SKIP this section if you don't use a recovery device</p>	Comments
<p>1 If you're complying using a <u>recovery device</u>, do you keep the following records? §63.1307(d)</p> <ul style="list-style-type: none"> • Copy of your monitoring and recordkeeping program for recovered HAP ABA <input type="checkbox"/> Yes <input type="checkbox"/> No • Certification of the monitoring device's accuracy <input type="checkbox"/> Yes <input type="checkbox"/> No • Records of periodic calibration of the monitoring device <input type="checkbox"/> Yes <input type="checkbox"/> No • Records of parameter-monitoring results <input type="checkbox"/> Yes <input type="checkbox"/> No • Amount of HAP ABA recovered each time you measure it <input type="checkbox"/> Yes <input type="checkbox"/> No 	

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section X: Testing checklist (Options 1 or 2 as required)

AA.	Testing Requirements	Comments
1	For each time you use Method 21, is the instrument's response factor based on the fluid's average composition, rather than on the individual VOC in the stream? §63.1304 (a)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No
2	If the source stream contains nitrogen, air, or other inerts that aren't HAP or VOC, do you calculate the average stream response factor on an inert-free basis? §63.1304 (a)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No
3	Do you calibrate the detection instrument before each use on the day of its use according to Method 21, Appendix A, of 40 CFR Part 60? §63.1304 (a)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date Last Use: Date Last Calibration:
4	Are calibration gases zero air (less than 10 ppm of hydrocarbon in air)? §63.1304 (a)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No Calibration gas used:
5	Are calibration gases a mixture of methane and air at a concentration of about 1,000 ppm for all transfer pumps and 500 ppm for all other equipment? §63.1304 (a)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No
6	If the instrument design allows for multiple concentrations of gas, is the lower concentration no higher than 2,000 ppm methane and the higher concentration no higher than 1,000 ppm methane? §63.1304 (a)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No
7	Do you monitor when the equipment is in HAP ABA service, with an acceptable surrogate volatile organic compound that isn't a HAP ABA, or with any other detectable gas or vapor? §63.1304 (a)(5)	<input type="checkbox"/> Yes <input type="checkbox"/> No
8	If the instrument used for monitoring doesn't meet the performance criteria in Method 21, do you adjust readings by multiplying the average response factor for the stream? §63.1304 (a)(6)	<input type="checkbox"/> Yes <input type="checkbox"/> No Value average response factor:
9	Unless the formulation limit for HAP ABA is zero, do you use ASTM D3574 to determine the IFD for each grade of foam produced during each run? §63.1304 (a)	<input type="checkbox"/> Yes <input type="checkbox"/> No
10	Do you cut each sample of foam from the center of the foam bun? §63.1304 (b)	<input type="checkbox"/> Yes <input type="checkbox"/> No
11	Is each sample of foam no larger than 24 inches by 24 inches by 4 inches? §63.1304 (b)	<input type="checkbox"/> Yes <input type="checkbox"/> No

Table 3.3 Checklist for Inspecting Slabstock Foam Plants (cont'd)

Section XI: Reporting Requirements (Options 1 or 2)

BB.	Reporting Requirements		Comments
1	Did you send in an initial notification form ? §63.1306(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date submitted:
2	Have you applied for approval of construction or reconstruction ? §63.1306(b)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date submitted:
3	Did you send in a precompliance report ? §63.1306(c)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date submitted:
4	Did you send in a notification of compliance status ? §63.1306(d)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date submitted:
5	Do you send in semiannual compliance reports no later than 60 days after the end of the 180-day period? §63.1306(e)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date end of period: Date submitted:
6	Do you submit an annual compliance certification ? §63.1306(g)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date first certification due: Date certification submitted:
7	If you switch from emission point specific limit to sourcewide limit , or vice versa, did you make notification before changing? §63.1306(f)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Notification Submitted: Date Limit Switched:
8	If you switch from rolling-annual to monthly , or vice versa, did you make notification before changing? §63.1306(f)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date Notification Submitted: Date Method Switched:

Additional comments:

Chapter 4 - Complying with requirements for molded foam

What does the Molded section cover?

§63.1300 of the rule covers your molded foam process if your process meets **all** of the following conditions:

- emits a HAP
- is a molded foam production process
- is located at a plantsite that is a major source of HAPs
- is not exempt

Definition. *A molded flexible polyurethane process* means "a flexible polyurethane foam that is produced by shooting the foam mixture into a mold of the desired shape and size. Molded foam is primarily used in automobile, furniture, packaging, textiles and fiber manufacturing."

About this Chapter:

- *Whenever you see "§," we are referring to the section number of the rule. You can go to that section in the rule for more information*
 - *When you see a definition, it comes straight from the rule*
-

Figure 4.1 (on page 67) shows a typical process for molded foam.

What is exempt under this section?

Your molded foam process is exempt if it's devoted exclusively to **either** of the following [§63.1290].

- fabricating molded foam
- conducting research and development

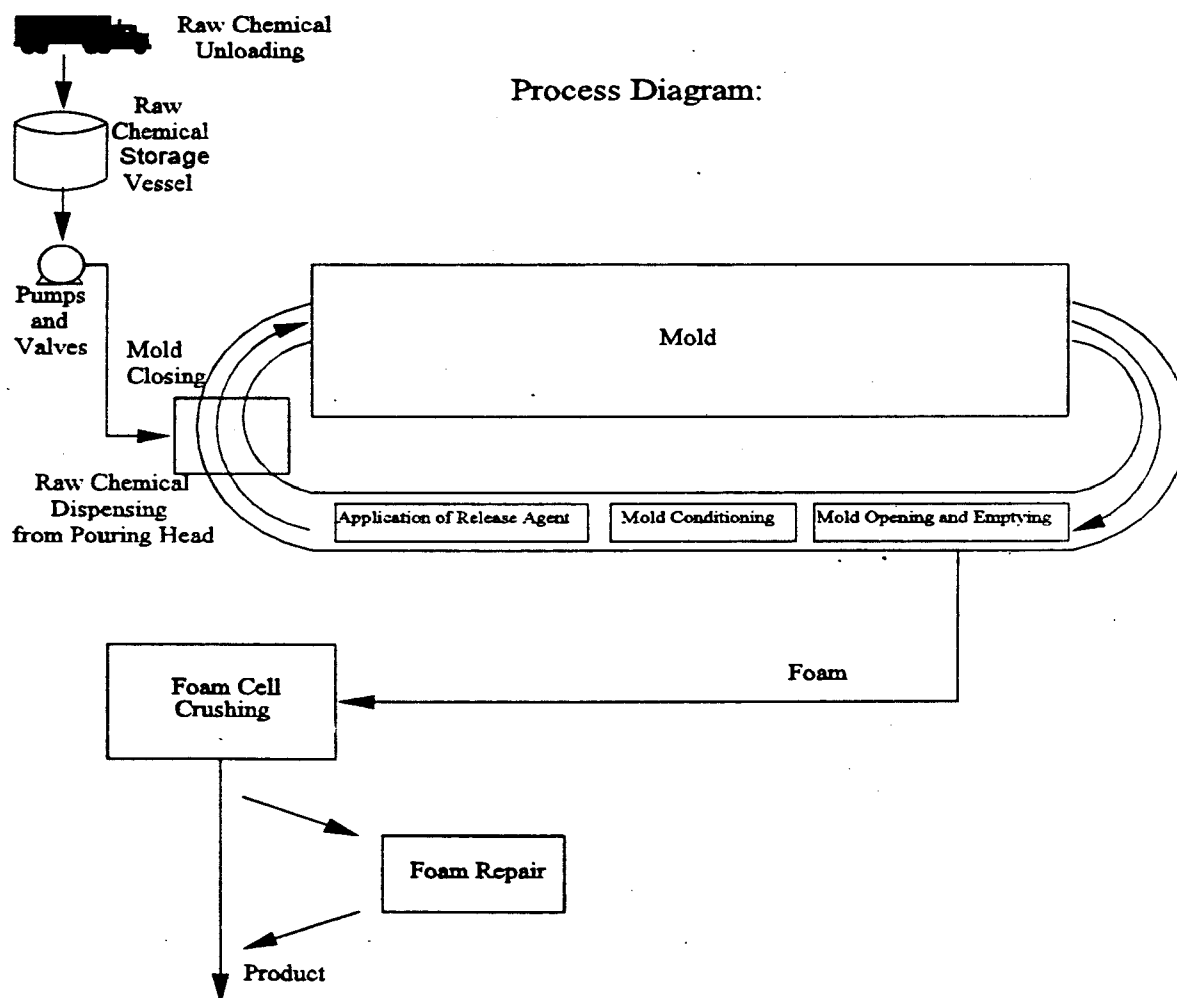
Definition. *Research and development process* means "a laboratory or pilot plant operation whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which is not engaged in the manufacture of products for commercial sale except in a *de minimis* manner."

Definition. *Foam fabrication process* means "an operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates."

Figure 4.1
A Typical Process for Molded-Foam Production

Process Description:

Raw chemicals are unloaded into storage vessels. The chemicals are then pumped to a pouring head. The molds are sprayed with a mold release agent and preheated. After the chemicals are added to the mold, the mold is closed and heated to accelerate the cure. As the molds are opened, the product is taken out, and the mold is cleaned. Foam pieces removed from the mold are then crushed. Crushing breaks open the cells that release carbon dioxide, and holes are repaired. The piece is then ready for packaging and sale.



What compliance options do I have?

You have **two** compliance options for molded foam.

- **Option 1:** do not use HAP-based materials in **any** of the following ways [§63.1300(a), (b)]:
 - as an equipment cleaner to flush the mixhead (except for diisocyanates)
 - as an equipment cleaner elsewhere in the process
 - as a mold-release agent

Definitions.

mold-release agent means “any material (when applied to the mold surface) which prevents sticking of the foam part to the mold.”

HAP-based means “any compound used as an equipment cleaner or mold-release agent that contains five percent (by weight) or more of HAP.”

mixhead means “a device that mixes two or more component streams before dispensing the foam producing mixture to the desired container.”

The rule **does** allow you to use diisocyanates (but no other HAP) for flush cleaning the mixhead and associated piping. However, if you do use diisocyanates for flushing, you must meet **all** of the following conditions [§63.1300(a)]:

- flushing occurs only during startup or maintenance
 - diisocyanates are contained in a closed-loop system
 - diisocyanates are reused in production
- **Option 2:** you may submit an **alternative means of emission limitation** under §63.1305. You can submit your request in your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time, as long as it contains the information required in §63.1305. Your request must be approved by the **EPA** before you use it. See **Chapter 7** for additional information.

What monitoring must I do?

None for molded foam production.

What records must I keep?

You must keep **two** basic pieces of information for each molded foam process [§63.1307(g), (h)]:

- a product data-sheet (e.g., MSDS) for each solvent and mold-release agent you use
- the HAP content for each solvent or mold-release agent you use (in kg of HAP/kg solids or lb HAP/lb solids)

What reports must I submit?

You must submit **four** types of reports on each molded foam plant:

- an initial notification [§§63.1306(a), 63.9(b)]
- an application for approval for construction or reconstruction [§§63.1306(b), 63.5(d)]
- a notification of compliance status [§63.1306(d)]
- an annual compliance certification [§63.1306(g)]

For additional reporting information including dates and example forms, see **Chapter 7**. The forms are optional, but you may find them useful.

How do I show compliance?

You can show compliance with §63.1300 by following **all** these requirements [Table 5 of the rule]:

- don't use a HAP-based material as an equipment cleaner (except for diisocyanates) [§63.1300(a)]
- don't use a HAP-based mold-release agent [§63.1300(b)]
- maintain product data-sheets for each solvent you use [§63.1307(g)]
- maintain product data-sheets for each mold-release agent you use [§63.1307(h)]

You will violate §63.1300 if you do **any** of the following [§63.1308(e)]:

- fail to meet the requirements in §63.1300
- use a HAP-based material in the molded foam process (except for diisocyanates)
- use a HAP-based mold-release agent

Is an inspection checklist available?

We've included an inspection checklist in **Table 4.1** (on page 70). You can use the checklist when you check your foam plant for compliance with the rule.

Table 4.1 Checklist for Inspecting Molded foam Plants

Facility Name: _____
Facility Location: _____
Facility TRI ID #: _____
Person Conducting Evaluation: _____
Date of Evaluation: _____

A. HAP Usage

Comments

Note: If you answer NO to ALL questions in Section A, don't proceed. Your molded foam process isn't covered because you don't use HAPs.

- 1 Do you use HAPs as an equipment cleaner to flush the mixhead or associated piping? §63.1300 (a) ☐ Yes ☐ No

You may use diisocyanates as an equipment cleaner if you follow procedures in section B. If you use diisocyanates as an equipment cleaner, complete section B.

- 2 Do you use HAPs as an equipment cleaner elsewhere in the process? §63.1300 (a) ☐ Yes ☐ No

- 3 Do you use HAPs as a mold-release agent? §63.1300 (b) ☐ Yes ☐ No

B. Flush Cleaning with Diisocyanates

Comments

- 1 Do you use diisocyanates as an equipment cleaner to flush the mixhead? §63.1300(a) ☐ Yes ☐ No

- 2 Do you use diisocyanates as an equipment cleaner to flush associated piping? §63.1300(a) ☐ Yes ☐ No

- 3 Do you use diisocyanates only during startup or maintenance? §63.1300(a) ☐ Yes ☐ No

- 4 Are diisocyanates contained in a closed-loop system? §63.1300(a) ☐ Yes ☐ No

- 5 Do you reuse diisocyanates in production? §63.1300(a) ☐ Yes ☐ No

C. Recordkeeping

Comments

- 1 Do you have product data-sheets for each compound used? §63.1307(g) ☐ Yes ☐ No

- 2 Is HAP data available for each compound you use (expressed in kg of HAP/kg solids or lb HAP/lb solids)? §63.1307(g) ☐ Yes ☐ No

- 3 Do you have product data-sheets for each mold-release agent use? §63.1307(h) ☐ Yes ☐ No

Table 4.1 Checklist for Inspecting Molded foam Plants (cont'd)

C. Recordkeeping		Comments
4	Is HAP data available for each mold-release agent you use (expressed in kg of HAP/kg solids or lb HAP/lb solids)? §63.1307(h)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<hr/>		
D. Reporting		Comments
1	Did you submit an initial notification? §63.1306(a)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date last submitted:
<hr/>		
2	Have you applied for approval of construction or reconstruction? §63.1306(b)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date last submitted:
<hr/>		
3	Did you submit a notification of compliance status? §63.1306(d)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date last submitted:
<hr/>		
4	Did you submit an annual compliance certification? §63.1306(g)	<input type="checkbox"/> Yes <input type="checkbox"/> No Date last submitted:
<hr/>		

Additional comments:

Chapter 5 - Complying with requirements for rebond foam

What does the Rebond section cover?

§63.1301 of the rule covers your process for rebond foam your process meets **all** of the following conditions:

- is located at facility that is a major source of HAPs
- uses a HAP
- is a rebond foam production process
- is not exempt

Definition. *Rebond foam* means “the foam resulting from a process of adhering small particles of foam together to make a usable cushioning product. Various adhesives and bonding processes are used. A typical application for rebond foam is for carpet underlay.”

About this Chapter:

- *Whenever you see “§,” we are referring to the section number of the rule. You can go to that section in the rule for more information*
 - *When you see a definition, it comes straight from the rule*
-

§63.1301 covers these parts of your rebond foam process:

- storage areas for raw materials
- production equipment and associated piping, ductwork, etc.
- curing and storage areas

Figure 5.1 (on page 73) shows a typical process for rebond foam.

What is exempt under this section?

Your rebond foam process, or portions of your process, are exempt if it's devoted exclusively to **either** of the following: [§63.1290(c)]

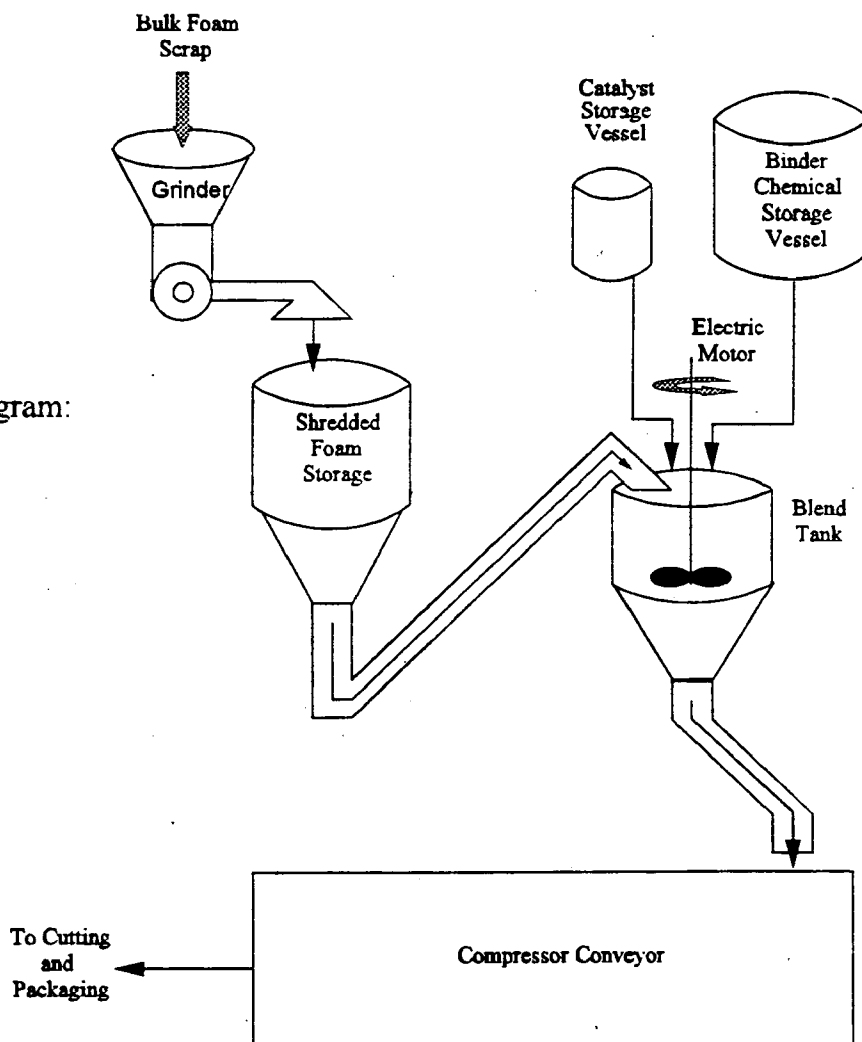
- fabricating rebond foam
- conducting research and development

Figure 5.1
A Typical Process from Rebond-Foam Production

Process Description:

Bulk foam scrap is ground into suitable small pieces. The shredded pieces are funneled into a storage container. The pieces are then loaded into a blend tank, where a binder is added, which usually is a prepolymer of polyol and diisocyanate. After addition of the catalyst and thorough mixing, the foam/binder mixture is placed in a mold, compressed, and kept compressed during curing with heat and steam. After the rebonded-foam is set, it is cut and packaged.

Process Diagram:



Definition. *Research and development process* means “a laboratory or pilot plant operation whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which is not engaged in the manufacture of products for commercial sale.”

Definition. *Foam fabrication process* means “an operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates.”

What compliance options do I have?

You have **two** compliance options for your rebond foam process.

- **Option 1:** do not use HAP-based materials in any of the following ways [§63.1301(a), (b)]:
 - ▶ as an equipment cleaner
 - ▶ as a mold-release agent

Definitions.

mold-release agent means “any material (when applied to the mold surface) which prevents sticking of the foam part to the mold.”

HAP-based means “any compound used as an equipment cleaner or mold-release agent that contains five percent (by weight) or more of HAP.”

- **Option 2:** you may submit an **alternative means of emission limitation** under §63.1305. You can submit your request in your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time, as long as it contains the information required in §63.1305. Your request must be approved by the EPA before you use it. See **Chapter 7** for additional information.

What monitoring must I do?

None for rebond foam.

What records must I keep?

You must keep **two** basic pieces of information for each rebond foam process [§63.1307(g), (h)]:

- a product data-sheet for each solvent and mold-release agent you use
- the HAP content for each solvent or mold-release agent you use (in kg of HAP/kg solids or lb HAP/lb solids)

What reports must I submit?

You must submit **four** types of reports for each rebond foam plant:

- an initial notification [§§63.1306(a), 63.9(b)]
- an application for approval of construction or reconstruction [§§63.1306(b), 63.5(d)]
- a notification of compliance status [§63.1306(d)]
- an annual compliance certification [§63.1306(g)]

For additional reporting information including dates and example forms, see **Chapter 7**. The forms are optional, but you may find them useful.

How do I show compliance?

You can show compliance with §63.1301 by meeting **all** of the following conditions [Table 5 of the rule]:

- don't use a HAP-based material as an equipment cleaner [§63.1301(a)]
- don't use a HAP-based mold-release agent [§63.1301(b)]
- maintain product data-sheets for each solvent you use [§63.1307(g)]
- maintain product data-sheets for each molded release agent you use [§63.1307(h)]

You will violate §63.1300 if you do **any** of the following [§63.1308(e)]:

- fail to meet the requirements in §63.1301
- use a HAP-based material in the rebond foam process
- use a HAP-based mold-release agent

Is an inspection checklist available?

We've included an inspection checklist in **Table 5.1** (on page 76). You can use the checklist when you check your foam plant for compliance with the rule.

Table 5.1 Checklist for Inspecting Rebond foam Plants

Facility Name: _____
Facility Location: _____
Facility TRI ID #: _____
Person Conducting Evaluation: _____
Date of Evaluation: _____

A. HAP Usage

Comments

Note: If you answer NO to ALL questions in Section A, don't proceed. Your rebond foam process isn't covered because you don't use HAPs.

- | | | | | |
|---|--|------------------------------|-----------------------------|--|
| 1 | Do you use HAPs as equipment cleaners? §63.1301(a) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 2 | Do you use HAPs as a mold-release agent? §63.1301(b) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |

B. Recordkeeping

Comments

- | | | | | |
|---|--|------------------------------|-----------------------------|--|
| 1 | Do you have product data-sheets available for each compound used? §63.1307(g) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 2 | Is HAP data available for each compound use (expressed in kg of HAP/kg solids or lb HAP/lb solids)? §63.1307(g) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 3 | Do you have product data-sheets for each mold-release agent you use? §63.1307(h) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 4 | Is HAP data available for each mold-release agent you use? (expressed in kg of HAP/kg solids or lb HAP/lb solids)? §63.1307(h) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |

C. Reporting

Comments

- | | | | | |
|---|--|------------------------------|-----------------------------|----------------------|
| 1 | Did you submit an initial notification form? §63.1306(a) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Date last submitted: |
| 2 | Have you applied for approval of construction or reconstruction? §63.1306(b) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Date last submitted: |
| 3 | Did you submit a notification of compliance status? §63.1306(d)(4) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Date last submitted: |
| 4 | Did you submit an annual compliance certification? §63.1306(g) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Date last submitted: |

Additional comments:

How do I calculate HAP_{used} to see if I'm exempt from the rule?

If your slabstock foam production process is at a facility that uses less than five tons per year of HAP (HAP_{used}), it may be exempt from the rule [§63.1290(c)(3)]. HAP_{used} refers to the amount of HAP chemicals used, not to HAP emissions.

HAP_{used} is the total amount of HAP (excluding diisocyanate used as a reactant) that the facility consumes. This exemption is only allowed if your slabstock foam production and foam-fabrication processes are the only processes at the plant site that emit HAP.

Use Equation 1 to see if your facility uses less than 5 tons per year of HAP

In other words, this includes all HAP ABA used in the production of slabstock foam, all HAP cleaners used at the plant site, and all HAP adhesives used in foam fabrication operations at the plant site. It does not include diisocyanates used as a reactant to make the slabstock foam. It includes HAP used in all parts of the plant, including the ones that aren't producing slabstock foam. Equation 1 of the rule, §63.1290(c)(3), contains the HAP_{used} calculation. Following are two examples of facilities that are trying to take advantage of this exemption.

Example 1

Assumptions:

- The plant site includes two lines for slabstock foam production and foam-fabrication operations.
- Both slabstock production lines are equipped with liquid carbon dioxide ABA systems, but one line still uses 625 gallons per year of methylene chloride for specialty applications.
- 100 gallons of methylene chloride are used each year to clean the slabstock mixhead
- The foam fabrication operation uses 1,300 gallons of adhesive XYZ with the following properties:

Density of adhesive - 9.8 lb/gal

Methylene chloride content of adhesive - 60 weight percent

Equation 1 from the Rule:

$$HAP_{used} = \left[\sum_{i=1}^m (VOL_{ABA,i})(D_{ABA,i}) + \sum_{j=1}^n (VOL_{clean,j})(D_{clean,j})(WT_{HAPclean,j}) + \sum_{k=1}^o (VOL_{adh,k})(D_{adh,k})(WT_{HAPadh,k}) \right] \div 2000$$

where,

HAP_{used}	=	amount of HAP, excluding toluene diisocyanate reactants, used at the plant site for slabstock foam production and foam fabrication, tons per year
$VOL_{ABA,i}$	=	volume of methylene chloride used as an ABA i at the facility - 625 gal per year
$D_{ABA,i}$	=	density of methylene chloride ABA - 10.4 pounds per gal
m	=	number of HAP ABAs used - 1
$VOL_{clean,j}$	=	volume of methylene chloride used as an equipment cleaner - 100 gal per year
$D_{clean,j}$	=	density of methylene chloride equipment cleaner. 10.4 pounds per gal
$WT_{HAPclean,k}$	=	HAP content of methylene chloride equipment cleaner - 100 weight percent
n	=	number of HAP equipment cleaners used - 1
$VOL_{adh,k}$	=	volume of adhesive XYZ used - 1,300 gal per year
$D_{adh,k}$	=	density of adhesive XYZ - 9.8 pounds per gal (from MSDS)
$WT_{HAPadh,k}$	=	methylene chloride content of adhesive XYZ - 60 weight percent (from MSDS)
o	=	number of adhesives used - 1

$$HAP_{used} = \frac{(625)(10.4) + (100)(10.4)(1.0) + (1,300)(9.8)(0.60)}{2,000} = 7.6 \text{ tons/yr}$$

Therefore, for Example 1, this plant's production lines for slabstock foam **would not** be exempt from the rule under §63.1290(b)(5), since the total HAP used is greater than 5 tons per year.

Example 2

Assumptions:

- The plant site includes a production line for slabstock foam and foam-fabrication operations.
- The slabstock production line uses acetone as an ABA.
- No HAPs are used as equipment cleaners.
- The foam-fabrication operation uses 1,200 gallons of the water-based adhesive DEF, plus 2,500 gallons of adhesive ABC with the following properties:
Density of adhesive - 10.1 lb/gal
Methylene chloride content of adhesive - 70 weight percent

$$HAP_{used} = \left[\sum_{i=1}^m (VOL_{ABA,i})(D_{ABA,i}) + \sum_{j=1}^n (VOL_{clean,j})(D_{clean,j})(WT_{HAPclean,j}) + \sum_{k=1}^o (VOL_{adh,k})(D_{adh,k})(WT_{HAPadh,k}) \right] \div 2000$$

where:

HAP_{used}	=	amount of HAP, excluding TDI reactants, used at the plantsite for slabstock foam production and foam fabrication, tons per year
$VOL_{ABA,i}$	=	volume of HAP ABA used at the facility - N/A
$D_{ABA,i}$	=	density of HAP ABA - N/A
m	=	number of HAP ABAs used - 0
$VOL_{clean,j}$	=	volume of HAP used as equipment cleaner -NA
$D_{clean,j}$	=	density of HAP equipment cleaner, N/A
$WT_{HAPclean,k}$	=	HAP content of equipment cleaner - N/A
n	=	number of HAP equipment cleaners used - 0
$VOL_{adh,ABC}$	=	volume of adhesive ABC used - 2,500 gal /yr
$D_{adh,ABC}$	=	density of adhesive ABC - 10.1 pounds per gal (from MSDS)
$WT_{HAPadh,ABC}$	=	methylene chloride content of adhesive ABC - 70 weight percent (from MSDS)
$VOL_{adh,DEF}$	=	volume of adhesive DEF used - 1,200 gal /yr
$D_{adh,DEF}$	=	density of adhesive DEF - N/A
$WT_{HAPadh,DEF}$	=	HAP content adhesive ABC - 0 weight percent
o	=	number of adhesives used - 2

$$HAP_{used} = \frac{(0)(0) + (0)(0)(0) + [(1,000)(10.2)(0.70) + (1,000)(0)(0)]}{2,000} = 3.6 \text{ tons/yr}$$

Therefore, for Example 2, the slabstock foam process **would** be exempt from the regulation according to §63.1290(c)(3) since the total HAP used is less than 5 tons per year.

How do I calculate the HAP ABA formulation limit for a grade of foam?

The HAP ABA formulation limit is used to calculate the allowable HAP ABA emissions (if your using the emission point specific compliance option) and the allowable sourcewide HAP emissions (if using the sourcewide compliance option).

Use Equation 3 to calculate the HAP ABA formulation limit

Equation 3 of the rule [§63.1297(d)(1)] contains the HAP formulation limit. To determine the limit for a foam grade, you need the Indentation Force Density (IFD) in pounds and the density in pounds per cubic foot (pcf). Following are two examples of determining this limit.

Example 3

Assumption:

- You want to make a foam with a density of 1.2 pounds per cubic foot (pcf) and an IFD of 28 pounds.

Equation 3 from the rule:

$$ABA_{limit} = -0.25(IFD) - 19.1\left(\frac{1}{IFD}\right) - 16.2(DEN) - 7.56\left(\frac{1}{DEN}\right) + 36.5$$

where:

ABA_{limit} = HAP ABA formulation limitation, parts HAP ABA allowed per hundred parts polyol (pph).
 IFD = Indentation force deflection of the foam grade you want to produce - 28 pounds.

DEN = Density of the foam grade you want to produce - 1.2 pounds per cubic foot (pcf).

Note: The IFD and density used in the determining the HAP ABA formulation limit are the values measured using ASTM D3574 (in accordance with §63.1304(b)) after the production of the foam grade, and not the planned IFD and density.

$$ABA_{limit} = -0.25(28) - 19.1\left(\frac{1}{28}\right) - 16.2(1.2) - 7.56\left(\frac{1}{1.2}\right) + 36.5 = 3 \text{ } pph$$

Therefore, the limit for foam with a density of 1.2 pcf and an IFD of 28 pounds is 3 parts HAP ABA per 100 parts polyol.

Example 4

Assumption:

- You want to make a foam with a density of 2.1 pcf and an IFD of 30 pounds.

Using Equation 3 from the rule (see above), where:

ABA_{limit} = HAP ABA formulation limitation, parts HAP ABA allowed per hundred parts polyol (pph).

IFD = Indentation force deflection of the foam grade you want to produce - 30 pounds.

DEN = Density of the foam grade you want to produce - 2.1 pounds per cubic foot (pcf).

The HAP ABA formulation limitation would be calculated as follows:

$$ABA_{limit} = -0.25(30) - 19.1\left(\frac{1}{30}\right) - 16.2(2.1) - 7.56\left(\frac{1}{2.1}\right) + 36.5 = -9 \text{ } pph$$

Paragraph §63.1297(d)(1) states that the HAP ABA formulation limit is zero for any grade of foam if the result of the equation is negative. Therefore, the limit for foam with a density of 2.1 pcf and an IFD of 30 pounds is 0 parts HAP ABA per 100 parts polyol.

How do I calculate allowable HAP ABA emissions to comply using the emission point specific limit?

The allowable level of HAP ABA emissions depends on the mix of foam grades you produce during the compliance period. Use Equation 2 of the rule [§63.1297(b)(2)] to calculate it.

Except in cases where a recovery device is used, the allowable level of HAP ABA emissions is equal to the maximum amount of HAP ABA you can use because 100

percent of the ABA used volatilizes and is emitted. Calculate allowable HAP ABA emissions for each individual month using the following equation:

Use Equation 2 to calculate allowable HAP ABA emissions

Equation 2 from the rule:

$$emiss_{allow,month} = \sum_{j=1}^m \left(\sum_{i=1}^n \frac{(limit_i)(polyol_i)}{100} \right)_j$$

where:

$emiss_{allow,month}$	=	Allowable HAP ABA emissions from the slabstock affected source for the month, pounds
m	=	Number of production lines for slabstock foam at the affected source
n	=	Number of foam grades produced in the month on foam-production line j
$limit_i$	=	HAP ABA formulation limit for foam grade i , parts HAP ABA per 100 parts polyol
$polyol_i$	=	Amount of polyol used in the month in producing foam grade i on foam-production line j , pounds

To determine the allowable emissions of HAP ABA, use these three basic steps:

- Step 1:** Determine the HAP ABA formulation limitation for each grade
- Step 2:** For each month, determine the amount of polyol used to produce each grade
- Step 3:** Calculate the allowable HAP ABA emissions for each month

The rule allows two options: monthly and rolling-annual compliance. Under the monthly compliance, compare actual HAP emissions to the allowable HAP emissions for each month. Under rolling-annual compliance, compare the allowable HAP ABA emissions for 12 consecutive months to the actual HAP ABA emissions for the same period. The allowable HAP ABA emissions for 12

consecutive months are the sum of allowable monthly HAP ABA emissions for each of the 12 months in the period. Therefore, if you're using rolling-annual compliance, follow the three steps above and then:

Step 4: Sum the allowable HAP ABA emissions for each month in the 12-month period.

Example 5 below shows the calculation of allowable HAP ABA emissions using these four steps.

Example 5:

Assumption:

- For June 2002, a slabstock foam facility manufactures the mix of foam grades shown in Table 6.1 (on page 86), using the amount of polyol for each grade shown in Table 6.3 (page 88).

Step 1 for Example 5

The first step in calculating allowable HAP ABA emissions is to determine the HAP ABA formulation limit for each grade. Examples 3 and 4 showed how the HAP ABA formulation limit is calculated.

Additional examples of how to calculate the HAP ABA formulation limit are below. They show the calculation of HAP ABA formulation limit for foam grade 0930 (density of 0.9 pcf and IFD of 30 lbs) and foam grade 1540 (density of 1.5 pcf and IFD of 40 lbs). These two foam grades are shown in Table 6.1. Using Equation 3 from the rule (see Example 3), the HAP ABA formulation limit for the 0930 foam grade is calculated as follows:

$$ABA_{limit} = -0.25(30) - 19.1\left(\frac{1}{30}\right) - 16.2(0.9) - 7.56\left(\frac{1}{0.9}\right) + 36.5 = 5 \text{ pph}$$

Therefore, the HAP ABA formulation for foam grade 0930 is 5 pph.

For foam grade 1540, the calculation is as follows:

$$ABA_{limit} = -0.25(40) - 19.1\left(\frac{1}{40}\right) - 16.2(1.5) - 7.56\left(\frac{1}{1.5}\right) + 36.5 = -3 \text{ pph}$$

As previously explained, the HAP ABA formulation limit is zero for any grade of foam where the result of the equation is negative. Therefore, the HAP ABA formulation for foam grade 1540 is 0 pph. Table 6.2 (on page 87) provides the HAP ABA formulation limitations for all of the foam grades produced by this example facility.

Step 2 for Example 5

The second step in determining the HAP ABA formulation limit is to obtain the amount of polyol used for each grade of foam during the compliance period. In this case, the amount of polyol used by foam grade is shown in Table 6.3

Step 3 for Example 5

The third step is to calculate the allowable HAP ABA emissions for the month. Do this by using Equation 2 found in §63.1297(b)(2) of the rule.

Equation 2 from rule::

$$emiss_{allow,month} = \sum_{j=1}^m \left| \sum_{i=1}^n \frac{(limit_i)(polyol_i)}{100} \right|_j$$

Where:

$emiss_{allow,month}$	=	Allowable HAP ABA emissions from the slabstock foam production source for the month, pounds.
m	=	Number of slabstock foam production lines.
$polyol_i$	=	Amount of polyol used in the month in the production of foam grade i on foam-production line j , pounds.
n	=	Number of foam grades produced in the month on foam production line j .
$limit_i$	=	HAP ABA formulation limit for foam grade i , parts HAP ABA per 100 parts polyol.

Calculate the total allowable HAP ABA emissions from the slabstock foam source for a month, by added together the allowable HAP ABA emissions for each foam grade. Following are examples of allowable HAP ABA emissions for foam grades 0930 and 1540.

For foam grade 0930, where:

$emiss_{allow,month,0930}$	=	Allowable HAP ABA emissions from the slabstock foam production source for the month for foam grade 0930, pounds.
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m	=	Number of slabstock foam production lines that produce grade 0930 - 1
polyol,	=	Amount of polyol used in the month in the production of foam grade 0930 - 13,300 pounds.
limit,	=	HAP ABA formulation limit for foam grade 0930 - 5 parts HAP ABA per 100 parts polyol

$$emiss_{allow,month,0930} = \left(\frac{5 \text{ pounds HAP ABA allowed}}{100 \text{ pounds polyol}} \right) (13,300 \text{ pounds polyol}) = 665 \text{ pounds}$$

For foam grade 1540, where:

$emiss_{allow,month,1540}$	=	Allowable HAP ABA emissions from the slabstock foam production source for the month for foam grade 1540, pounds.
m	=	Number of slabstock foam production lines that produce grade 1540 - 1
polyol,	=	Amount of polyol used in the month in the production of foam grade 1540 - 20,000 pounds.
limit,	=	HAP ABA formulation limit for foam grade 1540 - 0 parts HAP ABA per 100 parts polyol

$$emiss_{allow,month,1540} = \left(\frac{0 \text{ pounds HAP ABA allowed}}{100 \text{ pounds polyol}} \right) (20,000 \text{ pounds polyol}) = 0 \text{ pounds}$$

Table 6-3 provides the amount of polyol used and the allowable HAP ABA emissions for the month for each grade of foam in Example 5. Table 6-3 shows the total allowable HAP ABA emissions for the example facility during June 2002 would be 4,320 pounds.

Step 4 for Example 5

You have two options on the compliance period you will use for HAP ABA emission limits - annual (i.e., rolling 12 month) or monthly. How you complete Step 4 will depend on which compliance option you choose.

Step 4 Using Annual Compliance Option for Example 5

Annual compliance is a rolling 12-month period. If you choose the annual option, the allowable HAP ABA emissions for the 12-month period would be the allowable HAP ABA emissions for the month (determined as discussed in Step 3 above), plus the allowable HAP ABA emissions for the previous 11 months. Here is an example.

Assumption:

- The allowable HAP ABA emissions for June 2002 was 4,320 pounds (as calculated in Step 3 above)
- The allowable HAP ABA emissions (in pounds) for the previous 11 months are:
May 2002 - 4,112; April 2002 - 3,789; March 2002 - 2,125; February 2002 - 5,552;
January 2002 - 4,001; December 2001 - 3,222; November 2001 - 2,247; October 2001 - 1,785; September 2001 - 3,555; August 2001 - 4,885; and July 2001 - 2,753.

Therefore, the total allowable HAP ABA emissions for the previous 11 months (e.g. July 2001 through May 2002) is 38,026 pounds. This value is added to the June 2002 monthly allowable emissions of 4,320 pounds. This gives you a total allowable HAP ABA emissions of 42,346 pounds for the 12-month compliance period.

Step 4 Using Monthly Compliance Option for Example 5

If you choose the monthly option, then the allowable HAP ABA emissions for the compliance period (i.e., the month) would be determined as discussed above, which is 4,320 pounds.

If I'm complying using the emission point specific limit without using a recovery device, how do I calculate actual monthly HAP ABA emissions?

If you aren't using a recovery device to reduce HAP ABA emissions, your actual HAP ABA emissions are equal to the amount of HAP ABA you add at the mixhead.

Determine the latter amount by monitoring the HAP ABA pump revolutions or flow rate. Following is an example of how to calculate actual HAP ABA emissions for the facility in Example 5.

If you're not using a recovery device, the actual HAP ABA emissions are equal to the amount of HAP ABA added at the mixhead

Example 6

Assumption:

- The example facility discussed in Example 5 added 4,420 pounds of methylene chloride at the mixhead during June 2002 (i.e., the same month for which the allowable HAP ABA emissions were determined in Example 5).

Therefore, the actual HAP ABA emissions for June 2002 are 4,420 pounds. To determine if you are in compliance for the compliance period, compare the actual HAP ABA emissions to the allowable HAP ABA emissions. Following are examples of this comparison for the two compliance options.

Example 6 Using Annual Compliance Option

Annual compliance is a rolling 12-month period. If you choose the annual option, then the actual HAP ABA emissions for the compliance period (i.e., the 12-month period) would be the actual HAP ABA emissions for the month (4,420 pounds for our example 5 facility) plus the actual HAP ABA emissions for the 11 previous months. For example,

Assumption:

- The actual HAP ABA emissions (in pounds) for the previous 11 months are:
May 2002 - 3,514; April 2002 - 4,002; March 2002 - 2,052; February 2002 - 5,100;
January 2002 - 3,750; December 2001 - 3,810; November 2001 - 2,440; October 2001 - 1,750; September 2001 - 3,226; August 2001 - 4,500; and July 2001 - 2,666.

Therefore, the total actual HAP ABA emissions for the previous 11 months (e.g. July 2001 through May 2002) is 37,278 pounds. This value is added to the total actual HAP ABA emissions of 4,420 pounds for June 2002 to obtain the total actual HAP ABA emissions for the 12-month compliance period (41,698 pounds).

To determine compliance, you will now compare the total actual HAP ABA emissions for the 12-month period (41,698 pounds) to the total allowable HAP ABA emissions for the same period (42,346 pounds). **Since the actual emissions are less than the allowable emissions for the 12 month period, you are in compliance.** This is true even though for five month out of the 12 months (November 2001, December 2001, March 2002, April 2002, and June 2002), your actual HAP ABA emissions exceeded the allowable HAP ABA emissions. This demonstrates the flexibility of the 12-month compliance period.

Example 6 Using Monthly Compliance Option

If you choose the monthly option, compare the total actual HAP ABA emissions for the month (4,420 pounds), to the allowable HAP ABA emissions for the month (4,320 pounds). **Since the actual emissions are greater than the allowable emissions for the month, you are out of compliance.** You would also have been out of compliance for November 2001, December 2001, March 2002, and April 2002.

If I'm complying with the emission point specific limit using a recovery device, how do I calculate actual emissions?

If you're using a recovery device to reduce HAP ABA emissions, the actual HAP ABA emissions are equal to the amount of HAP ABA you add at the mixhead minus the amount of HAP ABA recovered. Use Equation 4 of the rule [§63.1297(e)(1)] to calculate actual HAP ABA emissions when a recovery device is used.

If you use a recovery device, your actual emissions are equal to the amount of HAP ABA added at the mixhead minus the amount of HAP ABA recovered. Use Equation 4 of the rule to calculate actual emissions.

When a recovery device is used, the parameters needed to determine the actual HAP ABA emissions are the amount of HAP ABA added at the mixhead and the amount of HAP ABA recovered. Following is an example of actual emissions when using a recovery device for the facility used in Example 5.

Example 7

Assumption:

- Assume that the example facility discussed in Example 5 added 26,000 pounds (2500 gallons at 10.4 lbs/gal) of methylene chloride at the mixhead and recovered 21,840 pounds (2100 gallons at 10.4 lbs/gal) of methylene chloride in June 2002.

The actual HAP ABA emissions for June 2002 would be calculated as follows.

Equation 4 from the rule:

$$E_{actual} = E_{unc} - HAPABA_{recovered}$$

where:

$$\begin{aligned} E_{\text{actual}} &= \text{Actual HAP ABA emissions after control, pounds/month.} \\ E_{\text{unc}} &= \text{Uncontrolled HAP ABA emissions - 26,000 pounds} \end{aligned}$$

$$\text{HAPABA}_{\text{recovered}} = \text{HAP ABA recovered} - 21,840 \text{ pounds}$$

Therefore, the actual HAP emissions for June 2002 would be 4,160 pounds.

To determine whether you are in compliance for the compliance period, compare the actual HAP ABA emissions to the allowable HAP ABA emissions. Following are examples of this comparison for the two compliance options.

Example 7 Using Annual Compliance Option

Annual compliance period is a rolling 12-month period. Therefore, if you choose the annual option, the actual HAP ABA emissions for the compliance period (i.e., the 12-month period) would be the actual HAP ABA emissions for the month (4,160 pounds) plus the actual HAP ABA emissions for the 11 previous months. Following is an example.

Assumption:

- The actual HAP ABA emissions (in pounds) for the previous 11 months are:
May 2002 - 3,514; April 2002 - 4,002; March 2002 - 2,052; February 2002 - 5,100;
January 2002 - 3,750; December 2001 - 3,810; November 2001 - 2,440; October 2001 - 1,750; September 2001 - 3,226; August 2001 - 4,500; and July 2001 - 2,666.

Therefore, the total actual HAP ABA emissions for the previous 11 months (e.g. July 2001 through May 2002) is 37,278 pounds. This value is added to the total actual HAP ABA emissions of 4,160 pounds for June 2002 to obtain the total allowable HAP ABA emissions for the 12-month compliance period (41,438 pounds).

To determine compliance, compare the total actual HAP ABA emissions for the 12-month period (41,438 pounds), to the total allowable HAP ABA emissions for the same period (42,346 pounds). **Since the actual emissions are less than the allowable emissions for the 12 month period, you are in compliance.** This is true even though for four month out of the 12 months (November 2001, December 2001, March 2002, and April 2002) your actual HAP ABA emissions exceeded the allowable HAP ABA emissions. This demonstrates the flexibility of the 12-month compliance period.

Example 7 Using Monthly Compliance Option

If you choose the monthly option, then compliance is determined by comparing the total actual HAP ABA emissions for the month (4,160 pounds), to the allowable HAP ABA emissions for the month (4,320 pounds). **Since the actual emissions are less than the allowable emissions for the month, you are in compliance.** However, you would have been out of compliance for November 2001, December 2001, March 2002, and April 2002.

If I'm complying with the sourcewide emission limit, how do I calculate allowable emissions?

If you're complying with the sourcewide emission limit, the allowable sourcewide HAP emission level depends on the mix of foam grades produced during the compliance period. Equation 6 of the rule [§63.1299(d)] contains the allowable sourcewide HAP emission limit calculation. The allowable sourcewide HAP emission limit is determined in exactly the same manner as the allowable HAP ABA emission limit would be if complying using the emission point specific limitations. That is, Equation 6 (which calculates the sourcewide HAP limit) and Equation 2 (which calculates the HAP ABA emission limit) are identical.

Example 8

Assumptions:

Use Equation 6 to calculate allowable sourcewide limits

- A facility produces the same foam grades as those shown in Table 6.1.
- In June 2002, the facility used the amount of polyol for each foam grade shown in Table 6.3.

Therefore, the allowable sourcewide HAP emissions for the facility for June 2002 are 4,320 pounds. This level would be calculated exactly as shown in Example 5.

There are **two** choices regarding the compliance period for the sourcewide HAP emission limitation - annual (i.e., rolling 12 month) or monthly.

Example 8 Using Annual Compliance Option

The annual compliance period is a rolling 12-month period. Therefore, if you choose the annual option, then the allowable sourcewide HAP emissions for the compliance period (i.e., the 12-month period) would consist of the allowable sourcewide HAP emissions for the month **plus** the allowable sourcewide HAP emissions for the 11 previous months. For example,

- The allowable sourcewide HAP emissions (in pounds) for the previous 11 months are: May 2002 - 4,112; April 2002 - 3,789; March 2002 - 2,125; February 2002 - 5,552; January 2002 - 4,001; December 2001 - 3,222; November 2001 - 2,247; October 2001 - 1,785; September 2001 - 3,555; August 2001 - 4,885; and July 2001 - 2,753.

The total allowable sourcewide HAP emissions for the previous 11 months (e.g. July 2001 through May 2002) is 38,026 pounds. This value is added to the total allowable sourcewide HAP emissions of 4,320 pounds for June 2002 to obtain the total allowable sourcewide HAP emissions for the 12-month compliance period, (42,346 pounds).

Example 8 Using Monthly Compliance Option

If you choose the monthly option, then the allowable sourcewide HAP emissions for the compliance period (i.e., the month) would be 4,320 pounds.

If I'm complying with the sourcewide emission limit without using a recovery device, how do I calculate actual sourcewide HAP emissions?

If you're complying with the sourcewide emission limit, your actual sourcewide HAP emissions are determined by doing a material balance on the HAP ABA storage vessels. The inputs needed to determine the sourcewide emissions are the amounts of HAP ABA in all the storage vessels at the beginning of the month and at the end of the month. You will also need the amount of HAP ABA added to each storage vessel during the month.

If you're not using a recovery device, use Equation 5 to calculate actual emissions

Equation 5 of the rule [§63.1299(c)(1)] is used to calculate actual sourcewide HAP ABA and equipment emissions.

Example 9

Assumptions:

- The facility discussed in Example 8 has two storage vessels for methylene chloride, each able to hold 10,000 gallons. Following are the data you need to calculate the actual, monthly, sourcewide emissions of HAP.

	Tank 1	Tank 2
Amount of MeCl in tank at beginning of month (lbs)	1,046	80,064
Amount of MeCl in tank at end of month (lbs)	47,300	78,400
Amount of MeCl added to tank (lbs)	50,000	0

Equation 5 from the rule:

$$PWE_{actual} = \sum_i^n (ST_{i,begin} - ST_{i,end} + ADD_i)$$

where:

- PWE_{actual} = Actual sourcewide HAP ABA and equipment cleaning HAP emissions for a month, in pounds/month.
- n = Number of HAP ABA storage vessels - 2.
- $ST_{i,begin}$ = Amount of HAP ABA in storage vessel 1 at the beginning of the month, 1,046 pounds.
- $ST_{i,end}$ = Amount of HAP ABA in storage vessel 1 at the end of the month, 47,300 pounds.
- ADD_i = Amount of HAP ABA added to storage vessel 1 during the month, pounds - 50,000 pounds.

Therefore, the actual sourcewide HAP emissions for June 2002 are 5,140 pounds.

If I'm complying with the sourcewide emission limit using a recovery device, how do I calculate actual emissions?

If you're complying with the sourcewide emission limitations using a recovery device, your actual sourcewide HAP emissions are calculated by performing a material balance on the HAP ABA storage vessels and

subtracting the amount of HAP ABA recovered. To do the calculation, you'll need to know the amount of HAP ABA in

all the storage vessels at the beginning of the month and at the end of the month, the amount of HAP ABA added to each storage vessel during the month, and the amount of HAP ABA recovered during the month.

If you're using a recovery device, use Equation 7 to calculate actual sourcewide HAP emissions

Equation 7 of the rule [§63.1299(e)] is used to calculate actual sourcewide HAP emissions when a recovery device is used.

Example 10:

Assumptions:

- For the facility discussed in Example 8, assume the following storage vessel data for June 2002.

	Tank 1	Tank 2
Amount of MeCl in tank at beginning of month (lbs)	2,346	40,000
Amount of MeCl in tank at end of month (lbs)	26,832	77,000
Amount of MeCl added to tank (lbs)	40,000	50,000

Lets assume that our example facility recovered 24,250 pounds of methylene chloride in June 2002.

Equation 7 from rule

$$E_{actual} = E_{unc} - HAPABA_{recovered}$$

where:

E_{actual} = Actual sourcewide HAP emissions after control, pounds/month.

$$\sum_i^n (ST_{i,begin} - ST_{i,end} + ADD_i)$$

E_{unc} = Uncontrolled sourcewide HAP emissions =

$HAPABA_{recovered}$ = HAP ABA recovered, 24,250 pounds/month.

Therefore, the actual sourcewide HAP emissions for June 2002 are 4,264 pounds.

To determine whether you are in compliance for the compliance period, compare the actual

sourcewide HAP emissions to the allowable sourcewide HAP emissions. Following are examples of this comparison for the two compliance options.

Example 10 Using Annual Compliance Option

Annual compliance period is a rolling 12-month period. Therefore, if you choose the annual option, the actual sourcewide HAP emissions for the compliance period (i.e., the 12-month period) would be the actual sourcewide HAP emissions for the month (4,264 pounds) plus the allowable HAP ABA emissions for the 11 previous months. For example,

Assumptions:

- The actual sourcewide HAP ABA emissions (in pounds) for the previous 11 months are:
May 2002 - 3,514; April 2002 - 4,002; March 2002 - 2,052; February 2002 - 5,100;
January 2002 - 3,750; December 2001 - 3,810; November 2001 - 2,440; October 2001 - 1,750; September 2001 - 3,226; August 2001 - 4,500; and July 2001 - 2,666.

The total actual sourcewide HAP ABA emissions for the previous 11 months (e.g. July 2001 through May 2002) is 37,278 pounds. This value is added to the total actual HAP ABA emissions of 4,264 pounds for June 2002 to obtain the total actual HAP ABA emissions for the 12-month compliance period (41,542 pounds).

To determine compliance, the total actual sourcewide HAP emissions for the 12-month period (41,542 pounds), are compared to the total allowable sourcewide HAP emissions for the same period (42,346 pounds). **Since the actual emissions are less than the allowable emissions for the 12 month period, you are in compliance.** This is true even though for four of the 12 months (November 2001, December 2001, March 2002, and April 2002) the actual sourcewide HAP emissions exceeded the allowable HAP ABA emissions for the month. This demonstrates the flexibility of the 12-month compliance period.

Example 10 Using Monthly Compliance Option

If you choose the monthly option, then compliance is determined by comparing the total actual sourcewide HAP emissions for the month (4,264 pounds) to the allowable HAP ABA emissions for the month (4,320 pounds). **Since the actual emissions are less than the allowable emissions for the month, you are in compliance.**

How can I check my slabstock process for leaks?

The EPA Publication, APTI Course SI:417, Controlling VOC Emissions from Leaking Process Equipment (EPA 450/2-82-015), gives helpful information on how to sample equipment and where leaks may be. You can get information on how to get a copy of this self-instructional course by going to <http://www.epa.gov/oar/oaqps/eog/>.

Table 6.1 Foam Grades Produced By The Example Facility

This table shows the density and IFD for example foam grades, some of which are used in Chapter 6 examples for calculating HAP emissions.

Grade	Density (pcf)	IFD (lbs)
930	0.9	30
1010	1.0	10
1015	1.0	15
1020	1.0	20
1030	1.0	30
1120	1.1	20
1130	1.1	30
1230	1.2	30
1330	1.3	30
1340	1.3	40
1440	1.4	40
1520	1.5	20
1530	1.5	30
1540	1.5	40
1640	1.6	40
1740	1.7	40
1820	1.8	20
1830	1.8	30
1840	1.8	40
1930	1.9	30
1940	1.9	40
>2020	2.5	25

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**Table 6.2 HAP ABA Formulation Limitations For Foam Grades
Produced By The Example Facility**

This table shows the HAP ABA formulation limitations that have been calculated for various grades of foam.

Grade	Density (pcf)	IFD (lbs)	HAP ABA Formulation Limitation (pph)
930	0.9	30	5
1010	1.0	10	8
1015	1.0	15	8
1020	1.0	20	7
1030	1.0	30	5
1120	1.1	20	6
1130	1.1	30	4
1230	1.2	30	3
1330	1.3	30	1
1340	1.3	40	0
1440	1.4	40	0
1520	1.5	20	1
1530	1.5	30	0
1540	1.5	40	0
1640	1.6	40	0
1740	1.7	40	0
1820	1.8	20	0
1830	1.8	30	0
1840	1.8	40	0
1930	1.9	30	0
1940	1.9	40	0
>2020	>2.5	>25	0

**TABLE 6.3 Allowable HAP ABA Emissions For Foam Grades
Produced By The Example Facility**

This table shows the allowable HAP ABA emissions, calculated for various grades of foam.

Grade	Density (pcf)	IFD (lbs)	HAP ABA Formulation Limitation (pph)	Amount of polyol used in the month (pounds)	Allowable HAP ABA Emissions (pounds)
930	0.9	30	5	13,300	665
1010	1.0	10	8	6,600	528
1015	1.0	15	8	6,700	536
1020	1.0	20	7	6,500	455
1030	1.0	30	5	13,500	675
1120	1.1	20	6	6,600	396
1130	1.1	30	4	10,000	400
1230	1.2	30	3	16,500	495
1330	1.3	30	1	10,000	100
1340	1.3	40	0	9,500	0
1440	1.4	40	0	10,750	0
1520	1.5	20	1	7,000	70
1530	1.5	30	0	7,500	0
1540	1.5	40	0	20,000	0
1640	1.6	40	0	19,500	0
1740	1.7	40	0	21,000	0
1820	1.8	20	0	9,000	0
1830	1.8	30	0	8,500	0
1840	1.8	40	0	22,000	0
1930	1.9	30	0	10,000	0
1940	1.9	40	0	16,500	0
>2020	>2.5	>25	0	85,000	0
			Totals	335,950	4,320

Chapter 7 - Notification, reporting and alternate monitoring plans

What do I have to report and when?

You will need to complete several different types of notifications and reports based on the type of process at your plant. The term, reports, is used in this section to include both notifications and reports. Table 7.1 (on page 102) shows what reports you must submit and when they are due. Table 7.2 (page 104) gives you details about what should be included in these reports.

How can I change the date my reports are due?

Under the General Provisions, §63.10(a)(5), you may request a change in the date you submit your reports. You and your EPA Regional Office or State, local or Tribal agency for air pollution control (from now on referred to as “State”) must mutually agree to the change and the change can’t affect the frequency that you report. For example, semiannual reports for an existing Slabstock foam facility are required in June and December of 2004. You may request that these dates be changed to some other time frame, such as one that coincides with your title V operating permit notifications. This doesn’t change your reporting frequency since you’re still submitting your semiannual reports twice per year.

Changes to reporting dates can begin 1 year after the compliance date (that is, reports required after 10/8/02 can be changed) Reports due before 10/8/02 can’t be changed and must be reported by the date shown in Table 7.1. Contact your State for more information.

Where do I send my reports?

The General Provisions §63.9(a) and §63.10(a) require you to submit reports to your State or your EPA Regional Office or both (dual reporting). Whom you send your reports to depends on whether your State has been granted the authority to implement the Flexible Polyurethane Foam Production NESHAP.

You’ll need to submit reports in one of the following ways:

- to your EPA Regional Office if your State has not been delegated the authority to implement and enforce the Flexible Polyurethane Foam Production NESHAP

- to your State with a copy to your EPA Regional Office, if your State has been granted delegation and we haven't waived the dual reporting requirement
- to your State if it's been granted delegation and we've waived the dual reporting requirement

Not all State agencies have been granted delegation. Also, as of this publication, our Region I, III, VIII and X offices haven't waived the dual reporting requirement under §63.9 and §63.10. This means if your plant is in Region I (CT, ME, MA, NH, RI, VT), Region III (DE, MD, PA, VA, WV, District of Columbia), Region VIII (CO, MT, ND, SD, UT, WY), or Region X (AK, ID, WA OR), you'll need to submit your reports to your State, local or Tribal agency and the EPA Regional Office. You'll find a list of our Regional Offices and their addresses in **Chapter 9**.

You should check with your EPA Regional Office or State for the latest information on submitting reports.

Where do I submit my Alternative Programs?

There are two types of alternative programs under the rule.

The first is the **alternative means of emission limitation** under §63.1305. You would use this compliance method in cases where you believe you have a better approach than what is required in the rule for controlling and monitoring HAP emissions at your plant. If you use this approach, you will develop your own overall compliance strategy and submit it for approval. Since we haven't delegated the approval of this alternative to your State agency, you'll send your alternative means of emission limitation program to your EPA Regional Office for review and approval. You can do this by using your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time as long as the request includes all the information required under §63.1305(b). Your request must be approved as described in §63.6(g) before you can use the alternate emission limit.

The second type of alternative program is the **alternative monitoring program**. You can choose to develop an alternative monitoring program for HAP Auxiliary Blowing Agent (ABA) and polyol added to the foam production line at the mixhead [§63.1303(b)(5)], and HAP ABA added to storage vessels [§63.1303(e)(4)]. This means that you would be developing your own compliance strategy for monitoring these two sections of the rule and submit it for approval. You can send in your alternative monitoring program by using your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time as long as the request includes all the information under §63.1303(b)(5) and §63.1303(e)(4).

We haven't granted delegation of the alternative monitoring program under §63.1303(b)(5) to your State agency. This means that you'll submit your request to determine the HAP ABA and polyol added to the line at the mixhead to your EPA Regional Office for review and approval.

However, your request for determining HAP ABA added to storage vessels under §63.1303(e)(4) should be submitted as you would any other reports. Your request must be approved before you can use the alternative program. If your regulatory agency doesn't notify you of any objections to your alternative program within 45 days after they receive it, your program will be deemed approved.

If you're using a recovery device to reduce HAP ABA emissions, you're also required under §63.1303(c)(6) to develop and submit a recovery **HAP ABA monitoring and recordkeeping program**. This means that you'll send in a program (plan) that describes what type of recovery device you've installed and how you'll monitor whether the device is operating properly. You can send in your plan by using your Precompliance Report, your Application for Approval of Construction or Reconstruction, or at any other time as long as it includes all the information under §63.1306(c)(6). You should send in your plan as you would any other report. Your plan must be approved before you can use it. If your regulatory agency doesn't notify you of any objections within 45 days after they receive it, your plan will be deemed approved.

Can I get example reporting forms?

We've included example forms for all reports this rule requires. You'll find the following example reports in this chapter:

	<u>Page</u>
• Initial Notification Report	108
• Application for Approval of Construction or Reconstruction	110
• Precompliance Report	115
• Notification of Compliance	121
• Semi-annual Compliance Report	124
• Change in Selected Emission Limit and Compliance Method	128
• Annual Compliance Certification	129

You may use these forms for reporting, but you **don't** have to use them. You may want to check with your State agency to make sure they don't have their own forms, **or**, if you do use these forms, check to see if they meet your State requirements first.

Table 7.1 - Report Due Dates

If you have. . .	And need to submit a . . .	Then submit the report before . . .
An existing Slabstock, Molded or Rebond plant	Initial Notification Report [§63.1306(a)]	2/4/99 <i>(120 days after the effective date)</i>
	Application for Approval of Construction or Reconstruction, if reconstructing <u>after</u> 10/7/98 (effective date) [§63.5(d)]	As soon as practicable before reconstruction is planned to start but no sooner than 10/7/98 (effective date)
	Application for Approval of Construction or Reconstruction, if reconstruction started <u>before</u> 10/7/98 (effective date), but, your initial startup was <u>after</u> 10/7/98 (effective date) [§63.5(d)]	As soon as practicable before reconstruction is planned to start but no later than 12/6/98 <i>(60 days after the effective date)</i>
	Notification of Compliance [§63.1306(d)]	4/6/02 <i>(180 days after the compliance date)</i>
	Annual Compliance Certification [§63.1306(g)]	Annually - can submit with semi-annual report
An existing Slabstock plant	Precompliance Report [§63.1306(c)]	10/8/00 <i>(12 months before compliance date)</i>
<i>These requirements are in addition to the above;</i>	Initial Semi-annual Compliance Report [§63.1306(e)]	12/2/02 (include information from 4/6/02 - 10/3/02)
	<i>Compliance period is for 180 days (240 days minus 60 days allowed to submit report)</i>	<i>(240 days after Notification of Compliance)</i>
	Subsequent Semi-annual Compliance Reports [§63.1306(e)] <i>180 day (6 month) period starts after the initial semiannual compliance report.</i>	6/2/03 (include information from 10/4/02 - 4/3/03); 12/2/03 (include information from 4/4/03 - 10/3/03); 6/2/04 (include information from 10/4/03 - 4/3/04); 12/2/04 (include information from 4/4/04-10/3/04); etc. <i>(60 days after each 180 day period)</i>

Table 7.1 - Report Due Dates (cont'd)

If you have. . .	And need to submit a . . .	Then submit the report before . . .
	Change in Selected Emission Limit and Compliance Method [§63.1306(f)(1),(2)]	180 days before the change takes effect <i>(120 days after the effective date)</i>
A new Slabstock, Molded or Rebond plant	Initial Notification Report [§63.1306(a)]	2/4/99 or 120 days after initial startup or use your construction permit
	Application for Approval of Construction or Reconstruction, if constructing <u>after</u> 10/7/98 (effective date) [§63.5(d)]	As soon as practicable before construction is planned to start but no sooner than 10/7/98 (effective date)
	Application for Approval of Construction or Reconstruction, if reconstruction started <u>before</u> 10/7/98 (effective date), but, your initial startup was <u>after</u> 10/7/98 (effective date) [§63.5(d)]	As soon as practicable before construction is planned to start but no later than 12/6/98 (60 days after the effective date)
	Notification of Compliance [§63.1306(d)]	240 days after initial startup
	Annual Compliance Certification [§63.1306(g)]	Annually - can submit with semi-annual report
A new Slabstock plant	Precompliance Report [§63.1306(c)]	10/7/00 or 12 months after initial startup, whichever is later
<i>(These requirements are in addition to the above)</i>	Initial semi-annual Compliance Report [§63.1306(e)]	240 days after the notification of compliance is due
	Subsequent semi-annual Compliance Reports [§63.1306(e)]	240 days after the Initial semi-annual Compliance Report and every 60 days after the end of each 180 day period thereafter
	Change in Selected Emission Limit and Compliance Method [§63.1306(f)(1),(2)]	180 days before the change takes effect

Table 7.2 Reporting Requirements

If you are submitting an...	then submit by...	and include the following information...	according to these sections of the rule...
Initial Notification Report [slabstock, molded and rebond foam plants]	120 days after the effective date or 120 days after rule applies to your facility	Name and address of owner or operator. Address (physical location) of the facility. Compliance date. Brief description of nature, size, design, and method of operation. Identify each point of emission for each hazardous air pollutant. Statement of whether you're a major or area source.	§63.1306(a); §63.9(b)
Application for Approval of Construction or Reconstruction [slabstock, molded and rebond foam plants]	Before construction or reconstruction	Applicant's name and address. Notification of intent to construct or reconstruct. Address (physical location) of the facility. Identify the standard you're subject to. Date that you expect to start construction or reconstruction. Date that you expect to finish construction or reconstruction. Date you expect to start operating (initial startup). Type and amount of HAP you're emitting or expect to emit. For construction, description of proposed nature, size, design, method of operation and emission controls and other information under §63.5(d)(2). For reconstruction, brief description of the facility, parts to be replaced and emission controls and other information under §63.5(d)(3).	§63.1306(b); §63.5(d)

Table 7.2 Reporting Requirements (cont'd)

If you are submitting an . . .	then submit by . . .	and include the following information . . .	according to these sections of the rule...
Precompliance Report [slabstock foam plants]	12 months before compliance date	<p>Whether you'll comply using the emission point specific limit or sourcewide emission limit.</p> <p>Whether you'll comply on a rolling-annual or monthly basis.</p> <p>Description of how you'll monitor HAP ABA or polyol added at the mixhead.</p> <p>Notice of your intent to use a recovery device.</p> <p>A copy of your program for continuous monitoring and recordkeeping on recovered HAP ABA, if complying using a recovery device.</p> <p>If complying with the sourcewide emission limit:</p> <ul style="list-style-type: none"> • description of how you'll determine the amount of HAP ABA in a storage vessel • description of how you'll monitor the amount of HAP ABA added to a storage vessel during a delivery <p>Information on your alternative monitoring program found in §63.1303(b)(5)(i)-(iv), if applicable.</p>	§63.1306(c)
Notification of Compliance Status [slabstock, molded and rebond foam plants]	Within 180 days after compliance date	<p>List of your diisocyanate storage vessels, and controls used for each.</p> <p>Type of control used for each transfer pump in diisocyanate service.</p> <p>If complying with the emission point specific limits:</p> <ul style="list-style-type: none"> • List of HAP ABA storage vessels, along with control used for each • List of pumps, valves, connectors, pressure-relief devices, and open-ended valves or lines in HAP ABA service • List of any modifications to equipment in HAP ABA service you've made to comply with §63.1296 	§63.1306(d)

Table 7.2 Reporting Requirement (cont'd)

If you are submitting an...	then submit by...	and include the following information...	according to these sections of the rule...
Semiannual Compliance Report [slabstock foam plants]	Semiannually no later than 60 days after the end of the 180-day period.	<p>If you're using rolling-annual compliance, report the allowable and actual HAP ABA emissions (or allowable and actual sourcewide HAP emissions) for each 12-month period ending on each of the six months in the reporting period (not required for initial semi-annual compliance report).</p> <p>If you're using monthly compliance, report allowable and actual HAP ABA emissions (or allowable and actual sourcewide HAP emissions) for each of the six months in the reporting period.</p> <p>If you're using a <u>carbon-adsorption system</u>, report unloading events that occurred after you detected a breakthrough and before you replaced the carbon.</p> <p>Any equipment leaks you didn't repair.</p> <p>Any leaks in vapor- return lines you didn't repair.</p>	§63.1306(e)
Change in Selected Emission Limit [slabstock foam plants]	180 days before a change takes effect	Notify your regulatory agency that you're switching from complying with the emission point specific limit to the sourcewide emission limit (or vice versa).	§63.1306(f)(1)
Change in Selected Compliance Method [slabstock foam plants]	180 days before a change takes effect	Notify your regulatory agency that you're switching from monthly to rolling-annual compliance (or vice versa).	§63.1306(f)(2)

Table 7.2 Reporting Requirement (cont'd)

If you are submitting an...	then submit by...	and include the following information...	according to these sections of the rule...
Annual Compliance Certification [slabstock, molded or rebond foam plants]	Annually	Statement that your facility complies with each applicable requirement of the rule.	§63.1306(g)

Example Initial Notification Report

This is a sample notification form that you can use to comply with 40 CFR 63.1306(a).

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. Initial Notification is being made in accordance with §63.1306(a) and §63.9(b).

1. Print or type the following information for each plant in which you produce flexible polyurethane foam (***slabstock and molded***) or rebond foam [§63.9(b)(2)(i)- (ii)] :

Owner/Operator/Title _____
Street Address _____
City _____ State _____ Zip Code _____
Plant Name _____
Plant Contact/Title _____
Plant Contact Phone Number (*optional*) _____
Plant Address (if different than owner/operator's) _____
Street Address _____
City _____ State _____ Zip Code: _____

2. Show your anticipated compliance date [§63.9(b)(2)(iii)]:

☐ _____ (Insert compliance date)
☐ Upon startup Anticipated startup date _____

3. Check which affected source(s) (as defined by 40 CFR 63.1290) exist at your plant (*optional*):

☐ Slabstock flexible polyurethane foam production
☐ Molded flexible polyurethane foam production
☐ Rebond foam production

4. Briefly describe your sources nature, size, design, and method of operation, including its designed operating capacity. [§63.9(b)(2)(iv)]:

Example Initial Notification Report (Cont'd)

5. Identify each point of emission for each Hazardous Air Pollutant (HAP). If you can't do this definitively yet, do a preliminary identification. If you need more lines, copy this page [§63.9(b)(2)(iv)].

Please indicate if the information below is: ☐ Definitive ☐ Preliminary

Source ID	Source Location	Source Description	Operation Performed

6. My plant is a major source of Hazardous Air Pollutants (HAPs) ☐ Yes ☐ No

NOTE: Only major sources of HAPs are regulated under this rule [§63.9(b)(2)(v)]. If you are not a major source, you are not subject to the rule and don't need to submit this initial notification. You should, however, keep documentation on how you determined you were an area source and maintain those records on file at your plant.

A major source is a facility that may emit more than 10 tons per year of any one hazardous air pollutant (HAP) or 25 tons per year of multiple HAPs. All other sources are area sources. Whether a source is a major or area source depends on all HAP emission-points inside the plant's fence line, not just the flexible polyurethane foam or rebond foam production facilities.

End of Initial Notification Form

Example

Application for Approval of Construction or Reconstruction

This is a sample notification form that you can use to comply with 40 CFR 63.5(d).

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. Notification is being made in accordance with §63.5(d) [§64.5(d)(1)(ii)(D)]

Description: Your Application for Approval of Construction or Reconstruction falls under the General Provisions, §63.5(d). This section requires anyone constructing or reconstructing a major source after the effective date of a standard (in this case **10/7/98**) to obtain written approval to construct or reconstruct the source.

By this we mean, approval is required if you do **any** one of the following:

- construct a new major affected source
- reconstruct a major affected source
- reconstruct a source that becomes a major affected source

This means that if you construct a new source **or** reconstruct an existing source that is subject to the rule **and** that source a major source of HAPs, you will need to submit an Application for Approval of Construction or Reconstruction. You can find a definition of construction and reconstruction in the General Provisions, §63.2.

Use a separate form for each construction or reconstruction you are planning.

1. Print or type the following information for each affected source you're constructing or reconstructing [§64.5(d)(1)(ii)(A), (C)]:

Owner/Operator/Title _____

Street Address _____

City _____ State _____ Zip Code: _____

Plant Name (*optional*) _____

Plant Contact/Title (*optional*) _____

Plant Contact Phone Number (*optional*) _____

Plant Address (if different than owner/operator's) _____

Street Address _____

City _____ State _____ Zip Code: _____

Example

Application for Approval of Construction or Reconstruction (cont'd)

2. I intend to *(check only one, use a separate sheet of paper for each separate construction or reconstruction)* [§64.5(d)(1)(ii)(B)]:

- ☐ construct a new major affected source
- ☐ reconstruct a major affected source
- ☐ reconstruct a source that has become a major affected source

3. Describe the type of source you are constructing or reconstructing (optional):

4. I expect to begin construction or reconstruction on _____ (mm/dd/yy) [§64.5(d)(1)(ii)(E)]
I expect to finish construction or reconstruction on _____ (mm/dd/yy) [§64.5(d)(1)(ii)(F)]
I expect to startup on _____ (mm/dd/yy) [§64.5(d)(1)(ii)(G)]

5. Complete this section **only** if you plan on **constructing** a new major affected source. All others go to 6 [§64.5(d)(2)].

(a) Describe the size and design capacity of the source you're constructing and at what capacity you intend to operate:

(b) Identify the type and quantity of Hazardous Air Pollutants (HAPs) emitting after the construction, the pollution control equipment you intend on using, if any, and it's control efficiency. If you can't do this definitively, do a preliminary identification.

Please indicate if the information below is: ☐ Definitive ☐ Preliminary

Example

Application for Approval of Construction or Reconstruction (cont'd)

Note: If you do a preliminary identification, you must submit actual data as soon as practical after it becomes available, but, no later than your notification of compliance status.

Source ID: _____

Emission Point ID (if applicable)	HAP(s) emitted	Emissions (____ units ¹)	Air Pollution Control Device (if applicable)	Control Efficiency of Control Device (% efficiency)

¹ use the same units, percent reductions or averaging times that are required in the subpart

(c) Include with your submittal any technical information such as calculations you made to determine your estimated emissions.

6. Complete this section **only** if you plan on **reconstructing** an existing major affected source or reconstructing a source that becomes a major affected source after reconstruction. All others go to 7 [§64.5(d)(3)].

(a) Describe the type of components that you're replacing:

(b) Identify the type and quantity of HAPs emitting after the reconstruction, the pollution control equipment you currently use and intend on using, if any, and its control efficiency. If you can't do this definitively, do a preliminary identification.

Please indicate if the information below is: ☐ Definitive ☐ Preliminary

Example

Application for Approval of Construction or Reconstruction (cont'd)

Note: If you do a preliminary identification, you must submit actual data as soon as practical after it becomes available, but, no later than your notification of compliance status.

Source ID: _____

Emission Point ID (if applicable)	HAP(s) emitted	Emissions (____ units ¹)	Air Pollution Control Device Currently Used (if applicable)	Planned Air Pollution Control Device (if applicable)	Control Efficiency of Control Device (% efficiency)

¹ use the same units, percent reductions or averaging times that are required in the subpart

(c) Include with your submittal any technical information such as calculations you made to determine your estimated emissions.

(d) A discussion of any economic or technical limits you'll have in complying with this subpart after reconstruction. If you **don't** plan on having any economic or technical limits after reconstruction, go to 7.

(i) Discuss what your economic or technical limits will be, how they effect your compliance under this subpart, what subparts will be effected, and what alternate methods of compliance you plan on using:

(ii) My estimated fixed capital cost to reconstruct the affected source is : \$ _____.00

Example

Application for Approval of Construction or Reconstruction (cont'd)

(iii) The estimated life of my affected source after reconstruction is: ____ years

(iv) If I were to forgo reconstruction and construct a entirely new affected source, comparable with the one I am reconstructing, my fixed capital costs would be: \$ _____.00

7. End of form.

End of Application for Approval of Construction or Reconstruction

Example Precompliance Report

This is a sample notification form you can use to comply with 40 CFR 63.1306(c)

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. This Precompliance Report is being made for my **slabstock foam** facility in accordance with §63.1306(c).

1. Print or type the following information for each plant in which you produce **slabstock foam**:

Owner/Operator/Title _____
Street Address _____
City _____ State _____ Zip Code: _____
Plant Name _____
Plant Contact/Title _____
Plant Contact Phone Number (*optional*) _____
Plant Address (if different than owner/operator's) _____
Street Address _____
City _____ State _____ Zip Code: _____

2. Check which compliance option you're choosing for your slabstock facility (*check all that apply*) [§63.1306(c)(2)]:

☐ **Emission point limit** described in §63.1293(a) [§63.1306(c)(1)]

check which option you're choosing [§63.1306(c)(2)]

☐ I'll comply on a *rolling-annual* basis under §63.1297(b)

☐ I'll comply on a *monthly* basis under §63.1297(c)

☐ **Sourcewide emission limit** described in §63.1293(b) [§63.1306(c)(1)]

check which option you're choosing [§63.1306(c)(3)]

☐ I'll comply on a *rolling-annual* basis under §63.1299(a)

☐ I'll comply on a *monthly* basis under §63.1299(b)

Example Precompliance Report (Cont'd)

3. Describe how you'll monitor HAP ABA or polyol added at the mixhead. If you're developing an alternate monitoring program, go to 4 [§63.1306(c)(4)]:

4. Fill out only if you plan to use an alternate monitoring program for HAP ABA or polyol added at the mixhead. Otherwise, go to 5 [§63.1306(c)(4)]:

If you intend to use an alternate monitoring program for HAP ABA or polyol added at the mixhead under §63.1303(b)(5), you develop and submit an alternative monitoring program for approval.

You can use this precompliance report for submitting your monitoring program if you're an existing source. If you're a new source, you can use your Application for Approval of Construction or Reconstruction. You may also submit a monitoring program after the compliance date. Alternate monitoring programs must be approved before you can use the alternate.

- (a) I have attached an alternate monitoring program:

- ☐ Yes (don't fill out the rest of 4, go to 5)
☐ No (fill out the information below)

- (b) Describe the parameter you'll monitor to continuously measure the amount of HAP ABA or polyol added at the mixhead while you're pouring foam [§63.1303(b)(5)(i)]:

- (c) Describe how you'll record results, and how you'll convert them into the amount of HAP ABA or polyol delivered to the mixhead [§63.13031(b)(5)(ii)]:

Example Precompliance Report (Cont'd)

- (d) Provide data to show the monitoring device is accurate to within ± 2.0 percent [§63.1303(b)(5)(iii)]:

- (e) Describe what you'll do to maintain accurate results from parameter monitoring. Make sure your procedures at least include calibration of all monitoring devices [§63.1303(b)(5)(iv)]:

5. Fill out this section only if you plan to use a **recovery device** to comply with §63.1297 or 63.1299. Otherwise, go to 6 [§§63.1306(c)(5), (c)(6)]:

If you intend to use a recovery device to reduce HAP ABA emissions, under §63.1303(c)(6) you must develop and submit a recovery HAP ABA monitoring and recordkeeping program for approval.

You can use this precompliance report for submitting your monitoring program if you're an existing source. If you're a new source, you can use your Application for Approval of Construction or Reconstruction. You may also submit a monitoring program after the compliance date. Alternate monitoring programs must be approved before you can use the alternate.

- (a) I have attached a program to monitor and keep records on recovered HAP ABA:

- ☐ Yes (don't fill out the rest of 5, go to 6)
☐ No (fill out the information below)

- (b) Describe the solvent-recovery device you've installed, calibrated, maintained, and operated according to the manufacturer's specification and that shows the cumulative amount of HAP ABA recovered by the device during each month. Make sure the manufacturer certifies this device to be accurate to within ± 2.0 percent [§63.1303(c)(1)]:

Example Precompliance Report (Cont'd)

- (c) Describe where the monitoring will occur. Make sure the location allows you to measure the HAP ABA after you've fully recovered it [§63.1303(c)(2)]:

fully recovered means after separation from water introduced into the HAP ABA during regeneration

- (d) Describe the parameter you'll monitor and the times you'll monitor it [§63.1303(c)(3)]:

- (e) Provide data to show that the monitoring device is accurate to within ± 2.0 percent [§63.1303(c)(4)]:

- (f) Describe how you'll maintain accurate results from parameter monitoring. Make sure your procedures at least include periodic calibration of all monitoring devices [§63.1303(c)(5)]:

Example Precompliance Report (Cont'd)

6. For sources complying with the **sourcewide emission limit**, describe how you'll determine the amount of HAP ABA in a storage vessel [§63.1306(c)(7)]:

7. For sources complying with the **sourcewide emission limit**, describe how you'll monitor the amount of HAP ABA added to a storage vessel during a delivery. If you're developing an alternate monitoring program, go to 8 [§63.1306(c)(8)]:

8. Fill out only if you plan to use an **alternative monitoring program** for HAP ABA added to a storage vessel during delivery. Otherwise, go to 9 [§63.1306(c)(8)]:

If you intend to use an alternate monitoring program for HAP ABA added to a storage vessel during loading, under §63.1303(e)(4) you must develop and submit an alternative monitoring program for approval.

You can use this precompliance report for submitting your monitoring program if you're an existing source. If you're a new source, you can use your Application for Approval of Construction or Reconstruction. You may also submit a monitoring program after the compliance date. Alternate monitoring programs must be approved before you can use the alternate.

- (a) I have attached an alternative monitoring program for HAP ABA added to a storage vessel during loading:

- ☐ Yes (don't fill out the rest of 8, go to 9)
☐ No (fill out the information below)

- (b) Describe the parameter you'll monitor to determine the amount of HAP ABA added to the storage vessel during a delivery [§63.1303(e)(4)(i)]:

Example Precompliance Report (Cont'd)

- (c) Describe how you'll record the results and how you'll convert them into the amount of HAP ABA added to the storage vessel during a delivery [§63.1303(e)(4)(ii)]:

- (d) Provide data to show the monitoring device is accurate to within ± 2.0 percent [§63.1303(e)(4)(iii)]:

- (e) Describe how you'll maintain accurate results from monitoring. Make sure your procedures at least include periodic calibration of all monitoring devices [§63.1303(e)(4)(iv)]:

End of Precompliance Report

Example Notification of Compliance Status

This is a sample notification form which you can use to comply with 40 CFR 63.1306(d)

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. Notification of compliance status is being made in accordance with §63.1306(d).

1. Print or type the following information for each **slabstock, molded, or rebond** process (optional)

Owner/Operator/Title _____
Street Address _____
City _____ State _____ Zip Code: _____
Plant Name _____
Plant Contact/Title _____
Plant Contact Phone Number (optional) _____
Plant Address (if different than owner/operator's) _____
Street Address _____
City _____ State _____ Zip Code: _____

2. Fill out only if you produce **Slabstock foam**. Otherwise, go to 3 [§63.1306(d)]:

- (a) List your diisocyanate storage vessels and the type of control you use [§63.1306(d)(1)]:

<i>Diisocyanate Storage Vessel</i>	<i>Type of control</i>

Example Notification of Compliance Status (cont'd)

- (b) If transfer pumps are in diisocyanate service, record the type of control you'll use for each transfer pump [§63.1306(d)(2)]:

<i>Transfer pump in diisocyanate service</i>	<i>Type of control</i>

- (c) My slabstock processes are complying with the emission point specific limit under §§63.1294 through 63.1298:

- ☐ Yes
☐ No

If yes, provide the following information; otherwise, go to 3:

- (c1) List your HAP ABA storage vessels, and the type of control you use [§63.1306(d)(3)(i)]:

<i>HAP ABA Storage Vessels</i>	<i>Type of control</i>

Example Notification of Compliance Status (cont'd)

- (c2) List your pumps, valves, connectors, pressure-relief devices, and open-ended valves or lines in HAP ABA service [§63.1306(d)(3)(ii)]:

<i>Equipment List</i>	<i>Type</i>
	<input type="checkbox"/> pump <input type="checkbox"/> valve <input type="checkbox"/> pressure-relief device <input type="checkbox"/> open-ended valve or line <input type="checkbox"/> connector
	<input type="checkbox"/> pump <input type="checkbox"/> valve <input type="checkbox"/> pressure-relief device <input type="checkbox"/> open-ended valve or line <input type="checkbox"/> connector
	<input type="checkbox"/> pump <input type="checkbox"/> valve <input type="checkbox"/> pressure-relief device <input type="checkbox"/> open-ended valve or line <input type="checkbox"/> connector
	<input type="checkbox"/> pump <input type="checkbox"/> valve <input type="checkbox"/> pressure-relief device <input type="checkbox"/> open-ended valve or line <input type="checkbox"/> connector

- (c3) List any modifications you made to equipment in HAP ABA service to comply under §63.1296 [§63.1306(d)(3)(iii)]:

<i>Equipment Description</i>	<i>Modification Made</i>

3. Fill out only if you produce **Molded foam**. Otherwise, go to 4 [§63.1306(d)(4)]:

check all that apply

- ☐ My affected source for molded foam complies with §63.1300
- ☐ My molded foam processes at the effected source comply with §63.1300

4. Fill out only if you produce **Rebond foam**. Otherwise, go to 5 [§63.1306(d)(5)]:

check all that apply

- ☐ My affected source for rebond foam complies with §63.1301
- ☐ My rebond foam processes at the affected source comply with §63.1301

End of Notification of Compliance Status

Example Semi-Annual Compliance Report

This is a sample notification form that you can use to comply with 40 CFR 63.1306(e).

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. This semiannual report is being made for my **Slabstock** foam facility in accordance with §63.1306(3). and covers a 6 month period from _____ to _____.

1. Print or type the following information for each slabstock foam process (optional):

Owner/Operator/Title _____
Street Address _____
City _____ State _____ Zip Code: _____
Plant Name _____
Plant Contact/Title _____
Plant Contact Phone Number (optional) _____
Plant Address (if different than owner/operator's) _____
Street Address _____
City _____ State _____ Zip Code: _____

2. If your slabstock foam source is following **rolling-annual compliance** under §63.1297 or §63.1299, record the following. Otherwise, go to 3. If this is your initial semi-annual compliance report, go to 3; the information in 2 isn't required.

List the allowable and actual HAP ABA emissions (or allowable and actual sourcewide HAP emissions) for each 12-month period ending on each of the six months in the reporting period [§63.1306(e)(1)].

Example: if you're submitting a July 2000 semiannual report, you would send emission information from January-June 2000 and July-December 1999.

U.S. EPA Headquarters Library
Mail code 3201
1200 Pennsylvania Avenue NW
Washington DC 20460

Example Semi-Annual Compliance Report (cont'd)

Type of Affected source: _____

Type of emission limit used:

☐ actual HAP ABA emission or ☐ sourcewide HAP emissions

Reporting Period	Reporting Year	allowable emissions (_____ units)	actual emissions (_____ units)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

3. If your slabstock source is following **monthly compliance** under §63.1297 or §63.1299, record the following. Otherwise, go to 4.

List the allowable and actual HAP ABA emissions (or allowable and actual sourcewide HAP emissions) for each of the 6 months in the reporting period [§63.1306(e)(2)].

Example Semi-Annual Compliance Report (cont'd)

Affected source:

Type of emission limit used:

☐ actual HAP ABA emission or ☐ sourcewide HAP emissions

<i>Reporting Period</i>	<i>Reporting Year</i>	<i>allowable emissions (_____ units)</i>	<i>actual emissions (_____ units)</i>
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

4. If your slabstock source is using a **carbon-adsorption system** to comply with the **storage-vessel** provisions in §63.1294(a) or §63.1295, record the following. Otherwise, go to 5.

Identify any unloading event that occurred after you've detected breakthrough and before you replaced the carbon [§63.1306(e)(3)]:

Unloading Event Date	Breakthrough Comments

Example Semi-Annual Compliance Report (cont'd)

5. If your slabstock source had **equipment leaks** that you didn't repair according to §63.1294(b)(2)(iii); §63.1294(c); §63.1296(a)(2)(iii); §63.1296(b)(2); §63.1296(b)(3)(iv); §63.1296(b)(4)(v); §63.1296(c)(2); §63.1296(c)(4)(ii); or §63.1296(d)(2), record the following. Otherwise, go to 6.

Identify any equipment leaks you didn't repair [§63.1306(e)(4)]

Type of Equipment Leak	Date Leak Detected	Applicable Section of Rule <i>(as indicated above)</i>	Comments

6. If your slabstock source had leaks in the **vapor-return line** leaks that you didn't repair according to §63.1294(a)(1)(ii) or §63.1295(b)(2), record the following.

Identify any leaks in the vapor-return line that you didn't repair [§63.1306(e)(5)]

Type of Vapor-Return Line	Date Leak Detected	Applicable Section of Rule <i>(as indicated above)</i>	Comments

End of Semiannual Report

Example

Change in Selected Emission Limit and Compliance Method

Make notification to change the selected emission limit and compliance method for your **slabstock foam** process by requesting the change in writing (using a letter, memorandum, or a similar document). Make notification at least 180 days before the change and include the following based on the type of notification you're making [63.1306(f)(1)]:

I. If your complying with §63.1293

My _____ [identify affected source] is complying with §63.1293. We currently comply using the **emission point specific limit** but will be switching to the **sourcewide emission limit** on _____ [identify date].

or

My _____ [identify affected source] is complying with §63.1293. We currently comply using the **sourcewide emission limit** but will be switching to the **emission point specific limit** on _____ [identify date].

II. If your complying with §63.1297 or §63.1299

My _____ [identify affected source] is complying with §_____ [identify §63.1297 or §63.1299]. We're currently using the **rolling-annual** compliance period but will be switching to the **rolling-monthly** on _____ [identify date].

or

My _____ [identify affected source] is complying with §_____ [identify §63.1297 or §63.1299]. We're currently using the **rolling-monthly** compliance period but will be switching to the **rolling-annually** on _____ [identify date].

End of Change in Selected Emission Limitation and Compliance Method

Example Annual Compliance Certification

This is a sample notification form that you can use to comply with 40 CFR 63.1306(g).

Applicable Rule: 40 CFR Part 63, Subpart III - National Emission Standards for Flexible Polyurethane foam Production. I'm certifying compliance annually under §63.1306(g) and §63.1306.

You may use compliance certifications required in your State or local operating permit program to satisfy this reporting requirement as long as the compliance certification is consistent with §63.1308 [§63.1306(g)(2)].

1. Print or type the following information for each **slabstock, molded or rebond** process:

Owner/Operator/Title _____
Street Address _____
City _____ State _____ Zip Code: _____
Plant Name _____
Plant Contact/Title _____
Plant Contact Phone Number (*optional*) _____
Plant Address (if different than owner/operator's) _____
Street Address _____
City _____ State _____ Zip Code: _____

I certify that my slabstock foam ☐ molded foam ☐ Rebond foam ☐ is in compliance with each applicable requirement in §63.1308, Compliance Demonstration, of the Flexible Polyurethane Foam NESHAP (40 CFR 63, Subpart III). For operations that are not in compliance, provide a description of your noncompliant operations.

Signature of Responsible Official: _____ [§63.1306(g)(3)]

Title of Responsible Official: _____

Chapter 8 - Other requirements and information

Who administers this regulation?

Your State or local agency for air pollution control, or your EPA Regional Office, will regulate you. If your plant is in Indian Country, and your eligible Tribe or your EPA Regional Office will regulate you. You may be regulated by one or more agencies depending on whether they've been granted delegation of this rule.

Definition. An *eligible Tribe* means "a Tribe that has been determined by the EPA to meet criteria for being treated in the same manner as a State, pursuant to the regulations implementing section 301(d)(2) of the Act."

Not all States have been granted delegation, or, if they have been granted delegation, they may not have been delegated all portions of the rule. Our EPA Regional Offices may also have retained certain rights even after delegation (for example, you may continue to have dual reporting requirements as explained in **Chapter 7**). You should check with your EPA Regional Office or State for the latest information.

Do I need a title V permit?

You'll need a title V permit if you're subject to the Flexible Polyurethane Foam Production NESHAP since, under title V, you must get a permit if your facility is a *major source*. The Flexible Polyurethane Foam Production NESHAP applies to major sources.

To determine if your facility is a major source, you'll need to calculate your HAP emissions from your entire facility, not just your foam operations. If you don't have federally enforceable limits in a State permit, you must calculate your emissions by determining your potential emissions. If you need help determining if your facility is a major source or what your potential emissions are, see the definitions in the Operating Permits Rule §70.2, or visit our title V policy and guidance page at www.epa.gov/ttn/oarpg/t5main.html.

How do I change my permit to include this rule?

If you've already been issued a final title V permit and you have three or more years left on your permit, your permitting authority will reopen your permit within 18 months of the publication date of the final rule or final amendments. If you have less than three years left on your permit, update your permit during your renewal period. If your permit hasn't been issued in final form, update your application or draft permit.

To summarize, your options are as follows:

If a new rule is effective^{1,2} and you have . . .	Then . . .
not been issued a final title V permit	update your permit application or draft permit
less than three years left on your permit	update your title V permit during renewal
three or more years left on your permit	your permitting authority will reopen your permit within 18 months after the publication date of the final rule or final amendments

¹ The rule's effective date is the date the final rule is published in the *Federal Register* (which is 10/7/98 for this rule).

² This also applies if existing rules are modified and final amendments are published in the *Federal Register*.

Title V permitting rules may change after the publication of this document. Keep abreast of any changes by checking the *Federal Register* or visit our title V websites at www.epa.gov/ttn/oarpg/t5main.html and www.epa.gov/oar/oaqps/permits.

What portions of the General Provisions apply?

The General Provisions were published in the *Federal Register* on March 16, 1994 (Volume 59, page 12408) and apply to all NESHAPs, including the flexible polyurethane foam rule.

This means that when you became subject to this rule, you also became subject to the General Provisions. Some sections in this rule over-ride the General Provisions. You'll find that Table 2 of the final rule shows you which sections of the General Provisions apply to this rule and which don't. General Provision requirements, except for notification and reporting are not addressed in this document.

Whom can I ask for help?

You can go to a lot of places for help, including all of the following:

- your State, local or Tribal agency for air pollution control
- your State's Small Business Assistance Program (SBAP)
- local, regional, or national trade associations
- your EPA Regional Office

State and local contacts can change frequently. To get the most current contact information, go to the STAPPA/ALAPCO website (www.4cleanair.org) and then the membership directory. The directory will give you the latest contact points for major air programs (that is, emission standards for toxic air pollutants, ozone, etc.) at the State and local level.

If you have questions about this rule, you should contact your State, local or Tribal agency before calling the EPA. Their rules may be more stringent than Federal requirements.

Trade Associations representing the flexible polyurethane foam industry are listed below. Trade associations sometimes have rule information for their members.

Trade Association	Telephone #	Address
Carpet Cushion Council	(203) 637-1312	26 Arcadia Rd., Suite 8 Old Greenwich, CT 06870
Society of the Plastics Industry, Inc. Polyurethane Division	(202) 974-5362	1801 "K" Street 600K Washington, DC 20006
Polyurethane Foam Assoc.	(973) 633-9044	P.O. Box 1459 Wayne, NJ 07474

Many States have a *Small Business Assistance Program*. If you're a small business and don't know who your SBAP is, you can call EPA's Control Technology Center Hotline at (919) 541-0800 or visit EPA's SBAP at www.epa.gov/oar/oaqps/sbap for help.

Contact numbers for *EPA's Regional Air Division Offices* may also change frequently. To obtain the most up-to-date information, you may want to visit your Regional Office's website. **Table 9.1** (on page 134) lists each of our Regional Offices, the Air Toxics Division Phone and Address, and the Regions internet home page. Make all written inquiries to the attention of "NESHAP (insert rule name) Contact."

Can I get more information on the Web?

You can get a wealth of information on the World Wide Web (WWW). Some of the more popular ways to get information on this rule include:

- **EPA's Unified Air Toxics Website** (www.epa.gov/ttn/uatw)
You can download copies of preambles, regulations, background information documents, policy memos, and other guidance materials here. All rule pages can be found under the Rules and Implementation page. Flexible polyurethane foam can be found under www.epa.gov/ttn/uatw/foam/foampg.html.
- **EPA's Applicability Determination Index (ADI)** (<http://es.epa.gov/oeca/eptdd/adi.html>)
EPA's Office of Enforcement and Compliance Assurance (OECA) posts memos dealing with applicability and compliance at this site.
- **OECA Compliance Assistance Centers** (<http://www.epa.gov/epahome/business.htm>)
You can find information on compliance with federal regulations at this site. There are centers for printing, automotive services and repair, agriculture, and metal finishing industries. We plan to add centers for the chemical industry, printed wiring board manufacture, transportation, and local governments.
- **STAPPA/ALAPCO home page** (<http://www.4cleanair.org>)
STAPPA/ALAPCO is the State and Territorial Air Pollution Program Administrators (STAPPA) and Local Air pollution Control Officials (ALAPCO) organization. STAPPA/ALAPCO has members representing each State and local agency for air pollution control.

You can get air pollution information at this site, including a document entitled "*Communicating Air Quality: A Compendium of Resources*." It lists educational materials on air pollution that State and local agencies have created.

Table 9.1
EPA Regional Air Division Offices

EPA Region	States Covered	Division Phone and Address	Phone Home Page
Region I	CT, ME, MA, NH, RI & VT	Office of Environmental Stewardship (OES) 1 Congress Street, Suite 1100 Boston, MA 02114-2023	(617) 918-1510 www.epa.gov/region1
Region II	NJ, NY, Puerto Rico & Virgin Islands	Division of Environmental Planning and Protection 290 Broadway, 21st Floor New York, NY 10007-1866	(212) 637-3735 www.epa.gov/region2
Region III	DE, MD, PA, VA, WV & DC	Air Protection Division, 3AP111 650 Arch Street Philadelphia, PA 19103-2029	(215) 814-2056 www.epa.gov/region3
Region IV	AL, FL, GA, KY, MS, NC, SC & TN	Air, Pesticides and Toxics Management Division 345 Courtland Street, NE Atlanta, GA 30365	(404) 562-9077 www.epa.gov/region4
Region V	IL, IN, MI, WI, MN & OH	Air and Radiation Division 77 West Jackson Blvd. Chicago, IL 60604-3507	(312) 353-2212 www.epa.gov/region5
Region VI	AR, LA, NM, OK & TX	Multimedia Planning and Permitting Division 1445 Ross Avenue Dallas, TX 75202-2733	(214) 665-7200 www.epa.gov/region6
Region VII	IA, KS, MO & NE	Air, RCRA and Toxics Division 726 Minnesota Avenue Kansas City, KS 66101	(913) 551-7097 www.epa.gov/region7
Region VIII	CO, MT, ND, SD, UT & WY	Office of Enforcement, Compliance and Environmental Justice (ECEJ) 999 18th Street, 1 Denver Place, Suite 500 Denver, CO 80202-2405	(303) 312-7028 www.epa.gov/region8
Region IX	AZ, CA, HI, NV, American Samoa, & Guam	Air Division 75 Hawthorne Street San Francisco, CA 94105	(415) 744-1219 www.epa.gov/region9
Region X	AK, ID, WA & OR	Office of Air Quality 1200 Sixth Avenue Seattle, WA 98101	(206) 553-1505 www.epa.gov/region10

Is there a list of commonly asked questions?

For a list of questions and answers about the final rule, you'll find EPA's "*Hazardous Air Pollutant Emissions from the Production of Flexible Polyurethane Foam -- Basis and Purpose Document for Final Standards, Summary of Public Comments and Responses, July, 1998* (EPA-453/R-97-008b) useful. You can download the document by going to our UATW Flexible Polyurethane Foam page at www.epa.gov/ttn/uatw/foam/foampg.html.

How many plants may need to meet emission limits?

According to information we collected in 1993, we estimated that approximately 77 *slabstock*, 21 *rebond*, and 98 *molded foam* production plants might be affected by this rule.

You can find a list of slabstock plants that may be affected by the rule in **Table 10.1** (on page 138). Unfortunately, we don't have a list of molded and rebond foam plants. When looking at Table 10.1, realize that our information is from 1993 and some of the plants may have closed or been redesignated as area sources. We've included the list as a reference for you, not as an official or complete list of regulated plants. You can see how many slabstock plants are in your state by going to **Figure 10.1** (page 141).

EPA's *"Enabling Document: Source Identification Procedures for Sources Subject to Regulations Under Section 112(d) of the Clean Air Act as Amended in 1990"*, September 20, 1996 (otherwise known as the **"Cookbook"**), can help you identify the steps you can take to locate more sources.

You can download the cookbook by going to www.epa.gov/ttn/ua/tw/eparules.html, scroll down until you see "MACT Implementation Strategy". The cookbook is in Appendix G of this document.

Are plants in Indian country regulated by the State?

Generally, State rules aren't enforceable in Indian country. When we delegate authority to States under section 112(d), the authority to regulate doesn't extend to Indian country unless the delegation agreement says so.

We encourage tribes to develop the capacity to administer section 112(d) programs and to request delegation. If we don't delegate the authority to carry out section 112(d) rules to an eligible Tribe, the EPA Regional Office will be the regulatory authority.

How much HAP emissions will the rule reduce?

We estimate that full implementation of the rule will reduce HAP emissions by about 13,800 tons annually. Breaking this down, we think that 11,500 tons annually (69%) will be reduced from slabstock foam producers and 2,300 tons annually (73%) from molded foam producers.

We believed that all rebond foam producers are already complying with the NESHAP requirements, so we don't estimate any additional reductions from this subcategory.

Estimated National HAP Emission Reductions

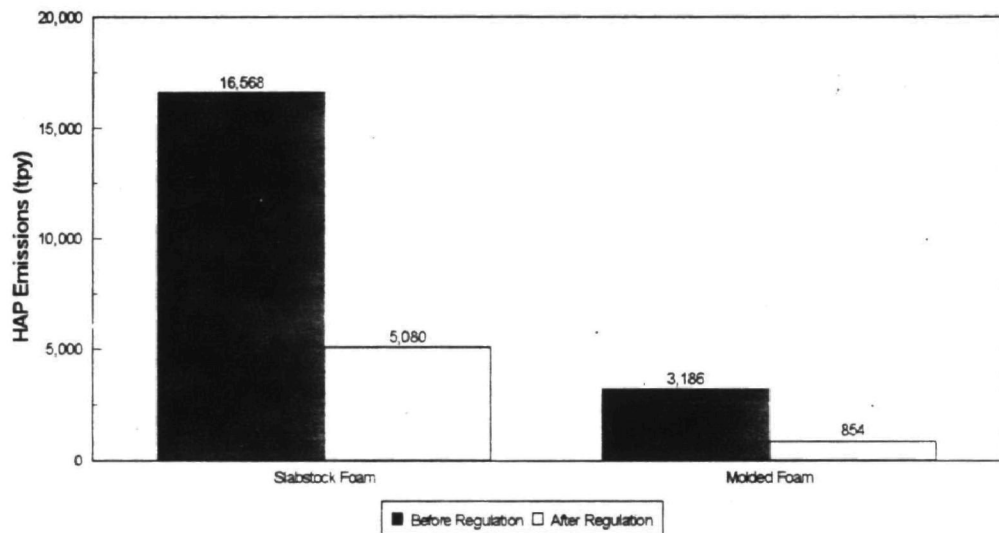


Table 10.1
1993 U.S. Slabstock Foam Plant List

STATE	COMPANY	LOCATION
ARKANSAS	Foamex (formerly Crain Industries)	Fort Smith
	Hickory Springs Manufacturing Co.	Fort Smith
	Ludwig, Inc.	Waldo
CALIFORNIA	Foamex (formerly Crain Industries)	Compton
	Foamex (formerly Crain Industries)	San Leandro
	Carpenter Company	Lathrop
	Carpenter Company	Riverside
	Foamex, L.P.	Orange
	Foamex, L.P.	San Bernadino
	Future Foam, Inc.	Fullerton
	Hickory Springs Manufacturing Co.	Commerce
DELAWARE	E-A-R Division	Newark
FLORIDA	Flexible Foam Products	Miami
	Foamex, L.P.	Orlando
	Omnifoam, Inc.	Miami
GEORGIA	Austin Urethane, Inc.	Americus
	Foamex (formerly Crain Industries)	Newman
	Foamex, L.P.	Conyers
	Hickory Springs Manufacturing Co.	Americus
	Woodbridge Foam	Lithonia
ILLINOIS	Burkart Foam, Inc.	Cairo
	General Foam Corp.	Bridgeview
	No-Sag Foam Products	West Chicago
INDIANA	Foamex (formerly Crain Industries)	Elkhart
	E-A-R Specialty Composites	Indianapolis
	Carpenter Company	Elkhart
	Flexible Foam Products	Elkhart
	Foamex, L.P.	Auburn
	Foamex, L.P.	Elkhart
	Foamex, L.P.	Fort Wayne
	Foamex, L.P.	Laporte
IOWA	Future Foam, Inc.	Council Bluffs
KANSAS	Future Foam, Inc.	Newton
MARYLAND	William T. Burnett and Co.	Baltimore

Table 10.1
Slabstock foam Plant List (cont'd)

STATE	COMPANY	LOCATION
MASSACHUSETTS	Crest Foam Industries	Newburyport
MICHIGAN	Armaly Brands Plastomer Corp.	Walled Lake Livonia
MINNESOTA	General Foam of Minnesota	St. Paul
MISSISSIPPI	Hickory Springs Manufacturing Co. MPI, Inc. Vitafoam (formerly Olympic Products Co.) Superior Product Sales, Inc. Vitafoam, Inc.	Verona Coldwater Tupelo Plantersville Tupelo
MISSOURI	Foamex (formerly Crain Industries) Carpenter Company Foamex, L.P.	Verona Verona Verona
NEVADA	Universal Urethanes, Inc.	N. Las Vegas
NEW JERSEY	Crest Foam Industries General Foam Corp.	Moonachie East Rutherford
NORTH CAROLINA	Foamex (formerly Crain Industries) Carpenter Company Foamex, L.P. Hickory Springs Manufacturing Co. North Carolina Foam Industries, Inc. North Carolina Foam Industries Prestige Fabricators, Inc. Vitafoam, Inc. Vitafoam (formerly Olympic Products Co.)	Conover Conover Cornelius Conover Mount Airy Mount Airy Asheboro High Point Greensboro
OHIO	Flexible Foam Products Scottdel, Inc.	Spencerville Swanton
OREGON	Hickory Springs Manufacturing Co.	Portland
PENNSYLVANIA	Foamex (formerly Crain Industries) Foamex, L.P. Foamex, L.P. General Foam Corp.	Easton Corry Eddystone West Hazelton
TENNESSEE	Foamex, L.P.	Milan

Table 10.1
Slabstock foam Plant List (cont'd)

STATE	COMPANY	LOCATION
	Foamex, L.P.	Morristown
	Nu-Foam Products, Inc.	Chattanooga
TEXAS	Carpenter Company	Temple
	Flexible Foam Products	Terrel
	Foamex, L.P.	Mesquite
	Texas Fibers Branch 1708	Brenham
VIRGINIA	Carpenter Company	Richmond
WASHINGTON	Foamex (formerly Crain Industries)	Kent
WISCONSIN	Future Foam, Inc.	Middleton

Figure 10.1
Slabstock Flexible Polyurethane foam Plants (77 plants)



Contents for Subpart III, Final Rule

Applicability

Is my facility regulated under this Subpart?	§63.1290(a)
What is an affected source?	§63.1290(b)
Are any processes exempt?	§63.1290(c)
How do I calculate if HAP _{used} is <5 tpy?	§63.1290(c)(3)

Compliance Schedule

How long do I have to come into compliance with the rule?	§63.1291
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Definitions and nomenclature

What are some commonly terms used in this Subpart?	§63.1292
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Standards for slabstock flexible polyurethane foam production

What are the emission limitation options?	§63.1293
What options do I have if I only use one HAP?	§63.1293(b)

Standards for diisocyanate emissions for slabstock production

What are the control requirements for diisocyanate storage vessels?	§63.1294
What are the requirements during unloading?	§63.1294(a)
What are the control requirements for diisocyanate transfer pumps?	§63.1294(b)
What are the requirements for other diisocyanate components?	§63.1294(c)
When can I delay repair of diisocyanate equipment leaks?	§63.1294(d)

Contents for Subpart III, Final Rule (cont'd)

Standards for HAP ABA storage vessel emissions for slabstock production

- What are the control requirements for HAP ABA storage vessels?** §63.1295(a)
- What are the vapor balancing requirements?** §63.1295(b)
- What the are requirements for carbon adsorption systems?** §63.1295(c)

Standards for HAP ABA equipment leaks for slabstock production

- What are the control options for pumps?** §63.1296(a)
- What are the leak detection requirements for pumps?** §63.1296(a)
- What are the leak detection requirements for valves?** §63.1296(b)
- What are the leak detection requirements for connectors?** §63.1296(c)
- What are the leak detection requirements for pressure-relief devices?** §63.1296(d)
- What are the requirements for pressure-relief devices?** §63.1296(e)
- When can I delay repair of HAP ABA equipment?** §63.1296(f)

Standards for HAP ABA emissions from slabstock production lines

- What are the compliance options for production lines?** §63.1297(a)
- What are the requirements for rolling-annual compliance?** §63.1297(b)
- What are the requirements for monthly compliance?** §63.1297(c)
- How do I determine the HAP ABA formulation limitations?** §63.1297(d)
- What are the requirements for solvent-recovery devices?** §63.1297(e)

Standards for HAP equipment cleaning emissions from slabstock production

- When can I use a HAP or a HAP-based material as an equipment cleaner?** §63.1298

Standards for sourcewide HAP ABA emissions from slabstock production lines

- What are the compliance options?** §63.1299
- What are the requirements for rolling-annual compliance?** §63.1299(a)

Contents for Subpart III, Final Rule (cont'd)

What are the requirements for monthly compliance?	§63.1299(b)
How do I determine actual sourcewide HAP emissions?	§63.1299(c)
How do I determine allowable sourcewide HAP emissions?	§63.1299(d)
What are the requirements for solvent-recovery devices?	§63.1297(e)

Standards for molded foam production

What molded processes are regulated?	§63.1300
Can HAPs be used as an equipment cleaner?	§63.1300(a)
What must I do if I use diisocyanates for flushing?	§63.1300(a)
Can HAPs be used as a mold-release agent?	§63.1300(b)

Standards for rebond foam production

What rebond processes are regulated?	§63.1301
Can HAPs be used as an equipment cleaner?	§63.1301(a)
Can HAPs be used as a mold-release agent?	§63.1301(b)

Applicability to Subpart A requirements

What sections of the General Provisions apply to me?	§63.1302 Table 2
Do I have to develop a Start-up, Shutdown and Malfunction Plan?	§63.1302 Table 2

Monitoring requirements

What are the requirements for storage vessels carbon adsorption systems?	§63.1303(a)
What are the requirements for HAP ABA and polyol added at the mixhead?	§63.1303(b)
What are the requirements for solvent-recovery?	§63.1303(c)
How do I monitor HAP ABA in the storage vessel?	§63.1303(d)
How do I monitor HAP ABA added to the storage vessel?	§63.1303(e)

Contents for Subpart III, Final Rule (cont'd)

Testing requirements

What test methods must I use for equipment leaks?	§63.1304(a)
What test methods must I use for IFD and density?	§63.1304(b)

Alternate means of emission limitation

How can I get approval for an alternative means of emission limitation?	§63.1305
How soon can I use the alternative emission limitation?	§63.1305(d)

Reporting Requirements

Do I have to submit an initial notification report?	§63.1306(a)
If I install a new source or reconstruct an existing source, what are my requirements?	§63.1306(b)
Is a precompliance report required for slabstock sources?	§63.1306(c)
Do I have to submit a notification of compliance status?	§63.1306(d)
If I have a slabstock source, do I have to report any information semiannually?	§63.1306(e)
What notifications must I make if I change my slabstock emission limit?	§63.1306(f)(1)
What notifications must I make if I change my slabstock compliance method?	§63.1306(f)(2)
Do I have to submit annual reports?	§63.1306(g)

Recordkeeping requirements

What storage vessel records must I keep?	§63.1307(a)
What equipment leak records must I keep?	§63.1307(b)
What HAP ABA records must I keep?	§63.1307(c)
What recovery device records must I keep?	§63.1307(d)
Do I have to keep product data sheets for equipment cleaners?	§63.1307(e)

Contents for Subpart III, Final Rule (cont'd)

What records are required for unloading?	§63.1307(f)
What records do I need for solvents used for flushing the mixhead and associated piping?	§63.1307(g)
What records do I need for mold-release agents?	§63.1307(h)

Compliance demonstrations

How do I demonstrate compliance for my slabstock facility?	§63.1308(b)
How do I demonstrate compliance for my slabstock facility if I am using emission point specific limitations?	§63.1308(c)
How do I demonstrate compliance for my slabstock facility if I am using sourcewide limitations?	§63.1308(d)
How do I demonstrate compliance for my molded source?	§63.1308(e)
How do I demonstrate compliance for my rebond source?	§63.1308(e)

Delegation of authority

What sections under this Subpart have not been delegated to my State or local agency?	§63.1309
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Federal Register

**Wednesday
October 7, 1998**

Part II

**Environmental
Protection Agency**

40 CFR Parts 9 and 63

**National Emission Standards for
Hazardous Air Pollutants for Flexible
Polyurethane Foam Production; Final
Rule**

Preamble language pages 53980-53996

Final Rule pages 53996-54014

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Parts 9 and 63****[FRL-6163-9]****RIN 2060-AE86****National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Final rule.

SUMMARY: This action promulgates national emission standards for hazardous air pollutants (NESHAP) for new and existing plantsites that manufacture flexible polyurethane foam. These standards are estimated to reduce HAP emissions from all existing sources of flexible polyurethane foam manufacturing by over 12,500 Mg/yr. This represents a 70 percent reduction from baseline. This action also promulgates amendments to 40 CFR part 9. 40 CFR part 9 is amended by revising the tables to reflect OMB approvals under the Paperwork Reduction Act.

DATES: *Effective date:* October 7, 1998.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Office of the Federal Register as of October 7, 1998.

Compliance dates: Existing sources—October 8, 2001. New sources—at initial start-up.

ADDRESSES: *Docket.* Docket No. A-95-48, containing information considered by the EPA in development of the promulgated standards, is available for public inspection between 8:00 a.m. to 5:30 p.m., Monday through Friday, at the following address in room M-1500, Waterside Mall (ground floor): U.S. Environmental Protection Agency, 401 M Street S.W., Washington, DC 20460, telephone number (202) 260-7548. A reasonable fee may be charged for copying docket materials.

FOR FURTHER INFORMATION CONTACT: For further information concerning applicability and rule determinations, contact the appropriate State or local agency representative. If no State or local representative is available, contact the EPA Regional Office staff listed in the Supplementary Information section of this preamble. For information concerning the analyses performed in developing this rule, contact Mr. David Svendsgaard, Organic Chemicals Group, Emission Standards Division (MD-13), Office of Air Quality Planning and

Standards, U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541-2380, facsimile number (919) 541-3470, electronic mail address "svendsgaard.dave@epa.gov".

SUPPLEMENTARY INFORMATION: The initial notification contains general facility information and a brief process description.

Initial notification: Provide to EPA by February 4, 1999.

Notification of compliance status: Existing sources must provide EPA a notification of compliance status by April 6, 2002. New sources must provide EPA a notification of compliance status within the 180 days after initial start up.

For further information concerning applicability and rule determinations, contact the appropriate State or local agency representative. If no State or local representative is available, contact the following EPA Regional Office staff.

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Regulated Entities

Entities regulated by this action are flexible polyurethane foam production facilities. Typically, these entities are designated as SIC 3086. Regulated categories and entities include:

Category	Examples of regulated entities
Industry	Producers of slabstock, molded, and rebond flexible polyurethane foam.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that the EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether a facility is regulated by this promulgated action, examine the applicability criteria in section 63.1290 of the rule. For questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Judicial Review

National emission standards for polyurethane foam production were proposed in the **Federal Register** on December 27, 1996 (61 FR 68406). Today's **Federal Register** action announces the EPA's final decision on the rule. Under section 307(b)(1) of the Act, judicial review of the final rule is available by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this final rule. Under section 307(b)(2) of the Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

The following outline is provided to aid in reading the preamble to the final rule.

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I. Summary of Considerations Made in Developing This Standard

A. Background and Purpose of the Regulation

The Clean Air Act was created in part "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." [Clean Air Act, section 101(b)(1)] Section 112(b), as revised in 61 FR 30816 (June 18, 1996), lists 188 hazardous air pollutants (HAP) believed to cause adverse health or environmental effects. Section 112(d) requires that emission standards be promulgated for all categories and subcategories of "major" sources of these HAP and for many smaller "area" sources listed for regulation, pursuant to section 112(c). Major sources are defined as those that emit or have the potential to emit at least 10 tons per year of any single HAP or 25 tons per year of any combination of HAP.

On July 16, 1992 (57 FR 31576), the EPA published a list of categories of sources slated for regulation. This list included the flexible polyurethane foam production source category regulated by the standards being promulgated today. The statute requires emissions standards for the listed source categories to be promulgated between November 1992 and November 2000. On December 3, 1993, the EPA published a schedule for promulgating these standards (58 FR 63941). Standards for the flexible polyurethane foam production source category covered by this rule were

proposed on December 27, 1996 (61 FR 68406).

For the purpose of this rule, the EPA has separated the flexible polyurethane foam production source category into three subcategories. These subcategories are slabstock, molded, and rebound flexible polyurethane foam production.

In the 1990 Amendments to the Clean Air Act, Congress specified that each standard for major sources must require the maximum reduction in emissions of HAP that the EPA determines is achievable, considering cost, non-air quality health and environmental impacts, and energy requirements. In essence, these Maximum Achievable Control Technology (MACT) standards would ensure that all major sources of toxic air pollutants achieve the level of control already being achieved by the better controlled and lower emitting sources in each category. This approach provides assurance to citizens that each major source of toxic air pollution will be required to employ good control measures to limit its emissions.

Available emission data, collected during the development of this rule, shows that pollutants that are listed in section 112(b)(1) and are emitted by flexible polyurethane foam production sources include methylene chloride, 2,4-toluene diisocyanate, methyl chloroform, methylene diphenyl diisocyanate, propylene oxide, diethanolamine, methyl ethyl ketone, methanol, and toluene. Methylene chloride comprises over 98 percent of the total HAP emissions from this industry. Following is a summary of the potential health effects associated with exposure to methylene chloride that will be reduced by the standard.

The acute (short-term) effects of methylene chloride inhalation in humans consist mainly of nervous system symptoms such as decreased visual and auditory functions. These effects appear to be reversible once exposure ceases. Short-term exposure to high concentrations of methylene chloride also irritates the nose and throat. The effects of chronic (long-term) exposure to methylene chloride in humans involve the central nervous system, and include headaches, dizziness, nausea, and memory loss. Animal studies indicate that inhalation of methylene chloride affects the liver, kidney, and cardiovascular system. Developmental or reproductive effects of methylene chloride have not been reported in humans, but limited animal studies have reported lowered fetal body weights in rats exposed to inhalation.

Human data are considered inadequate to prove cancer caused by

exposure to methylene chloride; animal studies have shown increases in liver and lung cancer and benign mammary gland tumors following the inhalation of methylene chloride. Methylene chloride is classified as Group B2, probable human carcinogen of relatively low carcinogenic potency.

As noted earlier, there are other HAP emitted by flexible polyurethane foam production facilities. While the magnitude of emissions of these pollutants is dwarfed by those of methylene chloride, it is important to note that the EPA has not undertaken a risk assessment of these facilities. Therefore, it is possible that other HAP, such as diisocyanates, may also pose risks of concern. The seriousness of risks remaining after imposition of the final MACT standards will be examined at a later date, as provided for under Section 112(f) of the Clean Air Act.

The Clean Air Act strategy avoids dependence on a detailed and comprehensive risk assessment as a prerequisite for controlling air toxics. In addition, this is not a "significant" rule as defined by Executive Order 12866, and a specific benefits analysis is not required. Because of these issues, a detailed and intensive risk assessment of potential effects from HAP emitted from flexible foam production plants is not included in this rulemaking.

The effects of HAP vary in severity based on the level and length of exposure and are influenced by source specific characteristics such as emission rates and local meteorological conditions. The extent and degree to which the health effects may be experienced is dependent upon: (1) the ambient concentrations observed in the area (e.g., as influenced by emission rates, meteorological conditions, and terrain); (2) the frequency and duration of exposures; (3) characteristics of the exposed individuals (e.g., genetics, age, pre-existing health conditions, and lifestyle), which vary significantly with the population; and (4) pollutant specific characteristics (e.g., toxicity, half-life in the environment, bioaccumulation, and persistence).

Due to the volatility and relatively low potential for bioaccumulation of these pollutants, air emissions are not expected to deposit on land or water and cause subsequent adverse health or ecosystem effects.

The final standards give existing sources 3 years from the date of promulgation to comply. Subject to certain limited exceptions, this is the maximum amount of time allowed under the Clean Air Act. New sources are required to comply with the standard upon initial startup. The EPA

believes these standards to be achievable for affected sources within the time provided.

Included in the final rule are methods for determining initial compliance, as well as monitoring, recordkeeping, and reporting requirements. All of these components are necessary to ensure that sources will comply with the standards both initially and over time. However, the EPA has made every effort to simplify the requirements in the rule.

Two of the HAP used and emitted by the flexible polyurethane foam industry (2,4-toluene diisocyanate and propylene oxide) are subject to the risk management program rule requirements under section 112(r) of the 1990 Clean Air Act Amendments. The risk management program rule was published in the **Federal Register** on June 20, 1996 (61 FR 31668). Facilities handling a listed substance in quantities greater than a threshold amount must comply with the risk management requirements by June 21, 1999. The list of substances and threshold quantities were published in the **Federal Register** on January 31, 1994 (59 FR 4478).

B. Source of Authority

The amended Clean Air Act requires the EPA to promulgate national emission standards for sources of HAP. Section 112(d) provides that these standards must reflect " * * * the maximum degree of reduction in emissions of the HAP * * * that the Administrator, taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies. * * * " [42 U.S.C. 7412(d)(2)]. This level of control is referred to as the maximum achievable control technology (MACT). The Clean Air Act goes on to establish the least stringent level of control for MACT: this level is termed the "MACT floor."

For new sources, the standards for a source category or subcategory "shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator" [section 112(d)(3)]. Existing source standards shall be no less stringent than the average emission limitation achieved by the best performing 12 percent of the existing sources for source categories and subcategories with 30 or more sources, or the average emission limitation achieved by the best performing 5 sources for sources or subcategories with fewer than 30

sources [section 112(d)(3)]. These two minimum levels of control define the MACT floor for new and existing sources.

C. Stakeholder and Public Participation

Numerous representatives of the flexible polyurethane foam production industry were consulted in the development of this standard. Industry representatives have included trade associations and flexible foam producers responding to Information Collection Requests. The EPA also received input from representatives from State and Regional environmental agencies. Representatives from other interested EPA offices and programs participated in the regulatory development process as members of the Work Group. The Work Group was involved in the regulatory development process, and was given opportunities to review and comment on the standards before proposal and promulgation. Therefore, the EPA believes that the impact on other EPA offices and programs has been adequately considered during the development of these standards. Finally, industry representatives, regulatory authorities, environmental groups, and the public as a whole had the opportunity to comment on the proposed standards and to provide additional information during the public comment period that followed proposal.

The standards were proposed in the **Federal Register** on December 27, 1996 (61 FR 68406). The preamble and Basis and Purpose Document for the proposed standards described the rationale for the proposed standards. Public comments were solicited at the time of proposal. To provide interested individuals the opportunity for oral presentation of data, views, or arguments concerning the proposed standards, a public hearing was offered at proposal. However, the public did not request a hearing and, therefore, one was not held. The public comment period was from December 27, 1996 to February 25, 1997. A total of 12 comment letters were received. Commenters included industry representatives and State agencies. The comments were carefully considered, and changes were made in the proposed standards when determined by the EPA to be appropriate. A detailed discussion of these comments and responses can be found in the Basis and Purpose Document for Final Standards, which is referenced in Section V.A. of this preamble. The summary of comments and responses in the Basis and Purpose Document for the Final Standards serves as the basis for the revisions that have

been made to the standards between proposal and promulgation. Section IV of this preamble discusses some of the major changes made to the standards.

II. Summary of Promulgated Standards

HAP emissions from the following types of emission points (i.e., emission source types) are being covered by the final standard: storage vessels, equipment leaks, production line, mixhead flush, mold release agents, and auxiliary blowing agent (ABA) use. The HAP emitted and emission points required to be controlled by these standards vary according to whether the facility produces slabstock, molded, or rebond flexible polyurethane foam.

The affected source is defined as each process that produces flexible polyurethane or rebond foam, emits a HAP, and is located at a major source plant site. A process consists of raw material storage; production equipment and piping, ductwork, and other associated equipment; and curing and storage areas. The regulations do not apply to processes dedicated exclusively to the fabrication (i.e., gluing or otherwise bonding foam pieces together) of flexible polyurethane foam or to research and development.

Existing sources subject to the regulation are required to comply within three years of the effective date of the regulation, and new sources would be required to comply at initial startup. Following is a description of the requirements of the standards.

A. Standards for Molded and Rebond Flexible Polyurethane Foam Production

At new and existing molded and rebond flexible polyurethane foam facilities subject to the rule, the use of HAP or HAP-based products as equipment cleaners or mold release agents is prohibited. The one exception to this prohibition is that diisocyanates may be used at molded foam facilities to flush the mixhead and associated piping during periods of startup or maintenance, as long as such solvents are contained in closed loop systems and are re-used in production. Molded and rebond foam producers are required to submit an initial notification and maintain records to demonstrate that the equipment cleaners and mold release agents used are not HAP-based.

B. Standards for Slabstock Flexible Polyurethane Foam Production

The requirements for slabstock foam facilities are separated into two basic categories: (1) diisocyanates used as a reactant in the foam process; and (2) HAP used as an auxiliary blowing agent (ABA) and for equipment cleaning. The

diisocyanate HAP used in the production of slabstock foam is almost always 2,4-toluene diisocyanate (TDI), and the HAP used as an ABA and equipment cleaner is almost always methylene chloride. The rule covers emissions from two types of TDI emission points—storage vessels and equipment leaks. HAP ABA emissions from the following process points are covered: storage vessels, equipment leaks, the foam tunnel, and equipment cleaning.

C. Standards for Diisocyanate Emissions From Slabstock Flexible Polyurethane Foam Production

The standards cover emissions of diisocyanate from storage vessels and equipment leaks. For new and existing sources, there are two compliance options for storage vessels. The vessel can be equipped with a vapor return line that returns vapors displaced during storage vessel filling to the tank truck or rail car. During each unloading event, the vapor return line must be inspected for leaks. If a leak is detected, it must be repaired before the next unloading event. The second option is to equip the storage vessel with a system in which displaced vapors are routed through a carbon adsorption system prior to being discharged to the atmosphere. Storage vessels equipped with carbon adsorption systems must monitor the outlet of the carbon system to detect breakthrough. If breakthrough is detected, the carbon must be replaced before the next unloading event.

Transfer pumps in diisocyanate service must be either sealless pumps, or submerged pump systems that are visually monitored weekly to detect leaks. Any transfer pump leaks detected must be repaired within 15 calendar days. Diisocyanate leaks for other components in diisocyanate service (valves, connectors, and pressure-relief valves) detected by visual, audible, or any other detection method must be repaired within 15 calendar days, as well.

D. Standards for HAP ABA Emissions From Slabstock Flexible Polyurethane Foam Production

This regulation requires that owners or operators comply with requirements

for each of four types of emission points (HAP ABA emissions from storage vessels, equipment leaks, and the production line, and HAP emissions from equipment cleaning). These limitations are described below.

However, since the same HAP, methylene chloride, is frequently used as both an ABA and as an equipment cleaner, this rule allows owners and operators flexibility in complying with the HAP ABA and equipment cleaning provisions. As an alternative to the emission point specific limitations, the owner or operator can elect to comply with a source-wide emission limitation. Owners or operators selecting the source-wide emission limitation must maintain the combined emissions from all of these sources below the required level. While this option is slightly more stringent than the emission point specific limitations, the EPA believes the flexibility it provides will prove to be beneficial for sources selecting this alternative.

1. HAP ABA Storage Vessel Requirements

The requirements for HAP ABA storage vessels are similar to the diisocyanate storage vessel requirements discussed above. Storage vessels can be equipped with either a vapor return line to the tank truck or railcar, or a carbon adsorption system. The requirements for new and existing sources are identical.

2. HAP ABA Equipment Leaks

These standards contain requirements for pumps, valves, connectors, pressure-relief devices, and open ended valves or lines in HAP ABA service at new and existing sources.

Pumps and valves must be monitored quarterly for leaks using Method 21. 40 CFR part 60, appendix A, where a leak is defined as an instrument reading of 10,000 parts per million or greater. Leaks must be repaired within 15 calendar days after their detection. Alternatively, leakless pumps can be used. Valves that are designated as unsafe-to-monitor must be monitored as frequently as possible, and difficult-to-monitor valves must be monitored once per year.

Connectors must be monitored annually using Method 21, unless the

connector has been opened or the seal broken. In these cases, the connector must be monitored within 3 months after being returned to HAP ABA service. As with the other components, a leak is defined as an instrument reading of 10,000 parts per million or greater, and a leak must be repaired within 15 calendar days. Connectors can also be designated as unsafe-to-monitor, in which case they must be monitored as frequently as possible.

Pressure-relief devices must be monitored using Method 21 if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. If a leak is found (10,000 parts per million), it must be repaired within 15 calendar days. Each open-ended valve or line in HAP ABA service must be equipped with a cap, blind flange, plug, or a second valve.

3. HAP ABA Emissions from the Production Line

The rule includes an emission limit for HAP ABA emissions from the production line at affected slabstock facilities. There are two options for complying with the requirements for HAP ABA emissions from the production line—rolling annual compliance or monthly compliance. When using a rolling annual basis, compliance is determined each month, based on the previous 12-month period. Under the monthly compliance alternative, compliance is based on the previous month. Both options require comparing actual HAP ABA emissions to allowable HAP ABA emissions.

Rolling Annual Compliance. This regulation recognizes the variability in HAP ABA emissions for different grades of foam, where a grade of foam is determined by its density and indentation force deflection (IFD). Therefore, the allowable emission level is dependent on the mix of foam grades produced during the 12-month compliance period. The nucleus of the HAP ABA emission limitation provisions is the HAP ABA formulation limitation equation, which determines an allowable amount of HAP ABA for each grade of foam. For existing sources, this equation is:

$$ABA_{limit} = -0.25 (IFD) - 19.1 \left(\frac{1}{IFD} \right) - 16.2 (DEN) - 7.56 \left(\frac{1}{DEN} \right) + 36.5$$

Where:

ABA_{limit} = HAP ABA formulation limitation, parts HAP ABA allowed per hundred parts polyol (pph)

IFD = Indentation force deflection (25 percent), pounds

DEN = Density, pounds per cubic foot

Therefore, for each foam grade produced during the 12 month period, the owner or operator must determine the HAP ABA formulation limitation. This equation was developed using actual formulation data from the best performing foam production facilities.

Negative values are not intended to be used in calculating allowable emissions. That is, zero is the formulation limitation if the results of the formulation limitation equation are negative.

For new sources, the equation is used to determine the HAP ABA formulation

limitation for a limited number of grades. However, the formulation limitation for many higher-density, higher-IFD foams is automatically set to zero. The following table describes how the HAP ABA formulation limitation for new sources is determined.

Values in parts ABA per hundred parts polyol		Density ranges (pounds per cubic foot)				
		0-0.95	0.96-1.05	1.06-1.15	1.16-1.40	1.41+
IFD	0-10	Use Equation				
	11-15					
	16-20					
	21-25					
	26-30	0				
	31+					

For any foam grade, the owner or operator has the option to designate the HAP ABA formulation limitation as zero. The benefit to such a designation is that the IFD and density testing requirements, as well as the polyol

usage monitoring and recordkeeping requirements, are not required for foam grades for which the owner has designated the HAP ABA formulation limitation as zero.

The allowable HAP ABA emissions for a consecutive 12 month period are

calculated as the sum of allowable monthly HAP ABA emissions for each of the individual 12 months in the period. Allowable HAP ABA emissions for each individual month are calculated using the following equation.

$$\text{emiss}_{\text{allow, month}} = \sum_{j=1}^m \left(\sum_{i=1}^n \frac{(\text{limit}_i) (\text{polyol}_i)}{100} \right)_j$$

Where:

$\text{emiss}_{\text{allow, month}}$ = Allowable HAP ABA emissions from the slabstock affected source for the month, pounds

m = number of slabstock foam production lines at the affected source

n = Number of foam grades produced in the month on foam production line j

limit_i = HAP ABA formulation limit for foam grade i , parts HAP ABA per 100 parts polyol

polyol_i = Amount of polyol used in the month in the production of foam grade i on foam production line j , pounds

The amount of polyol used is a key component of this analysis, and it must be determined by monitoring the amount of polyol added to the slabstock foam production line at the mixhead when foam is being poured. (See section II. F. 2. below for more information.) Actual HAP ABA emissions are determined by monitoring the HAP ABA added to the slabstock foam production line at the mixhead when foam is being poured.

This regulation also contains provisions to allow for the use of HAP ABA recovery devices. If a recovery device is used, the actual HAP emissions are the difference between the uncontrolled HAP ABA emissions and

the HAP ABA recovered. The uncontrolled HAP ABA emissions are determined by monitoring the HAP ABA added to the slabstock foam production line at the mixhead, as discussed above. The amount of HAP ABA recovered is required to be monitored.

Monthly Compliance. As an alternative to the rolling annual compliance approach, owners or operators can elect to comply each month. If this approach is selected, actual and allowable emissions are determined as discussed above. However, compliance is determined by comparing allowable and actual emissions for each month, rather than

for the 12 previous months. An advantage of the monthly compliance approach is that a violation of the allowable monthly HAP limitation constitutes up to 30 days of violation for that compliance period, whereas a violation of the allowable annual total of HAP calculated in any given month constitutes up to 365 days of violation for that compliance period. This alternative is allowed because it is more stringent than the rolling annual compliance approach. In addition, as with the rolling average compliance approach, the use of HAP ABA recovery devices is permitted with the monthly compliance approach.

4. Equipment Cleaning HAP Emissions

Affected sources complying with the emission point specific limitations are prohibited from using a HAP, or a HAP-based product, as an equipment cleaner.

5. Source-wide Emission Limitation Alternative

This alternative allows the owner or operator to choose which of the HAP ABA emission sources to control, but is only available for sources using no more than one HAP as an ABA and equipment cleaner in the process. In other words, an owner or operator could choose not to control HAP ABA storage vessels and equipment leaks, and instead achieve a higher HAP ABA emission reduction from the production line. Alternatively, an owner or operator could choose to control emissions from equipment leaks and storage to "save" as much HAP ABA as possible for use in the production line. In addition, under the source-wide alternative, a facility could utilize a HAP equipment cleaner, as long as the HAP used as the equipment cleaner is the same chemical as the HAP ABA. However, the equipment cleaning HAP emissions must be offset by emission reductions from one of the HAP ABA emission sources.

An owner or operator electing to comply with the source wide emission limitation for HAP ABA and equipment cleaning determines compliance by comparing actual emissions from the three HAP ABA emission sources and from equipment cleaning with an allowable emissions level. Compliance is determined each month for the previous 12-month period.

The allowable emissions level is determined using the same procedures discussed above for HAP ABA emissions from the production line. Therefore, the total HAP ABA and equipment cleaning HAP emissions allowed under this alternative are equivalent to the allowed HAP ABA emissions from the production line if the emission point specific alternative is selected.

The actual HAP ABA and equipment cleaning emissions are determined by performing a material balance at the HAP ABA storage vessel, using the following equation:

$$PWE_{\text{actual}} = \sum_{i=1}^n (ST_{i, \text{begin}} - ST_{i, \text{end}} + ADD_i)$$

Where:

PWE_{actual} = Actual source wide HAP ABA and equipment cleaning HAP emissions for a month, pounds/month

$ST_{i, \text{begin}}$ = Amount of HAP ABA in storage tank i at the beginning of the month, pounds

$ST_{i, \text{end}}$ = Amount of HAP ABA in storage tank i at the end of the month, pounds.

ADD_i = Amount of HAP ABA added to storage tank i during the month, pounds

n = Number of HAP ABA storage vessels
Weekly monitoring of the level of HAP ABA in the storage vessels is required, thus providing the amounts for the beginning and end of month to be used in the above equation. In addition, the amount of each HAP ABA delivery must be determined. The requirements for the monitoring of HAP ABA storage vessel levels and the amount of HAP ABA added during each delivery are discussed later in this section. Emission reductions achieved by recovery devices can be accounted for by monitoring the amount of HAP ABA recovered.

As with the emission point specific limitation for HAP ABA from the production line, the source-wide emission limitation includes a monthly compliance alternative.

E. Monitoring Requirements

This regulation contains monitoring requirements for five situations: (1) storage vessels complying using carbon adsorption systems; (2) polyol and HAP ABA added to the production line at the mixhead; (3) recovered HAP ABA when a recovery device is used; (4) the amount of HAP ABA in a storage vessel; and (5) the amount of HAP ABA added to a storage vessel.

1. Storage Vessel Complying Using Carbon Adsorption Systems

Storage vessels equipped with carbon adsorption systems must monitor either the concentration of HAP or the concentration of organic compounds at the exit of the adsorption system. Measurements of HAP concentration must be made using Method 18 Appendix A of 40 CFR 60 and measurements of organic compound concentrations must be made using Method 25A. Outlet concentration measurements must be made monthly (or each time the vessel is filled, if filling occurs less frequently than monthly). Alternatively, the owner or operator can implement an alternative monitoring program where monitoring of HAP or organic compound concentrations during vessel filling must be conducted at an interval no

greater than 20 percent of the carbon replacement interval, which is established using a design analysis.

2. Polyol and HAP ABA Monitoring at the Mixhead

All slabstock facilities must continuously monitor the amount of polyol added to the slabstock foam production line at the mixhead when foam is being poured to allow the calculation of allowable emissions. The regulation contains two options for continuously monitoring the polyol added: (1) a device installed and operated to monitor and record pump revolutions per minute, or (2) a flow rate monitoring device installed and operated to measure the amount of polyol added at the mixhead. Either of these devices must be calibrated at least once each 6 months, and must have an accuracy to within ± 2 percent. The owner or operator can develop an alternative monitoring program to monitor the amount of polyol added at the mixhead. The components of an alternative monitoring plan must include, at a minimum: (1) description of the parameter to be monitored to measure the amount of HAP ABA or polyol added at the mixhead; (2) a description of how the monitoring results will be recorded, and how the results will be converted into amount of

HAP ABA or polyol delivered to the mixhead: (3) data demonstrating that the monitoring device is accurate to within ± 2.0 percent; and (4) procedures to ensure that the accuracy of the parameter monitoring results is maintained. These procedures shall, at a minimum, consist of periodic calibration of all monitoring devices. An alternative plan must be submitted to the Administrator for approval.

In addition, if an owner or operator elects to comply with the emission point specific limitations, the amount of HAP ABA added to the slabstock foam production line at the mixhead must be continuously monitored when foam that contains HAP ABA in the formulation is being poured. The requirements for monitoring the amount of HAP ABA added are the same as discussed above for polyol, except that the device must be calibrated at least once per month.

3. Recovered HAP ABA Monitoring

The rule also includes monitoring requirements for slabstock facilities using a recovery device to reduce HAP ABA emissions. The amount of HAP ABA recovered is determined by using a device that monitors the cumulative amount of HAP ABA recovered by the recovery device. This device must be installed, calibrated, maintained, and operated according to the manufacturer's specifications, and must be certified by the manufacturer to be accurate to within ± 2.0 percent. The rule requires the owner or operator to develop a recovered HAP ABA monitoring and recordkeeping plan and submit it to the EPA for approval.

4. Monitoring to Determine Amount of HAP ABA in a Storage Vessel

For slabstock sources complying with the source-wide alternative, the amount of HAP ABA in a storage vessel must be monitored weekly using a level measurement device. The level measurement device must be calibrated initially and at least once per year thereafter. If the level measurement device produces an output signal, it must have either a digital or printed output. If the level measurement device is a visually-read device (i.e., gauge glass), it must have permanent graduated markings to indicate HAP ABA level in the storage tank.

5. Monitoring to Determine the Amount of HAP ABA Added to a Storage Vessel

The amount of HAP ABA added to a storage vessel during a delivery must be determined using any one of four options. The first option requires that the amount of HAP ABA in the storage vessel be measured before and after the

loading, provided that the level measurement device meets the requirements discussed above in section "II.E.4". The second option requires that the volume of HAP ABA added to the storage vessel be determined by monitoring the flow rate using a device with an accuracy of 98 percent or greater, and which is calibrated at least once every six months. The third option allows the owner or operator to calculate the weight of HAP ABA added by determining the difference between the full weight of the transfer vehicle prior to unloading into the storage vessel and the empty weight of the transfer vehicle after unloading has been completed. This weight must be determined using a scale approved by the State or local agencies, using the procedures contained in the National Institute of Standards and Technology Handbook 44, or a scale determined to be in compliance with the requirements of the National Institute of Standards and Technology Handbook 44 at least once per year by a registered scale technician. The final option for determining the amount of HAP ABA added to a storage vessel allows the owner or operator to develop an alternative monitoring program. The alternative monitoring program must include, at a minimum, a description of the parameter to be monitored to determine the amount of the addition, a description of how the results of the monitoring will be recorded and converted into the amount of HAP ABA added, data demonstrating the accuracy of the monitoring measurements, and procedures for ensuring that the accuracy of the monitoring measurements is maintained. Alternative monitoring programs must be submitted to the EPA for approval.

F. Testing Requirements

There are two instances where the use of test methods is required. First, for slabstock owners or operators complying with the emission point specific requirements for HAP ABA equipment leaks, testing must be conducted using Method 21 of 40 CFR part 60, subpart A.

Second, all slabstock affected sources must test each grade of foam produced during a single production "run" to verify the IFD and density, as these are integral inputs into the equation to determine the HAP ABA formulation limitation. This rule requires these parameters to be determined using American Society for Testing and Materials (ASTM) D3574 using a sample of foam cut from the center of the foam bun. The maximum sample size for which the IFD and density is

determined shall not be larger than 24 inches by 24 inches by 4 inches. IFD and density testing is not required for foam grades for which the owner or operator has designated the HAP ABA formulation limitation as zero. The IFD and density testing results must be conducted and recorded within 10 working days of the date the foam was produced.

G. Alternative Means of Emission Limitation

This regulation also contains provisions to allow an owner or operator to request approval to use an alternative means of emission limitation. Examples of alternative means of emission limitation could be the reduction of HAP ABA by a combustion device, use of a storage tank control not mentioned in the regulation, or an alternative program to reduce HAP ABA equipment leak emissions. The request, which may be submitted in the precompliance report for existing sources, the application for construction or reconstruction for new sources, or at any other time after the initial compliance, must include a complete description of the alternative means of emission limitation and documentation demonstrating equivalency with the requirements in the regulation. The owner or operator can begin using the alternative means of emission limitation upon approval of the request by the Administrator.

H. Applicability of General Provisions

The General Provisions for Part 63 (40 CFR part 63, subpart A) create the technical and administrative framework for implementing national emission standards established under section 112 of the Clean Air Act. The General Provisions establish baseline applicable requirements for activities such as performance testing, monitoring, notifications, recordkeeping, and reporting. They also implement statutory provisions such as compliance dates for new and existing sources and preconstruction review requirements. The General Provisions apply to all sources that are affected by Part 63 standards, including the standard for flexible polyurethane foam production. However, individual standards may override certain requirements in the General Provisions. This regulation contains a table outlining the sections of the General Provisions that are applicable to the standard for flexible polyurethane foam production. It also outlines sections of the General Provisions that are being overridden or not incorporated. The performance test requirements; monitoring requirements;

and startup, shutdown, and malfunction plan requirements of the General Provisions do not apply to this standard. Most of the other requirements in the General Provisions do apply.

I. Reporting Requirements

This regulation requires the submittal of seven types of reports: (1) initial notification, (2) application for approval of construction or reconstruction, (3) precompliance report, (4) notification of compliance status, (5) semi-annual compliance reports, (6) other reports, and (7) annual compliance certifications. These reports are briefly described below.

1. Initial Notification

Each owner or operator of an affected source must submit an initial notification to the Administrator within 120 days after promulgation of the rule. This initial notification must contain an identification of the facility that is subject to the regulation, the name and address of the owner or operator of the subject facility, and a brief description of the production process.

2. Application for Approval of Construction or Reconstruction

Owners or operators constructing a new affected source, or reconstructing an existing affected source, must submit an application for approval of construction or reconstruction. This application must contain identification information such as location, owner/operator, and the anticipated completion and start-up dates. The application must also contain a description of the planned process and how compliance will be achieved. The application must be submitted as soon as practicable before the construction or reconstruction is planned to commence. A permit application can take the place of this report.

3. Precompliance Report

One year before the compliance date, each existing owner or operator of an existing slabstock facility must submit a precompliance report. This report must contain notification of whether compliance will be achieved using the emission point specific HAP ABA and equipment cleaning emission limitation or the source-wide emission limitation. The report must also indicate if either of the following compliance options are going to be utilized:

- If compliance will be achieved on a monthly basis for either the emission point specific limitation for HAP ABA emissions from the production line or the source-wide emission limitation.

- If a recovery device will be used to reduce HAP ABA emissions.

This report must also contain a description of how the amount of polyol and HAP ABA (if required) added at the mixhead will be monitored. If the owner or operator is developing an alternative monitoring plan, the plan must be submitted with the precompliance report. In addition, owners or operators of slabstock flexible polyurethane production facilities using a recovery device to reduce HAP ABA emissions must include a description of the HAP ABA monitoring and recordkeeping program to determine the amount of HAP ABA recovered in the precompliance report.

Each owner or operator of an affected source complying with the source-wide emission limitation must submit a description of how the amount of HAP ABA in a storage vessel will be determined, and a description of how the amount of HAP ABA added to a storage vessel during a delivery will be monitored. If the owner or operator is developing an alternative monitoring program for the determination of HAP ABA added to a storage vessel, this program must be submitted with the precompliance report.

The rule specifies that if the Administrator does not notify the owner or operator of objections to an alternative monitoring program or a recovered HAP ABA monitoring and recordkeeping program within 45 days after its receipt, the program is automatically assumed to be approved.

4. Notification of Compliance Status

Each owner or operator of a new or existing slabstock affected source must submit a notification of compliance status report 180 days after the compliance date. This report must contain notification of the compliance status of diisocyanate storage vessels and diisocyanate transfer pumps. In addition, this report must contain compliance information for HAP ABA storage vessels and equipment in HAP ABA service.

5. Semi-annual Reports

Each slabstock owner or operator must submit semi-annual reports. For affected sources complying with the rolling annual compliance provisions (for either the emission point specific HAP ABA limitations or the source-wide emission limitation), the report must contain the allowable and actual HAP ABA emissions (or allowable and actual HAP ABA and equipment cleaning HAP emissions) for each of the 12-month periods ending on each of the six months in the reporting period. For

affected sources complying with the monthly compliance alternative, the report must contain the allowable and actual HAP ABA emissions (or allowable and actual HAP ABA and equipment cleaning HAP emissions) for each of the six months in the reporting period. Affected sources complying with the storage vessel provisions of § 63.1294(a) or § 63.1295 using a carbon adsorption system must include unloading events that occur after breakthrough is detected where the carbon in the system is not replaced. Any equipment leaks that were not repaired in accordance with the rule requirements must also be included in the semi-annual compliance report.

6. Other Reports

A slabstock owner or operator must provide a report to the Administrator indicating the intent to change the selected compliance alternative (emission point specific limitations or source-wide emission limitation). This report must be submitted at least 180 days prior to the change.

Similarly, the intent to switch the compliance method (rolling annual or monthly) must be reported. This report must be submitted at least 180 days prior to the change.

7. Annual Compliance Certifications

Each affected source is required to submit a compliance certification annually. Each compliance certification must be signed by a responsible official of the company that owns or operates the affected source.

J: Recordkeeping Requirements

Records must be completed in a form suitable and readily available for expeditious inspection and review, and must be kept for a period of 5 years. At a minimum, the most recent 2 years of data must be retained on site.

Records are required for storage vessels, equipment leaks, and HAP ABA. If the owner or operator complies with the source-wide emission limitation, no records are required for HAP ABA storage vessel controls (see section "I.J.1" below) or controls for equipment in HAP ABA service (see section "I.J.2" below).

1. Storage Vessel Records

All slabstock affected sources must maintain records listing all diisocyanate storage vessels and the type of control utilized to comply with the regulation. For the storage vessels complying through the use of a carbon adsorption system, the records must include the design parameters of the system and the monitoring records.

2. Equipment Leak Records

All slabstock affected sources must maintain a list of components in diisocyanate service, and a description of the control utilized for each transfer pump. If the affected source is complying with the emission point specific limitations, records listing each component in HAP ABA service must also be maintained.

When a leak, as defined in the rule, is detected for any component, the component must be marked with a readily visible identification until the leak is repaired. For valves, the identification must remain until 2 successive quarters have passed where no leak is detected. Records must be kept specifying when the leak was detected, when it was repaired, and when the identification was removed.

3. HAP ABA records

All slabstock affected sources must keep records integral to the calculation of allowable emissions. These include a daily log of foam runs and daily records of the amount of polyol added at the mixhead for each grade of foam. The results of the density and IFD testing for each grade must be recorded within 10 working days of the production of the foam. Polyol usage and density, IFD testing records are not required for those foam grades for which the owner or operator has designated the HAP ABA formulation limitation as zero. Monthly, a cumulative record must be maintained listing the foam grades containing HAP ABA produced during the month, along with the total amount of polyol used for each foam grade, and the corresponding allowable HAP ABA (or HAP ABA and equipment cleaning) emissions level. If complying on an annual rolling basis, the allowable HAP ABA (or HAP ABA and equipment cleaning) emissions level for the previous 12 consecutive months must also be recorded each month.

For affected sources complying with the emission point specific limitation for HAP ABA emissions from the production line, records must be kept regarding the amount of HAP ABA added at the mixhead each day. In addition, there must also be a cumulative HAP ABA usage record for each month, and a cumulative record for the previous 12 consecutive months (if complying on an annual rolling basis).

For affected sources complying with the source-wide emission limitation, monthly records must be kept regarding the actual HAP ABA and equipment cleaning emissions, as measured at the storage vessel. Also required are weekly records of the HAP ABA storage vessel,

levels and records of the amount of HAP ABA added to the storage vessel during each delivery. If complying on an annual rolling basis, monthly records must be kept of the actual cumulative HAP ABA and equipment cleaning emissions for the previous 12 months.

If an affected source uses a recovery device to reduce HAP ABA emissions, records must be kept regarding the amount of HAP ABA recovered. In addition, records of all required calibrations must be maintained.

III. Summary of Impacts

This section identifies the facilities affected by these NESHAP. It also presents the air, non-air environmental (waste and solid waste), energy, cost, and economic impacts resulting from the control of HAP emissions under this rule.

A. Facilities Affected by These NESHAP

It is estimated that 176 sources will be subject to the regulation. This number includes 57 slabstock foam facilities, 21 facilities with slabstock and rebond processes, and 98 molded foam facilities. It is estimated that 130 molded foam facilities are area sources, and will not be subject to this rule. It is also estimated that all rebond facilities not collocated with a slabstock foam process are area sources.

B. Air Impacts

These standards are estimated to reduce HAP emissions from all existing sources of flexible polyurethane foam manufacturing by over 12,500 Mg/yr. This represents a 70 percent reduction from baseline. This includes over 10,400 Mg/yr from slabstock foam production (69 percent reduction from baseline) and over 2,100 Mg/yr from molded foam production (73 percent reduction from baseline). No reduction is expected from rebond foam production, since it is believed that the entire industry has already stopped using HAP cleaners and mold release agents.

C. Other Environmental Impacts

The Agency estimates that there will be minimal secondary environmental impacts from this regulation. There could be a slight increase in volatile organic compound (VOC) air emissions if facilities switch from a HAP-based product to a non HAP VOC based product for equipment cleaning, mold release agents, and mixhead flushes. Wastewater could contain minor amounts of HAP if carbon adsorption systems are used to comply with the HAP ABA limitations, but the Agency believes the use of such systems will be rare. The only potential hazardous

waste impact would be due to the disposal of spent carbon adsorption canisters used to control storage vessels. The Agency does not believe these impacts to be significant.

D. Energy Impacts

Due to the use of several control technologies in both slabstock and molded foam, there will be some increase in the amount of energy used by this source category. The impact will vary depending on which control technology is chosen by each facility, but is not expected to be significant.

E. Cost Impacts

Cost impacts include the capital costs of new equipment that reduces HAP emissions, the cost of energy required to operate the equipment, operation and maintenance costs, as well as cost savings. Also, cost impacts include the costs of monitoring, recordkeeping, and reporting associated with the promulgated standards. Average cost effectiveness (\$/Mg of pollutant removed) is also presented as part of cost impacts and is determined by dividing the annual cost by the annual emission reduction.

For the molded subcategory, the estimated total capital investment is \$5.9 million, and the total estimated annual cost is around \$715,000 per year. The total annual HAP emission reduction is 2,100 Mg/year, resulting in a cost effectiveness of \$350/Mg per year.

For the rebond subcategory, it is anticipated that there will be no cost or environmental impacts, since it is believed that every facility already complies with these provisions. The regulation will prohibit the future use of HAP-based cleaners and mold release agents in this industry.

For the slabstock subcategory, the total estimated capital investment is around \$68 million, and the total estimated annual cost is \$7.3 million per year. The total annual HAP emission reduction is over 10,400 Mg/yr, resulting in a cost-effectiveness of around \$700/Mg per year.

Therefore, the total capital investment for this regulation is estimated at \$74 million. The total estimated annual cost is \$8.1 million per year. The total emission reduction is over 12,500 Mg/yr, resulting in an overall cost effectiveness of around \$650/Mg per year.

F. Economic Impacts

An economic impact analysis of these standards was prepared to evaluate primary and secondary impacts on: (1) the slabstock and molded foam sectors of the flexible polyurethane foam

production industry: (2) consumers; and (3) society.

For the slabstock foam sector of the industry, the total annualized social cost (in 1994 dollars) of this promulgated regulation is \$7.18 million. Market price is estimated to increase by 2.20 percent, and the corresponding decrease in market output is estimated to be 1.08 percent. Employment loss is estimated to be 1.09 percent (i.e., 96 jobs).

For the molded foam sector, impacts on price and output are estimated to be smaller than those predicted for the slabstock market. The total annualized social cost (in 1994 dollars) of the promulgated standards for the molded foam subcategory is \$0.71 million. Price is estimated to increase by 1.14 percent, and the corresponding decrease in market output is estimated to be 0.56 percent. Employment loss in the molded sector is estimated to be 0.67 percent (37 jobs).

However, given the predicted changes in market price and output, the industry will experience increases in the value of shipments (i.e., industry profits), because estimated price increases more than offset the lower production volumes. Since no significant export or import markets exist for the industry (due to prohibitive transportation costs), no impacts on foreign trade are expected.

The analysis also predicts the number of plant closures that may result from the imposition of compliance costs on a facility. For the analysis, a worst-case assumption is adopted that the facilities with the highest emission control costs are the least efficient producers in the market. Actual plant closures will be less than that predicted if plants with the highest emission control costs are not the least efficient producers in the industry. In addition, the outcome of predicted closures is sensitive to the wide variety of emission control technologies assigned to the model plants. If the control technology assigned to the representative model plant is different than that which would be chosen by an actual facility, the analysis could overestimate the number of predicted plant closures. Therefore, a sensitivity analysis was performed to test the outcome of closures based on the assignment of control technology to model plants. For the slabstock sector, plant closures are estimated to range from 1 to 3 facilities for this standard. For the molded foam sector, closures are estimated to be zero for this promulgated standard (a sensitivity analysis was not performed for the molded foam production subcategory). Given the significant amount of restructuring currently occurring in the

industry (mergers, buy-outs, and shut-downs), the number of facility closures that will result from the regulation is likely to be minimal.

IV. Significant Comments and Changes to the Proposed Standards

In response to comments received on the proposed standards, changes have been made to the final standards. While several of these changes are clarifications designed to make the EPA's intent clearer, a number of them are changes to the requirements of the proposed standards. Public comment was received on several issues that the EPA raised in the proposal preamble. The public also commented on other issues. In addition, some changes were made to ensure that the regulations are "permit friendly." A summary of the substantive comments and changes made since the proposal are described in the following sections. The rationale for these changes and detailed responses to all public comments are included in the Basis and Purpose Document for the final standards. Additional information is contained in the docket for these final standards. (See ADDRESSES section of this preamble.)

A. Public Response to EPA Request for Comment

In the proposal preamble, the EPA specifically requested comment on the following issues: (1) the need for a federally enforceable mechanism for limiting potential to emit (PTE) at flexible polyurethane foam production sources; (2) controlling TDI emissions from slabstock flexible foam production lines; (3) the burdens of the monthly averaging time option for compliance with the emission limitation for slabstock flexible foam production lines; (4) monitoring in HAP ABA storage vessels; (5) the prohibition on the use of HAP-based adhesives; and (6) the number of affected facilities. No public comments were received on the number of affected facilities in the flexible polyurethane foam production source category. Public comments on the remaining five issues are summarized below.

1. Federally Enforceable Mechanism

The proposed regulation contained provisions for obtaining a federally enforceable limitation on PTE, which would allow sources to maintain emissions below the major source threshold amount. It also included recordkeeping and reporting requirements for sources obtaining the federally enforceable emission limitation. One commenter urged the EPA to identify the criteria for

establishing area source status, while others objected to the requirements that an area source maintain supporting documentation, stating that facilities should not be required to keep records to prove they are not subject to the regulation.

The EPA agrees that criteria for area source status should be included within the regulation, rather than the general criteria in the proposed rule. Therefore, § 63.1290(c) has been revised to add specific criteria for identifying slabstock sources with potential emissions below the major source threshold levels. Slabstock flexible polyurethane foam producers may elect to use a total of less than 5 tons of total HAP at the entire plant site, including uses as an auxiliary blowing agent, an equipment cleaner, and as an adhesive in foam fabrication operations. The addition of these specific criteria will ease the administrative burden for both State and local agency regulators and sources by reducing the need for case by case determination of area or synthetic minor source status. This option is not available to slabstock processes located at plant sites that have HAP using processes other than slabstock foam production and foam fabrication. Also, due to the large number of potential uses of HAP at molded foam facilities, such criteria are not included for molded foam facilities.

The Agency agrees with the commenters that recordkeeping requirements should be sufficiently detailed to ensure that PTE limits are practically enforceable; however, the EPA recognizes that State and local agencies should establish such recordkeeping requirements. In the consideration of these comments, the EPA determined that it is not appropriate for the rule to require specific records at facilities that are not subject to the regulation. Therefore, the rule only requires that records be kept to verify the HAP usage.

2. TDI emissions from Slabstock Production Lines

The proposed rule did not require control of 2,4-toluene diisocyanate (TDI) emissions from the foam production line. At proposal, the EPA requested comment on the feasibility and necessity of additional controls for TDI emissions from the foam line.

Four commenters responded to the EPA's request for comments on this item. Three of the commenters supported the EPA in proposing no control for TDI emissions from the foam production line. All three commenters noted that TDI emissions from foam production are very small. Two of these

commenters also indicated the lack of currently available control technologies to address these emissions and the high costs of utilizing technologies that are common in other applications. However, one commenter believed additional controls for TDI were needed. This commenter urged the EPA to assess applicable work practices or equipment standards that would reduce TDI and other emissions from the production line and other emission points not covered under the current rule.

The EPA agrees with the three commenters who believe that the regulation should not control TDI emissions from the production line. The primary reasons for this opinion are the low level of emissions and the high costs of control. The EPA recognizes the concerns related to the health effects of TDI, even at relatively low concentrations. However, nationwide TDI emissions from the foam tunnel at slabstock polyurethane foam production facilities are estimated to be less than 10 tons per year. A typical plant emits around 1/10 of a ton per year. In addition, TDI is present in exhaust streams in very low concentrations, typically less than 1 part per million (ppm). Currently available control technologies common to other applications are not suited to the cost effective removal of low concentrations of TDI from a high velocity exhaust stream.

Prior to proposal, the EPA determined that the floor for the control of TDI was no control. Further, no controls techniques were identified in practice to allow the consideration of levels more stringent than the floor. After proposal, the EPA re-investigated technologies for the control of TDI emissions from the foam production line by contacting vendors of control equipment, as well as air pollution regulatory agencies in other countries. Based on that additional analysis, the EPA concludes that the MACT floor is no control. Despite indications of the existence of cost-effective TDI control technologies, none of these efforts identified any technology for TDI that the Agency believed could be cost-effectively applied to the foam tunnel in a slabstock foam production facility.

In the future, the EPA will conduct a section 112(f) residual risk assessment of the flexible polyurethane foam industry. In a section 112(f) residual risk assessment, a regulated industry is evaluated based on the risks it still poses to people and the environment. If the assessment determines that unacceptable health risks are still related to the industry, the EPA will

impose additional requirements on the industry.

The EPA does not feel it is appropriate to require additional recordkeeping or reporting in this rule to support a future risk assessment, as suggested by the commenter. The EPA will obtain the necessary information at the time of the risk assessment.

3. Monthly Averaging Time

The proposed rule allowed for two averaging time formats for compliance with the requirements for HAP ABA emissions from the production line and source-wide HAP ABA and equipment cleaning emissions: (1) rolling annual compliance [§ 63.1297(a)(1)]; and (2) compliance determined for each individual month. [§ 63.1297(a)(2)] At proposal, the EPA requested comments on any burdens caused by inclusion of the monthly compliance alternative in the proposed regulation.

Two commenters responded to the EPA's request for comments on this item. Neither commenter reported any burdens associated with inclusion of the monthly compliance alternative. However, both commenters were concerned about the potential for being assessed penalties based on 365 days of violations when using the rolling annual compliance alternative, even if the actual number of non-compliance days was much less.

In response to the seasonal variation of the production of slabstock foam, the EPA based the proposed HAP ABA emission requirements on a 12 month period, where compliance would be determined each month for the previous 12 months. While industry recognized the flexibility of this 12 month averaging period, they were concerned regarding the enforcement of such provisions. The concerns expressed at that time were analogous to those made by these commenters.

In response to these concerns, the EPA included the monthly compliance alternative in the proposed regulation. This alternative, while reducing flexibility, eliminates the potential for violations for a 365 day period. Since no comments were received indicating that the inclusion of two averaging time options was inappropriate or burdensome to either affected sources or enforcement agencies, both averaging periods were retained in the final rule.

In response to the commenters' concern about penalties associated with the 12-month averaging option, the EPA points out that the rule cannot specify a penalty structure, but can only include the definition of a violation. Clearly, a violation of the HAP ABA (or source-wide) requirements of this rule occurs

when the actual emissions exceed the allowable emissions. In the case of a violation, the State or local enforcement agency (and in some cases the EPA Regional Office) will determine the penalty for a violation.

In conclusion, the commenters continue to be concerned with the potential penalties associated with the 12-month averaging time. The EPA continues to believe that the monthly averaging time is a viable alternative available to all affected sources, and that each owner or operator will have to weigh the added flexibility of the 12-month averaging period with the potential for higher penalties associated with this option.

4. Monitoring in HAP ABA Storage Vessels

If a facility is complying with the source-wide alternative for HAP ABA and HAP equipment cleaners, actual emissions are measured by conducting a monthly material balance at the HAP ABA storage vessel. An input to this determination is the amount of HAP ABA in the storage tank. The proposed rule at § 63.1303(d) contained criteria for the devices that could be used to measure the level of HAP ABA in the vessel. Gauge glasses and simple floats would not have fit these criteria. At proposal, the EPA requested comment on the monitoring requirements and whether the use of gauge glasses, float systems, and other visually read systems should be allowed.

All the commenters that provided input on this issue felt that visually read level measurement systems, which are "standard" in the industry, should be allowed. They believed that visually read measurement systems were sufficiently accurate, and that the competitive nature of the industry dictated that facilities eliminate raw material loss. Due to the need to manage chemical use, visually read level measurement systems in conjunction with existing inventory controls provide necessary compliance records.

Upon reviewing these comments and collecting additional information on this issue by conducting a survey of storage tank level measurement device vendors, contacting foam trade organizations and foam producers, and visiting a foam plant and observing first hand the use of visually read level measurement devices to determine the storage tank level, the EPA agreed that these visually read devices should be allowed. The EPA now believes that the use of gauge glasses and float systems will not result in significantly greater errors in level measurement than devices that meet the proposed

requirements. For example, an error analysis based on typical 10,000 gallon storage vessels and an error in measurement of 0.5 inches indicates that the error is approximately 3.27 cubic feet or 24.5 gallons (0.5 percent) for a vertical tank at half capacity. For horizontal tanks at half capacity, the error is approximately 8.8 cubic feet or 65.8 gallons (1.3 percent). In order to minimize the potential for human error, the final rule requires that all visually-read measurement devices have permanent graduated markings from which the level will be read. This practice should eliminate any error associated with the use of non-fixed measuring tools, such as tapes or rulers. Therefore, in the final rule, paragraph 63.1303(d) requires that devices that are used to measure the level in the storage vessel be calibrated initially and at least once per year. If the device produces an output signal, it must have either a digital or printed output. If the device is a visually-read device, it must have permanent graduated markings.

5. Prohibition on the Use of HAP-based Adhesives

The EPA requested comment on the technical feasibility of prohibiting the use of HAP-based adhesives for foam repair in molded foam production. Two responses to this request were received. The first commenter reported that HAP-free adhesives have not been successful in all applications. The commenter recommended a review process that would allow a facility to use HAP-based mold release agents if they demonstrated that product quality suffered with the use of HAP-free adhesives. The second commenter was also concerned about the proposed prohibition, and recommended that the EPA defer consideration of HAP-based adhesives until development of the foam fabrication NESHAP.

The EPA acknowledges the commenters' concern that HAP-free adhesives may not be successful in all applications. In further conversations after proposal of the regulations, adhesive manufacturers indicated that the molded foam production source category was not a major market for their products. The EPA therefore agrees with the second commenter that consideration of HAP-based adhesives should be deferred until development of the foam fabrication NESHAP. The proposed provisions at 63.1300(c) prohibiting the use of HAP-based adhesives to repair foam products in a molded flexible polyurethane foam source have been removed. The Agency expects to consider use of HAP-based molded foam repair adhesives in the

development of the flexible polyurethane foam fabrication NESHAP.

B. Other Rule Changes in Response to Public Comments

1. IFD and Density Testing

The proposed rule required that the indentation force deflection (IFD) and density be tested for every grade of foam produced. It also required that the amount of polyol used be monitored for every foam grade, and that records of this usage be maintained. A comment was received stating that there was no benefit to testing foams or monitoring and keeping records of the amount of polyol added for grades that do not have any ABA in the formulation.

For each specific grade, the allowable emissions are calculated using the formulation limitation (which is calculated using the IFD and density of the grade) and the amount of polyol used to produce the grade. The calculation of the allowable HAP ABA emissions is unrelated to the amount of HAP ABA added to the formulation for that grade. The amount of HAP ABA added represents the actual emissions. Therefore, if a facility produced a particular grade (e.g., Grade A) with a formulation limitation greater than zero, but used no HAP ABA, then emission "credits" would be generated. This "credit" would then allow the owner or operator to use an amount of HAP ABA higher than the formulation limitation for another grade (e.g., Grade B). If no testing of the grade, or records of polyol used, were kept for Grade A, then credits would not be generated to allow the production of Grade B with the desired amount. Therefore, the EPA sees considerable benefit in testing and keeping records for all grades that have formulation limitations greater than zero.

However, the EPA does believe that the burden can be reduced by eliminating the requirement that any IFD or density testing be conducted for grades where the owner or operator designates the formulation limitation as zero. This decision is reflected in the final rule.

2. Definition of Flexible

One comment was received regarding the adjective "flexible" in the term "flexible polyurethane foam". The commenter (IV-D-07) noted that while "flexible polyurethane foam" is defined in the rule, the definition did not address "the degree of flexibility or rigidity associated with the foam." The commenter believed that their "foam-in-place" operation is intended to be included within the scope of the

proposed rule. However, the foam, which is sprayed into boxes to provide a protective cushioning layer for shipment of products, is "quite rigid in nature". The commenter requested clarification regarding the meaning of flexible.

The EPA agrees that there is a need to clarify "flexible" as it is used in the definition of flexible polyurethane foam, and has added language to the definition provided in the rule, as follows:

"Flexible polyurethane foam means a flexible cellular polymer containing urea and carbamate linkages in the chain backbone produced by reacting a diisocyanate, polyol, and water. Flexible polyurethane foams are open-celled, permit the passage of air through the foam, and possess the strength and flexibility to allow repeated distortion or compression under stress with essentially complete recovery upon removal of the stress."

By comparison, rigid polyurethane foams are closed-celled, do not allow the passage of air through the foam, and do not distort or compress under stress until there is sufficient stress to crush the foam. Rigid foams that have been crushed do not recover to their original shape.

Based on information provided by the commenter, the EPA is unable to definitively determine if the foam produced is flexible polyurethane foam and if the commenter's process is subject to the rule. However, it is believed that the "foam in place" process described is a molded foam process and would be subject to the rule, if the foam produced meets the revised definition of flexible polyurethane foam cited above.

3. HAP ABA Emission Calculation

One commenter noted that there was a typographical error in the equation as published in the preamble. The first term should appear as "-25(IFD)." Two commenters noted that the HAP ABA formulation equation results in a negative (<0) value for the ABA limitation in some cases. One commenter felt that this was a result of a typing error in the published equation. The second commenter was concerned that it would be "possible for certain foam grades to calculate a negative monthly ABA, thus reducing the total ABA and misrepresenting the intent of the ABA formulation limitation equation." This commenter recommended that the minimum amount of ABA be limited to zero (0) for averaging purposes.

The EPA recognizes that there was a typographical error in the equation as

published in the preamble. The first term in the equation 25(IFD) should be preceded by a negative sign. The proposed regulatory language was correct. The final rule and the rule summary in the preamble for the promulgated regulation include the correct equation.

However, the commenter was incorrect in assuming that an error in the published equation resulted in the equation yielding negative values. The equation indeed results in negative values for some combinations of density and indentation force deflection (IFD). The EPA did not intend for these negative values to be used in calculating allowable emissions. Rather, the intent was for the foam manufacturer to use zero if the calculated HAP ABA formulation limitation was negative. However, the proposed regulation did not state this intention, and the Agency recognizes that this situation would clearly lead to confusion. Therefore, in accordance with the commenter's suggestion, the EPA has revised the regulation to clearly state that zero shall be the formulation limitation if the results of the formulation limitation equation are negative. A new table has been added to § 63.1297(d)(2) to clarify the new source formulation limitation requirements.

4. State Delegation

One comment was received requesting clarification as to what authorities, if any, have been delegated to States. The commenter reported that in some instances, the EPA has specified within given Part 63 standards that certain authorities were not to be delegated to States.

The proposal regulation was silent on the implementation and enforcement authorities that may be delegated to States. The EPA agrees that the regulations should specify which authorities are and are not delegated to State and local permitting authorities. § 63.1308 has been added to the regulations to identify these authorities. The new provisions clarify that the authority to approve alternative monitoring plans and emission limitations shall be retained by the EPA Administrator and not transferred to a State or local permitting authority. The Administrator must approve alternative programs required in § 63.1303(b)(5) for monitoring HAP ABA and polyol added to the foam production line at the mixhead. Alternative emission limitations allowed under § 63.1305(d) must also be approved by the Administrator. These requirements are in keeping with longstanding EPA policy that emission limits to satisfy

Clean Air Act requirements for protecting the public health, as well as the monitoring to demonstrate compliance with those limits, must be determined by the Administrator.

C. Other Changes to the Proposed Regulation

In addition to the changes in response to public comments discussed above, changes to the proposed rule have been made to clarify the requirements of the regulations. These changes do not add emission standards or requirements to the regulation. In general, they specify aspects of the regulations that were not included in sufficient detail in the proposed rule. The effect of these changes will be to assure compliance with the standards while providing flexibility and regulatory certainty for affected sources, as well as for permitting and enforcement agencies. The changes are related to a test method for carbon adsorption and a continuous compliance demonstration.

The proposed rule required monitoring of HAP or organic compounds from storage vessel carbon adsorption systems to determine breakthrough. However, the rule did not indicate the test method to use if the owner or operator elected to monitor organic compound concentration. Section 63.1303(a)(4) now specifies the use of Method 25A for measuring organic emissions from carbon adsorption systems. This change clarifies the compliance requirements for carbon adsorption system use.

The regulation has been revised to clarify what constitutes compliance with the rule. No new emission standards or work practice requirements have been added to the regulations. While the compliance requirements could be inferred from the proposed regulation, the final rule now directly states the specific actions needed and the records required to demonstrate compliance, absent credible evidence to the contrary. These changes will ensure compliance to protect the public health, ensure the practical enforceability of the standards, identify the permit terms and conditions implementing the standards, and provide regulatory clarity for affected sources. They are in keeping with the Agency's priorities for streamlining the regulatory process and minimizing the burden on affected sources by clearly defining compliance terms.

Section 63.1308 summarizes what indicates compliance with the standards in § 63.1293-63.1301, absent credible evidence to the contrary, as well as what constitutes a violation of the standard, for each requirement in the rule. Facility

owners will not have to speculate on how compliance with a particular requirement may be interpreted. For regulating agencies, these provisions identify the terms and conditions that could be included in the permit. The provisions thus increase regulatory certainty, minimize the amount of time spent developing and reviewing permit terms, and ensure enforceability.

The provisions of §§ 63.1306(g) and 63.1308 do not, and are not intended to, alter or affect the requirements of 40 CFR part 70 for the purposes of addressing the requirements of this subpart, or any applicable requirements, in part 70 permits. Sources required to have a Title V operating permit must submit annual compliance certifications consistent with § 70.6(c)(5) applicable to all permit terms and conditions, which include applicable requirements such as subpart III. The certification requirements of part 70 require a statement from part 70 sources that, based on information and belief formed after reasonable inquiry, the statements and information in certifications—including annual compliance certifications—are true, accurate, and complete (40 CFR 70.5(d) and 71.5(d)). While a part 70 compliance certification may be used to satisfy the requirements of § 63.1306(g) (see § 63.1306(g)(2)) the annual compliance certification required by § 63.1306(g) may not be used to satisfy the compliance certification requirements of part 70, for purposes of part 70 permits that include subpart III as an applicable requirement.

In addition to the clarifying changes noted above, the EPA has removed the requirement that each facility develop, maintain, and implement a startup, shutdown, and malfunction plan.

The General Provisions include the requirements for a startup, shutdown, and malfunction plan in § 63.6(e)(3). A table of the proposed rule indicated that the provisions of § 63.6 were applicable to flexible polyurethane foam production affected sources. In the exercise of improving the clarity of the rule, the EPA decided that it would be more apparent to affected sources if the provisions related to the startup, shutdown, and malfunction were included in this rule, rather than simply referring to subpart A. However, in adding these provisions, the EPA concluded that they were not appropriate for the flexible polyurethane foam production industry. Therefore, the final rule has removed the requirement that flexible polyurethane foam affected sources create and implement a startup, shutdown, and malfunction plan. This is indicated by a "NO" in the General

Provisions table (Table 2) of the final rule for § 63.6(e)(3). The rationale for this conclusion is briefly discussed below.

The fundamental problem in applying the General Provisions startup, shutdown, and malfunction provisions to flexible polyurethane foam production facilities is defining a startup and a shutdown. The foam production process is intermittent in nature and, based on the EPA's knowledge of the industry, every foam production process will undergo at least one routine "startup" and one routine "shutdown" per day. The EPA never intended that these routine activities be addressed by the startup, shutdown, and malfunction plan.

The intent of the startup, shutdown, and malfunction plan is to identify methods to reduce excess emissions that may occur during these events when air pollution is emitted in quantities greater than anticipated by the standard. Given the comprehensive approach of subpart III to regulate emissions by restricting the amount of HAP used, the EPA does not believe that, for foam production facilities, startups, shutdowns, or malfunctions provide the opportunity for excess emissions not already anticipated in the regulation. Finally, as discussed in section I.A, two of the HAP used and potentially emitted during malfunctions by the flexible polyurethane foam industry (2,4-toluene diisocyanate and propylene oxide) are subject to the risk management program rule requirements under section 112(r) of the 1990 Clean Air Act Amendments.

V. Administrative Requirements

A. Docket

A record has been established for this rulemaking under docket number A-95-48. The record includes printed, paper versions of comments and data submitted electronically. A public version of this record, which does not include any information included as CBI, is available for inspection from 8:00 a.m. to 5:30 p.m. Monday-Friday, excluding legal holidays. The public record is located in the Air & Radiation Docket & Information Center, Room M1500, 401 M Street SW, Washington, DC 20460.

Response to Comment Document. The response to comment document for the promulgated standards contains: (1) A summary of the public comments made on the proposed standards and the Administrator's response to the comments; and (2) a summary of the changes made to the standards since proposal. The document may be obtained from the U.S. EPA Library

(MD-35), Research Triangle Park, North Carolina 27711, telephone (919) 541-2777. It may also be obtained from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia 22151, telephone (703) 487-4650. Please refer to "Hazardous Air Pollutant Emissions from the Flexible Polyurethane Foam Production Industry—Basis and Purpose Document for Final Standards, Summary of Public Comments and Responses" (EPA-453/R-97-008b, December 1997). This document is also located in the docket (Docket Item No. V-B-1) and is available for downloading from the Technology Transfer Network (TTN). The TTN is one of the EPA's electronic bulletin boards. The TTN provides information and technology exchange in various areas of air pollution control. The service is free except for the cost of a phone call. Dial (919) 541-5742 for up to a 14,400 bps modem, or connect through the internet to the following address: "www.epa.gov/ttn/oarpg". If more information on the Technology Transfer Network is needed, call the HELP line at (919) 541-5384.

Previous Background Documents. Other materials related to this rulemaking are available for review in the docket. The Basis and Purpose Document, which contains the rationale for the various components of the standard, is available in the docket and on the TTN. This document is entitled "Hazardous Air Pollutant Emissions from the Production of Flexible Polyurethane Foam—Basis and Purpose Document for Proposed Standards," September 1996, and has been assigned document number EPA-453/D-96-008a.

Some of the technical memoranda have been compiled into a single document, the Supplementary Information Document (SID), to allow interested parties more convenient access to the information. The SID is available in the docket (Docket No. A-95-48 Category III-B), and, in limited supply, from the EPA Library by calling (919) 541-2777. The document is entitled Hazardous Air Pollutant Emissions from the Production of Flexible Polyurethane Foam—Supplementary Information Document for Proposed Standards, October 1996, and has been assigned document number EPA-453/D-96-009a.

B. Executive Order 12866

Under Executive Order 12866 (58 FR 5173, October 4, 1993), the EPA must determine whether the regulatory action is "significant" and therefore subject to Office of Management and Budget

(OMB) review and the requirements of the Executive Order. The Executive Order defines "significant regulatory action" as one that is likely to result in standards that may:

(1) Have an annual effect on the economy of \$100 million or more or adversely affect, in a material way, the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined that this rule is not a "significant regulatory action" under the terms of Executive Order 12866 and is therefore not subject to OMB review.

C. Applicability of Executive Order 13045

Executive Order 13045, entitled "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), applies to any rule that the EPA determines (1) is "economically significant," as defined under Executive Order 12866, and (2) the environmental health or safety risk addressed by the rule has a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This final rule is not subject to Executive Order 13045 because it is not an economically significant regulatory action as defined by Executive Order 12866, and it does not address an environmental health or safety risk that would have a disproportionate effect on children.

D. Paperwork Reduction Act

The Office of Management and Budget (OMB) has approved the information collection requirements contained in this rule under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* and has assigned OMB control number 2060-0357.

The public reporting burden for this collection of information is estimated to

average 101 hours per respondent per year. The average burden for the 78 affected slabstock foam producers is somewhat higher than this estimate, due to their monthly recordkeeping and semiannual reporting requirements, while the average burden for the 98 affected molded foam manufacturers is less than 101 hours, since they are only required to submit an initial one-time notification of compliance. No cost burden associated with the purchase of new equipment or technology is estimated to result from this collection of information. These estimates include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15. The EPA is amending the table in 40 CFR Part 9 of currently approved ICR control numbers issued by OMB for various regulations to list the information requirements contained in this final rule.

E. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. The EPA has also determined that this rule will not have a significant economic impact on a substantial number of small entities.

Due to insufficient data on the ownership of the plants in the flexible polyurethane foam industry, an analysis of each parent company in the industry was not feasible. Consequently, the EPA used data collected in the section 111 survey to evaluate the impact on small businesses based on model facilities. That analysis indicates that there is a total of approximately 121 businesses (31 slabstock, 90 molded) that are affected by the promulgated regulation, of which approximately 71 are small businesses (18 slabstock, 53 molded).

The calculation of average compliance costs as a percent of revenues is less than one percent for nearly all model facilities in the analysis. The analysis also indicates a potential for business closures ranging from 0 to 3 of the total number of estimated entities. However, because there is insufficient data to determine the exact size of the plants that may close, the analysis cannot determine if these impacts will occur at small businesses. Given the results of the analysis and the use of worst-case

assumptions in the closure analysis, the EPA believes that the effect of the promulgated regulation on small businesses will be minimal.

Pursuant to section 605(b) of the Regulatory Flexibility Act, 5 U.S.C. 605(b), as amended, Pub. L. 104-121, 110 Stat. 847, the EPA certifies that this rule will not have a significant economic impact on a substantial number of small entities and therefore no initial regulatory flexibility analysis under section 604(a) of the Act is required.

F. Submission to Congress and the Comptroller General

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a "major rule" as defined by 5 U.S.C. 804(2).

G. Unfunded Mandates

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, the EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires the EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows the EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was

not adopted. Before the EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that this rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in aggregate, or the private sector in any one year, nor does the rule significantly or uniquely impact small governments, because it contains no requirements that apply to such governments or impose obligations upon them. Thus, the requirements of the UMRA do not apply to this rule.

H. Executive Order 12875: Enhancing Intergovernmental Partnerships

Under Executive Order 12875, the EPA may not issue a regulation that is not required by statute and that creates a mandate upon a State, local or tribal government, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by those governments. If the mandate is unfunded, the EPA must provide to the Office of Management and Budget a description of the extent of EPA's prior consultation with representatives of affected State, local and tribal governments, the nature of their concerns, copies of any written communications from the governments, and a statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires the EPA to develop an effective process permitting elected officials and other representatives of State, local and tribal governments "to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates."

Today's rule implements requirements specifically set forth by the Congress in Section 112 of the Clean Air Act without the exercise of any discretion by the EPA. Accordingly, the requirements of section 1(a) of Executive Order 12875 do not apply to this rule.

I. Executive Order 13084: Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, the EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments. If the mandate is unfunded, the EPA must provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires the EPA to develop an effective process permitting elected and other representatives of Indian tribal governments "to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities."

Today's rule implements requirements specifically set forth by the Congress in Section 112 of the Clean Air Act without the exercise of any discretion by the EPA. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

J. Clean Air Act

In accordance with section 117 of the Act, publication of this rule was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies.

This regulation will be reviewed 8 years from the date of promulgation. This review will include an assessment of such factors as evaluation of the residual health risks, any overlap with other programs, the existence of alternative methods, enforceability, improvements in emission control technology and health data, and the recordkeeping and reporting requirements.

K. National Technology Transfer and Advancement Act

Section 12 of the National Technology Transfer and Advancement Act of 1995 (NTTAA) requires federal agencies to evaluate existing technical standards when developing new regulations. To

comply with the NTTAA, the EPA must consider and use "voluntary consensus standards" (VCS), if available and applicable, when developing NESHAP and other programs and policies unless doing so would be inconsistent with applicable law or otherwise impractical.

A VCS is a technical standard developed or adopted by a legitimate standards developing organization. The NTTAA defines "technical standards" as "performance-based or design-specific technical specifications and related management systems practices." According to NTTAA's legislative history, a "technical standard" pertains to "products and processes, such as size, strength, or technical performance of a product, process or material." A legitimate standards-developing organization must produce standards by consensus and observe the principles of due process, openness, and balance of interests.

Examples of organizations generally regarded as voluntary consensus standards bodies include the American Society for Testing and Materials (ASTM), International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), American Petroleum Institute (API), National Fire Protection Association (NFPA) and the Society of Automotive Engineers (SAE).

The well-known American National Standards Institute (ANSI) evaluates the standards development processes of these bodies, and when requested by one of them, certifies standards meeting the above criteria as American National Standards. Such a designation is an important indicator for determining whether a given standard qualifies as a legitimate VCS.

In developing the flexible polyurethane foam regulation, the EPA searched for potentially useful VCS. This search included the use of the National Standards System Network and the National Center for Standards for Certification Information. The Agency also conducted extensive conversations with the affected industry and other stakeholders. In response to this information, the regulation includes two VCS—ASTM D3574 and National Institute of Standards and Technology Handbook 44. ASTM D3574 is used to determine IFD and density of slabstock foam buns. Transfer vehicle weight may be determined by using the procedures contained in the National Institute of Standards and Technology Handbook 44. These VCS were selected for incorporation by reference because they provide the proper information with sufficient accuracy for this rule.

The EPA is not required to give deference under NTTAA to a standard that does not qualify as a VCS. Sight gauges and other level measurement devices, which are commonly used in the industry, do not qualify as VCS. However, the Agency did elect to utilize such devices to measure HAP ABA added to storage vessels in slabstock flexible polyurethane foam facilities. These requirements are described in Section II. C.4. of this preamble. The decision to adopt common industry practices reflects the Agency's commitment to reduce costs to the private sector where technically feasible and in accordance with Clean Air Act requirements.

List of Subjects in 40 CFR Parts 9 and 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: September 15, 1998.

Carol M. Browner,
Administrator

For the reasons set out in the preamble, parts 9 and 63 of title 40, chapter I of the Code of Federal Regulations are amended as follows:

PART 9—[AMENDED]

1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135 *et seq.* 136–136y, 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331j, 346a, 348, 31 U.S.C. 9701, 33 U.S.C. 1251 *et seq.* 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR 1971–1975 Comp. p. 973, 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–1, 300j–2, 300j–3, 300j–4, 300j–9, 1857 *et seq.* 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

2. Section 9.1 is amended by adding the new entries to the table under the indicated heading in numerical order to read as follows:

§9.1 OMB approvals under the Paperwork Reduction Act.

40 CFR citation	OMB control No.
63.1290–63.1309	2060–0357

National Emission Standards for Hazardous Air Pollutants for Source Categories³

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR AFFECTED SOURCE CATEGORIES

3. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, et. seq.

Subpart A—General Provisions

4. Section 63.14 is amended by revising paragraph (b) introductory text, and adding paragraphs (b)(20) and (e) to read as follows:

§ 63.14 Incorporation by reference.

(b) The materials listed below are available for purchase from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

(20) ASTM D3574-91, Standard Test Methods for Flexible Cellular Materials—Slab, Bonded, and Molded Urethane Foams, IBR approved for § 63.1304(b).

(e) The materials listed below are available for purchase from the National Institute of Standards and Technology, Springfield, VA 22161, (800) 553-6847.

(1) Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for § 63.1303(e)(3).

(2) [Reserved]

5. Part 63 is amended by adding subpart III to read as follows:

Subpart III—National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production

Sec.

- 63.1290 Applicability.
 - 63.1291 Compliance schedule.
 - 63.1292 Definitions.
 - 63.1293 Standards for slabstock flexible polyurethane foam production.
 - 63.1294 Standards for slabstock flexible polyurethane foam production—diisocyanate emissions.
 - 63.1295 Standards for slabstock flexible polyurethane foam production—HAP ABA storage vessels.
 - 63.1296 Standards for slabstock flexible polyurethane foam production—HAP ABA equipment leaks.
 - 63.1297 Standards for slabstock flexible polyurethane foam production—HAP ABA emissions from the production line.
 - 63.1298 Standards for slabstock flexible polyurethane foam production—HAP emissions from equipment cleaning.
 - 63.1299 Standards for slabstock flexible polyurethane foam production—source-wide emission limitation.
 - 63.1300 Standards for molded flexible polyurethane foam production.
 - 63.1301 Standards for rebond foam production.
 - 63.1302 Applicability of subpart A requirements.
 - 63.1303 Monitoring requirements.
 - 63.1304 Testing requirements.
 - 63.1305 Alternative means of emission limitation.
 - 63.1306 Reporting requirements.
 - 63.1307 Recordkeeping requirements.
 - 63.1308 Compliance demonstrations.
 - 63.1309 Delegation of authority.
- Appendix to Subpart III—Tables

Subpart III—National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production

§ 63.1290 Applicability.

(a) The provisions of this subpart apply to each new and existing flexible polyurethane foam or rebond foam

process that meets the criteria listed in paragraphs (a)(1) through (3) of this section.

(1) Produces flexible polyurethane or rebond foam;

(2) Emits a HAP, except as provided in paragraph (c)(2) of this section; and

(3) Is located at a plant site that is a major source, as defined in § 63.2 of subpart A.

(b) For the purpose of this subpart, an affected source includes all processes meeting the criteria in paragraphs (a)(1) through (a)(3) of this section that are located at a contiguous plant site, with the exception of those processes listed in paragraph (c) of this section.

(c) A process meeting one of the following criteria listed in paragraphs (c)(1) through (3) of this section shall not be subject to the provisions of this subpart:

(1) A process exclusively dedicated to the fabrication of flexible polyurethane foam;

(2) A research and development process; or

(3) A slabstock flexible polyurethane foam process at a plant site where the total amount of HAP, excluding diisocyanate reactants, used for slabstock foam production and foam fabrication is less than or equal to five tons per year, provided that slabstock foam production and foam fabrication processes are the only processes at the plant site that emit HAP. The amount of non-diisocyanate HAP used, HAP_{used} , shall be calculated using Equation 1. Owners or operators of slabstock foam processes exempt from the regulation in accordance with this paragraph shall maintain records to verify that total non-diisocyanate HAP use at the plant site is less than 5 tons per year (4.5 megagrams per year).

$$HAP_{used} = \left[\sum_{i=1}^m (VOL_{ABA,i})(D_{ABA,i}) + \sum_{j=1}^n (VOL_{clean,j})(D_{clean,j})(WT_{HAPclean,j}) + \sum_{k=1}^o (VOL_{adh,k})(D_{adh,k})(WT_{HAPadh,k}) \right] + 2000$$

(Equation 1)

Where,

HAP_{used} = amount of HAP, excluding diisocyanate reactants, used at the plant site for slabstock foam production and foam fabrication, tons per year

$VOL_{ABA,i}$ = volume of HAP ABA i used at the facility, gallons per year

$D_{ABA,i}$ = density of HAP ABA i, pounds per gallon

m = number of HAP ABAs used

$VOL_{clean,j}$ = volume of HAP used as an equipment cleaner, gallons per year

$D_{clean,j}$ = density of HAP equipment cleaner j, pounds per gallon

$WT_{HAPclean,k}$ = HAP content of equipment cleaner j, weight percent

n = number of HAP equipment cleaners used

$VOL_{adh,k}$ = volume of adhesive k, gallons per year

$D_{adh,k}$ = density of adhesive k, pounds per gallon

$WT_{HAPadh,k}$ = HAP content of adhesive k, weight percent

o = number of adhesives used

§ 63.1291 Compliance schedule.

(a) Existing affected sources shall be in compliance with all provisions of this subpart no later than October 8, 2001.

(b) New or reconstructed affected sources shall be in compliance with all provisions of this subpart upon initial startup.

³ The ICRs referenced in this section of the Table encompass the applicable general, provisions

contained in 40 CFR part 63, subpart A, which are

not independent information collection requirements.

§ 63.1292 Definitions.

All terms used in this subpart shall have the meaning given them in the Act, in subpart A of this part, and in this section. If a term is defined in subpart A and in this section, it shall have the meaning given in this section for purposes of this subpart.

Auxiliary blowing agent, or ABA, means a low-boiling point liquid added to assist foaming by generating gas beyond that resulting from the isocyanate-water reaction.

Breakthrough means that point in the adsorption step when the mass transfer zone (i.e., the section of the carbon bed where the HAP is removed from the carrier gas stream) first reaches the carbon bed outlet as the mass transfer zone moves down the bed in the direction of flow. The breakthrough point is characterized by the beginning of a sharp increase in the outlet HAP or organic compound concentration.

Calibrate means to verify the accuracy of a measurement device against a known standard. For the purpose of this subpart, there are two levels of calibration. The initial calibration includes the verification of the accuracy of the device over the entire operating range of the device. Subsequent calibrations can be conducted for a point or several points in a limited range of operation that represents the most common operation of the device.

Canned motor pump means a pump with interconnected cavity housings, motor rotors, and pump casing. In a canned motor pump, the motor bearings run in the process liquid and all seals are eliminated.

Carbon adsorption system means a system consisting of a tank or container that contains a specific quantity of activated carbon. For the purposes of this subpart, a carbon adsorption system is used as a control device for storage vessels. Typically, the spent carbon bed does not undergo regeneration, but is replaced.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered to be connectors for the purposes of this subpart.

Cured foam means flexible polyurethane foam with fully developed physical properties. A period of 12 to 24 hours from pour is typically required to completely cure foam, although mechanical or other devices are sometimes used to accelerate the curing process.

Curing area means the area in a slabstock foam production facility where foam buns are allowed to fully develop physical properties.

Diaphragm pump means a pump where the driving member is a flexible diaphragm made of metal, rubber, or plastic. In a diaphragm pump, there is no packing or seals that are exposed to the process liquid.

Diisocyanate means a compound containing two isocyanate groups per molecule. The most common diisocyanate compounds used in the flexible polyurethane foam industry are toluene diisocyanate (TDI) and methylene diphenyl diisocyanate (MDI).

Flexible polyurethane foam means a flexible cellular polymer containing urea and carbamate linkages in the chain backbone produced by reacting a diisocyanate, polyol, and water. Flexible polyurethane foams are open-celled, permit the passage of air through the foam, and possess the strength and flexibility to allow repeated distortion or compression under stress with essentially complete recovery upon removal of the stress.

Flexible polyurethane foam process means the equipment used to produce a flexible polyurethane foam product. For the purpose of this subpart, the flexible polyurethane foam process includes raw material storage; production equipment and associated piping, ductwork, etc.; and curing and storage areas.

Foam fabrication process means an operation for cutting or bonding flexible polyurethane foam pieces together or to other substrates.

Grade of foam means foam with a distinct combination of indentation force deflection (IFD) and density values.

HAP ABA means methylene chloride, or any other HAP compound used as an auxiliary blowing agent.

HAP-based means to contain 5 percent (by weight) or more of HAP. This applies to equipment cleaners (and mixhead flushes) and mold release agents. The concentration of HAP may be determined using EPA test method 18, material safety data sheets, or engineering calculations.

High pressure mixhead means a mixhead where mixing is achieved by impingement of the high pressure streams within the mixhead.

Indentation Force Deflection (IFD) means a measure of the load bearing capacity of flexible polyurethane foam. IFD is generally measured as the force (in pounds) required to compress a 50 square inch circular indenter foot into a four inch thick sample, typically 15 inches square or larger, to 25 percent of the sample's initial height.

In diisocyanate service means a piece of equipment that contains or contacts a diisocyanate.

In HAP ABA service means a piece of equipment that contains or contacts a HAP ABA.

Initial startup means the first time a new or reconstructed affected source begins production of flexible polyurethane foam.

Isocyanate means a reactive chemical grouping composed of a nitrogen atom bonded to a carbon atom bonded to an oxygen atom; or a chemical compound, usually organic, containing one or more isocyanate groups.

Magnetic drive pump means a pump where an externally mounted magnet coupled to the pump motor drives the impeller in the pump casing. In a magnetic drive pump, no seals contact the process fluid.

Metering pump means a pump used to deliver reactants, ABA, or additives to the mixhead.

Mixhead means a device that mixes two or more component streams before dispensing foam producing mixture to the desired container.

Molded flexible polyurethane foam means a flexible polyurethane foam that is produced by shooting the foam mixture into a mold of the desired shape and size.

Mold release agent means any material which, when applied to the mold surface, serves to prevent sticking of the foam part to the mold.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or otherwise operated by the same entity, parent entity, subsidiary, or any combination thereof.

Polyol, for the purpose of this subpart, means a polyether or polyester polymer with more than one reactive hydroxyl group attached to the molecule.

Rebond foam means the foam resulting from a process of adhering small particles of foam (usually scrap or recycled foam) together to make a usable cushioning product. Various adhesives and bonding processes are used. A typical application for rebond foam is for carpet underlay.

Rebond foam process means the equipment used to produce a rebond foam product. For the purpose of this subpart, the rebond foam process includes raw material storage; production equipment and associated piping, ductwork, etc.; and curing and storage areas.

Reconstructed source means an affected source undergoing

reconstruction, as defined in subpart A. For the purposes of this subpart, process modifications made to reduce HAP ABA emissions to meet the existing source requirements of this subpart shall not be counted in determining whether or not a change or replacement meets the definition of reconstruction.

Recovery device means an individual unit of equipment capable of and used for the purpose of recovering chemicals for use, reuse, or sale. Recovery devices include, but are not limited to, carbon adsorbers, absorbers, and condensers.

Research and development process means a laboratory or pilot plant operation whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which is not engaged in the manufacture of products for commercial sale except in a de minimis manner.

Run of foam means a continuous production of foam, which may consist of several grades of foam.

Sealless pump means a canned motor pump, diaphragm pump, or magnetic drive pump, as defined in this section.

Slabstock flexible polyurethane foam means flexible polyurethane foam that is produced in large continuous buns that are then cut into the desired size and shape.

Slabstock flexible polyurethane foam production line includes all portions of the flexible polyurethane foam process from the mixhead to the point in the process where the foam is completely cured.

Storage vessel means a tank or other vessel that is used to store diisocyanate or HAP ABA for use in the production of flexible polyurethane foam. Storage vessels do not include vessels with capacities smaller than 38 cubic meters (or 10,000 gallons).

Transfer pump means all pumps used to transport diisocyanate or HAP ABA that are not metering pumps.

Transfer vehicle means a railcar, tank truck, or other vehicle used to transport HAP ABA to the flexible polyurethane foam facility.

§ 63.1293 Standards for slabstock flexible polyurethane foam production.

Each owner or operator of a new or existing slabstock affected source shall comply with § 63.1294 and either paragraph (a) or (b) of this section:

(a) The emission point specific limitations in §§ 63.1295 through 63.1298; or

(b) For sources that use no more than one HAP as an ABA and an equipment cleaner, the source-wide emission limitation in § 63.1299.

§ 63.1294 Standards for slabstock flexible polyurethane foam production—diisocyanate emissions.

Each new and existing slabstock affected source shall comply with the provisions of this section.

(a) Diisocyanate storage vessels.

Diisocyanate storage vessels shall be equipped with either a system meeting the requirements in paragraph (a)(1) of this section, or a carbon adsorption system meeting the requirements of paragraph (a)(2) of this section.

(1) The storage vessel shall be equipped with a vapor return line from the storage vessel to the tank truck or rail car that is connected during unloading.

(i) During each unloading event, the vapor return line shall be inspected for leaks by visual, audible, or any other detection method.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than the subsequent unloading event.

(2) The storage vessel shall be equipped with a carbon adsorption system, meeting the monitoring requirements of § 63.1303(a), that routes displaced vapors through activated carbon before being discharged to the atmosphere. The owner or operator shall replace the existing carbon with fresh carbon upon indication of breakthrough before the next unloading event.

(b) *Transfer pumps in diisocyanate service.* Each transfer pump in diisocyanate service shall meet the requirements of paragraph (b)(1) or (b)(2) of this section.

(1) The pump shall be a sealless pump; or

(2) The pump shall be a submerged pump system meeting the requirements in paragraphs (b)(2)(i) through (iii) of this section.

(i) The pump shall be completely immersed in bis(2-ethylhexyl)phthalate (DEHP, CAS #118-81-7),

2(methyloctyl)phthalate (DINP, CAS #68515-48-0), or another neutral oil.

(ii) The pump shall be visually monitored weekly to detect leaks.

(iii) When a leak is detected, it shall be repaired in accordance with the procedures in paragraphs (b)(2)(iii)(A) and (B) of this section, except as provided in paragraph (d) of this section.

(A) The leak shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.

(B) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

(1) Tightening of packing gland nuts.
(2) Ensuring that the seal flush is operating at design pressure and temperature.

(c) *Other components in diisocyanate service.* If evidence of a leak is found by visual, audible, or any other detection method, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (d) of this section. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) *Delay of repair.* (1) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in diisocyanate service.

(2) Delay of repair for valves and connectors is also allowed if:

(i) The owner or operator determines that diisocyanate emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(ii) The purged material is collected and destroyed or recovered in a control device when repair procedures are effected.

(3) Delay of repair for pumps is also allowed if repair requires replacing the existing seal design with a sealless pump, and repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

§ 63.1295 Standards for slabstock flexible polyurethane foam production—HAP ABA storage vessels.

Each owner or operator of a new or existing slabstock affected source complying with the emission point specific limitation option provided in § 63.1293(a) shall control HAP ABA storage vessels in accordance with the provisions of this section.

(a) Each HAP ABA storage vessel shall be equipped with either a vapor balance system meeting the requirements in paragraph (b) of this section, or a carbon adsorption system meeting the requirements of paragraph (c) of this section.

(b) The storage vessel shall be equipped with a vapor balance system. The owner or operator shall ensure that the vapor return line from the storage vessel to the tank truck or rail car is connected during unloading.

(1) During each unloading event, the vapor return line shall be inspected for leaks by visual, audible, olfactory, or any other detection method.

(2) When a leak is detected, it shall be repaired as soon as practicable, but not later than the subsequent unloading event.

(c) The storage vessel shall be equipped with a carbon adsorption system, meeting the monitoring requirements of § 63.1303(a), that routes displaced vapors through activated carbon before discharging to the atmosphere. The owner or operator shall replace the existing carbon with fresh carbon upon indication of breakthrough before the next unloading event.

§ 63.1296 Standards for slabstock flexible polyurethane foam production—HAP ABA equipment leaks.

Each owner or operator of a new or existing slabstock affected source complying with the emission point specific limitation option provided in § 63.1293(a) shall control HAP ABA emissions from leaks from transfer pumps, valves, connectors, pressure-relief valves, and open-ended lines in accordance with the provisions in this section.

(a) *Pumps.* Each pump in HAP ABA service shall be controlled in accordance with either paragraph (a)(1) or (a)(2) of this section.

(1) The pump shall be a sealless pump, or

(2) Each pump shall be monitored for leaks in accordance with paragraphs (a)(2)(i) and (ii) of this section. Leaks shall be repaired in accordance with paragraph (a)(2)(iii) of this section.

(i) Each pump shall be monitored quarterly to detect leaks by the method specified in § 63.1304(a). If an instrument reading of 10,000 parts per million (ppm) or greater is measured, a leak is detected.

(ii) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected.

(iii) When a leak is detected, it shall be repaired in accordance with the procedures in paragraphs (a)(2)(iii)(A) and (B) of this section, except as provided in paragraph (f) of this section.

(A) The leak shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.

(B) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices, where practicable:

(1) Tightening of packing gland nuts.

(2) Ensuring that the seal flush is operating at design pressure and temperature.

(b) *Valves.* Each valve in HAP ABA service shall be monitored for leaks in accordance with paragraph (b)(1) of this section, except as provided in

paragraphs (b)(3) and (4) of this section. Leaks shall be repaired in accordance with paragraph (b)(2) of this section.

(1) Each valve shall be monitored quarterly to detect leaks by the method specified in § 63.1304(a). If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(2) When a leak is detected, the owner or operator shall repair the leak in accordance with the procedures in paragraphs (b)(2)(i) and (ii) of this section, except as provided in paragraph (f) of this section.

(i) The leak shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

(A) Tightening of bonnet bolts;

(B) Replacement of bonnet bolts;

(C) Tightening of packing gland nuts; and

(D) Injection of lubricant into lubricated packing.

(3) Any valve that is designated as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b)(1) and (2) of this section if:

(i) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b)(1) and (2) of this section; and

(ii) The owner or operator of the valve has a written plan that requires monitoring of the valve as frequently as practicable during safe to monitor times. The plan shall also include requirements for repairing leaks as soon as possible after detection.

(iii) The owner or operator shall monitor the unsafe-to-monitor valve in accordance with the written plan, and

(iv) The owner or operator shall repair leaks in accordance with the written plan.

(4) Any valve that is designated as a difficult-to-monitor valve is exempt from the requirements of paragraphs (b)(1) and (2) of this section if:

(i) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at any time in a safe manner;

(ii) The process within which the valve is located is an existing source, or the process within which the valve is located is a new source that has less

than 3 percent of the total number of valves designated as difficult to monitor; and

(iii) The owner or operator of the valve develops a written plan that requires monitoring of the valve at least once per calendar year. The plan shall also include requirements for repairing leaks as soon as possible after detection.

(iv) The owner or operator shall monitor the difficult-to-monitor valve in accordance with the written plan, and

(v) The owner or operator shall repair leaks in accordance with the written plan.

(c) *Connectors.* Each connector in HAP ABA service shall be monitored for leaks in accordance with paragraph (c)(1) of this section, except as provided in paragraph (c)(3) of this section. Leaks shall be repaired in accordance with (c)(2) of this section, except as provided in paragraph (c)(4) of this section.

(1) Connectors shall be monitored at the times specified in paragraphs (c)(1)(i) through (iii) of this section to detect leaks by the method specified in § 63.1304(a). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(i) Each connector shall be monitored annually, and

(ii) Each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks within the first 3 months after being returned to HAP ABA service.

(iii) If a leak is detected, the connector shall be monitored for leaks in accordance with paragraph (c)(1) of this section within the first 3 months after its repair.

(2) When a leak is detected, it shall be repaired in accordance with the procedures in paragraphs (c)(2)(i) and (ii) of this section, except as provided in paragraph (c)(4) and paragraph (f) of this section.

(i) The leak shall be repaired as soon as practicable, but not later than 15 calendar days after the leak is detected.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(3) Any connector that is designated as an unsafe-to-monitor connector is exempt from the requirements of paragraph (c)(1) of this section if:

(i) The owner or operator determines that the connector is unsafe to monitor because personnel would be exposed to an immediate danger as a result of complying with paragraph (c)(1) of this section; and

(ii) The owner or operator has a written plan that requires monitoring of the connector as frequently as practicable during safe to monitor periods.

(4) Any connector that is designated as an unsafe-to-repair connector is exempt from the requirements of paragraph (c)(2) of this section if:

(i) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraph (c)(2) of this section; and

(ii) The connector will be repaired as soon as practicable, but not later than 6 months after the leak was detected.

(d) *Pressure relief devices.* Each pressure-relief device in HAP ABA service shall be monitored for leaks in accordance with paragraph (d)(1) of this section. Leaks shall be repaired in accordance with paragraph (d)(2) of this section.

(1) Each pressure-relief device in HAP ABA service shall be monitored within 5 calendar days by the method specified in § 63.1304(a) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) When a leak is detected, the leak shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (f) of this section.

The owner or operator shall make a first attempt at repair no later than 5 calendar days after the leak is detected.

(e) *Open ended valves or lines.* (1)(i) Each open-ended valve or line in HAP ABA service shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in paragraph (e)(4) of this section.

(ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open ended valve or line, or during maintenance or repair.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (e)(1) of this section at all other times.

(4) Open-ended valves or lines in an emergency shutdown system which are

designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (e)(1), (2), and (3) of this section.

(f) *Delay of repair.* (1) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in HAP ABA service.

(2) Delay of repair for valves and connectors is also allowed if:

(i) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(ii) The purged material is collected and destroyed or recovered in a control device when repair procedures are effected.

(3) Delay of repair for pumps is also allowed if repair requires replacing the existing seal design with a sealless pump, and repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

§ 63.1297 Standards for slabstock flexible polyurethane foam production—HAP ABA emissions from the production line.

(a) Each owner or operator of a new or existing slabstock affected source complying with the emission point specific limitation option provided in § 63.1293(a)(1) shall control HAP ABA emissions from the slabstock polyurethane foam production line in accordance with the provisions in this section. Compliance shall be determined on a rolling annual basis as described in paragraph (a)(1) of this section. As an alternative, the owner or operator can determine compliance on a monthly basis, as described in paragraph (a)(2) of this section.

(1) *Rolling annual compliance.* In determining compliance on a rolling annual basis, actual HAP ABA emissions shall be compared to allowable HAP ABA emissions for each consecutive 12-month period. The allowable HAP ABA emission level shall be calculated based on the production for the 12-month period, resulting in a potentially different allowable level for each 12-month period. Compliance shall be determined each month for the previous 12-month period. The compliance requirements are provided in paragraph (b) of this section.

(2) Monthly compliance alternative.

As an alternative to determining compliance on a rolling annual basis, an owner or operator can determine compliance by comparing actual HAP ABA emissions to allowable HAP ABA emissions for each month. The allowable HAP ABA emission level shall be calculated based on the production for the month, resulting in a potentially different allowable level each month. The requirements for this monthly compliance alternative are provided in paragraph (c) of this section.

(3) Each owner or operator electing to change between the compliance methods described under paragraphs (a)(1) and (a)(2) of this section shall notify the Administrator no later than 180 calendar days prior to the change.

(b) *Rolling annual compliance.* At each slabstock foam production source complying with the rolling annual compliance provisions described in paragraph (a)(1) of this section, actual HAP ABA emissions shall not exceed the allowable HAP ABA emission level for a consecutive 12-month period. The actual HAP ABA emission level for a consecutive 12-month period shall be determined using the procedures in paragraph (b)(1) of this section, and the allowable HAP ABA emission level for the corresponding 12-month period shall be calculated in accordance with paragraph (b)(2) of this section.

(1) The actual HAP ABA emissions for a 12-month period shall be calculated as the sum of actual monthly HAP ABA emissions for each of the individual 12 months in the period. Actual monthly HAP ABA emissions shall be equal to the amount of HAP ABA added to the slabstock foam production line at the mixhead, determined in accordance with § 63.1303(b), unless a recovery device is used. Slabstock foam production sources using recovery devices to reduce HAP ABA emissions shall determine actual monthly HAP ABA emissions using the procedures in paragraph (e) of this section.

(2) The allowable HAP ABA emissions for a consecutive 12-month period shall be calculated as the sum of allowable monthly HAP ABA emissions for each of the individual 12 months in the period. Allowable HAP ABA emissions for each individual month shall be calculated using Equation 2.

$$\text{emiss}_{\text{allow, month}} = \sum_{j=1}^m \left(\sum_{i=1}^n \frac{(\text{limit}_i)(\text{polyol}_i)}{100} \right)_j \quad (\text{Equation 2})$$

Where:

$\text{emiss}_{\text{allow, month}}$ = Allowable HAP ABA emissions from the slabstock foam production source for the month, pounds.

m = Number of slabstock foam production lines.

polyol_i = Amount of polyol used in the month in the production of foam grade i on foam production line j , determined in accordance with paragraph (b)(3) of this section, pounds.

n = Number of foam grades produced in the month on foam production line j .

limit_i = HAP ABA formulation limit for foam grade i , parts HAP ABA per 100 parts polyol. The HAP ABA formulation limits are determined in accordance with paragraph (d) of this section.

(3) The amount of polyol used for specific foam grades shall be based on the amount of polyol added to the slabstock foam production line at the

mixhead, determined in accordance with the provisions of § 63.1303(b).

(c) *Monthly compliance alternative.* At each slabstock foam production source complying with the monthly compliance alternative described in paragraph (a)(2) of this section, actual HAP ABA emissions shall not exceed the corresponding allowable HAP ABA emission level for the same month. The actual monthly HAP ABA emission level shall be determined using the procedures in paragraph (c)(1) of this section, and the allowable monthly HAP ABA emission level shall be calculated in accordance with paragraph (c)(2) of this section.

(1) The actual monthly HAP ABA emissions shall be equal to the amount of HAP ABA added to the slabstock foam production line at the mixhead, determined in accordance with § 63.1303(b), unless a recovery device is used. Slabstock foam production sources using recovery devices to reduce HAP ABA emissions shall determine actual monthly HAP ABA

emissions using the procedures in paragraph (e) of this section.

(2) The allowable HAP ABA emissions for the month shall be determined in accordance with Equation 2 of this section.

(d) *HAP ABA formulation limitations.* For each grade, the HAP ABA formulation limitation shall be determined in accordance with paragraphs (d)(1) through (d)(3) of this section. For any grade, the owner or operator may designate zero as the HAP ABA formulation limitation and not determine the HAP ABA formulation limitation in accordance with paragraphs (d)(1) through (d)(3) of this section.

(1) For existing sources, the HAP ABA formulation limitation for each grade of slabstock foam produced shall be determined using Equation 3 of this section. Zero shall be the formulation limitation for any grade of foam where the result of the formulation limitation equation (Equation 3) is negative (i.e., less than zero).

$$\text{ABA}_{\text{limit}} = -0.25(\text{IFD}) - 19.1\left(\frac{1}{\text{IFD}}\right) - 16.2(\text{DEN}) - 7.56\left(\frac{1}{\text{DEN}}\right) + 36.5 \quad (\text{Equation 3})$$

Where:

$\text{ABA}_{\text{limit}}$ = HAP ABA formulation limitation, parts HAP ABA allowed per hundred parts polyol (pph).

IFD = Indentation force deflection, pounds.

DEN = Density, pounds per cubic foot.

(2) For new sources, the HAP ABA formulation limitation for each grade of slabstock foam produced shall be determined as described in paragraphs (d)(2)(i) through (d)(2)(iv) of this section and in Table 1 of this subpart.

(i) For each foam grade with a density of 0.95 pounds per cubic foot or less, the HAP ABA formulation limitation shall be determined using Equation 3. Zero shall be the formulation limitation for any grade of foam where the result of the formulation limitation equation

(Equation 3 of this section) is negative (i.e., less than zero).

(ii) For each foam grade with a density of 1.4 pounds per cubic foot or less, and an IFD of 15 pounds or less, the HAP ABA formulation limitation shall be determined using Equation 3.

(iii) For each foam grade with a density greater than 0.95 pounds per cubic foot and an IFD greater than 15 pounds, the HAP ABA formulation limitation shall be zero.

(iv) For each foam grade with a density greater than 1.40 pounds per cubic foot, the HAP ABA formulation limitation shall be zero.

(3) With the exception of those grades for which the owner or operator has designated zero as the HAP ABA formulation limitation, the IFD and density for each foam grade shall be

determined in accordance with § 63.1304(b) and recorded in accordance with § 63.1307(c)(1)(i)(B) or § 63.1307(c)(2)(i)(B) within 10 working days of the production of the foam.

(e) *Compliance using recovery devices.* If a recovery device is used to comply with paragraphs (b) or (c) of this section, the owner or operator shall determine the allowable HAP ABA emissions for each month using Equation 2 in paragraph (b)(2) of this section, and the actual monthly HAP ABA emissions in accordance with paragraph (e)(1) of this section. The owner or operator shall also comply with the provisions of paragraph (e)(2) of this section.

(1) The actual monthly HAP ABA emissions shall be determined using Equation 4:

$$E_{\text{actual}} = E_{\text{unc}} - \text{HAPABA}_{\text{recovered}} \quad (\text{Equation 4})$$

Where:

E_{actual} = Actual HAP ABA emissions after control, pounds/month.

E_{unc} = Uncontrolled HAP ABA emissions, pounds/month, determined in accordance with paragraph (b)(1) of this section.

$\text{HAPABA}_{\text{recovered}}$ = HAP ABA recovered, pounds/month, determined in accordance with paragraph (e)(2) of this section.

(2) The amount of HAP ABA recovered shall be determined in accordance with § 63.1303(c).

§ 63.1298 Standards for slabstock flexible polyurethane foam production—HAP emissions from equipment cleaning.

Each owner or operator of a new or existing slabstock affected source complying with the emission point specific limitation option provided in § 63.1293(a)(1) shall not use a HAP or a

HAP-based material as an equipment cleaner.

§ 63.1299 Standards for slabstock flexible polyurethane foam production—source-wide emission limitation.

Each owner or operator of a new or existing slabstock affected source complying with the source-wide emission limitation option provided in § 63.1293(b) shall control HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions in accordance with the provisions in this section. Compliance shall be determined on a rolling annual basis in accordance with paragraph (a) of this section. As an alternative, the owner or operator can determine compliance monthly, as described in paragraph (b) of this section.

(a) *Rolling annual compliance.* Under the rolling annual compliance provisions, actual source-wide HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions are compared to allowable source-wide emissions for each consecutive 12-month period. The allowable source-wide HAP emission

level is calculated based on the production for the 12-month period, resulting in a potentially different allowable level for each 12-month period. While compliance is on an annual basis, compliance shall be determined monthly for the preceding 12-month period. The actual source-wide HAP emission level for a consecutive 12-month period shall be determined using the procedures in paragraphs (c)(1) through (4) of this section, unless a recovery device is used. Slabstock foam production sources using recovery devices shall determine actual source-wide HAP emissions in accordance with paragraph (e) of this section. The allowable HAP emission level for a consecutive 12-month period shall be determined using the procedures in paragraph (d) of this section.

(b) *Monthly compliance alternative.* As an alternative to determining compliance on a rolling annual basis, an owner or operator can determine compliance by comparing actual HAP emissions to allowable HAP emissions for each month. The allowable source-wide emission level is calculated based on the production for the month, resulting in a potentially different

allowable level each month. The actual monthly emission level shall be determined using the procedures in paragraphs (c)(1) through (3) of this section, unless a recovery device is used. Slabstock foam production sources using recovery devices shall determine actual source-wide HAP emissions in accordance with paragraph (e) of this section. The allowable monthly HAP ABA emission level shall be determined in accordance with Equation 6.

(c) *Procedures for determining actual source-wide HAP emissions.* The actual source-wide HAP ABA storage and equipment leak emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions shall be determined using the procedures in this section. Actual source-wide HAP emissions for each individual month shall be determined using the procedures specified in paragraphs (c)(1) through (3) of this section.

(1) Actual source-wide HAP emissions for a month shall be determined using Equation 5 and the information determined in accordance with paragraphs (c)(2) and (3) of this section.

$$PWE_{\text{actual}} = \sum_{i=1}^n (ST_{i, \text{begin}} - ST_{i, \text{end}} + ADD_i) \quad (\text{Equation 5})$$

Where:

PWE_{actual} = Actual source wide HAP ABA and equipment cleaning HAP emissions for a month, pounds/month.

n = Number of HAP ABA storage vessels.

$ST_{i, \text{begin}}$ = Amount of HAP ABA in storage vessel i at the beginning of the month, pounds, determined in accordance with the procedures listed in paragraph (c)(2) of this section.

$ST_{i, \text{end}}$ = Amount of HAP ABA in storage vessel i at the end of the month, pounds, determined in accordance with the procedures listed in paragraph (c)(2) of this section.

ADD_i = Amount of HAP ABA added to storage vessel i during the month, pounds, determined in accordance with the procedures listed in paragraph (c)(3) of this section.

(2) The amount of HAP ABA in a storage vessel shall be determined by monitoring the HAP ABA level in the storage vessel in accordance with § 63.1303(d).

(3) The amount of HAP ABA added to a storage vessel for a given month shall be the sum of the amounts of all individual HAP ABA deliveries that occur during the month. The amount of each individual HAP ABA delivery shall be determined in accordance with § 63.1303(e).

(4) Actual source-wide HAP emissions for each consecutive 12-month period shall be calculated as the sum of actual monthly source wide HAP emissions for each of the individual 12 months in the period, calculated in accordance with paragraphs (c) (1) through (3) of this section.

(d) Allowable source-wide HAP emissions for a consecutive 12-month period shall be calculated as the sum of allowable monthly source-wide HAP emissions for each of the individual 12 months in the period. Allowable source-wide HAP emissions for each individual month shall be calculated using Equation 6.

$$\text{emiss}_{\text{allow, month}} = \sum_{j=1}^m \left(\sum_{i=1}^n \frac{(\text{limit}_i)(\text{polyol}_i)}{100} \right) j \quad (\text{Equation 6})$$

Where:

$\text{emiss}_{\text{allow, month}}$ = Allowable HAP ABA storage and equipment leak

emissions, HAP ABA emissions from the production line, and equipment cleaning HAP emissions

from the slabstock foam production source for the month, pounds.

m = Number of slabstock foam production lines.

polyol_j = Amount of polyol used in the month in the production of foam grade i on foam production line j, determined in accordance with § 63.1303(b), pounds.

n = Number of foam grades produced in the month on foam production line j.

limit_i = HAP ABA formulation limit for foam grade i, parts HAP ABA per 100 parts polyol. The HAP ABA formulation limits are determined in accordance with § 63.1297(d).

(e) *Compliance using recovery devices.* If a recovery device is used to comply with paragraphs (a) or (b) of this section, the owner or operator shall determine the allowable source-wide HAP emissions for each month using

Equation 6 in paragraph (d) of this section, and the actual monthly source-wide HAP emissions in accordance with paragraph (e)(1) of this section. The owner or operator shall also comply with the provisions of paragraph (e)(2) of this section.

(1) Actual monthly source-wide HAP emissions shall be determined using Equation 7.

$$E_{\text{actual}} = E_{\text{unc}} - \text{HAPABA}_{\text{recovered}} \quad (\text{Equation 7})$$

Where:

E_{actual} = Actual source-wide HAP emissions after control, pounds/month.

E_{unc} = Uncontrolled source-wide HAP emissions, pounds/month, determined in accordance with paragraph (c) (1) through (3) of this section.

$\text{HAPABA}_{\text{recovered}}$ = HAP ABA recovered, pounds/month, determined in accordance with paragraph (e)(2) of this section.

(2) The amount of HAP ABA recovered shall be determined in accordance with § 63.1303(c).

§ 63.1300 Standards for molded flexible polyurethane foam production.

Each owner or operator of a new or existing molded affected source shall comply with the provisions in paragraphs (a) and (b) of this section.

(a) A HAP or HAP-based material shall not be used as an equipment cleaner to flush the mixhead, nor shall it be used elsewhere as an equipment cleaner in a molded flexible polyurethane foam process, with the following exception. Diisocyanates may be used to flush the mixhead and associated piping during periods of startup or maintenance, provided that the diisocyanate compounds are contained in a closed loop system and are re-used in production.

(b) A HAP-based mold release agent shall not be used in a molded flexible polyurethane foam source process.

§ 63.1301 Standards for rebond foam production.

Each owner or operator of a new or existing rebond foam affected source shall comply with the provisions in paragraphs (a) and (b) of this section.

(a) A HAP or HAP-based material shall not be used as an equipment cleaner at a rebond foam source.

(b) A HAP-based mold release agent shall not be used in a rebond foam source.

§ 63.1302 Applicability of subpart A requirements.

The owner or operator of an affected source shall comply with the applicable requirements of subpart A of this part, as specified in Table 2 of this subpart.

§ 63.1303 Monitoring requirements.

Owners and operators of affected sources shall comply with each applicable monitoring provision in this section.

(a) *Monitoring requirements for storage vessel carbon adsorption systems.* Each owner or operator using a carbon adsorption system to meet the requirements of § 63.1294(a) or § 63.1295 shall monitor the concentration level of the HAP or the organic compounds in the exhaust vent stream (or outlet stream exhaust) from the carbon adsorption system at the frequency specified in (a)(1) or (2) of this section in accordance with either (a)(3) or (4) of this section.

(1) The concentration level of HAP or organic compounds shall be monitored during each unloading event, or once per month during an unloading event if multiple unloading events occur in a month.

(2) As an alternative to monthly monitoring, the owner or operator can set the monitoring frequency at an interval no greater than 20 percent of the carbon replacement interval, which is established using a design analysis described below in paragraphs (a)(1)(i) through (iii) of this section.

(i) The design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature.

(ii) The design analysis shall establish the outlet organic concentration level, the capacity of the carbon bed, and the working capacity of activated carbon used for the carbon bed, and

(iii) The design analysis shall establish the carbon replacement interval based on the total carbon working capacity of the carbon

adsorption system and the schedule for filling the storage vessel.

(3) Measurements of HAP concentration shall be made using 40 CFR part 60, appendix A, Method 18. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.

(4) Measurements of organic compounds shall be made using 40 CFR part 60, Appendix A, Method 25A. The measurement shall be conducted over at least one 5-minute interval during which the storage vessel is being filled.

(b) *Monitoring for HAP ABA and polyol added to the foam production line at the mixhead.* (1) The owner or operator of each slabstock affected source shall comply with the provisions in paragraph (b)(1)(i) of this section, and, if applicable, the provisions of paragraph (b)(1)(ii) of this section. Alternatively, the owner or operator may comply with paragraph (b)(5) of this section.

(i) Owners or operators of all slabstock affected sources shall continuously monitor the amount of polyol added at the mixhead when foam is being poured, in accordance with paragraphs (b)(2) through (4) of this section.

(ii) Owners or operators of slabstock foam affected sources using the emission point specific limitation option provided in § 63.1293(a)(1) shall continuously monitor the amount of HAP ABA added at the mixhead when foam is being poured, in accordance with paragraphs (b)(2)(ii), (b)(3), and (b)(4) of this section.

(2) The owner or operator shall monitor either:

- (i) Pump revolutions; or
- (ii) Flow rate.

(3) The device used to monitor the parameter from paragraph (b)(2) shall have an accuracy to within ± 2.0 percent of the HAP ABA being measured, and shall be calibrated initially, and periodically, in

accordance with paragraph (b)(3)(i) or (ii) of this section.

(i) For polyol pumps, the device shall be calibrated at least once each 6 months.

(ii) For HAP ABA pumps, the device shall be calibrated at least once each month.

(4) Measurements must be recorded at the beginning and end of the production of each grade of foam within a run of foam.

(5) As an alternative to the monitoring described in paragraphs (b)(2) through (4) of this section, the owner or operator may develop an alternative monitoring program. Alternative monitoring programs must be submitted to the Administrator for approval in the Precompliance Report as specified in § 63.1306(c)(4) for existing sources or in the Application for approval of construction or reconstruction for new sources. If an owner or operator wishes to develop an alternative monitoring program after the compliance date, the program shall be submitted to the Administrator for approval before the owner or operator wishes to begin using the alternative program. If the Administrator does not notify the owner or operator of objections to the program, or any part of the program, within 45 days after its receipt, the program shall be deemed approved. Until the program is approved, the owner or operator of an affected source remains subject to the requirements of this subpart. The components of an alternative monitoring program shall include, at a minimum, the items listed in paragraphs (b)(5)(i) through (iv) of this section.

(i) A description of the parameter to be continuously monitored when foam is being poured to measure the amount of HAP ABA or polyol added at the mixhead.

(ii) A description of how the monitoring results will be recorded, and how the results will be converted into amount of HAP ABA or polyol delivered to the mixhead.

(iii) Data demonstrating that the monitoring device is accurate to within ± 2.0 percent.

(iv) Procedures to ensure that the accuracy of the parameter monitoring results is maintained. These procedures shall, at a minimum, consist of periodic calibration of all monitoring devices.

(c) *Recovered HAP ABA monitoring.* The owner or operator of each slabstock affected source using a recovery device to reduce HAP ABA emissions shall develop and comply with a recovered HAP ABA monitoring and recordkeeping program. The components of these plans shall

include, at a minimum, the items listed in paragraphs (c)(1) through (5) of this section. These plans must be submitted for approval in accordance with paragraph (c)(6) of this section.

(1) A device, installed, calibrated, maintained, and operated according to the manufacturer's specifications, that indicates the cumulative amount of HAP ABA recovered by the solvent recovery device over each 1-month period. The device shall be certified by the manufacturer to be accurate to within ± 2.0 percent.

(2) The location where the monitoring will occur shall ensure that the measurements are taken after HAP ABA has been fully recovered (i.e., after separation from water introduced into the HAP ABA during regeneration).

(3) A description of the parameter to be monitored, and the times the parameter will be monitored.

(4) Data demonstrating that the monitoring device is accurate to within ± 2.0 percent.

(5) Procedures to ensure that the accuracy of the parameter monitoring results is maintained. These procedures shall, at a minimum, consist of periodic calibration of all monitoring devices.

(6) Recovered HAP ABA monitoring and recordkeeping programs must be submitted to the Administrator for approval in the Precompliance Report as specified in § 63.1306(c)(6) for existing sources or in the Application for approval of construction or reconstruction for new sources. If an owner or operator wishes to develop a recovered HAP ABA monitoring program after the compliance date, the program shall be submitted to the Administrator for approval before the owner or operator wishes to begin using the program. If the Administrator does not notify the owner or operator of objections to the program within 45 days after its receipt, the program shall be deemed approved. Until the program is approved, the owner or operator of an affected source remains subject to the requirements of this subpart.

(d) *Monitoring of HAP ABA in a storage vessel.* The amount of HAP ABA in a storage vessel shall be determined weekly by monitoring the HAP ABA level in the storage vessel using a level measurement device that meets the criteria described in paragraphs (d)(1) and either (d)(2) or (d)(3) of this section.

(1) The level measurement device must be calibrated initially and at least once per year thereafter.

(2) With the exception of visually-read level measurement devices (i.e., gauge glass), the device must have either a digital or printed output.

(3) If the level measurement device is a visually-read device, the device must be equipped with permanent graduated markings to indicate HAP ABA level in the storage tank.

(e) *Monitoring of HAP ABA added to a storage vessel.* The amount of HAP ABA added to a storage vessel during a delivery shall be determined in accordance with either paragraphs (e)(1), (2), (3), or (4) of this section.

(1) The volume of HAP ABA added to the storage vessel shall be determined by recording the volume in the storage vessel prior to the delivery and the volume after the delivery, provided that the storage tank level measurement device used to determine the levels meets the criteria in (d) of this section.

(2) The volume of HAP ABA added to the storage vessel shall be determined by monitoring the flow rate using a device with an accuracy of ± 2.0 percent, and calibrated initially and at least once each six months thereafter.

(3) The weight of HAP ABA added to the storage vessel shall be calculated as the difference of the full weight of the transfer vehicle prior to unloading into the storage vessel and the empty weight of the transfer vehicle after unloading into the storage vessel. The weight shall be determined using a scale meeting the requirements of either paragraph (e)(2)(i) or (ii) of this section.

(i) A scale approved by the State or local agencies using the procedures contained in Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998 (incorporation by reference—see § 63.14).

(ii) A scale determined to be in compliance with the requirements of the National Institute of Standards and Technology Handbook 44 at least once per year by a registered scale technician.

(4) As an alternative to the monitoring options described in paragraphs (e)(1) through (e)(3) of this section, the owner or operator may develop an alternative monitoring program. Alternative monitoring programs must be submitted to the Administrator for approval in the Precompliance Report as specified in § 63.1306(c)(4) for existing sources or in the Application for approval of construction or reconstruction for new sources. If an owner or operator wishes to develop an alternative monitoring program after the compliance date, the program shall be submitted to the Administrator for approval before the owner or operator wishes to begin using the alternative program. If the Administrator does not notify the owner or operator of objections to the program within 45 days after its receipt, the

program shall be deemed approved. Until the program is approved, the owner or operator of an affected source remains subject to the requirements of this subpart. The components of an alternative monitoring program shall include, at a minimum, the items listed in paragraphs (e)(3)(i) through (iv) of this section.

(i) A description of the parameter to be monitored to determine the amount of HAP ABA added to the storage vessel during a delivery.

(ii) A description of how the results will be recorded, and how the results will be converted into the amount of HAP ABA added to the storage vessel during a delivery.

(iii) Data demonstrating that the monitoring device is accurate to within ± 2.0 percent, and

(iv) Procedures to ensure that the accuracy of the monitoring measurements is maintained. These procedures shall, at a minimum, consist of periodic calibration of all monitoring devices.

§ 63.1304 Testing requirements.

Owners and operators of affected sources shall use the test methods listed in this section, as applicable, to demonstrate compliance with this subpart.

(a) *Test method and procedures to determine equipment leaks.* Monitoring, as required under § 63.1296, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.

(2) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except that the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the source fluid, rather than for each individual VOC in the stream. For source streams that contain nitrogen, air, or other inerts which are not HAP or VOC, the average stream response factor shall be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane and air at a concentration of approximately 1,000 ppm for all transfer pumps; and 500 ppm for all other equipment, except as

provided in paragraph (a)(4)(iii) of this section.

(iii) The instrument may be calibrated at a higher methane concentration (up to 2,000 ppm) than the leak definition concentration for a specific piece of equipment for monitoring that piece of equipment. If the monitoring instrument's design allows for multiple calibration gas concentrations, then the lower concentration calibration gas shall be no higher than 2,000 ppm methane and the higher concentration calibration gas shall be no higher than 10,000 ppm methane.

(5) Monitoring shall be performed when the equipment is in HAP ABA service, in use with an acceptable surrogate volatile organic compound which is not a HAP ABA, or is in use with any other detectable gas or vapor.

(6) If no instrument is available onsite that will meet the performance criteria specified in section 3.1.2(a) of Method 21 of 40 CFR Part 60, appendix A, the readings from an available instrument may be adjusted by multiplying by the average response factor for the stream.

(b) *Test method to determine foam properties.* The IFD and density of each grade of foam produced during each run of foam shall be determined using ASTM D3574-91, Standard Test Methods for Flexible Cellular Materials—Slab, Bonded, and Molded (incorporation by reference—see § 63.14), using a sample of foam cut from the center of the foam bun. The maximum sample size for which the IFD and density is determined shall not be larger than 24 inches by 24 inches by 4 inches. For grades of foam where the owner or operator has designated the HAP ABA formulation limitation as zero, the owner or operator is not required to determine the IFD and density in accordance with this paragraph.

§ 63.1305 Alternative means of emission limitation.

An owner or operator of an affected source may request approval to use an alternative means of emission limitation, following the procedures in this section.

(a) The owner or operator can request approval to use an alternative means of emission limitation in the precompliance report for existing sources, the application for construction or reconstruction for new sources, or at any time.

(b) This request shall include a complete description of the alternative means of emission limitation.

(c) Each owner or operator applying for permission to use an alternative means of emission limitation under

§ 63.6(g) shall be responsible for collecting and verifying data to demonstrate the emission reduction achieved by the alternative means of emission limitation.

(d) Use of the alternative means of emission limitation shall not begin until approval is granted by the Administrator in accordance with § 63.6(g).

§ 63.1306 Reporting requirements.

Owners and operators of affected sources shall comply with each applicable reporting provision in this section.

(a) *Initial notification.* Each affected source shall submit an initial notification in accordance with § 63.9(b).

(b) *Application for approval of construction or reconstruction.* Each owner or operator shall submit an application for approval of construction or reconstruction in accordance with the provisions of § 63.5(d).

(c) *Precompliance report.* Each slabstock affected source shall submit a precompliance report no later than 12 months before the compliance date. This report shall contain the information listed in paragraphs (c)(1) through (c)(8) of this section, as applicable.

(1) Whether the source will comply with the emission point specific limitations described in § 63.1293(a), or with the source-wide emission limitation described in § 63.1293(b).

(2) For a source complying with the emission point specific limitations, whether the source will comply on a rolling annual basis in accordance with § 63.1297(b), or will comply with the monthly alternative for compliance contained in § 63.1297(c).

(3) For a source complying with the source-wide emission limitation, whether the source will comply on a rolling annual basis in accordance with § 63.1299(a), or will comply with the monthly alternative for compliance contained in § 63.1299(b).

(4) A description of how HAP ABA and/or polyol added at the mixhead will be monitored. If the owner or operator is developing an alternative monitoring program, the alternative monitoring program containing the information in § 63.1303(b)(5)(i) through (iv) shall be submitted.

(5) Notification of the intent to use a recovery device to comply with the provisions of § 63.1297 or § 63.1299.

(6) For slabstock affected sources complying with § 63.1297 or § 63.1299 using a recovery device, the continuous recovered HAP ABA monitoring and

recordkeeping program, developed in accordance with § 63.1303(c).

(7) For sources complying with the source-wide emission limitation, a description of how the amount of HAP ABA in a storage vessel shall be determined.

(8) For sources complying with the source-wide emission limitation, a description of how the amount of HAP ABA added to a storage vessel during a delivery will be monitored. If the owner or operator is developing an alternative monitoring program, the alternative monitoring program containing the information in § 63.1303(e)(4)(i) through (iv) shall be submitted.

(9) If the Administrator does not notify the owner or operator of objections to an alternative monitoring program submitted in accordance with (c)(4) or (c)(6) of this section, or a recovered HAP ABA monitoring and recordkeeping program submitted in accordance with (c)(7) of this section, the program shall be deemed approved 45 days after its receipt by the Administrator.

(d) *Notification of compliance status.* Each affected source shall submit a notification of compliance status report no later than 180 days after the compliance date. For slabstock affected sources, this report shall contain the information listed in paragraphs (d)(1) through (3) of this section, as applicable. This report shall contain the information listed in paragraph (d)(4) of this section for molded foam processes and in paragraph (d)(5) for rebond foam processes.

(1) A list of diisocyanate storage vessels, along with a record of the type of control utilized for each storage vessel.

(2) For transfer pumps in diisocyanate service, a record of the type of control utilized for each transfer pump.

(3) If the source is complying with the emission point specific limitations of §§ 63.1294 through 63.1298, the information listed in paragraphs (b)(3)(i) through (iii) of this section.

(i) A list of HAP ABA storage vessels, along with a record of the type of control utilized for each storage vessel.

(ii) A list of pumps, valves, connectors, pressure-relief devices, and open-ended valves or lines in HAP ABA service.

(iii) A list of any modifications to equipment in HAP ABA service made to comply with the provisions of § 63.1296.

(4) A statement that the molded foam affected source is in compliance with § 63.1300, or a statement that molded foam processes at an affected source are in compliance with § 63.1300.

(5) A statement that the rebond foam affected source is in compliance with § 63.1301, or that rebond processes at an affected source are in compliance with § 63.1301.

(e) *Semiannual reports.* Each slabstock affected source shall submit a report containing the information specified in paragraphs (e)(1) through (5) of this section semiannually no later than 60 days after the end of each 180 day period. The first report shall be submitted no later than 240 days after the date that the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date that the Notification of Compliance Status Report is due.

(1) For slabstock affected sources complying with the rolling annual compliance provisions of either § 63.1297 or § 63.1299, the allowable and actual HAP ABA emissions (or allowable and actual source-wide HAP emissions) for each of the 12-month periods ending on each of the six months in the reporting period. This information is not required to be included in the initial semi-annual compliance report.

(2) For sources complying with the monthly compliance alternative of either § 63.1297 or § 63.1299, the allowable and actual HAP ABA emissions (or allowable and actual source-wide HAP emissions) for each of the six months in the reporting period.

(3) For sources complying with the storage vessel provisions of § 63.1294(a) or § 63.1295 using a carbon adsorption system, unloading events that occurred after breakthrough was detected and before the carbon was replaced.

(4) Any equipment leaks that were not repaired in accordance with § 63.1294(b)(2)(iii), § 63.1294(c), § 63.1296(a)(2)(iii), (b)(2), (b)(3)(iv), (b)(4)(v), (c)(2), (c)(4)(ii), and (d)(2).

(5) Any leaks in vapor return lines that were not repaired in accordance with § 63.1294(a)(1)(ii) or § 63.1295(b)(2).

(f) *Other reports.* (1) Change in selected emission limitation. An owner or operator electing to change their slabstock flexible polyurethane foam emission limitation (from emission point specific limitations to a source wide emission limitation, or vice versa), selected in accordance with § 63.1293, shall notify the Administrator no later than 180 days prior to the change.

(2) *Change in selected compliance method.* An owner or operator changing the period of compliance for either § 63.1297 or § 63.1299 (between rolling annual and monthly) shall notify the Administrator no later than 180 days prior to the change.

(g) *Annual compliance certifications.* Each affected source subject to the provisions in §§ 63.1293 through 63.1301 shall submit a compliance certification annually.

(1) The compliance certification shall be based on information consistent with that contained in § 63.1308 of this section, as applicable.

(2) A compliance certification required pursuant to a State or local operating permit program may be used to satisfy the requirements of this section, provided that the compliance certification is based on information consistent with that contained in § 63.1308 of this section, and provided that the Administrator has approved the State or local operating permit program under part 70 of this chapter.

(3) Each compliance certification submitted pursuant to this section shall be signed by a responsible official of the company that owns or operates the affected source.

§ 63.1307 Recordkeeping requirements.

The applicable records designated in paragraphs (a) through (c) of this section shall be maintained by owners and operators of all affected sources.

(a) *Storage vessel records.* (1) A list of diisocyanate storage vessels, along with a record of the type of control utilized for each storage vessel.

(2) For each slabstock affected source complying with the emission point specific limitations of §§ 63.1294 through 63.1298, a list of HAP ABA storage vessels, along with a record of the type of control utilized for each storage vessel.

(3) For storage vessels complying through the use of a carbon adsorption system, paragraph (a)(3)(i) or (ii), and paragraph (a)(3)(iii) of this section.

(i) Records of dates and times when the carbon adsorption system is monitored for carbon breakthrough and the monitoring device reading, when the device is monitored in accordance with § 63.1303(a); or

(ii) For affected sources monitoring at an interval no greater than 20 percent of the carbon replacement interval, in accordance with § 63.1303(a)(2), the records listed in paragraphs (a)(3)(ii)(A) and (B) of this section.

(A) Records of the design analysis, including all the information listed in § 63.1303(a)(2)(i) through (iii), and

(B) Records of dates and times when the carbon adsorption system is monitored for carbon breakthrough and the monitoring device reading.

(iii) Date when the existing carbon in the carbon adsorption system is replaced with fresh carbon.

(4) For storage vessels complying through the use of a vapor return line,

paragraphs (a)(4)(i) through (iii) of this section.

(i) Dates and times when each unloading event occurs and each inspection of the vapor return line for leaks occurs.

(ii) Records of dates and times when a leak is detected in the vapor return line.

(iii) Records of dates and times when a leak is repaired.

(b) *Equipment leak records.* (1) A list of components as specified below in paragraphs (b)(1)(i) and (ii).

(i) For all affected sources, a list of components in diisocyanate service.

(ii) For affected sources complying with the emission point specific limitations of §§ 63.1294 through 63.1298, a list of components in HAP ABA service.

(2) For transfer pumps in diisocyanate service, a record of the type of control utilized for each transfer pump and the date of installation.

(3) When a leak is detected as specified in § 63.1294(b)(2)(ii), § 63.1294(c), § 63.1296(a)(2), (b)(1), (c)(1), and (d)(1), the requirements listed in paragraphs (b)(3)(i) and (ii) of this section apply:

(i) Leaking equipment shall be identified in accordance with the requirements in paragraphs (b)(3)(i)(A) through (C) of this section.

(A) A readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(B) The identification on a valve may be removed after it has been monitored for 2 successive quarters as specified in § 63.1296(b)(1) and no leak has been detected during those 2 quarters.

(C) The identification on equipment, other than a valve, may be removed after it has been repaired.

(ii) The information in paragraphs (b)(2)(ii)(A) through (H) shall be recorded for leaking components.

(A) The instrument and operator identification numbers and the equipment identification number.

(B) The date the leak was detected and the dates of each attempt to repair the leak.

(C) Repair methods applied in each attempt to repair the leak.

(D) The words "above leak definition" if the maximum instrument reading measured by the methods specified in § 63.1304(a) after each repair attempt is equal or greater than the leak definitions for the specified equipment.

(E) The words "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(F) The expected date of the successful repair of the leak if a leak is not repaired within 15 calendar days.

(G) The date of successful repair of the leak.

(H) The date the identification is removed.

(c) *HAP ABA records.* (1) *Emission point specific limitations—rolling annual compliance and monthly compliance alternative records.* Each slabstock affected source complying with the emission point specific limitations of §§ 63.1294 through 63.1298, and the rolling annual compliance provisions of § 63.1297(a)(1), shall maintain the records listed in paragraphs (c)(1)(i), (ii), (iii), and (iv) of this section. Each flexible polyurethane foam slabstock source complying with the emission point specific limitations of §§ 63.1294 through 63.1298, and the monthly compliance alternative of § 63.1297(a)(2), shall maintain the records listed in paragraphs (c)(1)(i), (ii), and (iv) of this section.

(i) Daily records of the information listed below in paragraphs (c)(1)(i)(A) through (C) of this section.

(A) A log of foam runs each day. For each run, the log shall include a list of the grades produced during the run.

(B) Results of the density and IFD testing for each grade of foam produced during each run of foam, conducted in accordance with the procedures in § 63.1304(b). The results of this testing shall be recorded within 10 working days of the production of the foam. For grades of foam where the owner or operator has designated the HAP ABA formulation limitation as zero, the owner or operator is not required to keep records of the IFD and density.

(C) The amount of polyol added to the slabstock foam production line at the mixhead for each run of foam, determined in accordance with § 63.1303(b).

(ii) Monthly records of the information listed in paragraphs (c)(1)(ii)(A) through (E) of this section.

(A) A listing of all foam grades produced during the month.

(B) For each foam grade produced, the HAP ABA formulation limitation, calculated in accordance with § 63.1297(d).

(C) With the exception of those grades for which the owner or operator has designated zero as the HAP ABA formulation limitation, the total amount of polyol used in the month for each foam grade produced.

(D) The total allowable HAP ABA emissions for the month, determined in accordance with § 63.1297(b)(2).

(E) The total amount of HAP ABA added to the slabstock foam production line at the mixhead during the month, determined in accordance with § 63.1303(b).

(iii) Each source complying with the rolling annual compliance provisions of § 63.1297(b) shall maintain the records listed in paragraphs (c)(1)(iii)(A) and (B) of this section.

(A) The sum of the total allowable HAP ABA emissions for the month and the previous 11 months.

(B) The sum of the total actual HAP ABA emissions for the month and the previous 11 months.

(iv) Records of all calibrations for each device used to measure polyol and HAP ABA added at the mixhead, conducted in accordance with § 63.1303(b)(3).

(2) *Source-wide limitations—rolling annual compliance and monthly compliance alternative records.* Each slabstock affected source complying with the source-wide limitations of § 63.1299, and the rolling annual compliance provisions in § 63.1299(a), shall maintain the records listed in paragraphs (c)(2)(i) through (c)(2)(viii) of this section. Each flexible polyurethane foam slabstock source complying with the source-wide limitations of § 63.1299, and the monthly compliance alternative of § 63.1299(b), shall maintain the records listed in paragraphs (c)(2)(i) through (c)(2)(iii) and paragraphs (c)(2)(v) through (c)(2)(vii) of this section.

(i) Daily records of the information listed in paragraphs (c)(2)(i)(A) through (C) of this section.

(A) A log of foam runs each day. For each run, the log shall include a list of the grades produced during the run.

(B) Results of the density and IFD testing for each grade of foam produced during each run of foam, conducted in accordance with the procedures in § 63.1304(b). The results of this testing shall be recorded within 10 working days of the production of the foam. For grades of foam where the owner or operator has designated the HAP ABA formulation limitation as zero, the owner or operator is not required to keep records of the IFD and density.

(C) With the exception of those grades for which the owner or operator has designated zero as the HAP ABA formulation limitation, the amount of polyol added to the slabstock foam production line at the mixhead for each grade produced during each run of foam, determined in accordance with § 63.1303(b).

(ii) For sources complying with the source-wide emission limitation, weekly records of the storage tank level.

determined in accordance with § 63.1303(d).

(iii) Monthly records of the information listed below in paragraphs (c)(2)(iii)(A) through (E) of this section.

(A) A listing of all foam grades produced during the month.

(B) For each foam grade produced, the residual HAP formulation limitation, calculated in accordance with § 63.1297(d).

(C) With the exception of those grades for which the owner or operator has designated zero as the HAP ABA formulation limitation, the total amount of polyol used in the month for each foam grade produced.

(D) The total allowable HAP ABA and equipment cleaning emissions for the month, determined in accordance with § 63.1297(b)(2).

(E) The total actual source-wide HAP ABA emissions for the month, determined in accordance with § 63.1299(c)(1), along with the information listed in paragraphs (c)(2)(iii)(E)(I) and (2) of this section.

(I) The amounts of HAP ABA in the storage vessel at the beginning and end of the month, determined in accordance with § 63.1299(c)(2); and

(2) The amount of each delivery of HAP ABA to the storage vessel, determined in accordance with § 63.1299(c)(3).

(iv) Each source complying with the rolling annual compliance provisions of § 63.1299(a) shall maintain the records listed in paragraphs (c)(2)(iv)(A) and (B) of this section.

(A) The sum of the total allowable HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months.

(B) The sum of the total actual HAP ABA and equipment cleaning HAP emissions for the month and the previous 11 months.

(v) Records of all calibrations for each device used to measure polyol added at the mixhead, conducted in accordance with § 63.1303(b)(3).

(vi) Records of all calibrations for each device used to measure the amount of HAP ABA in the storage vessel, conducted in accordance with § 63.1303(d)(1).

(vii) Records to verify that all scales used to measure the amount of HAP ABA added to the storage vessel meet the requirements of § 63.1303(e)(3). For scales meeting the criteria of § 63.1303(e)(3)(i), this documentation shall be in the form of written confirmation of the State or local approval. For scales complying with § 63.1303(e)(3)(ii), this documentation shall be in the form of a report provided by the registered scale technician.

(d) The owner or operator of each affected source complying with § 63.1297 or § 63.1299 through the use of a recovery device shall maintain the following records:

(1) A copy of the recovered HAP ABA monitoring and recordkeeping program, developed pursuant to § 63.1303(c);

(2) Certification of the accuracy of the monitoring device.

(3) Records of periodic calibration of the monitoring devices.

(4) Records of parameter monitoring results, and

(5) The amount of HAP ABA recovered each time it is measured.

(e) The owner or operator of an affected source subject to § 63.1298 of this subpart shall maintain a product data sheet for each equipment cleaner used which includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids).

(f) The owner or operator of an affected source following the compliance methods in § 63.1308(b)(1) and (c)(1) shall maintain records of each use of a vapor return line during unloading, of any leaks detected during unloading, and of repairs of leaks detected during unloading.

(g) The owner or operator of an affected source subject to § 63.1300 or § 63.1301 of this subpart shall maintain a product data sheet for each compound other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance, which includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids), of each solvent other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance.

(h) The owner or operator of an affected source subject to § 63.1300 or § 63.1301 of this subpart shall maintain a product data sheet for each mold release agent used that includes the HAP content, in kg of HAP/kg solids (lb HAP/lb solids), of each mold release agent.

§ 63.1308 Compliance demonstrations.

(a) For each affected source, compliance with the requirements listed in paragraphs (a)(1) through (a)(2) of this section shall mean compliance with the requirements contained in §§ 63.1293 through 63.1301, absent any credible evidence to the contrary.

(1) The requirements described in Tables 3, 4, and 5 of this subpart; and

(2) The requirement to submit a compliance certification annually as required under § 63.1306(g).

(b) *All slabstock affected sources.* For slabstock affected sources, failure to meet the requirements contained in

§ 63.1294 shall be considered a violation of this subpart. Violation of each item listed in the paragraphs (b)(1) through (b)(6) of this section, as applicable, shall be considered a separate violation.

(1) For each affected source complying with § 63.1294(a) in accordance with § 63.1294(a)(1), each unloading event that occurs when the diisocyanate storage vessel is not equipped with a vapor return line from the storage vessel to the tank truck or rail car, each unloading event that occurs when the vapor line is not connected, each unloading event that the vapor line is not inspected for leaks as described in § 63.1294(a)(1)(i), each unloading event that occurs after a leak has been detected and not repaired, and each calendar day after a leak is detected, but not repaired as soon as practicable;

(2) For each affected source complying with § 63.1294(a) in accordance with § 63.1294(a)(2), each unloading event that the diisocyanate storage vessel is not equipped with a carbon adsorption system, each unloading event (or each month if more than one unloading event occurs in a month) that the carbon adsorption system is not monitored for breakthrough in accordance with § 63.1303(a)(3) or (4), and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;

(3) For each affected source complying with § 63.1294(a) in accordance with § 63.1294(a)(2) through the alternative monitoring procedures in § 63.1303(a)(2), each unloading event that the diisocyanate storage vessel is not equipped with a carbon adsorption system, each time that the carbon adsorption system is not monitored for breakthrough in accordance with § 63.1303(a)(3) or (4) at the interval established in the design analysis, and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;

(4) For each affected source complying with § 63.1294(b) in accordance with § 63.1294(b)(1), each calendar day that a transfer pump in diisocyanate service is not a sealless pump;

(5) For each affected source complying with § 63.1294(b) in accordance with § 63.1294(b)(2), each calendar day that a transfer pump in diisocyanate service is not submerged as described in § 63.1294(b)(2)(i), each week that the pump is not visually monitored for leaks, each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made in accordance with

§ 63.1294(b)(2)(iii)(B), and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of § 63.1294(d));

(6) For each affected source complying with § 63.1294(c), each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made, and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of § 63.1296(f)).

(c) *Slabstock affected sources complying with the emission point specific limitations.* For slabstock affected sources complying with the emission point specific limitations as provided in § 63.1293(a), failure to meet the requirements contained in §§ 63.1295 through 63.1298 shall be considered a violation of this subpart. Violation of each item listed in the paragraphs (c)(1) through (c)(17) of this section, as applicable, shall be considered a separate violation.

(1) For each affected source complying with § 63.1295(a) in accordance with § 63.1295(b), each unloading event that occurs when the HAP ABA storage vessel is not equipped with a vapor return line from the storage vessel to the tank truck or rail car, each unloading event that occurs when the vapor line is not connected, each unloading event that the vapor line is not inspected for leaks as described in § 63.1295(b)(1), each unloading event that occurs after a leak has been detected and not repaired, and each calendar day after a leak is detected but not repaired as soon as practicable;

(2) For each affected source complying with § 63.1295(a) in accordance with § 63.1295(c), each unloading event that the HAP ABA storage vessel is not equipped with a carbon adsorption system, each unloading event (or each month if more than one unloading event occurs in a month) that the carbon adsorption system is not monitored for breakthrough in accordance with § 63.1303(a)(3) or (4), and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;

(3) For each affected source complying with § 63.1295(a) in accordance with § 63.1295(c) through the alternative monitoring procedures in § 63.1303(a)(2), each unloading event

that the HAP ABA storage vessel is not equipped with a carbon adsorption system, each time that the carbon adsorption system is not monitored for breakthrough in accordance with § 63.1303(a)(3) or (4) at the interval established in the design analysis, and each unloading event that occurs when the carbon is not replaced after an indication of breakthrough;

(4) For each affected source complying with § 63.1296(a) in accordance with § 63.1296(a)(1), each calendar day that a transfer pump in HAP ABA service is not a sealless pump;

(5) For each affected source complying with § 63.1296(a) in accordance with § 63.1296(a)(2), each week that a visual inspection of a pump in HAP ABA service is not performed, each quarter that a pump in HAP ABA service is not monitored to detect leaks in accordance with § 63.1304(a), each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made in accordance with § 63.1296(b)(2)(iii)(B), and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of § 63.1296(f));

(6) For each affected source complying with § 63.1296(b) in accordance with § 63.1296(b)(1) and (2), each quarter that a valve in HAP ABA service is not monitored to detect leaks in accordance with § 63.1304(a), each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made in accordance with § 63.1296(b)(2)(ii), and each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, whichever is earlier (with the exception of situations meeting the criteria of § 63.1296(f));

(7) For each affected source complying with § 63.1296(b)(3) for each valve designated as unsafe to monitor as described in § 63.1296(b)(3)(i), failure to develop the written plan required by § 63.1296(b)(3)(ii), each period specified in the written plan that an unsafe-to-monitor valve in HAP ABA service is not monitored, and each calendar day in which a leak is not repaired in accordance with the written plan;

(8) For each affected source complying with § 63.1296(b)(4) for one or more valves designated as difficult-to-monitor in accordance with § 63.1296(b)(4)(i) and (ii), failure to develop the written plan required by § 63.1296(b)(4)(iii), each calendar year

that a difficult-to-monitor valve in HAP ABA service is not monitored, and each calendar day in which a leak is not repaired in accordance with the written plan;

(9) For each affected source complying with § 63.1296(c) in accordance with § 63.1296(c)(1) and (2), each year that a connector in HAP ABA service is not monitored to detect leaks in accordance with § 63.1304(a); each calendar day after 3 months after a connector has been opened, has otherwise had the seal broken, or a leak is repaired, that each connector in HAP ABA service is not monitored to detect leaks in accordance with § 63.1304(a); each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made, and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of § 63.1296(f));

(10) For each affected source complying with § 63.1296(c)(3) for one or more connectors designated as unsafe-to-monitor in accordance with § 63.1296(c)(3)(i), failure to develop the written plan required by § 63.1296(c)(3)(ii), each period specified in the written plan that an unsafe-to-monitor valve in HAP ABA service is not monitored, each calendar day after 5 calendar days after detection of a leak of an unsafe-to-monitor connector that a first attempt at repair has not been made, and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of § 63.1296(f));

(11) For each affected source complying with § 63.1296(c)(4) for one or more connectors designated as unsafe to repair, each year that one or more unsafe-to-repair connectors in HAP ABA service is not monitored to detect leaks in accordance with § 63.1304(a); each calendar day after 3 months after one or more unsafe-to-repair connectors has been opened, has otherwise had the seal broken, or a leak is repaired, that each unsafe-to-repair connector in HAP ABA service is not monitored to detect leaks in accordance with § 63.1304(a); and the earlier of each calendar day after six months after detection of a leak that a leak is not repaired, or if a leak is not repaired as soon as practicable, each subsequent calendar day;

(12) For each affected source complying with § 63.1296(d) in

accordance with § 63.1296(d)(1) and (2), each calendar day after the 5 days that the pressure-relief device has not been monitored in accordance with § 63.1304(a) after a potential leak was discovered as described in § 63.1296(d)(1), each calendar day after 5 calendar days after detection of a leak that a first attempt at repair has not been made, and the earlier of each calendar day after 15 calendar days after detection of a leak that a leak is not repaired, or if a leak is detected and not repaired as soon as practicable, each subsequent calendar day (with the exception of situations meeting the criteria of § 63.1296(f)):

(13) For each affected source complying with § 63.1296(e) in accordance with § 63.1296(e)(1) through (5), each calendar day that an open-ended valve or line has no cap, blind flange, plug or second valve as described in § 63.1296(e)(2), and each calendar day that a valve on the process fluid end of an open-ended valve or line equipped with a second valve is not closed before the second valve is closed:

(14) For each affected source complying with § 63.1297(a) in accordance with the rolling annual compliance option in § 63.1297(a)(1) and (b), each calendar day in the 12-month period for which the actual HAP ABA emissions exceeded the allowable HAP ABA emissions level, each calendar day in which foam is being poured where the amount of polyol added at the mixhead is not monitored (as required) in accordance with § 63.1303(b)(1)(i), each calendar day in which foam is being poured where the amount of HAP ABA added at the mixhead is not monitored (as required) in accordance with § 63.1303(b)(1)(ii), each calendar day in a 6-month period in which the polyol pumps are not calibrated in accordance with § 63.1303(b)(3)(i), each calendar day in a month in which the HAP ABA pumps are not calibrated in accordance with § 63.1303(b)(3)(ii), and each calendar day after 10 working days after production where the IFD and density of a foam grade are not determined (where required) in accordance with § 63.1304(b):

(15) For each affected source complying with § 63.1297(a) in accordance with the monthly compliance option in § 63.1297(a)(2) and (c), each calendar day of each month for which the actual HAP ABA emissions exceeded the allowable HAP ABA emissions level for that month, each calendar day in which foam is being poured where the amount of polyol added at the mixhead is not monitored (as required) in accordance

with § 63.1303(b)(1)(i), each calendar day in which foam is being poured where the amount of HAP ABA added at the mixhead is not monitored (as required) in accordance with § 63.1303(b)(1)(ii), each 6-month period in which the polyol pumps are not calibrated in accordance with § 63.1303(b)(3)(i), each month in which the HAP ABA pumps are not calibrated in accordance with § 63.1303(b)(3)(ii), and each calendar day after 10 working days after production where the IFD and density of a foam grade are not determined (where required) in accordance with § 63.1304(b):

(16) For each affected source complying with § 63.1297(a) by using a recovery device as allowed under § 63.1297(e), the items listed in (c)(16)(i) or (ii) of this section, as applicable.

(i) If complying with rolling annual compliance option in § 63.1297(a)(1) and (b), each item listed in (c)(14) of this section, failure to develop a recovered HAP ABA monitoring and recordkeeping program in accordance with § 63.1303(c), and each instance when an element of the program is not followed.

(ii) If complying with the monthly compliance option in § 63.1297(a)(2) and (c), each item listed in (c)(15) of this section, failure to develop a recovered HAP ABA monitoring and recordkeeping program in accordance with § 63.1303(c), and each instance when an element of the program is not followed.

(17) For each affected source complying with § 63.1298, each calendar day that a HAP or any HAP-based material is used as an equipment cleaner.

(d) *Slabstock affected sources complying with the source-wide emission limitation.* For slabstock affected sources complying with the source-wide emission limitation as provided in § 63.1293(b), failure to meet the requirements contained in § 63.1299 shall be considered a violation of this subpart. Violation of each item listed in the paragraphs (d)(1) through (d)(3) of this section, as applicable, shall be considered a separate violation.

(1) For each affected source complying with § 63.1299 in accordance with the rolling annual compliance option in § 63.1299(a), each calendar day in the 12-month period for which the actual HAP ABA emissions exceeded the allowable HAP ABA emissions level, each calendar day in which foam is being poured where the amount of polyol added at the mixhead is not monitored (as required) in accordance with § 63.1303(b)(1)(i), each calendar day in a week in which the

amount of HAP ABA in a storage vessel is not determined in accordance with § 63.1303(d), each delivery of HAP ABA in which the amount of HAP ABA added to the storage vessel is not determined in accordance with § 63.1303(e), each calendar day in a 6-month period in which the polyol pumps are not calibrated in accordance with § 63.1303(b)(3)(i), and each calendar day after 10 working days after production where the IFD and density of a foam grade are not determined (where required) in accordance with § 63.1304(b):

(2) For each affected source complying with § 63.1299 in accordance with the monthly compliance option in § 63.1299(b), each calendar day of each month for which the actual HAP ABA emissions exceeded the allowable HAP ABA emissions level for that month, each calendar day in which foam is being poured where the amount of polyol added at the mixhead is not monitored (as required) in accordance with § 63.1303(b)(1)(i), each calendar day in a week in which the amount of HAP ABA in a storage vessel is not determined in accordance with § 63.1303(d), each delivery of HAP ABA in which the amount of HAP ABA added to the storage vessel is not determined in accordance with § 63.1303(e), and each calendar day in a 6-month period in which the polyol pumps are not calibrated in accordance with § 63.1303(b)(3)(i), and each calendar day after 10 working days after production where the IFD and density of a foam grade are not determined (where required) in accordance with § 63.1304(b):

(3) For each affected source complying with § 63.1299 by using a recovery device as allowed under § 63.1299(e), the items listed in (d)(3)(i) or (ii) of this section, as applicable.

(i) If complying with rolling annual compliance option in § 63.1299(a), each item listed in (d)(1) of this section, failure to develop a recovered HAP ABA monitoring and recordkeeping program in accordance with § 63.1303(c), and each instance when an element of the program is not followed.

(ii) If complying with the monthly compliance option in § 63.1299(b), each item listed in (d)(2) of this section, failure to develop a recovered HAP ABA monitoring and recordkeeping program in accordance with § 63.1303(c), and each instance when an element of the program is not followed.

(e) *Molded and rebond foam affected sources.* For molded and rebond foam affected sources, failure to meet the requirements contained in § 63.1300 and § 63.1301, respectively, shall be

considered a violation of this subpart. Violation of each item listed in the following paragraphs shall be considered a separate violation.

(1) For each molded foam affected source subject to the provisions in § 63.1300(a), each calendar day that a HAP-based material is used as an equipment cleaner (except for diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance, provided that the diisocyanate compounds are contained in a closed-loop system and are re-used in production):

(2) For each molded foam affected source subject to the provisions of § 63.1300(b), each calendar day that a

HAP-base material is used as a mold release agent;

(3) For each rebond foam affected source subject to the provisions of § 63.1301(a), each calendar day that a HAP-based material is used as an equipment cleaner; and

(4) For each rebond foam affected source complying with § 63.1301(b), each calendar day that a HAP-based mold release agent is used.

§ 63.1309 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under § 112(d) of the Clean Air Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) The authority conferred in § 63.1303(b)(5) and § 63.1305(d) shall not be delegated to any State.

Appendix to Subpart III—Tables

For the convenience of the readers of subpart III, the tables below summarize the requirements in §§ 63.1290 to 63.1307. These tables are intended to assist the reader in determining the requirements applicable to affected sources and do not alter an affected source's obligation to comply with the requirements in §§ 63.1290 to 63.1307.

TABLE 1 TO SUBPART III—HAP ABA FORMULATION LIMITATIONS MATRIX FOR NEW SOURCES [see § 63.1297(d)(2)]

Values in parts ABA per hundred parts polyol		Density ranges (pounds per cubic foot)				
		0-0.95	0.96-1.05	1.06-1.15	1.16-1.40	1.41+
IFD	0-10	Use Equation 3				
	11-15					
	16-20					
	21-25					
	26-30					
	31+	0				

TABLE 2 TO SUBPART III—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART III.

Subpart A reference	Applies to subpart III	Comment
§ 63.1	YES	Except that § 63.1(c)(2) is not applicable to the extent area sources are not subject to subpart III. Definitions are modified and supplemented by § 63.1292.
§ 63.2	YES	
§ 63.3	YES	
§ 63.4	YES	
§ 63.5	YES	
§ 63.6 (a)-(d)	YES	
§ 63.6(e) (1)-(2)	YES	Owners and operators of subpart III affected sources are not required to develop and implement a startup, shutdown, and malfunction plan.
§ 63.6(e)(3)	NO	
§ 63.6 (f)-(g)	YES	

TABLE 2 TO SUBPART III—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART III.—
Continued

Subpart A reference	Applies to subpart III	Comment
§ 63.6(h)	NO	Subpart III does not require opacity and visible emission standards.
§ 63.6 (i)–(j)	YES	
§ 63.7	NO	
§ 63.8	NO	Performance tests not required by subpart III.
§ 63.9 (a)–(d)	YES	
§ 63.9 (e)–(g)	NO	Continuous monitoring, as defined in subpart A, is not required by subpart III.
§ 63.9(h)	NO	
§ 63.9 (i)–(j)	YES	Subpart III specifies Notification of Compliance Status requirements.
§ 63.10 (a)–(b)	YES	
§ 63.10(c)	NO	Except that the records specified in § 63.10(b)(2)(vi) through (xi) and (xiii) are not required.
§ 63.10(d)(1)	YES	
§ 63.10 (d) (2)–(3)	NO	
§ 63.10 (d) (4)–(5)	YES	
§ 63.10(e)	NO	
§ 63.10(f)	YES	
§ 63.11	YES	
§ 63.12	YES	
§ 63.13	YES	
§ 63.14	YES	
§ 63.15	YES	

TABLE 3 TO SUBPART III.—COMPLIANCE REQUIREMENTS FOR SLABSTOCK FOAM PRODUCTION AFFECTED SOURCES
COMPLYING WITH THE EMISSION POINT SPECIFIC LIMITATIONS

Emission point	Emission point compliance option	Emission, work practice, and equipment standards	Monitoring	Recordkeeping	Reporting
Diisocyanate storage vessels § 63.1294(a)	Vapor balance	§ 63.1294(a)(1) and (1)(ii).	§ 63.1294(a)(1)(i)	§ 63.1307(a)(1) and (4)	§ 63.1306(e)(5).
	Carbon adsorber	§ 63.1294(a)(2)	§ 63.1303(a)(1), (3), and (4).	§ 63.1307(a)(1), (3)(i), and (3)(iii).	§ 63.1306(e)(3).
	Carbon adsorber—alternative monitoring	§ 63.1294(a)(2)	§ 63.1303(a)(2), (3) and (4).	§ 63.1307(a)(1), (3)(ii), and (3)(iii).	§ 63.1306(e)(3).
Diisocyanate transfer pumps § 63.1294(b)	Sealless pump	§ 63.1294(b)(1) .....	.....	§ 63.1307 (b)(1)(i) and (2) .....	.....
	Submerged pump	§ 63.1294(b)(2)(i) and (iii).	§ 63.1294 (b)(2)(ii) ..	§ 63.1307 (b)(1)(i), (2), and (3)	§ 63.1306(e)(4).
Other components in diisocyanate service § 63.1294(c).	N/A	§ 63.1294(c)	§ 63.1294(c)	§ 63.1307 (b)(1)(i) and (3)	§ 63.1306(e)(4).
HAP ABA storage vessels § 63.1295	Vapor balance	§ 63.1295(b) and (b)(2).	§ 63.1295 (b)(1)	§ 63.1307(a)(2) and (4)	§ 63.1306(e)(5).
	Carbon adsorber	§ 63.1295(c)	§ 63.1303(a)(1), (3), and (4).	§ 63.1307(a)(2), (3)(i), (3)(iii) ..	§ 63.1306(e)(3).
	Carbon adsorber—alternative monitoring	§ 63.1295(c)	§ 63.1303(a)(2), (3) and (4).	§ 63.1307(a)(2), (3)(ii), and (3)(iii).	§ 63.1306(e)(3).
HAP ABA pumps § 63.1296(a):	Sealless pump	§ 63.1296(a)(1) .....	.....	§ 63.1307 (b)(1)(ii) .....	.....
	Quarterly monitoring	§ 63.1296(a)(2) and (2)(iii).	§ 63.1296(a)(2)(i), (2)(ii) and § 63.1304(a).	§ 63.1307 (b)(1)(ii) and (3)	§ 63.1304(e)(4).
HAP ABA valves § 63.1296(b):	Quarterly monitoring	§ 63.1296(b), and (b)(2).	§ 63.1296 (b)(1) and § 63.1304(a).	§ 63.1307 (b)(1)(ii) and (3)	§ 63.1304(e)(4).
	Unsafe-to-monitor ..	§ 63.1296(b)(3) (i), (ii), and (iv).	§ 63.1296 (b)(3)(iii)	§ 63.1307 (b)(1)(ii), and (4)	§ 63.1304(e)(4).
	Difficult-to-monitor ..	§ 63.1296(b)(4) (i), (ii), (iii), and (v).	§ 63.1296(b)(4)(iv) and § 63.1304(a).	§ 63.1307 (b)(1)(ii) and (4)	§ 63.1306(e)(4).
HAP ABA Connectors § 63.1296(c):	Annual monitoring ..	§ 63.1296(c) and (c)(2).	§ 63.1296(c)(1) and § 63.1304(a).	§ 63.1307 (b)(1)(ii) and (3)	§ 63.1306(e)(4).
	Unsafe-to-monitor, ..	§ 63.1296(c)(2), (3) (i), and (ii).	§ 63.1296(c)(3) (iii) and § 63.1304(a).	§ 63.1307 (b)(1)(ii) and (4)	§ 63.1306(e)(4).
	Unsafe-to-repair	§ 63.1296(c)(4)	§ 63.1296(c)(1)	§ 63.1307 (b)(1)(ii)	§ 63.1306(e)(4).

TABLE 3 TO SUBPART III.—COMPLIANCE REQUIREMENTS FOR SLABSTOCK FOAM PRODUCTION AFFECTED SOURCES COMPLYING WITH THE EMISSION POINT SPECIFIC LIMITATIONS—Continued

Emission point	Emission point compliance option	Emission, work practice, and equipment standards	Monitoring	Recordkeeping	Reporting
Pressure-relief devices § 63.1296(d) Open-ended valves or lines § 63.1296(e). Production line § 63.1297.	N/A	§ 63.1296(d) and (d)(2).	§ 63.1296 (d)(1) and § 63.1304(a).	§ 63.1307 (b)(1)(ii) and (3)	§ 63.1306(e)(4).
	N/A	§ 63.1296(e)		§ 63.1307 (b)(1)(ii)	
	Rolling annual compliance.	§ 63.1297(a)(1) and (b).	§ 63.1303 (b)	§ 63.1307(c)(1)	§ 63.1306(e)(1).
	Monthly compliance	§ 63.1297(a)(2) and (c).	§ 63.1303 (b)	§ 63.1307(c)(1)	§ 63.1306(e)(2).
	Compliance Using a Recovery device.	§ 63.1297(a)(1), (b), and (e) for rolling annual compliance or § 63.1297(a)(2), (c), and (e) for monthly compliance.	§ 63.1303 (b) and (c).	§ 63.1307(c)(1) and (d)	§ 63.1306(e)(1) or (2).
Equipment Cleaning § 63.1298.	N/A	§ 63.1298		§ 63.1307(e)	

TABLE 4 TO SUBPART III.—COMPLIANCE REQUIREMENTS FOR SLABSTOCK FOAM PRODUCTION AFFECTED SOURCES COMPLYING WITH THE SOURCE-WIDE EMISSION LIMITATION

Emission point	Emission point compliance option	Emission, work practice, and equipment standards	Monitoring	Recordkeeping	Reporting
Diisocyanate storage vessels § 63.1294(a).	Vapor balance	§ 63.1294(a)(1) and (1)(ii).	§ 63.1294(a)(1)(i)	§ 63.1307(a)(1) and (4)	§ 63.1306(e)(5).
	Carbon adsorber	§ 63.1294(a)(2)	§ 63.1303(a)(1), (3), and (4).	§ 63.1307(a)(1), (3)(i), and (3)(iii).	§ 63.1306(e)(3).
	Carbon adsorber—alternative monitoring.	§ 63.1294(a)(2)	§ 63.1303(a)(2), (3) and (4).	§ 63.1307(a)(1), (3)(ii), and (3)(iii).	§ 63.1306(e)(3).
Diisocyanate transfer pumps § 63.1294(b).	Sealless pump	§ 63.1294(b)(1)		§ 63.1307 (b)(1)(i) and (2)	
	Submerged pump	§ 63.1294(b)(2)(i) and (iii).	§ 63.1294 (b)(2)(ii)	§ 63.1307 (b)(1)(i), (2), and (3)	§ 63.1306(e)(4).
Other components in diisocyanate service § 63.1294(c).	N/A	§ 63.1294(c)	§ 63.1294(c)	§ 63.1307 (b)(1)(i) and (3)	§ 63.1306(e)(4)
HAP ABA storage vessels, equipment leaks, production line, and equipment cleaning.	Rolling annual compliance.	§ 63.1299(a), (c)(1) through (4), and (d).	§ 63.1303 (b) except (b)(1)(ii), (d), and (e).	§ 63.1307(c)(2)	§ 63.1306(e)(1).
	Monthly compliance	§ 63.1299(b), (c)(1) through (4), and (d).	§ 63.1303 (b) except (b)(1)(ii), (d), and (e).	§ 63.1307(c)(2)	§ 63.1306(e)(2).
	Compliance Using a Recovery device.	§ 63.1299(a), (d), and (e) for rolling annual compliance or § 63.1299(b), (d), and (e) for monthly compliance.	§ 63.1303 (b) except (b)(1)(ii) and (c).	§ 63.1307(c)(2) and (d)	§ 63.1306(e)(1) or (2).

TABLE 5 TO SUBPART III.—COMPLIANCE REQUIREMENTS FOR MOLDED AND REBOND FOAM PRODUCTION AFFECTED SOURCES

Emission point	Emission point compliance option	Emission, work practice, and equipment standards	Monitoring	Recordkeeping	Reporting
Molded Foam					
Equipment cleaning ..	N/A	§ 63.1300(a) .....	.....	§ 63.1307(g)	
Mold release agent ..	N/A	§ 63.1300(b) .....	.....	§ 63.1307 (h)	
Rebond Foam					
Equipment cleaning ..	N/A	§ 63.1301(a)	§ 63.1307 (g)	
Mold release agent ..	N/A	§ 63.1301(b)	§ 63.1307 (h)	

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16. ABSTRACT National emissions standards to control emissions of HAP from major sources producing flexible polyurethane foam were published in <i>Federal Register</i> 10/7/98, 63 FR 53996. This document contains information to help State and local agencies for air pollution control, as well as the regulated community, carry out these standards. The document summarizes the NESHAP requirements and provides example calculations, inspection checklists, and example notification and reporting forms. The document also provides information on where to submit reports, go to for additional help and applicability of foam sources to such things as General Provisions and Title V. A copy of the rule is provided in hard copy format. An electronic version of this document can be download at www.epa.gov/ttn/uatw/foram/foampg.html .								
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