

Area Source Standards for Nine Metal Fabrication and Finishing Source Categories NESHAP Subpart XXXXXX

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Overview

- Affected sources and activities
- Operation requirements
- Notification and reporting requirements
- Recordkeeping requirements
- Implementation tools
- Resources

Area Source

- NESHAP – National Emission Standards for Hazardous Air Pollutants
 - **major** source – facility emits or has PTE at least 10 tons/yr single HAP or 25 tons/yr combinations of HAPs
 - **area** source – not a **major** source
 - www.epa.gov/ttn/atw/area/arearules.html

Affected Area Sources

Facilities that are *primarily engaged* in one of the following source categories:

- (1) Electrical and Electronic Equipment Finishing Operations
- (2) Fabricated Metal Products
- (3) Fabricated Plate Work (Boiler Shops)
- (4) Fabricated Structural Metal Manufacturing
- (5) Heating Equipment, except Electric
- (6) Industrial Machinery and Equipment Finishing Operations
- (7) Iron and Steel Forging
- (8) Primary Metal Products Manufacturing
- (9) Valves and Pipe Fittings

Affected Area Sources

Table 1 – Regulated Categories and Entities Potentially Affected

	SIC Code Description	SIC Code	NAICS Code	NAICS Description
1	Motors and Generators Manufacturing	3621	335312	Motor and Generator Manufacturing
	Electrical Machinery, Equipment, & Supplies, NEC	3699	335999	All Other Misc. Electrical Equipment & Component Mftg
2	Fabricated Metal Products, NEC	3499	332117	Powder Metallurgy Part Manufacturing
	Fabricated Metal Products, NEC	3499	332999	All Other Miscellaneous Fabricated Metal Product Mftg
3	Fabricated Plate Work and Boiler Shops	3443	332313	Plate Work Manufacturing
	Fabricated Plate Work and Boiler Shops	3443	332410	Power Boiler and Heat Exchanger Manufacturing
	Fabricated Plate Work and Boiler Shops	3443	332420	Metal Tank (Heavy Gauge) Manufacturing
4	Fabricated Structural Metal Fabrication	3441	332312	Fabricated Structural Metal Manufacturing
5	Heating Equipment, except Electric	3433	333414	Heating Equipment (except Warm Air Furnaces) Mftg
6	Construction Machinery Manufacturing	3531	333120	Construction Machinery Manufacturing
	Oil and Gas Field Machinery Equipment Mftng	3533	333132	Oil and Gas Field Machinery and Equipment Mftg
	Pumps and Pumping Equipment Mftng	3561	333911	Pump and Pumping Equipment Manufacturing
7	Iron and Steel Forging	3462	332111	Iron and Steel Forging
8	Primary Metals Products Manufacturing	3399	332618	Other Fabricated Wire Product Manufacturing
9	Valves and Pipe Fittings, NEC	3494	332919	Other Metal Valve and Pipe Fitting Manufacturing

Affected Area Sources

Category	SIC Code	SIC Code Descriptions
Electrical and Electronics Equipment Finishing Operations	3621	Establishments primarily engaged in manufacturing of motors and generators (except engine starting motors) such as power generators; motor generator sets; railway motors and control equipment; and motors, generators and control equipment for gasoline, electric, and oil-electric buses and trucks.
	3699	Establishments primarily engaged in manufacturing of electrical machinery, equipment, and supplies, not elsewhere classified such as high energy particle acceleration systems and equipment, electronic simulators, appliance and extension cords, bells and chimes, insect traps, and other electrical equipment and supplies, not elsewhere classified.
Fabricated Metal Products	3499	Establishments primarily engaged in manufacturing fabricated metal products, such as fire or burglary resistive steel safes and vaults and similar fire or burglary resistive products; and collapsible tubes of thin flexible metal. Also included are establishments primarily engaged in manufacturing powder metallurgy products, metal boxes; metal ladders; metal household articles, such as ice cream freezers and ironing boards; and other fabricated metal products not elsewhere classified.
Fabricated Plate Work (Boiler Shops)	3443	Establishments primarily engaged in manufacturing power and marine boilers, pressure and nonpressure tanks, processing and storage vessels, heat exchangers, weldments and similar products
Fabricated Structural Metal Manufacturing	3441	Establishments primarily engaged in fabricating iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges.
Heating Equipment, except Electric	3433	Establishments primarily engaged in manufacturing heating equipment, except electric and warm air furnaces, including gas, oil, and stoker coal fired equipment for the automatic utilization of gaseous, liquid, and solid fuels. Typical products produced in this source category include low-pressure heating (steam or hot water) boilers, fireplace inserts, domestic (steam or hot water) furnaces, domestic gas burners, gas room heaters, gas infrared heating units, combination gas-oil burners, oil or gas swimming pool heaters, heating apparatus (except electric or warm air), kerosene space heaters, gas fireplace logs, domestic and industrial oil burners, radiators (except electric), galvanized iron nonferrous metal range boilers, room heaters (except electric), coke and gas burning salamanders, liquid or gas solar energy collectors, solar heaters, space heaters (except electric), mechanical (domestic and industrial) stokers, wood and coal-burning stoves, domestic unit heaters (except electric), and wall heaters (except electric).

Affected Area Sources

Category	SIC Code	SIC Code Descriptions
Industrial Machinery and Equipment Finishing Operations	3531	Establishments primarily engaged in construction machinery manufacturing that includes establishments primarily engaged in manufacturing heavy machinery and equipment of types used primarily by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plan overhead and truck-type cranes; dredging machinery; pavers; and power shovels. Also included in this industry are establishments primarily engaged in manufacturing forestry equipment and certain specialized equipment, not elsewhere classified, similar to that used by the construction industries, such as elevating platforms, ship cranes and capstans, aerial work platforms, and automobile wrecker hoists.
	3533	Establishments primarily engaged in oil and gas field machinery manufacturing; that includes establishments primarily engaged in manufacturing machinery and equipment for use in oil and gas fields or for drilling water wells, including portable drilling rigs.
	3561	Establishments primarily engaged in pumps and pumping equipment manufacturing that includes establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial, commercial, or household use, except fluid power pumps and motors. This category includes establishments primarily engaged in manufacturing domestic water and sump pumps
Iron and Steel Forging	3462	Establishments primarily engaged in the forging manufacturing process, where purchased iron and steel metal is pressed, pounded or squeezed under great pressure into high strength parts known as forgings. The process is usually performed hot by preheating the metal to a desired temperature before it is worked. The forging process is different from the casting and foundry processes, as metal used to make forged parts is never melted and poured.
Primary Metals Products Manufacturing	3399	Establishments primarily engaged in manufacturing products such as fabricated wire products (except springs) made from purchased wire. These facilities also manufacture steel balls; nonferrous metal brads and nails; nonferrous metal spikes, staples, and tacks; and other primary metals products not elsewhere classified.
Valves and Pipe Fittings	3494	Establishments primarily engaged in manufacturing metal valves and pipe fittings; flanges; unions, with the exception of purchased pipes; and other valves and pipe fittings not elsewhere classified.

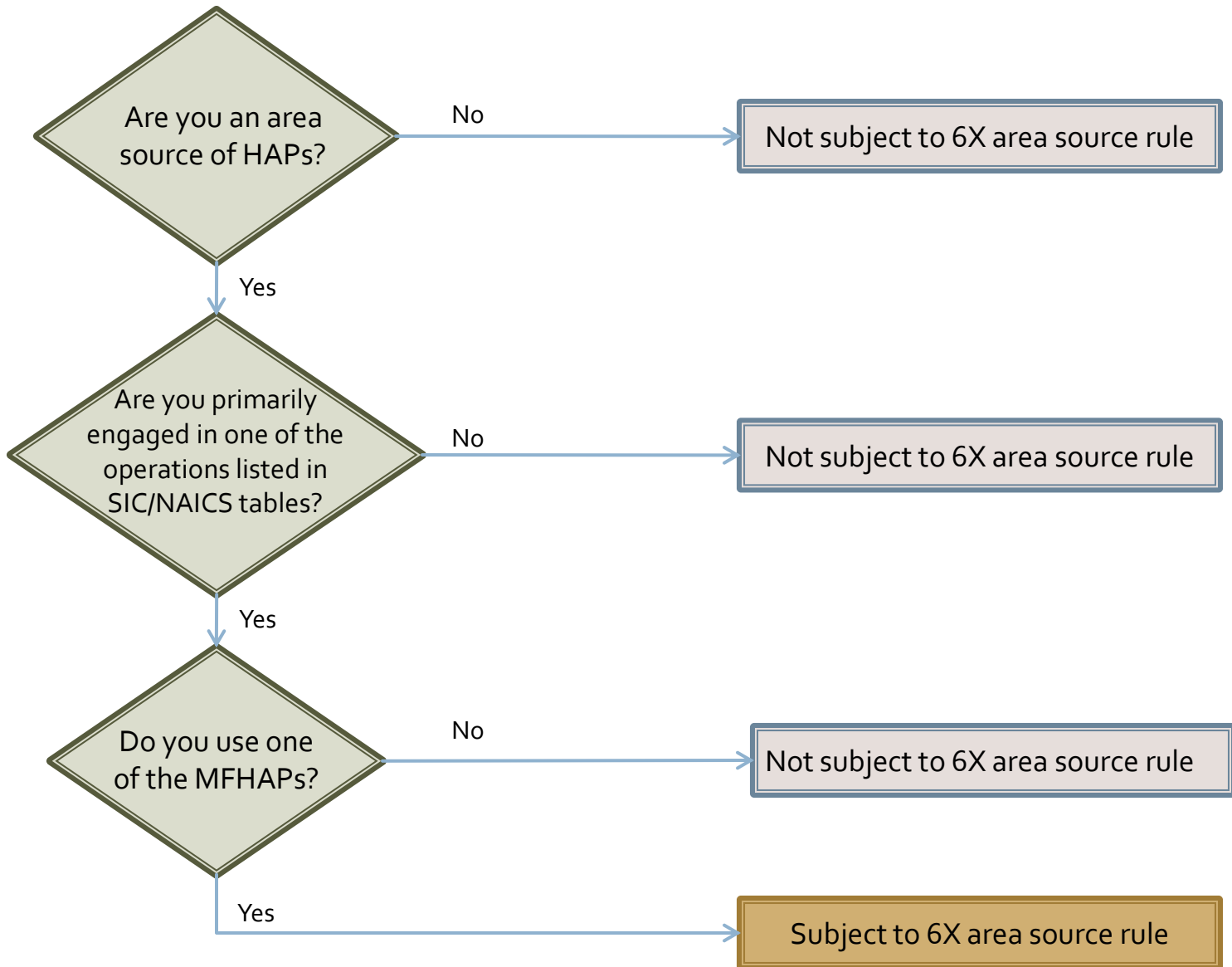
Metal Fabrication and Finishing HAPs (MFHAPs)*

- Compounds of Cd, Cr, Pb, Mn, or Ni (or any of these in elemental form except Pb**)
 - ≥ 0.1 percent Cd, Cr, Pb, or Ni
 - ≥ 1.0 percent Mn

*As the metal on weight/weight basis. Percent levels and classifications taken from OSHA regulations.

**Lead as the metal/elemental cannot be regulated under a NESHAP because it is already regulated as a criteria pollutant (NAAQS). Co-control of elemental lead occurs anyway along with lead compounds.

Applicability Determination Flow Chart



New or Existing Source?

- New Sources
 - Began construction or reconstruction of affected source **on or after April 3, 2008**
 - Reconstruction definition – 40 CFR 63.2
- Existing Sources
 - Began construction or reconstruction of affected source **before April 3, 2008**

Compliance Dates

- New sources – **July 23, 2008** or upon startup of affected source, whichever is later
- Existing sources – **July 25, 2011**

Five Regulated Processes That Emit MFHAPs

Dry abrasive blasting

Dry machining

Dry grinding and dry polishing with machines

Spray painting

Welding

Processes Regulated

- Dry abrasive blasting
 - Totally enclosed
 - Enclosures with filtered exhaust
 - Objects > 8 ft
- Dry machining/metal working with machines
- Dry grinding & polishing (large stationary machines)
- Spray-painting
 - Objects ≤ 15 ft or painted in spray booths
 - Objects >15 feet or any structural metal product
- Welding
 - Less than 2,000 lb/yr wire and rod use
 - $\geq 2,000$ lb/yr wire and rod use

General Rule Requirements

- Combination of equipment standards and “good housekeeping” management practices
- No emissions testing, only some monitoring
- Monitoring schedule allows “time off for good behavior” by graduated frequency of testing: daily to weekly to monthly to quarterly
- De minimis “cut-offs” for low levels of pollutants and welding rod/wire use
- No enclosures required for spray painting and blasting large objects >15 feet or any structural metal product

Rule Requirements: Dry Abrasive Blasting Operations

- Small totally-enclosed blast chambers
 - Management practices
 - No monitoring
- Products in chambers vented to control device
 - Enclosures and filtration devices
 - Management practices
 - No monitoring
- Products >8 feet, not vented to control device (both outside and inside)
 - Management practices
 - Visible emission monitoring (Method 22)
 - Guidance document available from KS SBEAP

Management Practices: Dry Abrasive Blasting Operations

- Enclose abrasive material storage areas and holding bins; seal chutes and conveyors transporting abrasives
- If no control device:
 - Do not reuse blasting media unless contaminants have been removed and the blast media returns to its original size
 - Switch from high PM-emitting blast media (e.g., sand) to low PM-emitting blast media (e.g., crushed glass, specular hematite, steel shot, aluminum oxide), whenever practicable

Rule Requirements: Dry Machining

- Applies to large stationary equipment only
- Management practices (only)
- No monitoring

Rule Requirements: Dry Grinding and Dry Polishing

- Applies to large stationary machines only
- Enclosure and filter devices
- Management practices
- No monitoring

Rule Requirements: Spray Painting

- Products in spray booths (any size)
 - PM filters in spray booths (98% control MFHAP)
 - HVLP (or equivalent) spray gun use and training
 - Management practices
 - Same as in Miscellaneous Coating Rule (subpart 6H)
- Products >15 feet or at Fabricated Structural Metal facilities (SIC 3441/NAICS 332312)
 - HVLP (or equivalent) spray gun use and training (only)
 - Management practices

Management Practices: Spray Painting

- Store all materials in closed containers
- Minimize spills
- Convey paints in closed containers/pipes
- Cover mixing vessels except when in use
- Minimize emissions during cleaning

Rule Requirements: Welding

- Use $<2,000$ lb welding rod or wire per year*
 - Management practices (only)
- Use $\geq 2,000$ lb welding rod or wire per year*
 - Management practices
 - Monitoring for visible emissions (VE) or opacity (Methods 22 or 9) in graduated schedule (daily/weekly/monthly/quarterly)

* Wire/rod that contains $>0.1/1\%$ of MFHAP

Rule Requirements: Welding (cont.)

3-Tier Welding Monitoring

- 1st tier graduated VE testing (Method 22)

Guidance document available from KS SBEAP

- 2nd Tier

- If fail second consecutive VE test in 1st tier
- Do opacity (Method 9) test within 24 hours

- 3rd Tier

- If $>20\%$ opacity, develop Site-specific Welding Management Plan (SWMP)
- If $\leq 20\%$ opacity, no SWMP and can switch to Method 22 when reach monthly level of Method 9 testing

Management Practices: Welding

Perform “as practicable” using sound engineering judgment to reduce welding fumes

- Switch to lower-emitting welding operations (e.g., gas metal arc welding)
- Use devices that lower emission rates (e.g., pulsed current rectifiers)
- Use lower emitting process materials (e.g., filler metals, shielding gases, carrier gases)
- Optimize welding process variables (e.g., electrode diameter, voltage, amperage, welding angle, shield gas flow rate, travel speed)
- Use a fume capture and control system (e.g., “Smog Hog”)

Management Practices: All

- Minimize excess dust in the surrounding area as practicable by sweeping, vacuuming, etc.
- Operate all equipment associated with the process according to the manufacturer's instructions.

Notification and Reporting

- **Existing Sources:** Initial Notification due July 25, 2011. Notification of Compliance Status due November 22, 2011.
- **New Sources** Initial Notification and Notification of Compliance Status due 120 days after initial startup or November 20, 2008, whichever is later.

Notification and Reporting

- Initial Notification includes:
 - Owner/operator name, address, phone number, email (if available)
 - Street address for location of affected source
 - Identify NESHAP: 40 CFR part 63, subpart XXXXXX
 - Description of operations
 - Characterization of types of products
 - Number and type of processes
 - Number of workers usually employed
- Form available on Web: www.sbeap.org

Notification and Reporting

- Notification of Compliance Status
 - Company's name and address
 - Statement by a responsible official certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with the relevant standards of this rule
 - Date of notification of compliance status
 - Form available on Web: www.sbeap.org

Notification and Reporting

- Reporting
 - Annual certification and compliance reports
 - Company's name and address
 - Statement by a responsible official certifying the truth, accuracy, and completeness of the content of the report
 - Date of report and beginning and ending dates of the reporting period
 - Info associated with visual determinations of fugitive emissions
 - Info associated with visual determinations of emissions opacity
 - Exceedances of 20% opacity
 - Site-specific Welding Emissions Management Plan

Notification and Reporting

- Reporting
 - Dates
 - First reporting period – the day after compliance date to December 31
 - Subsequent reporting period – Jan 1 through Dec 31
 - Annual certification and compliance report due Jan 31

Recordkeeping

Records must be suitable and readily available for expeditious review. Must be kept for 5 years.

- Copies of all notifications and reports, and supporting documentation
- Records of applicability determinations
- Manufacturer's specifications for control devices
- Records associated with visual determinations of fugitive emissions
- Records associated with visual determinations of emissions opacity

Recordkeeping (cont.)

- Spray paint booth filter records
- Spray paint delivery system efficiency records
- Spray paint employee training records
- Records associated with visual determinations of emissions opacity performed during development or revision of a site-specific welding emissions management plan
- Copy of any site-specific welding emissions management plan
- Records of welding rod usage, if used to demonstrate that monitoring is not required for a welding affected source
- Copy of the manufacturer's instructions for equipment used for compliance

Resources

www.epa.gov/ttn/atw/area/arearules.html - EPA's Air Toxics Website for Area Source Standards

www.epa.gov/ttn/atw/6x/6xpg.html - EPA's Metal Fabrication and Finishing web page

- Regulation

- Flow charts

- Q&A document

www.sbeap.org – Kansas Small Business Environmental Assistance Program

- Example forms for Kansas businesses

- EPA resources

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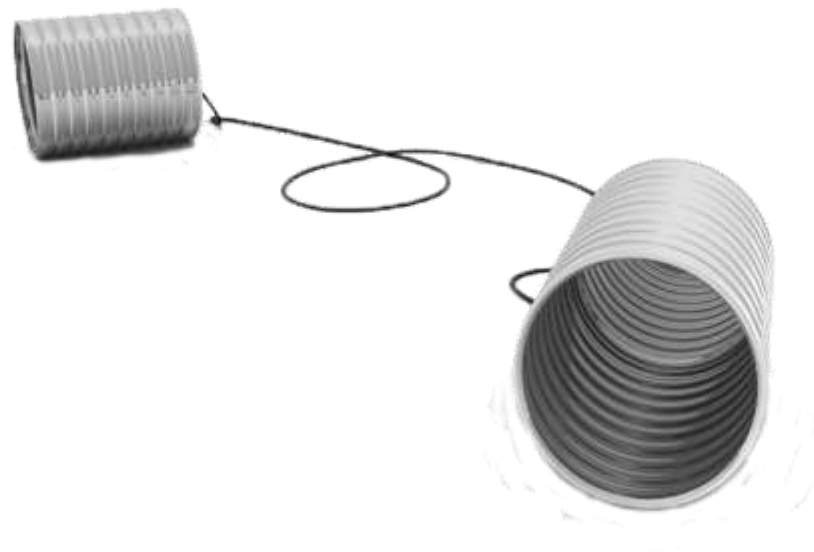
785-296-1542

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Questions & Answers

Following are Q&A's from the June 1, 2011 webinar.

Question & Answers from Webinar

- Q: We have a company that takes care of the forms. Do we need anything else?
- A: There is other “paperwork” required, but not submitted to EPA or KDHE, such as records that must be maintained on site that the consultant completing your forms may not take care for you. These include manufacturer’s instructions, paint booth filter records, visual emissions testing forms, etc.

Question & Answers from Webinar

- Q: Some of our products fall under the "military munitions" exemption. Other products, such as gun mounts, are not specifically listed (are they components?), so I'm not sure if they are part of the exemption. Do you know if there's a list of military items that meet the exemption?
- A: This is so specific, we recommend you call your regulatory agency. In KS, call Jeremy at 785-296-1542.

Question & Answers from Webinar

- Q: If we are a major source will we need to comply with any additional requirements by July 25th?
- A: The rule is for area sources only, therefore the rule does not apply to you.
- Q: if my NAICS code or SIC code is not in the list does this rule apply to me?
- A: No

Question & Answers from Webinar

- Q: How often does list of HAP's change and how are we notified?
- A: Since the original list of Hazardous Air Pollutants was created on July 16, 1992, there have been 14 revisions to the list, not just adding or deleting substances, but also to extend comment periods or to revise the implementation schedule. All revisions are posted in the Federal Register. You can also check the EPA website at www.epa.gov/ttn/atw/socatlst/socatpg.html. A list of modifications to the list can be found on the EPA website www.epa.gov/ttn/atw/pollutants/atwsmod.html.

Question & Answers from Webinar

- Q: Could you clarify the Spray Painting rule for "without a spray booth" (Fabricated Structural Metal facilities or any objects over 15 ft). How are they affected and how does it apply?
- A: The spray booth requirements do not apply to affected sources located at Fabricated Structural Metal Manufacturing facilities (SIC 3441 / NAICS 332312), or to affected sources that spray paint objects greater than 15 feet, that are **not painted in spray booths or spray rooms**. However, the **spray painting management practices** do apply (i.e., use of HVLP paint guns, painter training and certification, and spray gun cleaning requirements).

Question & Answers from Webinar

- Q: Will the SBEAP be sending out letters/emails as a reminder for required submitting forms at certain times?
- A: Unfortunately, we don't have the resources to do that. For this rule, just remember to get your initial notification in by July 25, 2011 and the notification of compliance status by November 22, 2011.

Question & Answers from Webinar

- Q: What's the difference between under/over 2000 lbs of welding wire annually?
- A: Basically, if you use less than 2,000 lbs welding rod/wire annually, just do management practices. If you use 2,000 lbs or more, then in addition to the management practices, conduct visible emissions testing.

Question & Answers from Webinar

- Q: So is a facility in compliance by July 25, 2011 if they have not performed Method 22?
- A: Yes, as long as you have the maintenance practices etc. in place

- Q: Is it okay to wait on performing Method 22 until after July 25, 2011 but before Nov. 22, 2011?
- A: That is fine.

Question & Answers from Webinar

- Q: Is there a form available to document non-applicability?
- A: There is no specific form to indicate the 6X rule is not applicable to your facility. However, SBEAP recommends that you document the process used to determine the rule was not applicable to your facility, and recommends you maintain this documentation at your facility.

Question & Answers from Webinar

- Q: If we are currently under a Class I Air Operating permit, do we need to do any of these additional requirements?
- A: It depends if you are a Class I for HAPS or for criteria pollutants. If you emit less than the 10 or 25 tons of HAPS and have one of the NAICS/SIC code combinations, you need to comply with the rule.