

Fabricators must advise EPA
of their compliance with the new requirements by July 25, 2011.

Clean Air Regulations Coming to Your Fabrication Shop

BY THOMAS J. SCHLAFLY

EPA CLEAN AIR REGULATIONS first announced in 2008 will soon impact most steel fabrication facilities beginning this summer. These far reaching regulations will affect dry abrasive blasting, dry grinding and dry polishing, machining, spray painting, and welding operations.

Fabricators who are not major emitters of hazardous air pollutants (HAP) will soon be regulated under these broader standards covering "area sources." Major sources are defined as those that emit, or have the potential to emit, 10 tons per year of one particular HAP or 25 tons per year of any combination of HAP. The area source rule will cover any facility primarily engaged in any of the nine categories listed in the standard. Structural steel fabrication is one of those sources that is specifically listed.

In April 2008 AISC sent General Bulletin #2341 to all full members advising that Environmental Protection Agency was about to publish a new rule with provisions that covered structural steel fabrication shops that are not major sources. On July 23, 2008, EPA did exactly that, publishing the rule as a subpart of the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 63. The standards for structural steel fabricators are known as the Area Source Standards for Nine Metal Fabrication and Finishing Source Categories, Subpart XXXXXX of the National Emission Standards for Hazardous Air Pollutants.

A Brief Overview

EPA started implementing the Clean Air Act of 1970 by regulating major or point sources of HAP. Control of major sources abated much pollution but there were still large numbers of smaller sources emitting these same pollutants. In response to the Clean Air Amendments of 1990, EPA developed rules to regulate smaller sources of air pollutants, known as "area sources." EPA made a list of pollution sources and broke them into groups, then published rules for sources within each group. Steel fabricators are among the last of the groups to have standards published. It may help in understanding some of the controls in the regulation to know that some of the other sources included in this group include Electrical and Electronics Equipment Finishing Operations, Industrial Machinery and Equipment Finishing Operations, and Iron and Steel Forging.

EPA understands that the sources they are now regulating are smaller than those previously subject to air regulations. Therefore the controls they require are less stringent than those enforced on major sources, which had to meet what was determined to be maximum achievable control technology (MACT). Area sources do not emit enough to demand MACT, nor could many of them afford it. The area source rules require that you implement generally available control technology (GACT), a series of controls that EPA believes are suitable to the size of companies the rule covers.

The first question every steel fabricator should ask is this: Am I really covered by this regulation? You will spend money and time on meeting these regulations, so we suggest you have your compliance professional look at the Federal Register of July 23, 2008, and determine the answer to that question for your shop. The preamble runs from page 42978 to page 43000, and helps to explain the regulation itself, which runs from page 43000 to page 43010.

We believe the vast majority of shops will be covered by this rule. You are required to comply with this standard by July 25, 2011, if you are primarily engaged in Fabricated Structural Metal



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Manufacturing, which covers fabricating iron and steel or other metal for structural purposes, such as bridges, buildings and sections for ships boats and barges (the preamble specifies NAICS number 332312) and you conduct certain regulated operations using metal fabrication and finishing HAP (MFHAP).

The MFHAP EPA is controlling are defined as “any compound of the following metals: cadmium, chromium, lead, manganese, or nickel, or any of these metals in the elemental form, with the exception of lead.” A “material containing MFHAP” is one that contains more than 1% of manganese or 0.1% of any other the other listed constituents. Only materials that contain MFHAP are subject to the regulation, and the following measures only apply when such materials are in use.

This regulation will cause you to do work that you did not have to do before the regulation was published. At a minimum, every fabricator will need to train, monitor and keep records. These tasks will be required even if no other controls are required. Please review the requirements and start these tasks soon.

In regulating the sources in this subpart, EPA selected five processes or operations for standards. These operations are:

1. Dry abrasive blasting.
2. Dry grinding and dry polishing.
3. Machining.
4. Spray painting.
5. Welding.

Requirements

The controls to implement for all of these methods include

monitoring and recordkeeping. Those items are not repeated below unless there is a special requirement.

Dry Abrasive Blasting

Blasting is divided into three categories: totally enclosed and unvented blast chambers, vented enclosures and blasting pieces greater than 8 ft in any dimension without control systems.

Vented cabinets are defined as those in which the blast media is moved to the atmosphere or a control unit by air flow. This should include the wheel blaster many fabricators use. The required controls include capturing the emissions with a filter, taking measures to minimize dust in the surrounding area, enclosing bins and chutes, and operating equipment according to manufacturer’s instructions. See § 63.11516(a)(2).

A blasting operation without control systems that blasts pieces that are more than 8 ft in any one dimension may use the following management practices: taking measures to minimize excess dust to reduce MFHAP emissions; enclosing material storage bins; operating blast equipment according to manufacturers’ instructions; not reusing blast media, which applies to media that has been contaminated with material other than base metal such as if blasting previously painted pieces, unless contaminants have been removed by filtration or screening and the abrasive material conforms to its original size; and, where practicable, use low particulate matter (PM) emitting media, such as steel shot or grit, instead of high PM-emitting media, such as sand.

If the pieces are blasted outdoors, monitoring for “visible emissions” is to be at the property border nearest the blast

operation, which may cause difficulty. For pieces blasted indoors, visual monitoring is to be at the primary vent stack or exit. Visible emissions are to be eliminated and reported. See § 63.11516(a)(3).

Machining

Machine operation that uses materials that contain MFHAP or have the potential to emit MFHAP is subject to a requirement to capture emissions and vent them to a filtration control device and demonstrate compliance; minimize emissions of MFHAP; minimize excess dust in the surrounding area, as practicable; and operate all equipment, including the filtration control device, according to manufacturer's instructions. See § 63.11516(c).

For each machining operation that uses "materials that contain MFHAP," or have the potential to emit MFHAP, you must minimize excess dust in the surrounding area to reduce MFHAP emissions and operate machining equipment according to manufacturer's instructions. This will apply to drills and mills. See § 63.11516(b).

Dry Grinding and Polishing with Machines

There is an important comment in the preamble related to this operation. Item D4 on page 42982 indicates that dry grinding with machines does not include grinding with hand-held or bench-scale tools.

Spray Painting

These standards include requirements for booths and rooms, but those standards specifically do not apply to structural steel fabricators. They also do not apply when the coating being sprayed does not contain MFHAP. Coatings we evaluated did not contain MFHAP. See page 43002 § 63.11516(d).

However, if the coating includes MFHAP

the standards do apply to fabricators and include requiring the use of high-velocity low-pressure (HVLV), electrostatic, airless or air-assisted airless spray process or a process demonstrated to achieve a transfer efficiency comparable to one of those techniques. Spray guns must be cleaned with solvents that do not contain HAP. A significant item in this standard is that painters must be trained and certified that they have been trained. EPA found evidence indicating that training had a significant effect on painter efficiency. See § 63.11516(d)(2).

Welding

The Lincoln Electric Company has written excellent guidance for compliance with the welding standards in this regulation.



It is available at www.lincolnelectric.com/weld-fume-control.

We have tried to condense 10 pages of fine print into a much smaller and more accessible rendering. Rather than relying solely on this summary, you should consult the actual regulation and determine how you will respond to it. Our recommendation is that you focus on:

- Training people in painting.
- Training people in how to monitor emissions and on what the emission limits are.
- Developing a system to keep records
- Beginning to monitor processes to which these regulation apply.
- Advising EPA that you comply.

For an existing affected source, you must comply with the requirements no later than July 25, 2011, and by that date submit an Initial Notification of compliance, including information specified in paragraphs (a)(1)(i) through (iv) of § 63.11519.

For a copy of the Federal Register go to http://69.175.53.20/federal_register/2008/jul/23/E8-16263.pdf. For more information from EPA, visit www.epa.gov/ttn/atw/area/arearules.html. **MSC**