

# USEPA Office of Air Quality Planning and Standards

July 28, 2008



## Flow Charts For Determining Your Requirements: Nine Metal Fabrication and Finishing Source Categories Area Source NESHAP (subpart XXXXXX)

**CHART 1 – ABRASIVE BLASTING REQUIREMENTS**

**CHART 2 – ALL OTHER REQUIREMENTS (NOT ABRASIVE BLASTING)**

**CHART 3 – REQUIRED MANAGEMENT PRACTICES: MP #1 THROUGH MP #6**

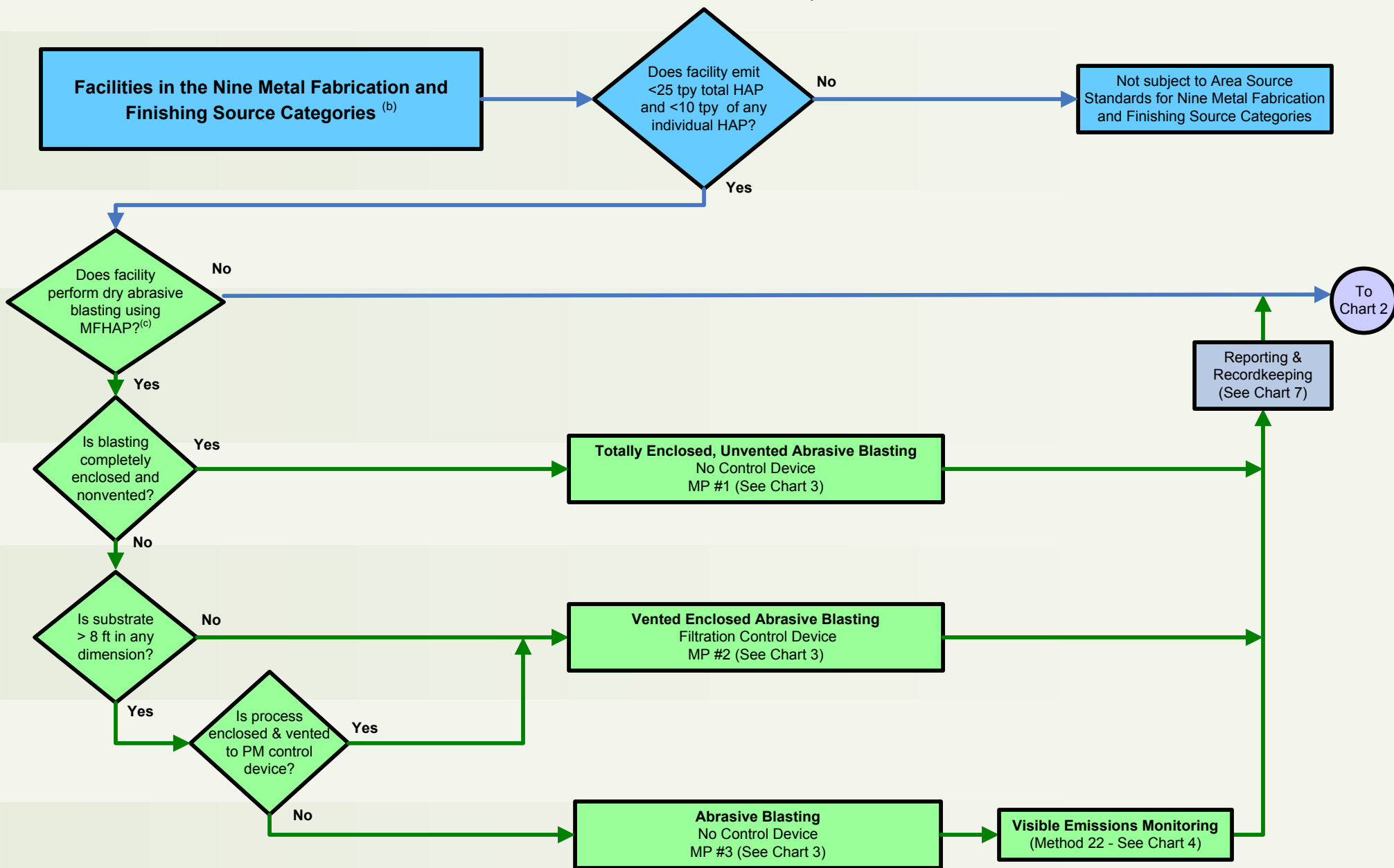
**CHART 4 - GRADUATED VISIBLE EMISSIONS (VE) MONITORING - EPA METHOD 22**

**CHART 5 – EMISSIONS MONITORING AT WELDING SOURCES: TIER 1**

**CHART 6 – EMISSIONS MONITORING AT WELDING SOURCES: TIERS 2 AND 3**

**CHART 7 – NOTIFICATION, REPORTING & RECORDKEEPING REQUIREMENTS**

**Flow Charts For Determining Your Requirements For The Nine Metal Fabrication And Finishing Area Source NESHAP<sup>(a)</sup>**  
**CHART 1 – ABRASIVE BLASTING REQUIREMENTS**

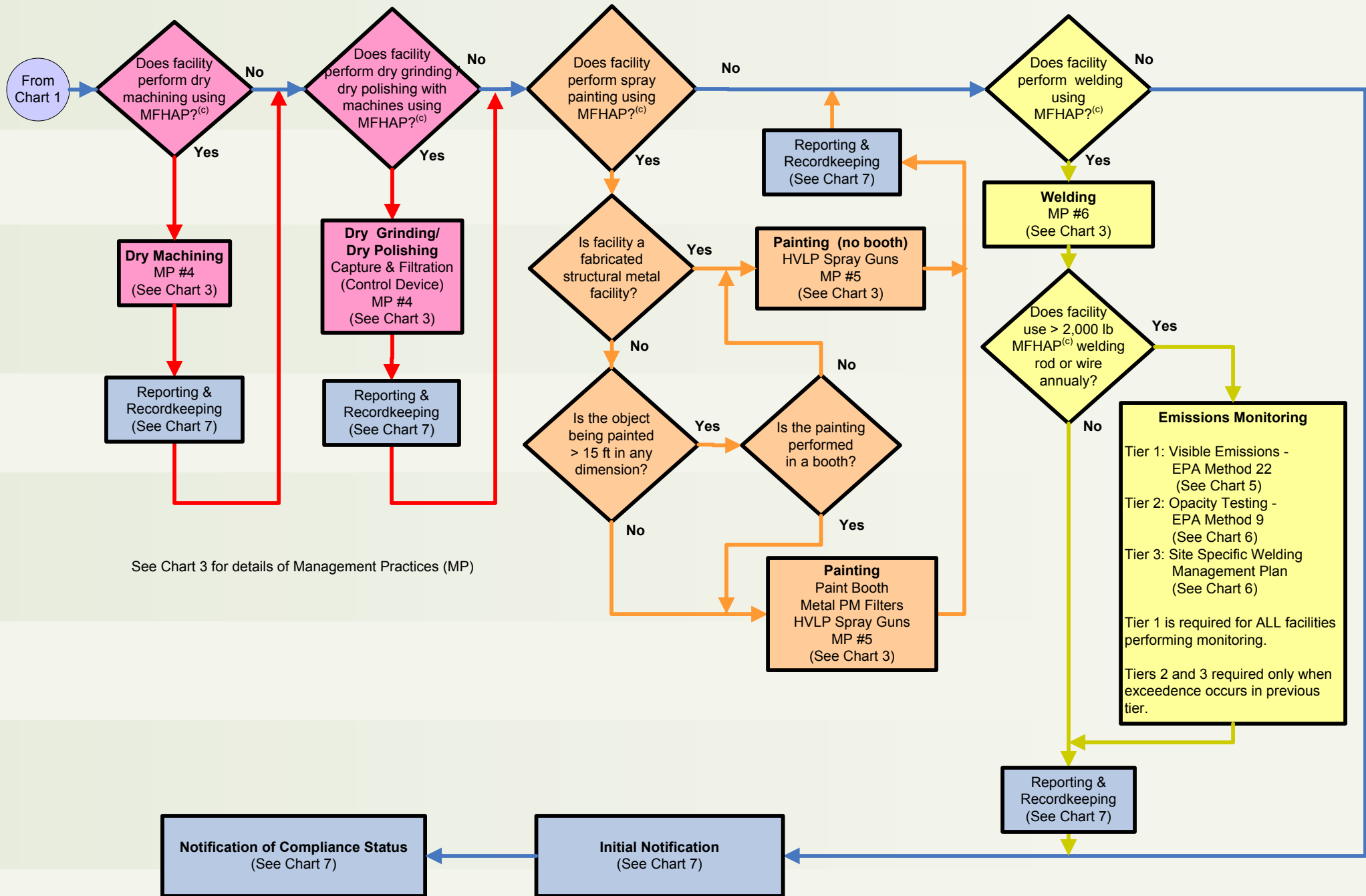


(a) Acronyms: ft = feet; HVLP = High Volume, Low Pressure; lb = Pound; MFHAP = Metal Fabrication & Finishing HAP (Cd, Cr, Mn, Ni, Pb); MP = management practices; tpy = tons per year

(b) The nine metal fabrication and finishing source categories are as follows: (1) Electrical and Electronic Equipment Finishing Operations (includes Motors and Generators); (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 (Construction Machinery Manufacturing, Oil and Gas Field Machinery Manufacturing, and Pumps and Pumping Equipment Manufacturing); (7) Iron and Steel Forging; (8) Primary Metal Products Manufacturing; and (9) Valves and Pipe Fittings.

(c) MFHAP use is defined to be the use of materials that contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (of the metal), and materials that contain manganese in amounts greater than or equal to 1.0 percent by weight (of the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material.

**Flow Charts For Determining Your Requirements For The Nine Metal Fabrication And Finishing Area Source NESHA<sup>(a)</sup>**  
**CHART 2 –ALL OTHER REQUIREMENTS (NOT ABRASIVE BLASTING)**



Flow Charts For Determining Your Requirements For The Nine Metal Fabrication And Finishing Area Source NESHAP<sup>(a)</sup>  
CHART 3 – REQUIRED MANAGEMENT PRACTICES: MP 1 THROUGH MP 6 FROM CHARTS 1 & 2

MP #1

**Nonvented, Completely Enclosed Abrasive Blasting**

(1) Minimize dust generation during emptying of abrasive blasting enclosure to reduce MFHAP emissions, as practicable; and (2) Operate all equipment associated with dry abrasive blasting operations according to the manufacturer's instructions.

MP #2

**Vented, Enclosed Abrasive Blasting**

(1) Minimize excess dust in the surrounding area to reduce MFHAP emissions, as practicable; (2) Enclose dusty abrasive storage areas and holding bins, seal chutes and conveyors that transport abrasive materials; and (3) Operate all equipment associated with dry abrasive blasting operations according to manufacturer's instructions (and keep these instructions nearby).

MP #3

**Management Practices For Abrasive Blasting Of Objects Greater Than 8 Feet In Any Dimension (No Control Device)**

(1) Minimize excess dust in the surrounding area to reduce MFHAP emissions, as practicable; (2) Enclose abrasive material storage areas and holding bins, seal chutes and conveyors that transport abrasive material; (3) Operate all equipment associated with dry abrasive blasting operations according to manufacturer's instructions (and keep these instructions nearby); (4) Do not re-use dry abrasive blasting media unless contaminants (i.e., any material other than the base metal, such as paint residue) have been removed by filtration or screening, and the abrasive material conforms to its original size; and (5) When practicable, switch from high particulate matter (PM)-emitting blast media (e.g., sand) to low PM-emitting blast media (e.g., crushed glass, specular hematite, steel shot, aluminum oxide)

MP #4

**Dry Machining, Dry Grinding and Dry Polishing**

(1) Minimize excess dust in the surrounding area to reduce MFHAP emissions, as practicable; and (2) Operate equipment according to manufacturer's instructions.

MP #5

**Painting**

(1) Proper cleaning and storage of spray guns, if applicable; and (2) Training for employees using HVLP spray equipment, with certification as having completed classroom or hands-on training in the proper selection, mixing, and application of coatings, with refresher training repeated at least once every 5 years. Training for existing sources must be performed by 180 days after employee hire date, or 3 years after FR Notice. Training for new sources must be performed by 180 days after employee hire date, or as of FR Notice or start-up date.

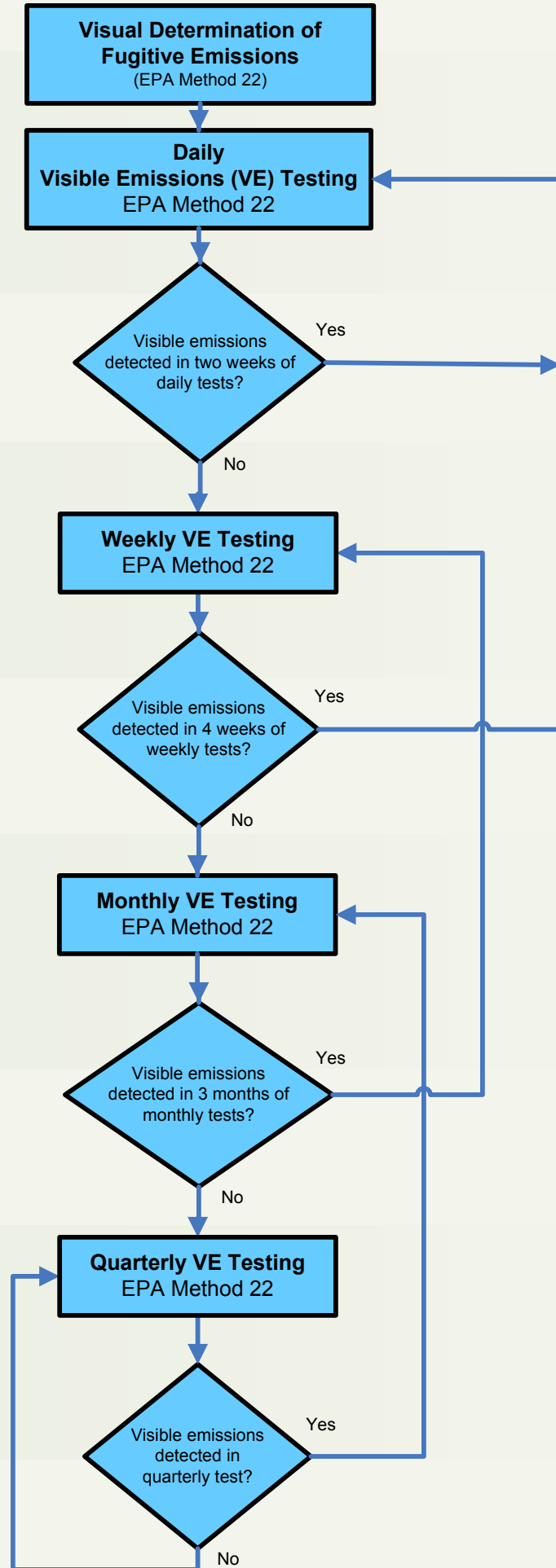
MP #6

**Welding**

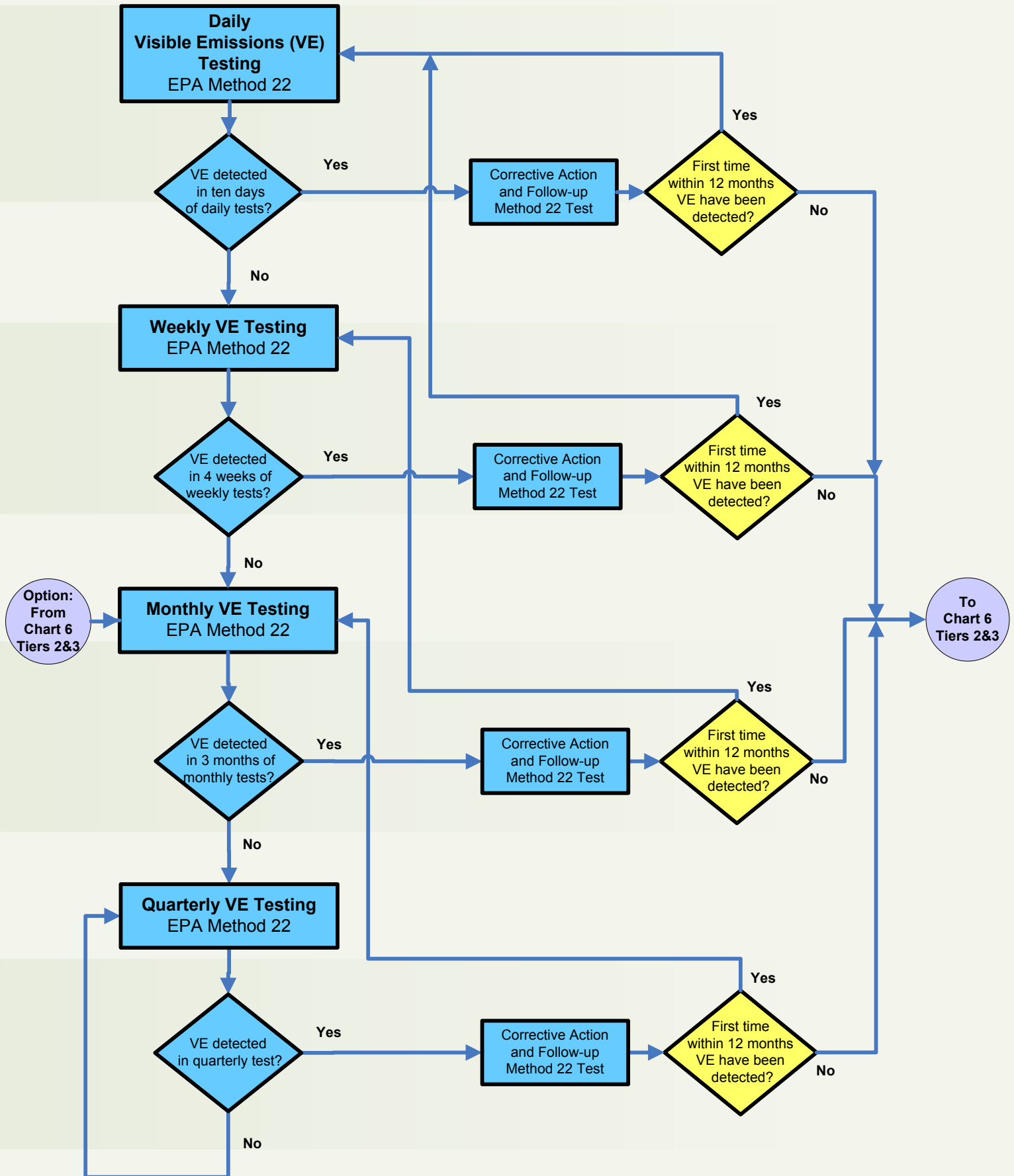
(1) Operate equipment according to manufacturer's instructions; and (2) Implement one or more of the following management practices to minimize emissions of MFHAP, as practicable, while maintaining the required welding quality through the application of sound engineering judgment:

- (i) Use welding processes with reduced fume generation capabilities (e.g., gas metal arc welding (GMAW)—also called metal inert gas welding (MIG));
- (ii) Use welding process variations (e.g., pulsed current GMAW), which can reduce fume generation rates;
- (iii) Use welding filler metals, shielding gases, carrier gases, or other process materials which are capable of reduced welding fume generation;
- (iv) Optimize welding process variables (e.g., electrode diameter, voltage, amperage, welding angle, shield gas flow rate, travel speed) to reduce the amount of welding fume generated; and
- (v) Use a welding fume capture and control system, operated according to the manufacturer's specifications.

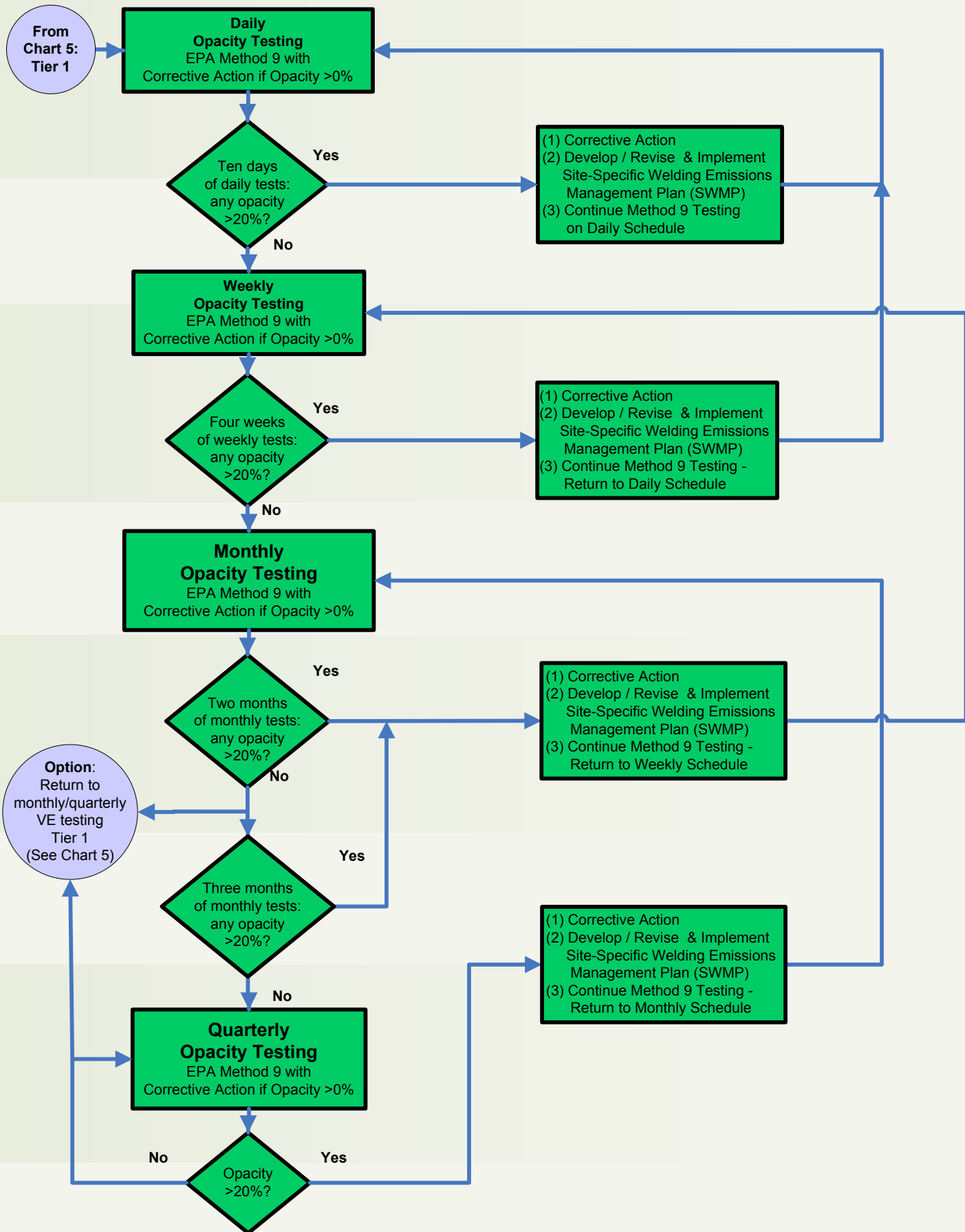
Flow Charts For Determining Your Requirements For The  
Nine Metal Fabrication And Finishing Area Source NESHA<sup>(a)</sup>  
CHART 4 - GRADUATED VISIBLE EMISSIONS (VE) MONITORING - EPA METHOD 22



**Flow Charts For Determining Your Requirements For The  
 Nine Metal Fabrication And Finishing Area Source NESHA<sup>(a)</sup>  
 CHART 5 – EMISSIONS MONITORING AT WELDING SOURCES: TIER 1**



**Flow Charts For Determining Your Requirements For The  
Nine Metal Fabrication And Finishing Area Source NESHP<sup>(a)</sup>  
CHART 6 – EMISSIONS MONITORING AT WELDING SOURCES: TIERS 2 AND 3**



Flow Charts For Determining Your Requirements For The Nine Metal Fabrication And Finishing Area Source NESHP<sup>(a)</sup>  
CHART 7 – NOTIFICATION, REPORTING & RECORDKEEPING REQUIREMENTS

Notification

**Required Notifications**

- (1) **Initial Notification:** If you operate an area source in one of the nine metal fabrication and finishing source categories, you must submit an initial notification, whether or not you operate a metal fabrication and finishing affected process. Existing Sources must submit this notification no later than July 23, 2011. New Sources must submit this notification no later than November 20, 2008 or 120 days after start-up, whichever is later.
- (2) **Notification of Compliance Status:** If you operate a metal fabrication and finishing affected process, you must submit a notification of compliance status. Existing Sources must submit this notification no later than November 20, 2011. New Sources must submit this notification no later than November 20, 2008 or 120 days after start-up, whichever is later.

Reporting

**Annual Certification and Compliance Report:** You must submit (no later than January 31) an annual certification and compliance report containing the following (as applicable):

- Facility information
- Statement by responsible official
- Report of visual determinations of fugitive emissions (EPA Method 22 tests)
- Report of visual determinations of emissions opacity (EPA Method 9 tests)
- Reports of any exceedences (VE or Opacity >20 percent) which occurred during the year
- Reports related to site-specific welding emissions management plan

Recordkeeping

**Records Maintenance:** You must maintain records containing the following (as applicable):

- Copies of all notifications and reports, and supporting documentation
- Records of applicability determinations
- Records associated with visual determinations of fugitive emissions (EPA Method 22 tests)
- Records associated with visual determinations of emissions opacity (EPA Method 9 tests)
- Manufacturer's specifications for control devices
- 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
- Copy of the manufacturer's instructions for equipment used for compliance
- Records of welding rod usage, if used to demonstrate that monitoring is not required for a welding affected source

Records must be maintained for five years. The first two years of records must be maintained on-site. Older records may be maintained off site.