Nine Metal Fabrication and Finishing Source Categories
40 CFR Part 63, Subpart XXXXXX (6X NESHAP)

Summary of Requirements: Industrial Process – Welding

Welding is defined as a process which joins two metal parts by melting the parts at the joint and filling the space with molten metal.

The following requirements shall be followed only if the facility's **welding** operations have the potential to emit a **MFHAP** or use materials that contain a **MFHAP**.

REQUIRED MANAGEMENT PRACTICES

- ☑ Operate all equipment associated with operations (including control equipment) according to the manufacturer's instructions.
- ☑ While maintaining the required welding quality, reduce emissions of MFHAP by implementing **one or more** of the following management practices:
  - ☑ Use welding processes with reduced fume generation capabilities (e.g. gas metal arc welding (GMAW) or metal inert gas (MIG)).
  - ☑ Use welding process variations that can reduce fume generation rates (e.g. pulse current GMAW).
  - ☑ Use welding filler materials, shielding gases, carrier gases, or other process materials capable of reducing fume generation.
  - ☑ Optimize welding process variables (e.g. electrode diameter, voltage, amperage, welding angle, etc).
  - ☑ Use a welding fume capture and control system.
- ☑ Perform visual determinations of welding fugitive emissions if 2,000 lbs/year or more of welding rod and wire containing MFHAP are used (calculated on a rolling 12-month basis).

MONITORING REQUIREMENTS

Perform visual determinations of welding fugitive emissions if 2,000 lbs/year or more of welding rod and wire containing MFHAP are used. Visual determinations of welding fugitive emissions shall take place at the primary vent, stack, exit, or opening from the building containing the operations.

Visual determinations for welding operations shall take place using EPA Method 22 while the source is operating under normal conditions. According to procedures of EPA Method 22 of 40 CFR part 60, the reading must last at least fifteen (15) minutes. Follow the schedule shown in Figure 1.

For welding operations, using EPA Method 22, fugitive emissions are considered detected if they are visible for more than six (6) minutes in any fifteen (15) minute period. If fugitive emissions are detected, perform corrective actions and follow-up tests. Report emissions, actions taken and follow up inspections in annual certification and compliance report.

If fugitive emissions are detected more than once in a 12-month period, a visual determination of opacity, using EPA Method 9 shall be performed according to the schedule shown in Figure 2. Method 9 testing must be done within 24 hours from the time the Method 22 reading detected visible emissions. Method 9 testing shall be done while the source is operating under normal conditions. The duration of the Method 9 test shall be at least thirty (30) minutes. Follow the schedule shown in Figure 2.

For welding operations, under EPA Method 9, emissions opacity is determined using the 6-minute average of opacity readings taken every 15 seconds for 30 minutes. Report emissions, actions taken and follow up inspections in annual certification and compliance report.

- ☑ **Opacity less or equal to 20% as a six-minute average, but greater than 0%:**
  - ☑ Perform corrective actions, follow-up inspections and
  - ☑ Evaluate operation and effectiveness of management practices.
- ☑ **Opacities exceeding 20% as a six-minute average:**
  - ☑ Prepare and implement a Site-Specific Welding Emissions Management Plan,
  - ☑ Perform visual determinations of opacity using EPA Method 9 and maintain records of visual determinations.

- ☑ **Site-Specific Welding Emissions Management Plan** should be updated annually, and contain the following information:
  - ☑ Company name and address;
  - ☑ List and description of welding operations;
  - ☑ Description of current management practices and fume control methods;
  - ☑ Description of proposed management practices and fume control methods with date of implementation; and
  - ☑ Copies of previous plans. The plans must be maintained on-site in a readily-accessible location for an inspector.

If after two consecutive months of using Method 9 there are no opacity readings higher than 20%, it is acceptable to go back to Method 22 (start inspecting monthly). Follow the schedule in Figure 1.

FIGURE 1: Tier 1 – Visible Emissions Testing for Welding Operations; **EPA Method 22**

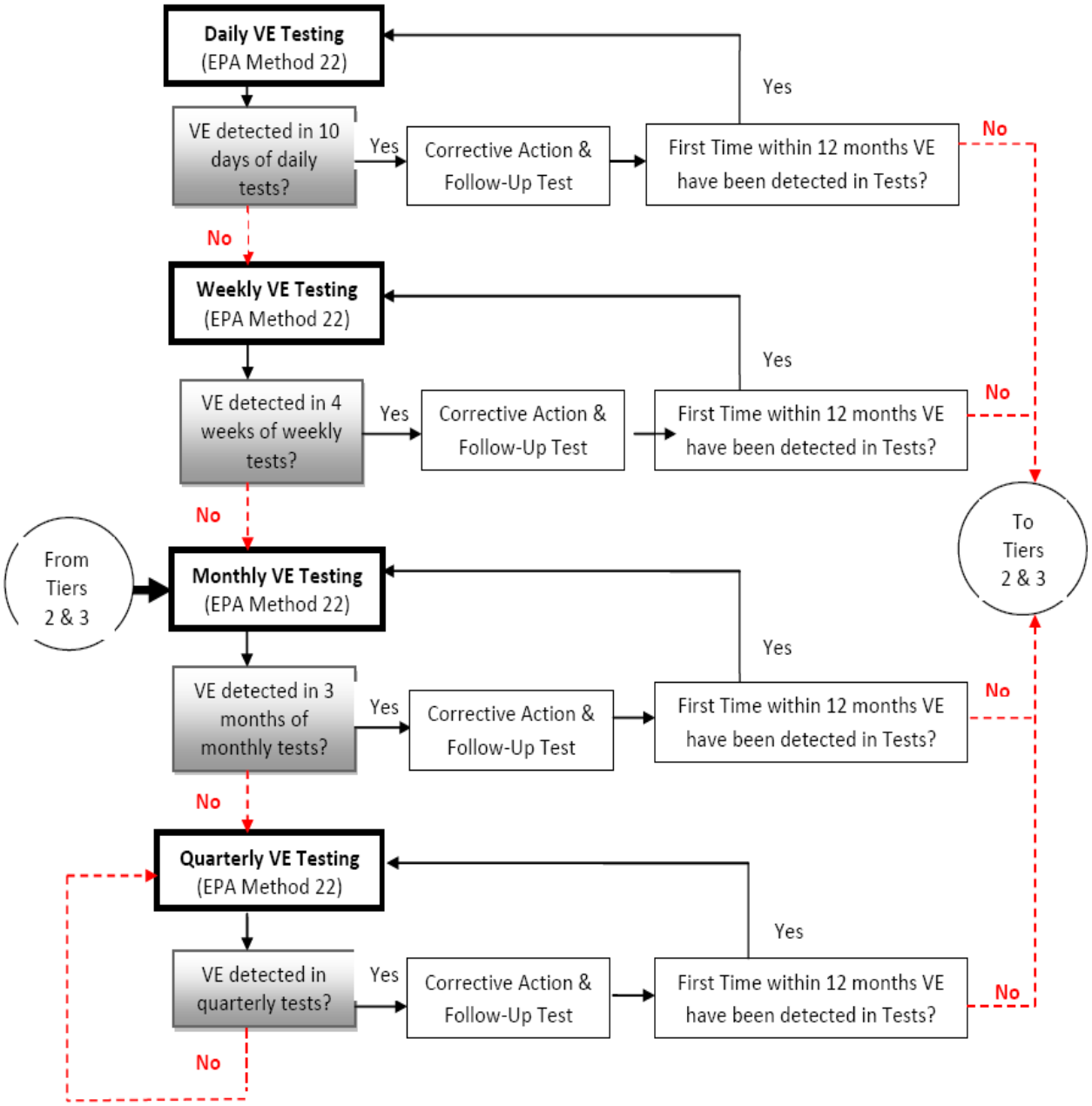
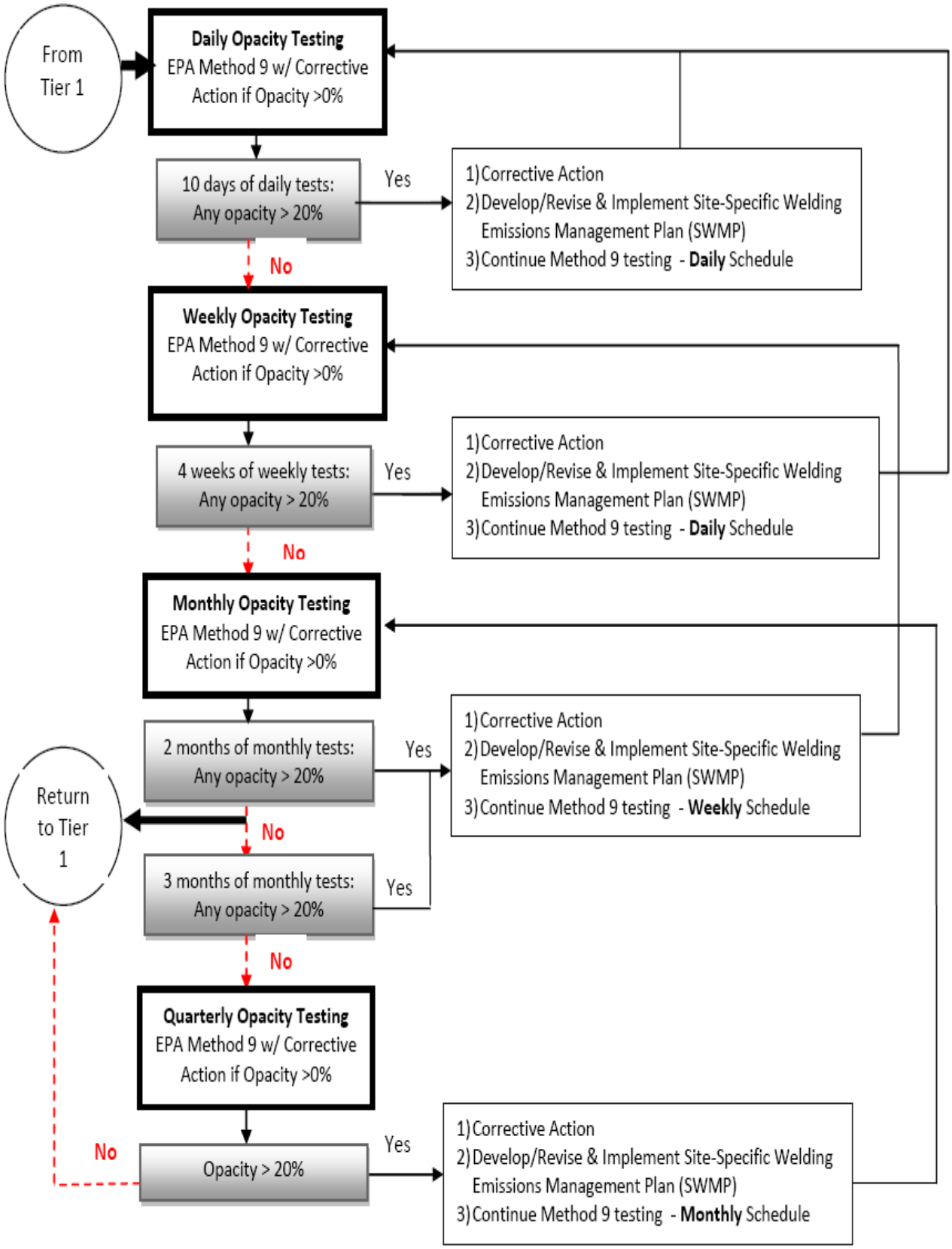


FIGURE 2: Tier 2 & 3 – Visible Emissions Testing for Welding Operation; **EPA Method 9**



RECORD KEEPING AND REPORTING REQUIREMENTS

In addition to the required initial notification and notification of compliance status (see general 6X NESHAP fact sheet), facilities with this industrial process that have the potential to emit MFHAP or use materials that contain MFHAP must also comply with the reporting and recordkeeping requirements below.

Annual Certification and Compliance Reports

- ☑ Submit no later than **January 31st of each year**.
  - ☑ Cover the period from January 1st (or day after compliance date) to December 31st of the previous year.
- ☑ Report should include the following information:
  - ☑ Facility's name and address.
  - ☑ Statement by responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
  - ☑ Date of report and of beginning and ending dates of reporting period.
  - ☑ Report of visual determinations of fugitive emissions (EPA Method 22).
  - ☑ Report of visual determinations of emissions opacity (EPA Method 9).
  - ☑ Reports of any exceedances (opacity >20%) which occurred during the year.
  - ☑ Reports related to Site-Specific Welding Emissions Management Plan.

These reports must be kept in a readily-accessible location for inspector review.

Record Keeping

- ☑ The following records must be maintained in a form suitable and readily available for expeditious review.
  - ☑ Copies of all notifications and reports, and supporting documentation.
  - ☑ Records of applicability determinations.
  - ☑ Records of welding rod and wire usage, if trying to show that less than 2000 pounds of welding rod and wire containing a MFHAP is used per year. Records shall be maintained on a rolling 12-month basis.
  - ☑ Records associated with visual determinations of fugitive emissions (EPA Method 22).
  - ☑ Records associated with visual determinations of emissions opacity (EPA Method 9).
  - ☑ Manufacturer's specifications for control devices.
  - ☑ 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 must be maintained for five years. The first two years of records must be maintained on-site. Older records may be maintained off site.

Please refer to the full rule text of 40 CFR Part 63, Subpart XXXXXX (available at http://www.epa.gov/ttn/atw/area/compilation.html) to determine all applicable equipment requirements, management practices, monitoring requirements, recordkeeping requirements and reporting requirements necessary to be in compliance with this rule. Additional information is available at http://www.iowadnr.gov/air/prof/NESHAP/

For more information or questions please contact
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Iowa Waste Reduction Center: **1-800-422-3109**

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