

**GENERALLY AVAILABLE CONTROL TECHNOLOGY** – For the **welding** operations (**ID No.(s). xxx**), the Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111, "Maximum Achievable Control Technology/GACT" as promulgated in 40 CFR 63, Subpart XXXXXX (6X), "National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories", for the processes of **Dry Abrasive Blasting (63.11516(a))**, **Machining (63.11516(b))**, **Dry Grinding and Dry Polishing (63.11516(c))**, **Spray Painting (63.11516(d) and (e))**, and **Welding (63.11516(f))**, including Subpart A "General Provisions."

- a. Management Practices - As required by 40 CFR 63.11516(f), the following management practices are required to minimize the emissions of the metal fabrication and finishing hazardous air pollutants (MFHAPs: cadmium, chromium, lead, or nickel > 0.1 % in welding rod or manganese > 1.0 % in welding rod):
  - i. Per 40 CFR 63.11516 (f)(1), the Permittee shall operate all equipment, capture, and control devices associated with welding operations according to manufacturer's instructions. A copy of the manufacturer's specifications for the capture/control devices must be maintained on site.
  - ii. Per 40 CFR 63.11516 (f)(2), the Permittee shall 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:
    - A. Use welding processes with reduced fume generation capabilities (e.g., gas metal arc welding (GMAW) - also called metal inert gas welding (MIG)); or
    - B. Use welding process variations (e.g., pulsed current GMAW), which can reduce fume generation rates; or
    - C. Use welding filler metals, shielding gases, carrier gases, or other process materials which are capable of reduced welding fume generation; or
    - D. 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; or
    - E. Use a welding fume capture and control system, operated according to the manufacturer's specifications.

(NOTE: If your **welding** affected source uses 2,000 pounds or more per year of welding rod containing one or more MFHAP (calculated on a rolling 12-month basis), you must demonstrate that management practices or fume control measures are being implemented by complying with the requirements in 63.11516 paragraphs (f)(3) through (f)(8). If less than 2,000 lb/yr is used, paragraphs (a)(i) and (a)(ii) above must still be followed, and the initial notification, notification of compliance status, and the annual compliance certification report is required per Section 63.11519.)

- b. 40 CFR 63.11517 - Monitoring Requirements

- i. Monitoring Requirements - To assure compliance with the management practices above, the Permittee shall perform visual determinations of fugitive emissions, as specified in 40 CFR 63.11517(b).
  - A. The visual determination of fugitive emissions shall be performed at the primary vent, stack, exit, or opening from the building containing the welding operation.
  - B. 40 CFR 63.11517(a) - The visual determination of fugitive emissions must be performed daily and in accordance with Method 22 (40 CFR Part 60, Appendix A-7). The determination must be performed while the welding operations are operating under normal conditions. The duration of each Method 22 must be at least fifteen (15) minutes, and visible emissions will be considered to be present if they are detected for more than six (6) minutes of the fifteen (15) minute period.
  - C. If there are no visible fugitive emissions detected in ten (10) consecutive daily tests (Method 22), the frequency may be reduced to testing once every calendar week (five (5) work days of operation). If visible fugitive emissions are detected during these tests, the Permittee must resume daily testing of the welding operations during normal operations.
  - D. If there are no visible fugitive emissions detected in four (4) consecutive weekly tests (Method 22), the frequency may be reduced to testing once every calendar month (twenty-one (21) work days of operation). If visible fugitive emissions are detected during these tests, the Permittee must resume weekly testing of the welding operations during normal operations.
  - E. If there are no visible fugitive emissions detected in three (3) consecutive monthly tests (Method 22), the frequency may be reduced to testing once every three calendar months (sixty (60) work days of operation). If visible fugitive emissions are detected during these tests, the Permittee must resume monthly testing of the welding operations during normal operations.
  - F. If visible fugitive emissions are detected during any visual determination you must perform corrective actions that include, but are not limited to, inspection of the welding fume sources, and evaluation of the proper operation and effectiveness of the management practices or fume control measures. After completing the corrective actions, a follow-up inspection for visible fugitive emissions must be performed (via Method 9, thirty minute tests).
  - G. If subsequent visible emissions are detected, you must comply with the emissions standards according to 63.11516(f)(5) through 63.11516(f)(8) below.

*63.11516(f)(3) - Tier 1 compliance requirements for welding. You must perform visual determinations of welding fugitive emissions as specified in §63.11517(b), "Monitoring requirements," at the primary vent, stack, exit, or opening from the building containing the welding operations. You must keep a record of all visual determinations of fugitive emissions along with any corrective action taken in accordance with the requirements in §63.11519(c)(2), "Notification, recordkeeping, and reporting requirements", paragraphs (c) and (d) below.*

63.11516(f)(4) - Requirements upon initial detection of visible emissions from welding. If visible fugitive emissions are detected during any visual determination required in paragraph (f)(3) of this section, you must comply with the requirements in paragraphs (f)(4)(i) and (ii) below.

(i) Perform corrective actions that include, but are not limited to, inspection of welding fume sources, and evaluation of the proper operation and effectiveness of the management practices or fume control measures implemented in accordance with paragraph (f)(2) of this section. After completing such corrective actions, you must perform a follow-up inspection for visible fugitive emissions in accordance with §63.11517(a), “Monitoring Requirements,” at the primary vent, stack, exit, or opening from the building containing the welding operations.

(ii) Report all instances where visible emissions are detected, along with any corrective action taken and the results of subsequent follow-up inspections for visible emissions, and submit with your annual certification and compliance report as required by §63.11519(b)(5), “Notification, recordkeeping, and reporting requirements”, paragraph (c)(iii) below.

63.11516(f)(5) - Tier 2 requirements upon subsequent detection of visible emissions. If visible fugitive emissions are detected more than once during any consecutive 12 month period (notwithstanding the results of any follow-up inspections), you must comply with paragraphs (f)(5)(i) through (iv) of this section.

(i) Within 24 hours of the end of the visual determination of fugitive emissions in which visible fugitive emissions were detected, you must conduct a visual determination of emissions opacity, as specified in §63.11517(c), “Monitoring requirements,” at the primary vent, stack, exit, or opening from the building containing the welding operations.

(ii) In lieu of the requirement of paragraph (f)(3) of this section to perform visual determinations of fugitive emissions with EPA Method 22, you must perform visual determinations of emissions opacity in accordance with §63.11517(d), “Monitoring Requirements,” using EPA Method 9, at the primary vent, stack, exit, or opening from the building containing the welding operations.

(iii) You must keep a record of each visual determination of emissions opacity performed in accordance with paragraphs (f)(5)(i) or (ii) of this section, along with any subsequent corrective action taken, in accordance with the requirements in §63.11519(c)(3), “Notification, recordkeeping, and reporting requirements.”

(iv) You must report the results of all visual determinations of emissions opacity performed in accordance with paragraphs (f)(5)(i) or (ii) of this section, along with any subsequent corrective action taken, and submit with your annual certification and compliance report as required by §63.11519(b)(6), “Notification, recordkeeping, and reporting requirements.”

63.11516(f)(6) - Requirements for opacities less than or equal to 20 percent but greater than zero. For each visual determination of emissions opacity performed in accordance with paragraph (f)(5) of this section for which the average of the six-minute average opacities recorded is 20 percent or less but greater than zero, you must perform corrective actions, including inspection of all welding fume sources, and evaluation of the proper operation and effectiveness of the management practices or fume control measures implemented in accordance with paragraph (f)(2) of this section.

63.11516(f)(7) - Tier 3 requirements for opacities exceeding 20 percent. For each visual determination of emissions opacity performed in accordance with paragraph (f)(5) of this section for which the average of the six-minute average opacities recorded exceeds 20 percent, you must comply with the requirements in paragraphs (f)(7)(i) through (v) of this section.

(i) You must submit a report of exceedence of 20 percent opacity, along with your annual certification and compliance report, as specified in §63.11519(b)(8), “Notification, recordkeeping, and reporting requirements,” and according to the requirements of §63.11519(b)(1), “Notification, recordkeeping, and reporting requirements.”

(ii) Within 30 days of the opacity exceedence, you must prepare and implement a Site-Specific Welding Emissions Management Plan, as specified in paragraph (f)(8) of this section. If you have already prepared a Site-Specific Welding Emissions Management Plan in accordance with this paragraph, you must prepare and implement a revised Site-Specific Welding Emissions Management Plan within 30 days.

(iii) During the preparation (or revision) of the Site-Specific Welding Emissions Management Plan, you must continue to perform visual determinations of emissions opacity, beginning on a daily schedule as specified in §63.11517(d), “Monitoring Requirements,” using EPA Method 9, at the primary vent, stack, exit, or opening from the building containing the welding operations.

(iv) You must maintain records of daily visual determinations of emissions opacity performed in accordance with paragraph (f)(7)(iii) of this section, during preparation of the Site-Specific Welding Emissions Management Plan, in accordance with the requirements in §63.11519(b)(9), “Notification, recordkeeping, and reporting requirements.”

(v) You must include these records in your annual certification and compliance report, according to the requirements of §63.11519(b)(1), “Notification, recordkeeping, and reporting requirements.”

63.11516(f)(8) - Site-Specific Welding Emissions Management Plan. The Site-Specific Welding Emissions Management Plan must comply with the requirements in paragraphs (f)(8)(i) through (iii) of this section.

(i) Site-Specific Welding Emissions Management Plan must contain the information in paragraphs (f)(8)(i)(A) through (F) of this section.

(A) Company name and address;

(B) A list and description of all welding operations which currently comprise the welding affected source;

(C) A description of all management practices and/or fume control methods in place at the time of the opacity exceedence;

(D) A list and description of all management practices and/or fume control methods currently employed for the welding affected source;

(E) A description of additional management practices and/or fume control methods to be implemented pursuant to paragraph (f)(7)(ii) of this section, and the projected date of implementation; and

(F) Any revisions to a Site-Specific Welding Emissions Management Plan must contain copies of all previous plan entries, pursuant to paragraphs (f)(8)(i)(D) and (E) of this section.

(ii) *The Site-Specific Welding Emissions Management Plan must be updated annually to contain current information, as required by paragraphs (f)(8)(i)(A) through (C) of this section, and submitted with your annual certification and compliance report, according to the requirements of §63.11519(b)(1), “Notification, recordkeeping, and reporting requirements.”*

(iii) *You must maintain a copy of the current Site-Specific Welding Emissions Management Plan in your records in a readily-accessible location for inspector review, in accordance with the requirements in §63.11519(c)(12), “Notification, recordkeeping, and reporting requirements.”*

- c. 40 CFR 63.11519 - Recordkeeping Requirements - In accordance with 40 CFR 63.11519(c), the Permittee shall maintain records of the following:
- i. Each notification and report submitted to comply with this subpart and documentation supporting each.
  - ii. Any applicability determinations listing equipment included in its affected source, as well as any changes to the determination and on what date they occurred.
  - iii. The date and results of each visual determination of fugitive emissions, a description of any corrective action taken subsequent to the test, and the date and results of any follow-up visual determination of fugitive emissions performed after the corrective actions.
  - iv. The manufacturer’s specifications for each control device used to comply with the management practices.
  - v. If you operate a new or existing welding affected source which is not required to comply with the requirements of 63.11516(f)(3) through (f)(8) because it uses less than 2,000 pounds per year of welding rod (on a rolling 12-month basis), you must maintain records demonstrating your welding rod usage on a rolling 12-month basis.
  - vi. A Site-Specific Welding Plan is required when any opacity reading is greater than zero. See 63.11516(f)(7) and 63.11516(f)(8) referenced above.  
*Per 63.11519(c)(11) - Visual determination of emissions opacity performed during the preparation (or revision) of a Site-Specific Welding Emissions Management Plan. You must maintain a record of each visual determination of emissions opacity performed during the preparation (or revision) of a Site-Specific Welding Emissions Management Plan, in accordance with 63.11516(f)(7)(iii), “Requirements for opacities exceeding 20 percent.”*
  - vii. *Per 63.11519(c)(12) - Site-Specific Welding Emissions Management Plan. You must maintain a copy of your current Site-Specific Welding Emissions Management Plan in your records and it must be readily available for inspector review.*
  - viii. The records must be maintained for a total of five (5) years. The records must be kept on-site for two (2) years and made available to DAQ personnel upon request. The records can be maintained off-site for the remaining three (3) years.
- d. 40 CFR 63.11519 - Reporting Requirements - In addition to the notification requirements of the Environmental Protection Agency (EPA), the Permittee is required to NOTIFY the Regional Supervisor, DAQ, in WRITING, of the following:

- i. An Initial Notification - must be submitted no later than July 25, 2011 for any existing source subject to this Subpart or the later of November 20, 2008 or 120 days after the initial startup of a new source subject to this Subpart. The notice shall contain the following information:
  - A. The name, address, phone number, and e-mail address of the owner and operator;
  - B. The address (physical location) of the affected source;
  - C. An identification of the relevant standards (in this case 40 CFR 63, Subpart XXXXXX); and
  - D. A brief description of the type of operation.
- ii. A Notification of Compliance Status (NOCS) - must be submitted on or before November 22, 2011 for any existing source subject to this Subpart or the later of November 20, 2008 or 120 days after the initial startup of a new source subject to this Subpart. The Notice shall contain the following information:
  - A. The company's name and address;
  - B. A statement by a responsible official with that official's name, title, phone number, e-mail address, and signature certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this Subpart; and
  - C. The date of the notification of compliance status.
- iii. An Annual Compliance Certification (ACC) - must be submitted by January 31 of each year for the previous year. The report shall contain the following information:
  - A. Company name and address.
  - B. A statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
  - C. Date of report and beginning and ending dates of the reporting period.
  - D. The date of every visual determination of fugitive emissions which resulted in detection of visible emissions, a description of the corrective actions taken subsequent to the test, and the date and results of the follow-up visual determination of fugitive emissions performed after the corrective actions.
  - E. An exceedence report must be submitted along with the annual compliance certification whenever the average of the six-minute average opacities recorded during a visual determination of emissions opacity exceeds 20 percent. The exceedence report shall include the date on which the exceedence occurred and the average of the six-minute average opacities recorded during the visual determination of emissions opacity.

- F. If a Site-Specific Welding Emissions Management Plan is required according to 63.11516(f)(7)(iii), records of daily visual determinations of emissions recorded, a copy of the plan and any revisions to the plan must be submitted along with the annual compliance certification.