BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PLAIN LANGUAGE SUMMARY
DRAFT REGULATION 12-13: METAL MELTING AND PROCESSING OPERATIONS

July 7, 2011

I. INTRODUCTION

This document provides a plain language, non-technical summary of the new draft Regulation 12-13 Metal Melting and Processing Operations (Rule 12-13) currently open for public review and comment. This summary is not intended as a substitute for the regulatory language found in the draft Rule. Comments should not be submitted on the *Plain Language Summary*. Comments should address the *Draft Rule 12-13 Metal Melting and Processing Operations* or the *Draft Rule 12-13 Workshop Report* documents available at the District's website: http://www.baaqmd.gov/Divisions/Planning-and-Research/Rule-Development/Rule-Workshops.aspx.

II. OVERVIEW, APPLICABILITY & EXEMPTIONS

What air pollutants will be addressed by this Rule? (Section 12-13-101):
This rule would reduce emissions of the following air pollutants:

1. Particulate Matter such as fine dust and soot that can lodge in the lungs and cause respiratory illness.
2. Organic Compounds including odorous substances.
3. Toxic Compounds

Who would have to comply with this Rule? (Section 12-13-102): This rule would apply to facilities that melt or process metals including

1. Foundries (metal melting);
2. Forges (heat treatment of metals); and
3. Metal recycling operations.

Who would be exempt from this Rule?

1. Clean Aluminum Casting and Small Facilities (Section 12-13-103): The following facilities would NOT have to comply with the major requirements of the draft rule (emission limits, operation standards, plan development and approval process, or

source test requirements), however, these facilities MUST keep records on the certification of the clean aluminum and amounts of metal processed annually:

   a. *Aluminum die casting* (pressure injection of molten aluminum into molds) facilities that melt only aluminum that has been certified to be "clean" (having less than 0.004 percent (40 out of 1 million parts) cadmium and less than 0.002 percent (20 out of 1 million parts) of arsenic.
   b. *Small facilities* that melt, heat treat, crush or shred less than one ton of metal per year.

2. .Low Metal Throughput or Low Risk (Section 12-13-104): The following facilities would NOT have to comply with the emission limits, operation standards or the plan requirements of the draft rule:
   a. *Annual metal throughput* that is less than 1000 tons;
   b. *Cancer risk level* that is 10 in 1 million or less; or
   c. *Non-cancer, long term hazard risk level* (chronic hazard index) that is 1.0 or less.
3. Non-Odorous Materials and Operations (Section 12-13-105): A facility would NOT have to show that it met the emissions limits for odorous substances if it could show to the District that materials used and operations employed do not use any "odorous substances" as defined by the rule. All other requirements would apply.

III. EMISSIONS AND OPERATION STANDARDS

What pollutants are affected and what are the control levels? (Section 12-13-301): The following emission limits would take effect one year after the adoption of the Rule by the District's Board of Directors:

1. Particulate Matter (PM10 – fine soot / dust) emitted from a stack / pipe:
   a. Eighty percent reduction beyond most current emission levels (0.0020 grains per cubic foot) for high volume dust filters (at least 25,000 cubic feet per minute);
   b. Sixty percent reduction beyond most current emission levels (0.0040 grains per cubic foot) for low volume dust filters (less than 25,000 cubic feet per minute).
2. Opacity (visible dust): One tenth of amount of dust needed to totally block the passage of light for no more than 3 minutes in an hour (10 percent opacity).
3. Organic Compounds emitted from a stack / pipe: either
   a. 95 percent control or
   b. Five parts in a million for very low concentrations of organic vapors (60 parts in a million).
4. Odorous Substances: Emissions of odorous substances are basically limited to what can be detected using current instruments and methods. Odorous substances and limits are:
   a. Dimethylsulfide: 0.1 part in a million;

b. Mercaptans: 0.2 part in a million;
c. Phenolic compounds: 5.0 parts in a million;
d. Trimethylamine: 0.02 part in a million.

What operations are affected by the Rule? (Section 12-13-302):
Eighty-five percent of the emissions (PM10, visible dust, organic compounds and odorous substances) from the following operations must be collected and controlled to the levels stated in the section above:

1. Tapping, transporting, pouring or casting molten metal;
2. Cooling and shakeout of metal parts;
3. Mold and core assemblies making;
4. Processing, reprocessing, sorting, recycling, and preparing for transport of solid slag or dross (by-products of metal melting);
5. Reclaiming of sand;
6. Welding or grinding of metal; and
7. Crushing or shredding of metal.

How would facilities show they are in compliance with the requirements of the Rule? (Section 12-13-303):
The rule requires affected facilities to develop a "Comprehensive Compliance Plan" that would show how each affected facility will comply. Compliance plans must be submitted to the District for review and approval. Once approved, compliance with the Plan is required by the Rule.

What information must be included in the Comprehensive Compliance Plans? (Section 12-13-401):
Compliance plans for affected facilities must cover these three areas:

1. Operation, Maintenance, and Monitoring;
2. Metal Management;
3. Odor Management.

1. <u>Operation, Maintenance, and Monitoring Section</u> must include:
    a. A scaled, detailed site plan that shows the location of each building or structure that houses a metal melting or processing operation including the location of:
        i. All walls and partitions, including those that affect air flow;
        ii. All windows;
        iii. All outside intake and exhaust vents and other outside emissions points;
        iv. The location(s) of each metal melting and processing operation.
    b. A pollutant flow diagram that includes each of the metal melting and processing operations with emission points and the control equipment.
    c. A detailed description of the operating and monitoring methods used for all air pollution control equipment:
        i. Bag House (fabric filter),

ii. Afterburner (enclosed incinerator),
iii. Carbon Adsorption Unit (activated carbon to soak up organic pollutants).

d. A description of air pollutant control measures:
i. Operation of air pollution control equipment according to manufacturers' specification and District-approved methods;
ii. Storage of dusty materials in closed containers;
iii. Cleaning (mop or vacuum) of areas such as roads and sidewalks to minimize dust.

2. Metal Management Section must include:
a. A list of methods and/or equipment to be used to reduce emissions of PM10 (fine soot) and other pollutants into the air;
i. Dust control methods for sorting, shredding, storage, and transport of scrap metals, including water, berms, bins, tarps, screens, and enclosures;
ii. Proper draining and collection of organic liquids from tanks and fuel lines such as gasoline, diesel fuel, lubricating oil, power steering fluid, transmission fluid and windshield wiper fluid;
iii. Proper removal and recovery of refrigerants;
iv. Proper removal of intact lead-acid batteries to prevent damage or leaking;
v. Proper removal of mercury switches, PCB (poly chlorinated biphenyls) capacitors, lead tire weights, and unspent air bags;
vi. Ensure fluff (residual mixture of material from metal recycling, including scrap metals, plastics, vinyl, sponge, foam, fabric, rubber, and glass) does not leave the facility property.

b. A method to ensure scrap metals received and used in a furnace be as clean as possible (no oils, organic liquids, PCBs, mercury switches, lead contamination, oil filters, plastics, rubber, leather, dirt, or glass).

3. Odor Management Section for facilities that melt at least 1000 tons of metal annually must include:
a. List of the emission points and sources of odorous substances at the facility, including binder (one of the materials used to hold molds together during metal casting), types, purpose, manufacturer's fact sheets, formulation, and amounts used for metal casting;
b. Best management practices to control the emissions of odorous substances as much as possible.

When must the plans be submitted to the District? (Section 12-13-402):
Compliance plans must be developed and submitted to the District:

1. Within six months after the adoption of the rule by the District's Board of Directors; or

2. Within six months after a facility becomes subject to the rule. (This could happen due to an increase in metal processed or an increase in risk levels.)

How would the District review and approve the proposed Compliance Plans? (Section 12-13-403):

1. Within 30 days of receiving a proposed plan, the District would review the Plan to see if all the required information is included. This is a completion determination. If the proposed Plan is not complete, the District would notify the Facility about what information is still needed to complete the submission of the Plan.
2. Once a facility is notified that a plan is NOT complete, it would have 30 days to provide the missing information and resubmit the plan to the District. If the correct information is not provided, the District would disapprove the proposed Plan.
3. If the District determines the Plan to be complete, the Plan (without confidential information) would be made public for a 30-day written comment period which would be considered before a final approval of the plan is made.
4. Thirty days following the end of the public comment period, the District would make final a decision on the proposed Plan. This period could be extended up to 60 days if necessary to comply with State law. If the Plan is disapproved, the District would notify the facility in writing and include the reason(s) for disapproval. The facility would have 30 days to correct and resubmit the plan to the District. A Plan not formally disapproved can be considered approved after the close of the 30-day comment period.

What if there is non-compliance or major changes at an affected facility? (Section 12-13-404):

If there are major changes at an affected facility with an approved Compliance Plan, the Rule would require the Plan to be revised to reflect those changes and resubmitted to the District for approval within 90 days of the following events:

1. Any of the emission limits are exceeded; or
2. There are changes at the facility that requires a permit modification.

How would the District know that Plans are being kept up-to-date? (Section 12-13-405):

Once every three years, the compliance plans must be resubmitted to the District for review and approval. If there are no major changes, the same plan could be resubmitted.

IV. MONITORING AND RECORDKEEPING

How would the District determine compliance with the emission limits?

1. <u>Monitoring Requirements for Particulate Matter and Organic Compounds</u> (Section 12-13-501): The rule contains the following monitoring requirements for:

a. Continuous parametric monitoring to measure and record the levels of organic compounds emitted from exhaust stacks.
b. Continuous pressure monitoring to measure pressure drop across dust filters, including an electronic bag leak detection device; (This would indicate upset conditions like holes / tears or the need to clean the filters.)
c. Alarms to indicate upset conditions;
d. Air flow rates out of the exhaust stacks, temperature and metal processing rates.

2. Monitoring Requirements for Odorous Substances (Section 12-13-502): Within one year after the adoption of the Rule, affected facilities that emit odorous substances must:
    a. Develop and have approved by the District a source test plan (may need to explain what this is) to show compliance with the emission limits for odorous substances;
    b. Schedule a source test within 90 days of District-approval of the source test plan and notify the District of the source at least seven days in advance;
    c. Conduct source tests for the following operations:
        i. Mold making,
        ii. Tapping (pouring metal from a furnace),
        iii. Casting of metal parts (in molds),
        iv. Cooling of the cast metal parts in the mold,
        v. Shakeout (removal of cast metal parts from molds; AND
    d. Submit the test results to the District within seven days of receiving the test report.
3. Recordkeeping Requirements (Section 12-13-503): The rule contains the following recordkeeping requirements:
    a. The monthly amounts of each type of metal processed, including metal melted, heated, scrapped or recycled and how the amounts were determined;
    b. The amounts of the following contaminants in the metals above and how the amounts were determined:
        i. Manganese,
        ii. Cadmium,
        iii. Chromium,
        iv. Mercury,
        v. Lead,
        vi. Nickel, and
        vii. Arsenic.
    c. The monthly amounts of binders used;
    d. The monthly amounts of sand used and replaced.
    e. Documentation to show eligibility for any of the exemptions.