

RULE 1420. EMISSIONS STANDARD FOR LEAD

(a) Purpose

The purpose of this rule is to protect public health by reducing emissions and ambient air concentrations of lead from non-vehicular sources, reduce public health impacts by reducing the exposure to lead, and to help ensure continued attainment of the National Ambient Air Quality Standard for Lead.

(b) Applicability

(1) This rule applies to any owner or operator of a metal melting facility or lead processing facility that processes lead-containing materials, including, primary or secondary lead smelters, foundries, lead-acid battery manufacturers or recyclers, lead platers, and lead-oxide, brass, and bronze producers that process lead-containing materials. Specific provisions of this rule shall apply as follows:

(A) A facility that processes two (2) tons per year or less of lead with an average lead content that is greater than 0.05 percent by weight, shall only be subject to paragraphs (d)(1) and (d)(2) and subdivisions (h) and (i) of this rule.

(B) A facility that processes more than two (2) tons per year of lead with an average lead content greater than 0.05 percent by weight, shall be subject to all provisions of this rule.

(2) Amount of lead processed in a year referenced in paragraph (b)(1) shall be determined based on any of the five calendar years prior to December 1, 2017, or any year thereafter.

(3) Average lead content referenced in paragraph (b)(1) shall be determined based on the highest one-month average after December 1, 2017, or any month thereafter using one of the methods specified in paragraph (i)(2).

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

(1) BAG LEAK DETECTION SYSTEM is a system that monitors electrical charge transfer based in triboelectric or electrostatic induction to continuously monitor bag leakage and similar failures by detecting changes in particle mass loading in the exhaust.

- (2) CAPTURE VELOCITY is the minimum hood induced air velocity necessary to capture and convey air contaminants into an emission collection system.
- (3) DUCT SECTION is a length of duct including angles and bends which is contiguous between two or more process devices (e.g., between a furnace and a heat exchanger; baghouse and scrubber; scrubber and stack; etc.).
- (4) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- (5) EMISSION COLLECTION SYSTEM is any equipment, including the associated ducting, installed for the purpose of directing, taking in, confining, and conveying an air contaminant, and which at minimum conforms to design and operation specifications given in the most current edition of *Industrial Ventilation, Guidelines and Recommended Practices*, published by the American Conference of Government and Industrial Hygienists, at the time a complete permit application is on file with the SCAQMD.
- (6) EMISSION CONTROL DEVICE is any equipment installed in the ventilation system of a lead point source or emission collection system for the purpose of collecting and reducing emissions of lead.
- (7) FOUNDRY is any facility, operation, or process where metal or a metal alloy is melted and cast.
- (8) FUGITIVE LEAD-DUST EMISSIONS are emissions of lead-containing material from locations other than lead point sources including, but not limited to, foot and vehicular traffic and storage piles, where the dust forming material at the emission source has a lead content of greater than 0.05 percent by weight as determined by EPA-approved methods.
- (9) FURNACE is a device used to melt metal including, but not limited to, cupola, electric arc, pot, induction, blast, crucible, sweat and reverberatory furnaces.
- (10) LEAD means elemental lead, alloys containing elemental lead, or lead compounds, calculated as elemental lead.
- (11) LEAD-ACID BATTERY MANUFACTURER is any facility, operation, or process that produces storage batteries or battery components using lead or lead compounds.
- (12) LEAD-ACID BATTERY RECYCLER is any facility, operation, or process in which lead-containing batteries are disassembled and/or the lead battery components are melted.
- (13) LEAD-OXIDE PRODUCER is any facility, operation, or process intended to produce lead-oxide from materials containing lead, including, but not limited to,

lead melting and/or oxidizing furnaces, lead-oxide conveying systems, associated air pollution control systems, and equipment used for product recovery, storage, and dispensing.

- (14) LEAD POINT SOURCE is any process or equipment used at a metal melting facility or lead-processing facility to process materials that have a lead content of greater than 0.05 percent by weight as determined by paragraph (i)(2).
- (15) LEAD-PROCESSING FACILITY is any primary or secondary lead smelter, foundry, lead-acid battery manufacturer or recycler, lead plating, or lead-oxide, bronze, or brass producer.,
- (16) MAINTENANCE ACTIVITY is a routine process to keep equipment and machinery in working order or to prevent breakdowns and includes any of the following activities conducted outside of a total enclosure that generates or has the potential to generate fugitive lead-dust:
 - (A) Maintenance activities on any emission collection or control device that vents a lead point source or metal grinding operation; or
 - (B) Replacement or removal of any duct section used to vent a lead point source or metal grinding operation.
- (17) METAL is any ferrous (iron-based) metal and alloys and non-ferrous (non-iron-based) metals and alloys. Examples of metals include, but are not limited to, iron, aluminum, copper, gold, silver, zinc, tin, lead, platinum, nickel, chromium, cadmium, manganese, mercury, tungsten, and titanium, and their alloys, including steel, brass, and bronze.
- (18) METAL MELTING FACILITY is any facility that operates equipment to which scrap metal, ingots, and/or other forms of metals are charged and melted, including but not limited to, die casting, recycling, refining, sintering, smelting, or soldering operations where the lead content of the material processed is greater than 0.05 percent by weight as determined by paragraph (i)(2).
- (19) PRIMARY LEAD SMELTER is any facility, operation, or process engaged in the production of lead, lead alloys, and/or lead compounds from lead ore and/or lead ore concentrates through the use of pyrometallurgical techniques.
- (20) REPAIR is an operation or activity to return a damaged object or an object not operating properly, to good condition.
- (21) RINGELMANN OPACITY refers to an opacity shade as given in a chart published by the United States Bureau of Mines.

- (22) SECONDARY LEAD SMELTER is any facility, operation, or process engaged in the production of lead, lead alloys, and/or lead compounds from lead-bearing scrap material through the use of pyrometallurgical techniques.
- (23) SLAG means the inorganic by-product material discharged, in melted state, from a smelting furnace and contains lead compounds. This shall include, but is not limited to, lead sulfate, lead sulfide, lead oxides, and lead carbonate consisting of other constituents charged to a smelting furnace, which are fused together during the pyrometallurgical process.
- (24) SMELTING is the heating and chemical reduction of metal containing lead compounds.
- (25) SMELTING FURNACE is any furnace where smelting takes place including, but not limited to, blast furnaces, reverberatory furnaces, rotary furnaces, and electric furnaces.
- (26) TOTAL ENCLOSURE is a permanent containment structure, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, or run-off), that has limited openings to allow access for people and vehicles, that is free of breaks, cracks, gaps, or deterioration that could cause or result in the escape of fugitive lead-dust emissions.

(d) Ambient Air Lead Concentration Limit

- (1) The owner or operator of a lead processing or metal melting facility shall not discharge emissions into the atmosphere, which contribute to ambient air concentrations of lead that exceed the following:

Effective Date	Ambient Air Concentrations of Lead ($\mu\text{g}/\text{m}^3$), averaged over 30 consecutive days
December 1, 2017 to December 31, 2020	0.150
On and after January 1, 2021	0.100

- (2) An exceedance of the ambient air concentration of lead specified in the above table shall occur if it is measured by any monitor installed pursuant to subdivision (1) or a SCAQMD-installed monitor that measures lead concentrations resulting from the facility operations.
- (3) Fugitive lead-dust emissions shall not exceed Ringelmann 0.5, or 10 percent opacity, for more than three (3) minutes aggregate in any 60-minute period.

- (e) Executive Officer Determination to Conduct Ambient Air Monitoring
- (1) The Executive Officer may notify the owner or operator of a lead processing or metal melting facility that ambient air monitoring may be required if the Executive Officer has reason to believe that:
 - (A) The ambient air concentration of lead from the lead processing facility contributes to ambient air concentrations of lead that exceeds $0.150 \mu\text{g}/\text{m}^3$ averaged over 30 consecutive days; or
 - (B) The lead point source limits for any lead point source emission control device at the lead processing or metal melting facility exceeded the limits pursuant to subdivision (f), based on two (2) source tests over a rolling 36-month period.
 - (2) Within 30 days of the date of initial notification from the Executive Officer that ambient air monitoring may be required, the owner or operator may provide the Executive Officer any additional information that may substantiate that the criteria set forth in subparagraphs (e)(1)(A) or (e)(1)(B) has not been met.
 - (3) Prior to making a final determination, the Executive Officer will consider:
 - (A) The additional information provided to the Executive Officer pursuant to paragraph (e)(2);
 - (B) The evaluation of any emissions data, which includes, but is not limited to, ambient air lead data or source test data;
 - (C) Any facility site visit(s); and
 - (D) Any findings from an investigation of surrounding sources.
 - (4) The Executive Officer shall notify the owner or operator of the final determination. An owner or operator of a lead processing facility that receives notification that the Executive Officer has determined that ambient lead monitoring is required shall conduct ambient lead monitoring and sampling pursuant to subdivision (l).
- (f) Lead Point Source Emissions Control
- (1) The owner or operator of a lead-processing or metal melting facility shall vent emissions from each lead point source to an emission control device that meets an outlet mass lead emission rate of less than 0.0003 pound per hour or reduces lead emissions by a minimum of 99% as determined by the most recent SCAQMD-approved source test conducted on behalf of the facility or the SCAQMD pursuant to subdivision (j) based on the following schedule:
 - (A) No later than June 1, 2018, if the lead point source is vented to an existing lead emissions control device; and

- (B) No later than six (6) months after a Permit to Construct for a lead emission control device is issued by the Executive Officer, if the lead point source was previously not vented to an existing lead emissions control device.
 - (2) In lieu of complying with paragraph (f)(1), the owner or operator of an uncontrolled lead point source may elect to demonstrate an outlet mass lead emissions rate of less than 0.0003 pound per hour, as determined by a SCAQMD-approved source test conducted on behalf of the facility or the SCAQMD pursuant to subdivision (j) no later than June 1, 2018.
 - (3) Any permit modification to the equipment or process that may increase the amount of lead emissions shall require a new source test to determine compliance with paragraphs (f)(1) or (f)(2).
 - (4) Each emission collection system and emission control device subject to this subdivision shall be approved, in writing, by the Executive Officer and, at a minimum, be inspected, maintained, and operated in accordance with the manufacturer's specifications.
- (g) Total Enclosures
- (1) An owner or operator of a lead-processing or metal melting facility shall conduct all metal melting and lead processing operations including metal grinding, in a total enclosure that minimizes cross-draft conditions that could result in the decrease in collection efficiency of the emission collection system and the release of fugitive lead-dust emissions from openings in the wall and roof of a total enclosure, such as windows, passages, doorways, and bay doors. Alternative methods to minimize the release of fugitive lead-dust from the total enclosure may be used if the owner or operator can demonstrate to the Executive Officer an equivalent or more effective method(s) to minimize cross-draft conditions.
 - (A) Acceptable methods to minimize cross-draft conditions include, but are not limited to the following:
 - (i) Closing openings, except when moving parts, people, vehicles, or equipment through the openings;
 - (ii) Use of automatic roll-up doors;
 - (iii) Installation of plastic strip curtains; or
 - (iv) Use of vestibules.
 - (2) For a lead processing or metal melting facility existing as of December 1, 2017, any modification or construction made to a structure to meet the provisions of paragraph (g)(1) shall be completed:

- (A) No later than June 1, 2018, if the owner or operator is modifying a structure that is existing as of December 1, 2017; or
 - (B) No later than 12 months after December 1, 2017, if the owner or operator is constructing a new structure, provided the owner or operator provides written notice to the Executive Officer within 60 days after December 1, 2017.
- (3) All enclosure types shall be designed in a manner that does not conflict with the requirements set forth by the United States Department of Labor Occupational Safety and Health Administration or the California Division of Occupational Safety and Health regarding worker safety.
- (4) The owner or operator of a lead processing or metal melting facility shall inspect any total enclosure at least once a calendar month for breaks, cracks, gaps, or deterioration that could cause or result in fugitive lead-dust.
- (5) The owner or operator of a lead processing or metal melting facility shall repair any breaks, cracks, gaps, or deterioration that could result in fugitive lead-dust from any total enclosure within 72 hours of discovery. The Executive Officer may approve a request for extension beyond the 72-hour limit if the request is submitted to Rule1420notifications@aqmd.gov before the 72-hour time limit has expired and the owner or operator can provide information to substantiate that either:
- (A) The repair will take longer than 72 hours; or
 - (B) The equipment, parts, or materials needed for the repair cannot be obtained within 72 hours.
- (h) **Housekeeping Requirements**
- Unless otherwise specified, no later than 30 days after December 1, 2017, the owner or operator of a facility that processes lead shall control fugitive lead-dust by conducting the following housekeeping practices:
- (1) Clean by wet wash, wet mop, or with a vacuum in a manner that does not generate fugitive lead-dust, the areas at specified frequencies listed in subparagraphs (h)(1)(A) through (h)(1)(C), unless located within a total enclosure vented to a lead emission control device.
 - (A) For lead processing facilities that process more than 10 tons per year of lead, cleaning of rooftops on structures that house areas associated with lead processing operations at least one time per year during the months of July through September.

- (B) Effective December 1, 2017, weekly cleanings by wet wash, wet mop, vacuum, or stabilization with dust suppressant of all:
 - (i) Areas where lead-containing wastes generated from housekeeping activities are stored, disposed of, recovered, or recycled; and
 - (ii) Surfaces that accumulate lead-containing dust subject to vehicular or foot traffic.
- (C) Initiate immediate cleaning, no later than one hour after any construction or maintenance activity or event, including, but not limited to accidents, process upsets, or equipment malfunction that causes deposition of fugitive lead-dust emissions onto areas specified in subparagraphs (h)(1)(A) and (h)(1)(B). If the facility can demonstrate that delays were due to unreasonable risks to safety posed by earlier cleaning or inability to reasonably obtain equipment required to implement this requirement, immediate cleanings of rooftops shall be completed within 72 hours.
- (2) Effective December 1, 2017, the owner or operator of a lead processing or metal melting facility shall not conduct any housekeeping activities that involve dry sweeping or the use of compressed air.
- (3) Conduct quarterly cleaning of collection vents, openings and ducting of each lead emission control device according to procedures in the most current edition of the *Industrial Ventilation, A Manual of Recommended Practice for Operation and Maintenance*.
- (4) Remove any weather cap installed on any stack that is a source of lead emissions.
- (5) Effective December 1, 2017, store all materials capable of generating any amount of fugitive lead-dust including, but not limited to, slag and any other lead-containing waste generated from the housekeeping requirements of this subdivision and the construction or maintenance activities of subdivision (g), in sealed leak-proof containers, or stabilize such materials using dust suppressants approved in writing by the Executive Officer, unless located within a total enclosure.
- (6) Transport all materials capable of generating any amount of fugitive lead-dust including, but not limited to, slag and any other waste generated from the housekeeping requirements of this subdivision and the construction or maintenance activities of subdivision (g), within closed conveyor systems or in sealed leak-proof containers, or stabilize such materials using dust suppressants approved in writing by the Executive Officer, unless located within a total enclosure. This paragraph shall not be applicable to the transport of high temperature materials exceeding 500

degrees Fahrenheit where implementation of the specified control requirements is infeasible.

- (7) Conduct wet washing, wet scrubbing, or vacuum sweeping of any paved area located outside of a total enclosure that is subject to vehicular traffic, no later than one hour after any construction or maintenance activity or event, including accidents, process upsets, or equipment malfunction that results in the deposition of fugitive lead-dust, unless located within a total enclosure vented to a lead emissions control device. Wet scrubbing shall not be required during days of measurable precipitation.
 - (8) Effective December 1, 2017, except when inside a total enclosure, all lead-containing trash and debris shall be placed in covered containers that remain covered at all times except when trash or debris is actively deposited into a receptacle. Trash and debris containers shall be free of liquid or dust leaks.
 - (9) Post signs at all entrances and truck loading and unloading areas indicating a speed limit of five (5) miles per hour or less on any roadway located within 75 feet of the perimeter of a total enclosure.
 - (10) For any of the housekeeping requirements specified under paragraphs (h)(1) through (h)(9), an alternative housekeeping measure can be used provided the owner or operator demonstrates and receives written approval from the Executive Officer that the alternative housekeeping measure meets the same objective and effectiveness of the housekeeping requirement it is replacing.
 - (11) The owner or operator of a lead processing or metal melting facility that is conducting metal grinding of lead-containing materials shall wet wash, wet mop, or vacuum in a manner that does not generate fugitive lead-dust the following:
 - (A) Floors within 20 feet of a work station or work stations dedicated to the metal grinding operations;
 - (B) Floors within 20 feet of any entrance/exit point of a temporary enclosure, building or total enclosure that houses the grinding operations; and
 - (C) Floors within 10 feet of an emission control device dedicated to the metal grinding operations.
- (i) Recordkeeping
- The owner or operator of a lead processing or metal melting facility shall keep records of the following:
- (1) Data related to lead-containing raw materials used at the facility, including quantities processed monthly and the lead content of these raw materials, purchase

records, results of analyses, source test data, and other SCAQMD-approved verification to indicate amounts of lead-containing materials processed. The Executive Officer may approve other alternative methods used to calculate the amount of lead processed and the percentages of lead contained within the lead-containing raw materials processed. The monthly amount of lead processed shall be calculated by multiplying the monthly average weight percentage of lead as calculated in paragraph (i)(2) by the quantity of raw material processed monthly at each lead point source. The annual amount of lead processed by the facility shall be calculated by summing the monthly amounts of lead processed for all lead point sources over a calendar year.

- (2) Monthly records shall be maintained to determine the monthly average weight percentage of lead contained in processed materials. The monthly average weight percentage of lead shall be determined by using one of the following methods:
 - (A) EPA-approved method (s);
 - (B) Metal analyses for bulk samples of baghouse catches;
 - (C) Weighted monthly average of lead content from analysis of feedstock, including ingots and scrap; or
 - (D) An alternative method approved by the Executive Officer that can quantify the average weight percentage contained in processed materials.
- (3) Results of all ambient air lead monitoring, wind monitoring, and other data specified in subdivision (l);
- (4) Records of the following shall also be maintained:
 - (A) Construction, inspections, maintenance, and repairs of total enclosures pursuant to paragraphs (g)(2) through (g)(4);
 - (B) Housekeeping activities completed as required by paragraphs (h)(1), (h)(3), and (h)(7);
 - (C) Source tests data as required by subdivision (j) and paragraph (k)(3);
 - (D) Data files, inspection, and maintenance of emission collection devices as required by subdivision (k), including the name of the person conducting the activity and the dates and times at which specific activities were completed;
 - (E) Smoke test results as required by paragraph (k)(5); and
 - (F) Hot wire anemometer data collected, including capture velocities, dates of measurement and calibration documentation as required by paragraph (k)(6).

- (5) The owner or operator shall maintain all records for three years, with at least the two most recent years kept onsite and made available to the SCAQMD upon request.
- (j) Source Tests
- (1) Effective December 1, 2017, the owner or operator of a lead processing or metal melting facility shall conduct a source test of all lead point sources once every 24 months after the initial source test to demonstrate compliance with the facility mass emissions standards specified in subdivision (f). If a source test to demonstrate compliance with the lead point source emission standards of subdivision (f) demonstrates stack outlet mass lead emissions of less than 0.00015 pounds per hour, then the next source test for the lead point source lead emissions control device shall be performed no later than 48 months after the date of the most recent source test.
 - (2) The owner or operator of a lead processing or metal melting facility with an existing lead emission control device in operation before December 1, 2017 shall conduct a source test for this device no later than June 1, 2018. The owner or operator with a new or modified lead control device with initial start-up on or after December 1, 2017 shall conduct the initial source test for the no later than six (6) months after a Permit to Construct is issued by the Executive Officer.
 - (3) At least 60 calendar days prior to conducting a source test pursuant to paragraph (j)(1) or (j)(2), the owner or operator of a lead processing or metal melting facility shall submit a source test protocol to the Executive Officer for approval. The source test protocol shall include the source test criteria of the end user, all assumptions, required data, calculated targets for testing, and the following:
 - (A) Target lead mass emission standard;
 - (B) Planned sampling parameters;
 - (C) Information on equipment, logistics, personnel, and other resources necessary for an efficient and coordinated source test; and
 - (D) Evaluation of emission collection system.
 - (4) The owner or operator of a lead processing or metal melting facility shall notify the Executive Officer, in writing, of the intent to conduct source testing, one week prior to conducting any source test required by paragraphs (j)(1) or (j)(2).
 - (5) The owner or operator of a lead processing or metal melting facility shall notify the Executive Officer within 5 calendar days of when the facility knew or should have known of any source test result that exceeds any of the emission standards specified

- in subdivision (f). Notifications shall be made to 1-800-CUT-SMOG and followed up in writing to the Executive Officer with the results of the source tests within ten (10) calendar days of notification.
- (6) Source tests shall be conducted while operating at a minimum of 80% of the equipment's permitted capacity and in accordance with any of the following applicable test methods:
 - (A) SCAQMD Method 12.1 – *Determination of Inorganic Lead Emissions from Stationary Sources Using a Wet Impingement Train*;
 - (B) CARB Method 12 – *Determination of Inorganic Lead Emissions from Stationary Sources*; or
 - (C) U.S. EPA Method 12 – *Determination of Inorganic Lead Emissions from Stationary Sources*.
 - (D) CARB Method 436 – *Determination of Multiple Metal Emissions from Stationary Sources*.
 - (7) The owner or operator of a lead processing or metal melting facility may use alternative or equivalent source test methods as defined in U.S. EPA 40 CFR 60.2, if approved in writing by the Executive Officer, in addition to the CARB, or the U.S. EPA, as applicable.
 - (8) The owner or operator of a lead processing or metal melting facility shall use a test laboratory approved under the SCAQMD Laboratory Approval Program for the source test methods cited in this subdivision. If there is no approved laboratory, then approval of the testing procedures used by the laboratory shall be granted by the Executive Officer on a case-by-case basis based on SCAQMD protocols and procedures.
 - (9) When more than one source test method or set of source test methods are specified for any testing, the application of these source test methods to a specific set of test conditions is subject to approval by the Executive Officer. In addition, a violation established by any one of the specified source test methods or set of source test methods shall constitute a violation of the rule.
 - (10) An existing source test conducted on or after January 1, 2014 for lead emission control devices existing before December 1, 2017 may be used as the initial source test specified in paragraph (j)(1) to demonstrate compliance with the lead emission control standards of subdivision (f). The source test shall meet, at a minimum, the following criteria:
 - (A) The source test is the most recent conducted since January 1, 2014;

- (B) The source test demonstrated compliance with the control requirements of subdivision (f);
 - (C) The source test is representative of a method used to test emissions from control devices currently in use; and
 - (D) The source test was conducted using applicable and approved test methods specified in paragraphs (j)(6) through (j)(8).
- (11) Source testing conducted by the facility, the SCAQMD, or a contractor acting on behalf of the SCAQMD or the facility to determine compliance with this rule shall be performed according to the most recent SCAQMD-approved source test protocol for the same purpose.
- (12) Reports from source testing conducted pursuant to subdivision (j) shall be submitted to the SCAQMD within 90 days of completion of source testing.
- (k) Emission Control Device Monitoring
- (1) Bag Leak Detection System

The owner or operator of a lead processing or metal melting facility shall apply for a permit to install, operate, calibrate, and maintain a Bag Leak Detection System for baghouses subject to the requirements of SCAQMD Rule 1155 – Particulate Matter (PM) Control Devices.
 - (2) The owner or operator of a lead processing or metal melting facility shall continuously monitor the pressure drop across the filter of an emission control device used to control lead emissions with a gauge. The gauge shall be located so that it is easily visible and in clear sight of the owner or operator or maintenance personnel. For the purposes of this requirement, the owner or operator shall ensure that the monitoring device:
 - (A) Is equipped with ports to allow for periodic calibration in accordance with manufacturer's specifications;
 - (B) Is calibrated according to manufacturer's specifications at least once every calendar year;
 - (C) Is equipped with a continuous data acquisition system (DAS). The DAS shall record the data output from the monitoring device at a frequency of at least once every 60 minutes;
 - (D) Generates a data file from the computer system interfaced with each DAS each calendar day saved in Microsoft Excel (xls orxlsx) format or other format as approved by the Executive Officer. The file shall contain a table of chronological date and time and the corresponding data output value from

the monitoring device in inches of water column. The operator shall prepare a separate data file each day showing the 4-hour average pressure readings recorded by this device each calendar day; and

- (E) Is maintained in accordance with manufacturer's specifications.
- (3) The owner or operator of a lead emissions control device shall be required to conduct a source test pursuant to subdivision (j), if the pressure across the filter is not maintained within the range specified by the manufacturer or according to conditions of the Permit to Operate for the emission control device as determined by hourly or more frequent recordings by the DAS for the averaging periods below, no later than 30 days after the discrepancy is detected:
- (A) A 4-hour time period on three (3) or more separate days over 60 continuous days; or
 - (B) Any consecutive 24-hour period.
- (4) The owner or operator of a lead processing or metal melting facility shall operate the emission collection system associated with the lead emission control device at a minimum collection induced capture velocity specified in the most current edition of the *Industrial Ventilation, A Manual of Recommended Practice for Design, published by the American Conference of Governmental Industrial Hygienists*, at the time a permit application is deemed complete with the SCAQMD.
- (5) For each emission collection system subject to this subdivision, a periodic smoke test shall be conducted during source testing, pursuant to paragraph (j)(1) and at least once every three months thereafter, using the procedure set forth in Appendix 1 of this rule. The smoke test need not be performed if it is demonstrated to the Executive Officer that it presents an unreasonable risk.
- (6) A calibrated hot wire anemometer shall be used to measure the capture velocity of each emission collection system at least once monthly, based on its location within a lead processing facility and its design configuration:
- (A) An emission collection system designed with a hood or enclosure shall maintain a capture velocity of at least 200 feet per minute as measured at the face of the enclosure or the minimum slot velocity measured in the most recent source test that verifies 100% collection efficiency.
 - (B) An emission collection system without an enclosing hood that is designed with collection slots shall maintain a capture velocity of at least 2,000 feet per minute, or the minimum slot velocity measured in the most recent source test that verifies 100% collection efficiency.

(l) Ambient Monitoring and Sampling Requirements

- (1) Within 120 days of the date of final determination pursuant to paragraph (e)(4) that the owner or operator of a lead processing or metal melting facility shall conduct ambient air lead monitoring, the owner or operator of a lead processing or metal melting facility shall submit a Lead Ambient Air Monitoring and Sampling Plan for review and approval by the Executive Officer, subject to plan fees as specified in SCAQMD Rule 306 – Plan Fees that includes:
 - (A) Source test results of all lead point sources conducted pursuant to subdivision (j).
 - (B) Map of the facility identifying the location of all lead emission sources, emission control devices, stacks, enclosures, openings of enclosures, storage of lead containing materials, roadways where vehicles carrying lead containing materials travel within the facility, vehicle ingress and egress locations, the property line of the facility, the fence line of the facility if it differs from the property line of the facility, and any areas within the property line of the facility that are publicly accessible.
 - (C) Number and locations for sampling sites that meet the requirements of paragraph (l)(2).
 - (D) The Executive Officer shall notify the owner or operator in writing of whether the Lead Ambient Air Monitoring and Sampling Plan has been approved or disapproved.
 - (i) Determination of approval status shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in subparagraphs (l)(1)(A) through (l)(1)(C).
 - (ii) If the Lead Ambient Air Monitoring and Sampling Plan is disapproved, the owner or operator shall resubmit the plan, subject to plan fees specified in Rule 306, within 30 calendar days after notification of disapproval of the plan. The resubmitted plan shall include any information necessary to address deficiencies identified in the disapproval letter. A facility shall be in violation of the rule after a second successive denial of the Lead Ambient Air Monitoring and Sampling Plan.
 - (iii) If the resubmitted plan is denied, the owner or operator may appeal the denial to the Hearing Board under Rule 216 – Appeals and Rule 221 – Plans.

- (2) No later than 90 days after the approval of a Lead Ambient Air Monitoring and Sampling Plan, the owner of a lead processing or metal melting facility shall install monitors and conduct ambient air lead monitoring and sampling as follows:
 - (A) Collect samples from a minimum of two (2) sampling sites. Locations for sampling sites shall be approved by the Executive Officer.
 - (B) Locations for sampling sites shall be based on maximum expected ground level concentrations, at or beyond the property line, as determined by Executive Officer-approved air dispersion modeling calculations and emissions estimates from all lead point sources and fugitive lead dust sources, and other factors including, but not limited to, population exposure and seasonal meteorology.
 - (C) The Executive Officer may require one or more of the sampling sites to be at locations that are not based on maximum ground level lead concentrations, and that are instead at locations at or beyond the property line that are representative of upwind or background concentrations.
 - (D) Sampling sites at the property line may be located just inside the fence line on facility property if logistical constraints preclude placement outside the fence line at the point of maximum expected ground level lead concentrations.
 - (E) The Executive Officer may require a facility to relocate existing monitors or install additional monitors to those required under subparagraph (1)(2)(A) in order to measure ambient air lead concentrations at locations that may contribute to the exceedance of an ambient air lead concentration limit specified in subdivision (d), if information becomes available showing:
 - (i) A new or existing source of lead emissions that was not previously identified or fully disclosed;
 - (ii) An increase in lead emissions from an existing source where existing monitors are not capturing the potential ambient air lead concentration; or
 - (iii) That none of the existing monitors are capturing the maximum expected ground level lead concentration.
- (3) All facilities required to conduct ambient monitoring pursuant to paragraphs (e)(4) and (1)(2), shall collect one valid 24-hour, midnight-to-midnight sample at least once every six calendar days, on a schedule approved by the Executive Officer.

- (4) If a valid 24-hour, midnight-to-midnight sample was not collected due to a monitor malfunction or other occurrence beyond the control of the facility, the owner or operator shall:
 - (A) Report with a notification made to 1-800-CUT-SMOG within two (2) hours of knowing that the valid 24-hour, midnight-to-midnight sample was not collected, providing the facility name, name of the monitor, date of the occurrence, and reason that the valid 24-hour, midnight-to-midnight sample was not collected; and
 - (B) For each of the monitors, the operator shall not miss a valid 24-hour, midnight-to-midnight sample for more than one day over a consecutive 30-day period.
- (5) The owner or operator of a lead processing or metal melting facility shall submit samples collected pursuant to this subdivision to a laboratory approved under the SCAQMD Laboratory Approval Program for analysis within five calendar days of collection and calculate ambient lead concentrations for individual valid 24-hour samples within 15 calendar days of the end of the calendar month in which the samples were collected. Split samples shall be made available and submitted to the SCAQMD upon request by the Executive Officer.
- (6) Sample collection for lead shall be conducted using Title 40, CFR 50 Appendix B - *Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*, or U.S. EPA-approved equivalent methods, and sample analysis for lead shall be conducted using Title 40, CFR 50 Appendix G - *Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air*, or U.S. EPA-approved equivalent methods.
- (7) Continuously record wind speed and direction on sampling days using equipment approved by the Executive Officer at a minimum of one location approved by the Executive Officer.
- (8) Ambient air monitoring shall be conducted by persons approved by the Executive Officer, or facility personnel trained and certified to conduct ambient air monitoring demonstrated through successful completion of a course offered or approved by the Executive Officer. Sampling equipment shall be operated and maintained in accordance with U.S. EPA-approved equivalent methods.
- (9) Cleaning activities including, but not limited to, wet washing and misting, that could result in damage or biases to samples collected shall not be conducted within 10 meters of any sampling site required under this subdivision.

- (10) Beginning no later than 90 days after a Lead Ambient Air Monitoring and Sampling Plan as required by subdivision (l), is approved by the Executive Officer, the owner or operator of a lead processing facility shall report by the 15th of each month to the Executive Officer, the results of all ambient air lead and wind monitoring for each preceding month, or more frequently if determined necessary by the Executive Officer. The report shall include the results of individual valid 24-hour samples and 30-day rolling averages for each day within the reporting period.
 - (11) Any exceedances of ambient air lead concentrations specified in subdivision (d) shall be reported with a notification made to the 1-800-CUT-SMOG within seven (7) calendar days of receipt of the completed sample analysis required in paragraph (l)(6), followed by a written report to the Executive Officer no later than three (3) calendar days after the notification. The written report shall include the potential causes of the exceedance and the specific corrective actions implemented.
- (m) Exemptions
- (1) A facility that processes materials with a monthly weighted average lead content of 0.05 percent or less is exempt from the requirements of this rule provided it maintains records consistent with (i)(2) for purposes of establishing the applicability of the exemption.
 - (2) Hand soldering operations are exempt from the requirements of this rule.
 - (3) Maintenance and repair activities, except for those associated with emission collection systems and emission control devices, and except any activities pursuant to subdivisions (g) and (h) that generate or have the potential to generate fugitive lead-dust, are exempt from the requirements of this rule.
 - (4) Lead Minimization
 - (A) If the owner or operator of a lead processing or metal melting facility that is otherwise subject to all provisions of this rule, obtains a permit condition limiting the amount of lead processed at the facility to two (2) tons per year or less, that facility shall only be subject to paragraphs (d)(1) and (d)(2) and subdivisions (h) and (i) of the rule
 - (B) If the owner or operator of a lead processing or metal melting facility that is otherwise subject to all provisions of this rule or only the provisions pursuant to paragraphs (d)(1) and (d)(2) and subdivisions (h) and (i) of the rule, obtains a permit condition limiting the lead content of the materials processed to less than or equal to 0.05 percent, that facility shall only be subject to subdivision (i) of the rule.

- (5) **Ambient Air Monitoring Relief Plan**
An owner or operator of a lead processing or metal melting facility that demonstrates ambient air lead concentration levels of less than or equal to $0.07 \mu\text{g}/\text{m}^3$ averaged over 30 consecutive days for 365 days, measured during normal conditions that are representative of the facility, may be exempt from the ambient air monitoring requirements set forth in subdivision (l) upon Executive Officer approval of an Air Monitoring Relief Plan, subject to plan fees specified in Rule 306 – Plan Fees, which shall be granted if the plan contains all of the following:
- (A) Air dispersion modeling analysis that demonstrates an ambient air lead concentration that is less than or equal to $0.07 \mu\text{g}/\text{m}^3$ averaged over 30 consecutive days that is representative of normal facility operations;
 - (B) One year of ambient air lead monitoring data without a single 30 consecutive day average exceeding an ambient air lead concentration of $0.07 \mu\text{g}/\text{m}^3$; and
 - (C) Most recent source tests approved by the SCAQMD that demonstrate a total facility mass lead emission rate from all lead point sources of less than 0.040 pound per hour. The total facility mass lead emissions shall be determined based on the sum of the average of triplicate samples for each lead point source, using the most recently approved source tests conducted on behalf of the facility or the SCAQMD, pursuant to subdivision (j).
- (6) **Rules 1420.1 and 1420.2**
The owner or operator of a lead processing or metal melting facility subject to the requirements of Rules 1420.1 - Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities and 1420.2 - Emission Standards for Lead from Metal Melting Facilities, shall be exempt from the requirements of this rule.

Appendix 1 - Smoke Test to Demonstrate Capture Efficiency for Ventilation Systems of (an) Emission Control Device(s) Pursuant to Paragraph (k)(5).

1. Applicability and Principle

1.1 Applicability. This method is applicable to all point sources where an emission control device is used to capture and control emissions from lead processing operations.

1.2 Principle. Collection of emissions from lead processing sources is achieved by the ventilation system associated with the emission control device for lead processing equipment. Emission control efficiency at the exhaust of an emission control device is related to capture efficiency at the inlet of the ventilation system. For this reason, it is imperative that 100% capture efficiency is maintained. A smoke device placed within the area where collection of emissions by the ventilation system occurs reveals this capture efficiency.

2. Apparatus

2.1 Smoke Generator. The smoke generator shall be adequate to produce a persistent stream of visible smoke (e.g., Model S102 Regin Smoke Emitter Cartridges). The smoke generating device should not provide excessive momentum to the smoke stream that may create a bias in the determination of collection efficiency. If the device provides slight momentum to the smoke stream, it shall be released perpendicular to the direction of the collection velocity.

3. Testing Conditions

3.1 Equipment Operation. Any equipment to be smoke tested that is capable of generating heat as part of normal operation must be smoke tested under those normal operating conditions. Operating parameters of the equipment during the smoke test shall be recorded. The smoke test shall be conducted while the emission control device is in normal operation. The position of any adjustable dampers that can affect air flow shall be documented. Precautions should be taken by the facility to evaluate any potential physical hazards to ensure the smoke test is conducted in a safe manner.

3.2 Cross-Draft. The smoke test shall be conducted while the emission control device is in normal operation and under typical draft conditions representative of the facility's lead processing operations. This includes cooling fans and openings affecting draft conditions around the metal grinding area including, but not limited to, vents, windows, doorways, bay

doors, and roll-ups, as well as the operation of other work stations and traffic. The smoke generator must be at full generation during the entire test and operated according to manufacturer's suggested use.

4. Procedure

4.1 Collection Slots. For work stations equipped with collection slots or hoods, the smoke shall be released at points where lead processing emissions are generated (e.g. the point where melting occurs). Observe the collection of the smoke to the collection location(s) of the ventilation system. An acceptable smoke test shall demonstrate a direct stream to the collection location(s) of the ventilation system without meanderings out of this direct path. Smoke shall be released at points not to exceed 12 inches apart across ventilated work areas. Record these observations at each of the points providing a qualitative assessment of the collection of smoke to the ventilation system.

4.2 Equipment Enclosures. Equipment enclosures include equipment where emissions are generated inside the equipment, and the equipment is intended to have inward air flow through openings to prevent the escape of process emissions. The smoke shall be released at points outside of the plane of the opening of the equipment, over an evenly spaced matrix across all openings with points not to exceed 12 inches apart. Observe the inward movement of the smoke to the collection location(s) of the ventilation system. An acceptable smoke test shall demonstrate a direct stream into the equipment without meanderings out of this direct path. Record these observations at each of the points providing a qualitative assessment of the collection of smoke to the ventilation system.

5. Documentation. The smoke test shall be documented by photographs or video at each point that clearly show the path of the smoke. Documentation shall also include a list of equipment tested and any repairs that were performed in order to pass the smoke test. As previously discussed, the documentation shall include the position of adjustable dampers, cross-draft conditions, and the heat input of the equipment, if applicable. The documentation shall be signed and dated by the person performing the test. The records shall be maintained on site for at least two years and be made available to SCAQMD personnel upon request.