WORKING GROUP MEETING #3
PROPOSED AMENDED RULE 1420
EMISSIONS STANDARD FOR LEAD

July 6, 2017

SCAQMD Headquarters

Diamond Bar, CA

Summary of Working Group #2

- Changes to Applicability
  - Lead content of processed material reduced from 0.5% by wt to 0.05%
  - Processing ≥ 2tpy lead subject to all provisions
  - Processing < 2 tpy lead subject to housekeeping and recordkeeping
  - Removing 0.5 pound per day exemption
- Ambient Lead Concentration Limit
  - 0.150 µg/m^3 averaged over any 30 consecutive days immediately
  - 0.100 µg/m^3 averaged over any 30 consecutive days beginning 2021
- Lead Point Source Controls
  - Control efficiency of 99% or outlet of 0.0003 pounds/hour
  - Meet a collection efficiency consistent with the U.S. Industrial Ventilation Manual
  - Biennial source testing to verify compliance
- Require total enclosures for areas processing lead
- Conducting survey to determine potential impacts

Summary of Key Points from Working Group Meeting #2

- How would lead content be determined (average or each material)?
  - Response: Lead content to be based on each raw material content and on sampling of melted metal where applicable
  - Staff is considering use of XRF technology as a compliance tool
- What rule requirements will a facility that is processing < 0.05 % be subject to?
  - Response:
    - Processing materials with <0.05% of lead will not be subject to PAR 1420
    - Processing materials ≥ 0.05% and ≥ 2 tons per year of lead will be subject to all provisions
    - Processing materials ≥ 0.05% and < 2 tons per year of lead will be subject to only housekeeping and recordkeeping provisions
- Consider option of facility-wide point source limit
  - Response: PAR 1420 can include a facility-wide point-source emission limit of 0.003 pounds per hour limit - similar to Rule 1420.1

Proposed Amendments to Rule 1420

- Presentation will focus on proposed amendments to:
  - Housekeeping
  - Ambient Lead Monitoring
  - Alternative Compliance Concepts
  - Parametric Monitoring
  - Recordkeeping and Reporting
  - Facility Survey
- Next Working Group Meeting will focus on:
  - Survey feedback
  - Rule language for PAR 1420

Housekeeping

Overview of Housekeeping Provisions

- Housekeeping provisions are designed to minimize fugitive dust in and around building enclosures where lead emitting processes are located
- Fugitive lead dust that accumulates on surfaces can become airborne potentially exposing surrounding land uses
- Staff is proposing to retain existing housekeeping provisions in Rule 1420 and add additional housekeeping provisions
- Additional housekeeping provisions are largely based on housekeeping provisions in Rules 1420.1 and 1420.2

Housekeeping – Current Rule 1420

- Minimum weekly cleaning by wet wash or mop, vacuum or use of non-toxic chemical dust suppressant on surfaces that accumulate lead-containing dust subject to vehicular or foot traffic
- Lead or lead-containing waste generated from housekeeping activities to be stored, disposed of, recovered or recycled using practices that minimize fugitive lead-dust emissions
- Dust-forming material containing lead, such as baghouse dust, dross, ash or feed material to be stored in enclosed storage area

Additional Housekeeping Requirements – PAR 1420

- Monthly cleanings by wet wash, wet mop, or vacuuming of all ground surfaces that are within 500 feet of where lead is processed
- No dry sweeping or compressed air cleaning of surfaces or floors
- Use of compressed air only for parts within an enclosure
  - Enclosure can be a building or a cabinet
- Conduct annual rooftop cleaning in August for buildings housing equipment that processes lead
  - One of the driest months of the year
  - Assume precipitation in winter months
- Each quarter, clean and remove particulate or metal debris that accumulates in vents or openings of collection device

Additional Housekeeping Requirements – PAR 1420

- Store all materials capable of generating any amount of fugitive lead-dust in sealed leak-proof containers
- Transport all materials capable of generating any amount of fugitive lead-dust within closed conveyor systems or in sealed, leak-proof containers
- Lead-containing trash and debris shall be placed in covered containers that remain covered at all times
- Immediately wet scrub or vacuum sweep any area paved with concrete or asphalt subject to vehicular traffic, no later than one hour after any construction or maintenance activity
- Posting of speed limit signs at all entrances and truck loading and unloading areas
  - ≤ 5 mph on any roadway located within 75 feet of perimeter of a total enclosure
  - ≤ 15 mph on any roadway located > 75 feet of perimeter of a total enclosure
- Removal of any weather caps installed on any stack that is a source of lead emissions
- At least monthly inspection of all total enclosures that house, contain or control any lead point source or fugitive lead-dust emissions

Housekeeping Comparison

Requirement	Current Rule 1420	PAR 1420
Washing, wet mopping or vacuuming of surfaces that accumulate lead-containing dust and are subject to vehicular or foot traffic	Minimum Weekly	Weekly
Lead or lead-containing waste generated from housekeeping activities to be stored, disposed of, recovered or recycled using practices that minimize fugitive lead-dust emissions	Yes	Yes
Store dust-forming material containing lead, such as baghouse dust, dross, ash or feed material in enclosed storage area	Yes	Yes
Rooftop Cleaning	No provision	Annually in August
Prohibit use of cleaning with compressed air or dry sweeping	No provision	Yes
Monthly cleanings by wet wash, wet mop, or HEPA vacuuming of all ground surfaces within of an enclosure that are within 500 feet of where lead is processed	No provision	Yes
Each quarter, clean and remove particulate or metal debris that accumulates in vents or openings of collection device	No provision	Yes

Housekeeping Comparison

Requirement	Current Rule 1420	PAR 1420
Posting of speed limit signs at all entrances and truck loading and unloading areas ≤ 5 mph on any roadway located within 75 feet of perimeter of a total enclosure ≤ 15 mph on any roadway located > 75 feet of perimeter of a total enclosure	No provision	Yes
Removal of any weather caps installed on any stack that is a source of lead emissions	No provision	Yes
At least monthly inspection of all total enclosures that house, contain or control any lead point source or fugitive lead-dust emissions	No provision	Yes

Ambient Monitoring Requirements

Overview of Ambient Monitoring Requirements

- Ambient lead monitors are used to demonstrate compliance with the ambient lead concentration limit
- Rule 1420 has provisions for ambient monitors, but most facilities were exempt from ambient lead monitoring
- Rules 1420.1 and 1420.2 require ambient lead monitoring
- Staff is considering an “on-ramp” for ambient monitoring under PAR 1420
- If a facility is required to conduct ambient lead monitoring, many of the provisions would be similar to Rule 1420.2 ambient lead monitoring requirements

Current Rule 1420 Ambient Lead Monitoring Requirements

- Ambient monitoring required for facilities processing > 10 tons per year unless emitting < 0.5 pounds per day
- Facilities processing 2 tpy to 10 tpy of lead can be exempt from ambient lead monitoring if air dispersion modeling shows < 0.75 µg/m^3 averaged over 30 days
- 4 facilities conducted ambient lead monitoring under Rule 1420
  - 2 facilities subject to Rule 1420.1; and
  - 2 facilities subject to Rule 1420.2
- Remaining facilities were exempt from monitoring based on estimated lead based on emission factors, process rates, lead content and control efficiencies
  - Under Rule 1420, if a facility demonstrated lead emissions are < 0.5 pound per day – facility was exempt from ambient lead monitoring requirements

Comments on Modeling and Monitoring Approach – Current Rule 1420

- Current Rule 1420 does not include provisions regarding how a facility demonstrates < 0.5 pound per day
  - Very few facilities have a source test
  - In most cases, the source test was conducted well over 10 years ago
- Modeling provision only accounts for point source emissions
  - Fugitive lead emissions are not accounted for
  - Based on ambient data from Rule 1420.1 facilities, fugitive lead emissions can substantially contribute to ambient lead concentrations

Potential Concepts for Ambient Monitoring – On-Ramp

- Staff is considering an on-ramp for ambient monitoring
- Potential triggers for “on-ramp”
  - SCAQMD ambient monitoring identifies lead concentration > applicable limits of Rule 1420 (0.15 µg/m^3 and 0.10 µg/m^3, respectively)
  - Source test determining non-compliance with lead emission rate limit
  - If there are repeated operational issues with the operation of the pollution control device such as pressure across filter media is not maintained within range specified in the permit to operate for the emissions control device

Potential Concepts for Key Requirements When Ambient Monitoring is Required

- Submit a Monitoring and Sampling Plan
  - Identifies location of equipment and processes to best site monitors
  - Air dispersion modeling required to identify maximum ground level concentration for monitor siting
- Weather station with data logger – measures wind speed and direction
- At a minimum 3 monitors
- Commission ambient air monitoring and sampling network – sample collection at all sites for 30 consecutive days prior to initial sampling
- Sampling duration: 24-hour sample – “Midnight to Midnight”
- Sampling schedule: 1-in-6 days – similar to Rule 1420.2

Potential Concepts if Ambient Concentration Limit is Exceeded

- Three-tiered approach if applicable ambient concentration limit is exceeded
- Tier 1: If ambient concentration is exceeded must conduct a root cause analysis to determine potential source of exceedance
  - Require facility to address source of exceedance within specified timeframe
- Tier 2: If ambient concentration is persistently exceeded, must implement one the following:
  - Enhanced or additional point source controls;
  - Enhanced housekeeping measures, including ensuring reasonable distance is maintained in situations where samples may be compromised
  - Upgrade to total enclosure – vestibules, negative air vented to pollution controls; or
  - Process modifications
- Tier 3: If ambient concentration limit exceeds 0.15 µg/m^3, 2 or more times within 6 month period
  - Increase monitoring sampling frequency to 1-in-3 days to daily
  - Considering curtailment provisions

Potential Concepts for Ambient Monitoring – Off-ramp

- One year of ambient lead monitoring data without a single 30 consecutive day average exceeding an ambient lead concentration of 0.07 µg/m^3; and
- Require air dispersion modeling analysis to substantiate anticipated ambient lead concentration ($\leq$ 0.07 µg/m^3 averaged over 30 consecutive days)
- Revocation of air monitoring relief plan (or off-ramp) in situations where:
  - Violation of applicable ambient lead air concentration standards occurs
  - Permit modification to equipment or processes result in increased lead emissions
  - Return to ambient monitoring set forth in rule amendment

Concept for Alternative Compliance Option – PAR 1420

- At first WG Meeting industry representative requested that PAR 1420 include an alternative compliance option
- Option 1:
  - If a facility elects to conduct ambient monitoring allow minimal housekeeping requirements
    - Existing housekeeping requirements specified in the current Rule 1420
    - Additional and enhanced housekeeping requirements would not be required when the facility is conducting ambient monitoring – unless exceedance
- Option 2:
  - If a facility has a total enclosure with negative air vented to pollution controls
    - Lesser housekeeping requirements
- Other???

Comparison Between Current Rule 1420 and PAR 1420 – Ambient Monitoring

Lead Processing (tpy)	Requirement	Current Rule 1420	PAR 1420
2 tpy – 10 tpy	Monitoring (by facility)	Yes (if > 0.75 µg/m^3) Exempt if emitting < 0.5 pounds per day	▪ Yes, if trigger on-ramp ▪ As alternative compliance option
	Air Dispersion Modeling	Yes (if < 0.75 µg/m^3) Exempt if emitting < 0.5 pounds per day	Included in list of requirements to demonstrate ambient monitoring off-ramp provisions
> 10 tpy	Monitoring (by facility)	Yes Exempt if emitting < 0.5 pounds per day	▪ Yes, if trigger on-ramp ▪ As alternative compliance option

Parametric Monitoring Overview

- Parametric monitoring of key parameters can identify operational issues of air pollution control equipment
- Benefits of parametric monitoring:
  - Provides a more continuous status of operating conditions
  - Can provide indication that emissions are not well controlled
  - Can alert the operator of operational issues or needed maintenance on the pollution control equipment
- PAR 1420 includes parametric monitoring requirements that are used in Rules 1420.1 and 1420.2 with additional provisions

Parametric Monitoring – PAR 1420

- Continuously monitor and record with data logger, pressure differential across filter media of air pollution control equipment
  - Provides mechanism for SCAQMD to verify monitored pressure across filter media
  - Pressure across filter media must be maintained within acceptable range of the value established during performance test to demonstrate compliance with the emission limit
  - Gauge to be located so that it is easily visible and in the clear sight of the operator
- Operate and maintain Bag Leak Detection System (BLDS), pursuant to SCAQMD Rule 1155
- Use of hot wired anemometer to demonstrate pollution control equipment is maintaining the required capture efficiency for ventilation system of emission control device

New Recordkeeping Provisions – PAR 1420

- Monthly records of lead-containing raw material processed
  - Previously annual records
- Source test results
- Data logs related to periodic smoke tests
- Data logs related to Bag Leak Detection System (BLDS), if applicable
- Rooftop cleaning records
- Maintain Records for 3 years

Next Steps

Action	Target Dates
Next Working Group Meeting	July 2017
Public Workshop	3rd Quarter 2017
Set Hearing/Public Hearing	Oct/Nov 2017

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