Requirements for Continuous Emission Monitoring Systems

Proposed Amended Rules (PAR) 218 and 218.1
Proposed Rules (PR) 218.2 and 218.3

Working Group Meeting #8
June 26, 2020 10:00 am

Join Zoom Meeting
https://scagmd.zoom.us/j/95325396322
Meeting ID: 953 2539 6322
Agenda

- Rule Approach
- Transition to PR 218.2 and 218.3
- PR 218.2 and 218.3 Rule Structures
- PR 218.2 Preliminary Draft Rule Overview for Provisions (a) through (e)
- Next Steps
Rule Approach
Rule Approach

- Retain the existing provisions in Rules 218 and 218.1
- Introduce Proposed Rules 218.2 and 218.3
  - Transfer provisions from Rules 218/218.1
  - Include new provisions based on Working Group meeting discussions
  - Incorporate implementation schedule

New Provisions

R218 Series

Existing Provisions

R218
R218.1

New Provisions

PR 218.2
PR 218.3

Applicable to

Non-RECLAIM CEMS
Non-RECLAIM and Former RECLAIM CEMS
Transition to PR
218.2/218.3
Transition to PR 218.2 and 218.3

- Landing rules currently reference the following for CEMS specifications
  - Rule 2012 for NOx RECLAIM CEMS*; or
  - Rules 218 and 218.1 for non-RECLAIM CEMS

- Rules 218 and 218.1 (and 2012 if needed) will be amended to add a provision to transition facilities to PR 218.2 and 218.3

- Implementation approach is being proposed for PR 218.2 and 218.3

- PAR 218 and 218.1 transition condition will correlate with PR 218.2 and 218.3 implementation approach

* Rule 2011 applies to SOx RECLAIM CEMS. If SOx RECLAIM transitions to a command and control rule structure then PR218.2 and 218.3 would apply to the facilities currently subject to Rule 2011.
PR 218.2 and 218.3
Rule Structures
How are PR 218.2 and PR 218.3 related?

PR 218.2
General Provisions (administrative)

PR 218.3
Performance Specifications (technical details)

Both rules reference each other
### Rule Structure - PR 218.2

<table>
<thead>
<tr>
<th>Section</th>
<th>Content</th>
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<tbody>
<tr>
<td>(a) Purpose</td>
<td>Certification Posting</td>
</tr>
<tr>
<td>(b) Applicability</td>
<td>Certification</td>
</tr>
<tr>
<td>(c) Definitions</td>
<td>Purpose, Applicability, Implementation Schedule, Monitoring Requirements, Certification, Quality Assurance, Recordkeeping Requirements, Reporting Requirements, Certification Posting</td>
</tr>
<tr>
<td>(d) Implementation Schedule</td>
<td>Continuous monitoring, CEMS failure, Scheduled CEMS shutdown</td>
</tr>
<tr>
<td>(e) Monitoring Requirements</td>
<td>Certification application and approval requirements, Certification tests, QAQC plan</td>
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<td>(f) Certification</td>
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<td>(g) Quality Assurance</td>
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<td>(h) Recordkeeping Requirements</td>
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<tr>
<td>(i) Reporting Requirements</td>
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<td>(j) Certification Posting</td>
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# Rule Structure - PR 218.3

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<thead>
<tr>
<th>(a) Purpose</th>
<th>• CEMS location</th>
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<tbody>
<tr>
<td>(b) Applicability</td>
<td>• Sampling location</td>
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<tr>
<td>(c) Definitions</td>
<td>• Full Span Range</td>
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<tr>
<td>(d) Implementation Schedule</td>
<td>• Data Acquisition and Handling System (DAHS)</td>
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<tr>
<td>(e) Pre-Certification Requirements</td>
<td>• Data points below 10% of span</td>
</tr>
<tr>
<td>(f) Certification Requirements and Performance Specifications</td>
<td>• Data points above 95% of span</td>
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<tr>
<td>(g) Quality Assurance Testing Requirements and Specifications</td>
<td>• Emission data averaging</td>
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<tr>
<td>(h) Calibration Gas and Zero Gas</td>
<td>• Data availability</td>
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<tr>
<td>(i) Data Handling</td>
<td>• Out-of-control period and alternative data acquisition</td>
</tr>
<tr>
<td>Tables and Attachments (e.g., Equations)</td>
<td>• Semi Continuous Emission Monitoring System (SCEMS)</td>
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PR 218.2- CEMS
General Provisions
The purpose of this rule is to specify general requirements for Continuous Emission Monitoring Systems (CEMS), Alternative Continuous Emission Monitoring System (ACEMS), and Semi-Continuous Emission Monitoring System (SCEMS). This rule refers to Rule 218.3 for performance specifications on certification and quality assurance of CEMS, ACEMS, and SCEMS. Unless otherwise specified, the owner or operator of the CEMS, ACEMS, or SCEMS is responsible for compliance with the requirements specified in this rule.

This rule shall apply to the owner or operator of a CEMS, ACEMS, or SCEMS that are required by a South Coast AQMD rule, regulation or permit condition.

This rule shall not apply to the owner or operator of a CEMS, ACEMS, or SCEMS that monitors:

- Performance of the basic and/or control equipment and not to determine compliance with any rule emission limit or emission standard; or
- NOx or SOx emissions subject to Regulation XX - Regional Clean Air Incentives Market (RECLAIM).

A CEMS, ACEMS, or SCEMS requirement defined by any other South Coast AQMD rule, regulation or a permit condition will supersede the equivalent requirement of Rule 218.2 with the Executive Officer’s written determination of equivalence.

All requirements specified for CEMS in this rule shall be applicable for ACEMS and SCEMS, unless otherwise specified.
Table 1: Changes to definitions as compared to Rule 218

<table>
<thead>
<tr>
<th></th>
<th>Definitions</th>
<th>Notes</th>
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<tr>
<td>Removing Existing Definitions</td>
<td>• CERTIFIED GAS MIXTURE</td>
<td>Those definitions are removed because:</td>
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<td>• MODIFICATION REQUIRING RECERTIFICATION</td>
<td>• They are no longer used in the rule; or</td>
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<td>• WORKING DAY</td>
<td>• The meanings are now integrated in the rule language</td>
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<td>• ZERO CHECK</td>
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<td></td>
<td>• ZERO GAS</td>
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<td>Adding New Definitions</td>
<td>• ACEMS</td>
<td>The new definitions are added because:</td>
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<td>• CEMS FAILURE</td>
<td>• New terminologies are used in the rule; or</td>
</tr>
<tr>
<td></td>
<td>• CEMS FINAL CERTIFICATION LETTER</td>
<td>• Clarification for the terminologies are needed</td>
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<td>• CEMS MODIFICATION</td>
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<td>• RECLAIM</td>
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<td></td>
<td>• RECLAIM FACILITY</td>
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<td>• FORMER RECLAIM FACILITY</td>
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<td></td>
<td>• UNIT</td>
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<td>Revising Existing Definitions</td>
<td>A number of definitions; one example is DILUENT GAS</td>
<td>The revisions are to ensure a clear definition for each</td>
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PR 218.2(c)(1)
Definition for “Alternative Continuous Emission Monitoring System (ACEMS)”

(1) ALTERNATIVE CONTINUOUS EMISSION MONITORING SYSTEM (ACEMS) means a system that uses process or control device operating parameter measurements and a conversion equation, a graph, or computer program to produce results in units of the applicable emission limitation or standard on a continuous monitoring basis, which is demonstrated to the Executive Officer as having the same precision, reliability, accessibility, and timeliness as the data provided by a certified CEMS or certified CEMS component in accordance with Rule 218.2 and Rule 218.3.

- Not in Rule 218
- Existing in Rule 2012
(5) CEMS FAILURE means the CEMS or a component of the CEMS ceases normal operation, and thus is incapable of providing the required data to demonstrate compliance with the applicable limit or standard for which this CEMS is dedicated.

- Provisions proposed for a CEMS failure due to CEMS maintenance or damage
PR 218.2(c)(6)
Definition for “CEMS Final Certification Letter”

(6) CEMS FINAL CERTIFICATION LETTER means the final approval of CEMS certification or recertification, which at a minimum includes:

(A) Unit (emission source) and control equipment (if applicable) description.
(B) Stack description.
(C) Probe configuration and conditions.
(D) Instrument type, manufacturer, model number, and serial number for:
   (i) Each of the contaminant analyzer (s), diluent analyzer, and fuel flowmeter (if applicable);
   (ii) Sample condition and calibration system; and
   (iii) Data acquisition and handling system and programmable logic controller.
(E) Certified full span range(s) for each of the contaminant analyzer(s), diluent analyzer, and fuel or stack flowmeter (if applicable).

• Used in the requirements for determining the application process for a CEMS modification
PR 218.2(c)(7)
Definition for “CEMS Modification”

(7) CEMS MODIFICATION means a modification to a CEMS component that is identified on the CEMS final certification letter, or a modification to the CEMS sampling interface, analyzer, or data acquisition and handling system that has a potential for adversely affecting the ability of the CEMS to provide accurate, precise and timely data representative of emissions for the unit being monitored.

• Used in the CEMS recertification application requirements
PR 218.2(c)(21) Definition for “Unit”

(21) UNIT for the purposes of this rule means the combustion source for which the certified continuous emission monitoring system, or alternative continuous emission monitoring system, monitors the combustion source’s emissions.

- In PR 218.2 and PR 218.3, a unit would be the combustion source (equipment) that the CEMS monitors.
Subdivision (d)
Transition Dates to 218.2 and 218.3

- (d)(1) Existing CEMS Provisions
- (d)(2) Transition Dates for non-RECLAIM CEMS
- (d)(3) Transition Dates for RECLAIM CEMS
- (d)(4) Transition Dates When a non-RECLAIM and a RECLAIM CEMS share a sampling interface or other component(s)
Paragraph (d)(1)
Applicability Prior to the Implementation of PR 218.2 and PR 218.3

PR 218.2 (d)(1) and 218.3 (d)(1)
Existing CEMS Provisions
Comply with the existing CEMS provisions prior to the implementation dates specified in (d)(2) or (d)(3)

(d)(1)(A):
For non-RECLAIM CEMS, continue compliance with Rules 218 and 218.1 until transition to Rules 218.2 and 218.3 under (d)(2)

(d)(1)(B):
For RECLAIM CEMS, continue compliance with Rule 2012 until transition to Rules 218.2 and 218.3 under (d)(3)
Paragraph (d)(2) establishes the implementation schedule to transition CEMS requirements to PR 218.2 and 218.3 for an owner or operator of a non-RECLAIM facility.

Transition schedule is based on three scenarios:

- **(d)(2)(A):** At certification or recertification on and after 1/1/2022
- **(d)(2)(B):** No later than 1/1/2025, if the CEMS is not recertified between 1/1/2022 and 1/1/2025
- **(d)(2)(C):** Implementation date of a source-specific rule when the CEMS shall be certified or recertified
Paragraph (d)(3)Transition Dates for RECLAIM CEMS

PR 218.2 (d)(3) and 218.3 (d)(3) Transition Dates for RECLAIM Facilities

(d)(3)(A): At certification or recertification on and after exiting RECLAIM

or

(d)(3)(B): No later than 24 months after exiting RECLAIM, if the CEMS is not recertified during the 24-month period after existing RECLAIM

or

(d)(3)(C): Implementation date of a source-specific rule when the CEMS shall be certified or recertified

❖ Paragraph (d)(3) establishes the implementation schedule to transition CEMS requirements to PR 218.2 and 218.3 for an owner or operator of a RECLAIM facility

❖ Transition schedule is based on three scenarios

❖ Implementation would occur after the facility exits RECLAIM
Paragraph (d)(4)
Transition Dates for two or more RECLAIM and non-RECLAIM CEMS are Sharing a Sampling Interface or Other Component(s)

PR 218.2 (d)(4) and PR 218.3 (d)(4)

Transition Dates When a non-RECLAIM and a RECLAIM CEMS share a sampling interface or other component(s)

- Sampling interface is the part of CEMS that performs sample acquisition, transportation and processing

The later implementation date determined by paragraphs (d)(2) (non-RECLAIM) and (d)(3) (RECLAIM)
PR 218.2 (e) CEMS Operational and Non-Operational Requirements

Requirement to Operate a CEMS

Exceptions to Operate a CEMS Pursuant to Paragraph (e)(1)

PR 218.2(e)(2): Requirements when there is a CEMS failure

PR 218.2(e)(3): Requirements when the unit is shutdown for 168 consecutive hours (7 days) or longer

PR 218.2 (e)(4): Provisions to demonstrate a unit non-operation required under paragraphs (e)(3) and (e)(4)

• (e)(2): Revision from existing requirements
• (e)(3) and (e)(4): New provisions
• CEMS failure means the CEMS or a component of the CEMS ceases normal operation, and thus is incapable of providing the required data to demonstrate compliance with the applicable limit or standard for which this CEMS is dedicated.

Existing requirements
(e) Monitoring Requirements

(1) The owner or operator of a CEMS subject to this rule shall install, maintain and operate the CEMS for continuous measurement according to all applicable requirements set forth in Rules 218.2 and 218.3.

Requires owner or operator of a CEMS to meet all applicable requirements in Rules 218.2 and 218.3
(e) Monitoring Requirements

(1) The owner or operator of a CEMS shall install, maintain and operate the CEMS for continuous measurement according to all applicable requirements in Rules 218.2 and 218.3.

(2) If there is a CEMS failure, the owner or operator of the CEMS shall:

(A) Maintain operation of the CEMS and meet the requirements of paragraph (e)(1), unless the CEMS failure occurs for up to 96 hours and the CEMS is:

(i) Undergoing maintenance pursuant to the Quality Assurance and Quality Control Program for the CEMS; or

(ii) Damaged as a result of circumstances beyond the control of the owner or operator;

(B) Submit a report pursuant to paragraph (h)(3), if the CEMS failure or shut down has occurred for more than 24 hours; and

(C) Submit a request to the Executive officer for time extension beyond the time period specified in subparagraph (e)(2)(A) for an additional 96 hours, if the CEMS unit is not operating or generating emissions, as demonstrated pursuant to paragraph (e)(4).

• Allows CEMS non-operation for up to 96 hours for each occurrence
• Additional 96 hours if the unit is off (vs. a interim variance required by Rule 218)
(3) If there is a scheduled shutdown for the unit and no emissions have been generated for a minimum of 168 consecutive hours, as demonstrated pursuant to paragraph (e)(4), the owner or operator of the CEMS shall:

(A) Maintain operation of the CEMS and meet the requirements of paragraph (e)(1), unless the CEMS has been recording zero emission for a minimum of 4 hours after the unit being monitored becomes non-operational at which time the requirements of paragraph (e)(1) shall not apply;

(B) Submit the notifications and report in accordance with paragraph (h)(4);

(C) Resume CEMS operation and meet the requirements of paragraph (e)(1) for a minimum of 4 hours before the unit resumes operation or at which time any emissions are generated; and

(D) Conduct a calibration of all analyzers of the CEMS before any emissions are detected.

• New requirement
• “Unit” defined as the combustion source
• Allowed only when the unit is scheduled to be non-operational for 168 consecutive hours (7 days) or longer
• Notification and reporting required
• Timeline established for when to the CEMS can be shutdown and restarted
• CEMS calibrated prior to unit restart
For the purpose of demonstrating a unit is not operating or generating emissions under paragraphs (e)(2) and (e)(3), the owner or operator shall meet one or more of the following provisions for the entire duration that the unit is not operating:

(A) Disconnect the fuel line to the unit and place flanges at both ends of the fuel line;

(B) Demonstrate there is no fuel flow to the unit based on a dedicated fuel flow meter that is quality assured according to manufacturer’s recommendation;

(C) Provide one or more gas bills indicating zero fuel consumption for the unit or the fuel line associated with the unit that is not operating; or

(D) Demonstrate the unit is not operational based on a stack flow monitoring system or any other monitoring system that is certified by the Executive Officer according to subdivision (f).
Next Steps – Rulemaking Process

- Next Working Group Meeting – July, 2020
  - PR 218.2 Preliminary Draft Rule Overview by Provisions (f) through (j)
- Public Workshop – 3rd quarter 2020
- Public Hearing – 4th quarter 2020
Staff Contacts

Rules 218 Series Development

- Yanrong Zhu
  Air Quality Specialist
  (909) 396-3289
  yzhu1@aqmd.gov

- Gary Quinn, P.E.
  Program Supervisor
  (909) 396-3121
  gquinn@aqmd.gov
## Other Rule Contacts

<table>
<thead>
<tr>
<th>General RECLAIM Questions</th>
<th>Gary Quinn, P.E.</th>
<th>Program Supervisor</th>
<th>909-396-3121</th>
<th><a href="mailto:gquinn@aqmd.gov">gquinn@aqmd.gov</a></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kevin Orellana</td>
<td>Program Supervisor</td>
<td>909-396-3492</td>
<td><a href="mailto:korellana@aqmd.gov">korellana@aqmd.gov</a></td>
</tr>
<tr>
<td>Proposed Rule 1109.1</td>
<td>Heather Farr</td>
<td>Program Supervisor</td>
<td>909-396-3672</td>
<td><a href="mailto:hfarr@aqmd.gov">hfarr@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Sarady Ka</td>
<td>Air Quality Specialist</td>
<td>909-396-2331</td>
<td><a href="mailto:ska@aqmd.gov">ska@aqmd.gov</a></td>
</tr>
<tr>
<td>Rule 1147</td>
<td>Gary Quinn, P.E.</td>
<td>Program Supervisor</td>
<td>909-396-3121</td>
<td><a href="mailto:gquinn@aqmd.gov">gquinn@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Shawn Wang</td>
<td>Air Quality Specialist</td>
<td>909-396-3319</td>
<td><a href="mailto:swang@aqmd.gov">swang@aqmd.gov</a></td>
</tr>
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<td>Program Supervisor</td>
<td>909-396-3121</td>
<td><a href="mailto:gquinn@aqmd.gov">gquinn@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Steve Tsumura</td>
<td>Air Quality Specialist</td>
<td>909-396-2549</td>
<td><a href="mailto:stsumura@aqmd.gov">stsumura@aqmd.gov</a></td>
</tr>
<tr>
<td>Proposed Rule 1147.2</td>
<td>Uyen-Uyen Vo</td>
<td>Program Supervisor</td>
<td>909-396-2238</td>
<td><a href="mailto:uvo@aqmd.gov">uvo@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>James McCreary</td>
<td>Assistant Air Quality Specialist</td>
<td>909-396-2451</td>
<td><a href="mailto:jmccreary@aqmd.gov">jmccreary@aqmd.gov</a></td>
</tr>
<tr>
<td>Rule 1150.3</td>
<td>Kevin Orellana</td>
<td>Program Supervisor</td>
<td>909-396-3492</td>
<td><a href="mailto:korellana@aqmd.gov">korellana@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Isabelle Shine</td>
<td>Air Quality Specialist</td>
<td>909-396-3064</td>
<td><a href="mailto:ishine@aqmd.gov">ishine@aqmd.gov</a></td>
</tr>
<tr>
<td>Rule 1179.1</td>
<td>Kevin Orellana</td>
<td>Program Supervisor</td>
<td>909-396-3492</td>
<td><a href="mailto:korellana@aqmd.gov">korellana@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Melissa Gamoning</td>
<td>Assistant Air Quality Specialist</td>
<td>909-396-3115</td>
<td><a href="mailto:mgamoning@aqmd.gov">mgamoning@aqmd.gov</a></td>
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## Other Rule Contacts – cont.

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<td>Proposed Amended Rule 1117</td>
<td>Kevin Orellana</td>
<td>Program Supervisor</td>
<td>909-396-3492</td>
<td><a href="mailto:korellana@aqmd.gov">korellana@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Rudy Chacon</td>
<td>Air Quality Specialist</td>
<td>909-396-2729</td>
<td><a href="mailto:rchacon@aqmd.gov">rchacon@aqmd.gov</a></td>
</tr>
<tr>
<td>Rule 1110.2</td>
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<td>Program Supervisor</td>
<td>909-396-3492</td>
<td><a href="mailto:korellana@aqmd.gov">korellana@aqmd.gov</a></td>
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<td>Air Quality Specialist</td>
<td>909-396-2729</td>
<td><a href="mailto:rchacon@aqmd.gov">rchacon@aqmd.gov</a></td>
</tr>
<tr>
<td>Rule 1134 &amp; Rule 1135</td>
<td>Michael Morris</td>
<td>Planning and Rules Manager</td>
<td>909-396-3282</td>
<td><a href="mailto:mmorris@aqmd.gov">mmorris@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Uyen-Uyen Vo</td>
<td>Program Supervisor</td>
<td>909-396-2238</td>
<td><a href="mailto:uvo@aqmd.gov">uvo@aqmd.gov</a></td>
</tr>
<tr>
<td>Rules 1146, 1146.1, &amp; 1146.2</td>
<td>Gary Quinn, P.E.</td>
<td>Program Supervisor</td>
<td>909-396-3121</td>
<td><a href="mailto:gquinn@aqmd.gov">gquinn@aqmd.gov</a></td>
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<tr>
<td></td>
<td>Kalam Cheung, Ph.D.</td>
<td>Program Supervisor</td>
<td>909-396-3281</td>
<td><a href="mailto:kcheung@aqmd.gov">kcheung@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Lizabeth Gomez</td>
<td>Air Quality Specialist</td>
<td>909-396-3103</td>
<td><a href="mailto:lgomez@aqmd.gov">lgomez@aqmd.gov</a></td>
</tr>
<tr>
<td></td>
<td>Shawn Wang</td>
<td>Air Quality Specialist</td>
<td>909-396-3319</td>
<td><a href="mailto:swang@aqmd.gov">swang@aqmd.gov</a></td>
</tr>
<tr>
<td>Rule 1118.1</td>
<td>Heather Farr</td>
<td>Program Supervisor</td>
<td>909-396-3672</td>
<td><a href="mailto:hfarr@aqmd.gov">hfarr@aqmd.gov</a></td>
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<td>Steve Tsumura</td>
<td>Air Quality Specialist</td>
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