Permit Streamlining Task Force Subcommittee

December 16, 2021

Agenda

- Pending Application Inventory
- Rule 1109.1 Implementation
- Pending Permit Application Status Dashboard
- Online Tools Development
- Other Issues and Public Comment
Pending Application Inventory Update

Resource Update

**Staffing**
- Hired 13 new Air Quality Engineers in fourth quarter
  - Use of Permit Processing Handbook
- CY 2021 - 13 promotions; three retirements
- Anticipated continued turnover due to pending retirement
- Continuing assessment of staffing needs

**Headwinds**
- Continued COVID impacts
- AB617 support
  - Landing rule implementation
  - RECLAIM sunset
  - CERP support
- New Source Review amendment
COVID-19 Impact Update

- Reviewing return to office
- Hybrid meetings
- CPP
- Focus on flexibility

Permit Processing
2016 Inventory Reduction Initiative

Pending Applications (2016 - 2021)

Achieved and continue to maintain 50% reduction goal set in 2016
Pending Applications less PCs Issued
(2016 - 2021)

Ongoing Goal
Maintain pending applications without PC issued between 2,250 and 2,500

COVID-19
Permit Application Trends
### Permit Activity

**Number of Applications Received Per Month (2019 - 2021)**

*November Data Preliminary

**Equipment Applications Received (Percent, By Assigned Fee Schedule)**

<table>
<thead>
<tr>
<th>2020 (Jan - Nov)</th>
<th>2021 YTD (Jan - Nov*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2,343 Total)</td>
<td>(2,279 Total)</td>
</tr>
</tbody>
</table>

*November 2021 Data Preliminary
Permit Activity

Equipment Applications Received
(Percent, Small Business vs. Others)

2020 (Jan - Nov)
(2,343 Total)

- Other: 92%
- Small Business: 8%

2021 YTD (Jan - Nov*)
(2,279 Total)

- Other: 94%
- Small Business: 6%

*November 2021 Data Preliminary

Permit Activity

Equipment Applications Received
(Percent, New vs. Existing Facilities)

2020 (Jan - Nov)
(2,343 Total)

- Existing Facilities: 80%
- New Facilities: 20%

2021 YTD (Jan - Nov*)
(2,279 Total)

- Existing Facilities: 78%
- New Facilities: 22%

*November 2021 Data Preliminary
Rule 1109.1 Implementation

Rule 1109.1 Background

- Board adopted Rule 1109.1 on November 5, 2021
- Rule 1109.1 sets BARCT NOx standards for nearly 300 units at refineries and facilities with operations related to refineries
- Unlike RECLAIM, Rule 1109.1 does NOT allow facilities to purchase RECLAIM Trading Credits to meet emission reduction requirements
- Allows for two alternative compliance pathways for facilities with six or more pieces of equipment:
  - B-Plan or B-Cap
- At full implementation, Rule 1109.1 will significantly reduce NOx emissions:
  - 7.7 to 7.9 tons per day (tpd) reduced
  - Approximately 75% of the emission reductions by 2027
Rule 1109.1 facilities represent 62% of the NOx emissions in RECLAIM.

NOx Emissions from large boilers and heaters (≥40 MMBtu/hour) represent 57% of the emissions from Rule 1109.1 combustion equipment.

Rule 1109.1 Core Requirements

- Operators must meet NOx limits in Table 1.
- If the conditional requirements can be met, operators can meet Table 2 “conditional NOx limits” in lieu of Table 1 limits.
- Conditional NOx limits were developed to acknowledge achieving Table 1 NOx limits for some units have:
  - A high cost-effectiveness due to high capital cost and/or low emission reduction potential.
  - Incorporating the conditional NOx limits reduced the average cost-effectiveness to near or below $50,000/ton NOx reduced for each class and category (BARCT).

### Table 1: NOx and CO Concentration Limits

<table>
<thead>
<tr>
<th>Unit</th>
<th>NOx (ppmv)</th>
<th>CO (ppmv)</th>
<th>CO Emissions (%)</th>
<th>Rolling Average (hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boilers ≤ 40 MMBtu/hour</td>
<td>400</td>
<td>3</td>
<td>24-hour</td>
<td></td>
</tr>
<tr>
<td>Boilers &gt; 40 MMBtu/hour</td>
<td>3</td>
<td>15</td>
<td>24-hour</td>
<td></td>
</tr>
<tr>
<td>FCCU</td>
<td>1</td>
<td>3</td>
<td>24-hour</td>
<td></td>
</tr>
<tr>
<td>Filters</td>
<td>10</td>
<td>30</td>
<td>7-day</td>
<td></td>
</tr>
<tr>
<td>Gas Turbine Stopped with Natural Gas</td>
<td>2</td>
<td>120</td>
<td>15</td>
<td>24-hour</td>
</tr>
<tr>
<td>Gas Turbine Stopped with Gas from Other than Natural Gas</td>
<td>3</td>
<td>150</td>
<td>15</td>
<td>24-hour</td>
</tr>
<tr>
<td>Process Balance Cleaner</td>
<td>3</td>
<td>2,000</td>
<td>3</td>
<td>30-day</td>
</tr>
<tr>
<td>Process Balance st/another</td>
<td>10</td>
<td>3,000</td>
<td>3</td>
<td>30-day</td>
</tr>
</tbody>
</table>

### Table 2: Conditional NOx and CO Concentration Limits

<table>
<thead>
<tr>
<th>Unit</th>
<th>NOx (ppmv)</th>
<th>CO (ppmv)</th>
<th>CO Emissions (%)</th>
<th>Rolling Average (hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boilers ≤ 40 MMBtu/hour</td>
<td>7.5</td>
<td>400</td>
<td>3</td>
<td>24-hour</td>
</tr>
<tr>
<td>Boilers &gt; 40 MMBtu/hour</td>
<td>8</td>
<td>300</td>
<td>24-hour</td>
<td></td>
</tr>
<tr>
<td>Gas Turbine Stopped with Natural Gas</td>
<td>14</td>
<td>120</td>
<td>15</td>
<td>24-hour</td>
</tr>
<tr>
<td>Gas Turbine Stopped with Gas from Other than Natural Gas</td>
<td>2.5</td>
<td>150</td>
<td>15</td>
<td>24-hour</td>
</tr>
<tr>
<td>Process Balance</td>
<td>120 - 30 MMBtu/hour</td>
<td>10</td>
<td>400</td>
<td>3</td>
</tr>
<tr>
<td>Process Balance &gt; 120 MMBtu/hour</td>
<td>22</td>
<td>400</td>
<td>3</td>
<td>24-hour</td>
</tr>
<tr>
<td>SMB Boilers</td>
<td>7.5</td>
<td>400</td>
<td>3</td>
<td>24-hour</td>
</tr>
<tr>
<td>Vapor Recompression</td>
<td>40</td>
<td>400</td>
<td>3</td>
<td>24-hour</td>
</tr>
</tbody>
</table>
Rule 1109.1 Implementation Considerations

- Refineries competing for same pool of skilled labor, equipment manufacturers, source testing companies, etc.
- Integrating projects in refinery turnaround schedules minimizes fuel supply disruptions
- Most turnaround schedules are 3 to 5 years, a few are 9 to 10 years
- Large Number of Complex Projects
- Need to Minimize Disruptions in Fuel Supply
- Staggered Schedules Reduce Demand for Resources
- Capital Investment
- ~90 new or upgraded selective catalytic reduction (SCR) projects
- SCR projects customized and require complex engineering
- Challenging to integrate within existing facility structure
- Capital costs for each project $10 to $70 million
- Cost per petroleum refinery ranges from $179 million to $1 billion

Streamlining Plan Review

- Facility Baseline Document
  - To minimize any discrepancies or delays in plan approvals, staff prepared a list of affected equipment and their associated emissions
  - Data was reviewed, verified, and agreed upon by facilities
  - List was approved by Board as part of Resolution on November 5, 2021
  - Facilities have 30 days from approval to request a change to any value
  - To assist facilities in developing the compliance plans, staff is developing a guidance document
  - Will ensure uniformity and streamline the review and approval process
B-Plan and B-CAP Emission Target Overview

- Aggregate NOx concentration limits must meet Emission Target
- Facility-wide emissions must meet Emission Target + 10% Environmental Benefit

Emission Targets for all facilities based on NOx limits in Table 1 and Table 2

B-Plan and B-Cap are designed to achieve Facility-Specific Emission Targets that are Based on Table 1 and Table 2 NOx Limits

BARCT Equivalent Plan (B-Plan) and BARCT Equivalent Mass Cap Plan (B-Cap) Overview

- The B-Plan and B-Cap would be implemented through the schedule in an approved I-Plan
- B-Plan and B-Cap provides options to achieve BARCT in the aggregate
- Both alternative compliance options requires each unit to have an enforceable permit limit

B-Plan is a BARCT equivalent concentration plan
- Allows operators to select a NOx concentration limits that are equivalent BARCT in aggregate

B-Cap is a BARCT equivalent mass cap
- Requires operators to accept a NOx emission limit for each unit
- Allows facilities to take credit for equipment shutdowns and throughput reductions
Implementation Plan (I-Plan) Overview

<table>
<thead>
<tr>
<th>I-Plan Options</th>
<th>Provision</th>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong> for B-Plan or Table 1 or 2</td>
<td>Targets</td>
<td>80%</td>
<td>100%</td>
<td>Jan 1, 2023</td>
</tr>
<tr>
<td><strong>Option 2</strong> B-Plan</td>
<td>Targets</td>
<td>65%</td>
<td>100%</td>
<td>Submit Permit Application</td>
</tr>
<tr>
<td><strong>Option 3</strong> B-Plan or B-Cap</td>
<td>Targets</td>
<td>40%</td>
<td>100%</td>
<td>Submit Permit Application</td>
</tr>
<tr>
<td><strong>Option 4</strong> B-Cap Only</td>
<td>Targets</td>
<td>50%</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Option 5</strong> for B-Plan or Table 1 or 2</td>
<td>Targets</td>
<td>50%</td>
<td>70%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Streamlining Plan Review

- Planning staff will review I-Plan, B-Plan, and B-Cap
  - During Rule 1109.1 development, Planning staff met with each facility to discuss the affected equipment, potential implementation schedule and compliance plans
  - Spreadsheet with emission data for each unit subject to Rule 1109.1 was sent to each facility
    - Facilities used data to determine a feasible implementation schedule
  - Planning staff will work with each facility as they develop their plan submissions
  - Plan requirements inserted into permit by E&P and will be made available to the public on the South Coast AQMD website 30 days prior to approval
    - Inquiries handled by planning staff
Rule 1109.1 Applications Overall Timeline

Rule 1109.1 CRITICAL ACTIVITY DEADLINES

Rule 1109.1 Applications Timeline - First 3-Years (2022-24)

Rule 1109.1 CRITICAL ACTIVITY DEADLINES
## Estimated Number of R1109.1 Applications to be Submitted

<table>
<thead>
<tr>
<th>Category</th>
<th>Application Submittal Deadline</th>
<th>Plans</th>
<th>Applications other than Table 1 or 2</th>
<th>Applications for Table 1 I-Plan</th>
<th>Applications for Table 2 conditional limits in I-Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Conditional Limits</td>
<td>June 1, 2022</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boilers &lt; 40 mmbtu to 40 ppmv</td>
<td>July 1, 2022</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exempt Units</td>
<td>July 1, 2022</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-Plan</td>
<td>September 1, 2022</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-Plan</td>
<td>September 1, 2022</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-Plan option 5 phase I</td>
<td>January 1, 2023</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-Plan option 1 phase I</td>
<td>January 1, 2023</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heaters &lt; 40 mmbtu to 40 ppmv</td>
<td>July 1, 2023</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submit applications for Table 1 limits with no I-Plan</td>
<td>July 1, 2023</td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Submit applications for Table 1 limits with no I-Plan</td>
<td>July 1, 2023</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-Plan option 4 phase I</td>
<td>January 1, 2024</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-Plan option 2 phase I</td>
<td>July 1, 2024</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-Plan option 5 phase II</td>
<td>January 1, 2025</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-Plan option 4 phase II</td>
<td>January 1, 2025</td>
<td>10</td>
<td></td>
<td>10</td>
<td></td>
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<tr>
<td>I-Plan option 3 phase I</td>
<td>July 1, 2025</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-Plan option 4 phase III</td>
<td>January 1, 2028</td>
<td>1</td>
<td></td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>I-Plan option 5 phase III</td>
<td>July 1, 2028</td>
<td>5</td>
<td></td>
<td>8</td>
<td>5</td>
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<tr>
<td>I-Plan option 3 phase II</td>
<td>July 1, 2029</td>
<td>1</td>
<td></td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>I-Plan option 2 phase II</td>
<td>January 1, 2030</td>
<td>9</td>
<td></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>I-Plan option 1 phase II</td>
<td>January 1, 2031</td>
<td>1</td>
<td></td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>

## Estimated Number of R1109.1 Applications by Year

Total No. of Estimated Applications = 309
Implementation Overview

**Milestones / Approach**
- Plan review by PRDAS
- Outreach to all refineries
- Quarterly Updates to Stationary Source Committee (starting Q3-2022)
  - Status of applications submittal and approvals relative to rule requirements
  - Steps taken to avoid deadline extensions
  - Turnaround needs
  - Other stakeholder points of interest

**Streamline by Design**
- Streamlining through rulemaking
- Address CEQA impacts through rule development
- Limited BACT exemption
- Estimated timelines for approvals driven by R1109.1 universe

Additional Streamlining Considerations

**Application Checklists**
- B-Plan, B-Cap and I-Plans
- SCR applications
- Burner replacement applications

**Statement of basis streamlining and development of templates for routine applications**

**Minimize scope creep for Rule 1109.1 applications**
- Adding other modification to Rule 1109.1 applications (e.g. increase in firing rate)
- Modifications that may trigger LAER
Pending Permit Application Status Dashboard Update

Pending Permit Application Status Dashboard

Board initiative to increase transparency

- Online ability to view status of individual applications
- Integrate with existing F.I.N.D. application

F.I.N.D. https://xappprod.aqmd.gov/find
Dashboard Status Indicators

- Two status indicator types:
  1. Time elapsed indicator
  2. Application status indicators

- Status progress bar:

Pending Permit Application Status Dashboard
Debottlenecking Efforts

- October 2019
  - In Process
  - Awaiting South Coast AQMD Action
  - Awaiting Facility Action

- November 2021
  - In Process
  - Awaiting South Coast AQMD Action
  - Awaiting Facility Action
Dashboard Pending Action Trends

![Graph showing number of applications in various stages]

Pending Application Status Dashboard
Initial Observations - Snapshot (October 2019, cont.)

<table>
<thead>
<tr>
<th>Completeness Determin. (Facility Action)</th>
<th>In Process</th>
<th>Awaiting Facility Action</th>
<th>Awaiting South Coast AQMD Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Evaluation and Administrative Processing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Pending Permit Application Status Dashboard
#### November 2021 Snapshot

<table>
<thead>
<tr>
<th>Completeness Determin. (Facility Action)</th>
<th>In Process</th>
<th>Awaiting Facility Action</th>
<th>Awaiting South Coast AQMD Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/I Req. / Related App A/I</td>
<td>7% / 1%</td>
<td>Engineering Evaluation and Administrative Processing</td>
<td>Compliance Review Draft</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Conduct Source Test Awaiting Constr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Supv/Mgr Review Related App Proc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Source Test Review Policy Review Field Eval</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other Agency Rev. Public Notice</td>
</tr>
</tbody>
</table>

Continued progress on lowering apps awaiting actions

### Pending Permit Application Status Dashboard
#### November 2021 Snapshot (cont.)

**Awaiting action categories with longest average processing time:**

- **Awaiting SCAQMD**
  - Policy Decision (31 apps)
  - Source Test Results Review (118)
  - Field Evaluation (18)
  - Related Applications Processing (106)
  - BACT/LAER Determination (2)

- **Awaiting Facility**
  - Awaiting Construction (153 apps)
  - Conduct Source Testing (89 apps)

- **In Process**
  - CEQA Analysis (26)
Online Filing Update

Online Rule 222 Registration

- Three main registered equipment types
  - 222-A, Negative Air Machines (Asbestos)
  - 222-B, Boilers (1-2 mmbtu/hr)
  - 222-C, Commercial Charbroilers
- Represents ~ 80% of R222 Registrations
- Online Filing and Issuance
- Testing Complete – Release Pending
  - 222-CT, Cooling Towers
  - 222-TP, Tar Pots
  - 222-PW, Pressure Washers
Online Filing Activity

- ~80% of R222 are for Negative Air Machine, balance is Charbroiler and Boiler
- Rule 1403 Online Filing and R222 Negative Air Machine Online Filing work in tandem
- Testing complete on three additional R222 modules

Development

- Occasional software releases for data cleanup/program improvements
- Necessary to keep online programs consistent with rule changes
- Additional R222 Modules in testing stage
- Emergency IC Engine registration permit module in review
  - Online filing limited to certified engines with prescribed conditions
  - Seeking external volunteers to test module
- Workflow updates
  - IM to initiate building of individual modules
Source Test Portal Update

- Released November 2021 internally for testing by multiple divisions
  - Incoming and routing of source tests and protocols
  - Electronic review and approval
  - Electronic communication and status / dashboard functionality
  - Online form processing (ST-1 / ST-2)
- Reiterative testing to continue

Other Business
Public Comment