Agenda Item 5
South Coast AQMD’s Proposed Draft Mobile Source Measures

2022 Air Quality Management Plan (AQMP)
Control Measures Workshop – Afternoon Session

November 10, 2021
EGM-01 Emission Reductions from New Development and Redevelopment Projects
EGM-01 Emission Reductions from New Development and Redevelopment Projects

• Source Category
  • Identify emission reduction opportunities from new development and redevelopment of commercial, residential, and industrial projects otherwise not included in other Facility Based Mobile Source Measures identified in the 2016 AQMP

• Proposed Approach
  • In 2018, Governing Board directed staff to continue to develop rule concepts, timelines, and cost-benefit estimates
  • Staff held seven WGMs. Based on WGM discussions, staff prepared an RFP to investigate approaches to identify potential cost of reducing construction emissions from new development and redevelopment projects.

• FBMSM – Facility Based Mobile Source Measures; WGM – Working Group Meeting; RFP – Request for Proposal
EGM-01 Emission Reductions from New Development and Redevelopment Projects (Cont’d)

• Proposed Approach (Cont’d)
  • RFP released in Fall of 2019 for a 60-day period; no proposals were received, and no contract was awarded
  • EGM-01 remains a priority among the other FBMSMs

• Emission Reductions
  • To be determined

• FBMSM – Facility Based Mobile Source Measures; WGM – Working Group Meeting; RFP – Request for Proposal
EGM-02 Projects Subject to General Conformity Requirements
EGM-02 Projects Subject to General Conformity Requirements

• Source Category
  • U.S. EPA’s General Conformity Regulation requires that federal agencies do not cause or contribute to a violation of the NAAQS or interfere with the purpose of a SIP, TIP or FIP* to attain or maintain the NAAQS (40 CFR Parts 51 and 93)
  • Project-related emissions include on-road and off-road mobile, and stationary sources
  • 2012 and 2016 AQMPs established a set-aside account to accommodate projects subject to general conformity on a first-come-first-serve basis

• Proposed Approach
  • Establish a new mechanism, ultimately through rulemaking process, to address general conformity project emissions and eliminate the SIP set-aside account

• Emissions Reductions
  • Depends on specific projects and source categories affected

* SIP - State Implementation Plan; TIP - Tribal Implementation Plan; FIP - Federal Implementation Plan
EGM-03 Clean Construction Policy
EGM-03 Clean Construction Policy

• Source Category
  • Identify potential approaches for emissions reductions that can be implemented during construction activities for new and redevelopment projects. The Clean Construction Policy will be available as a voluntary measure for reference and implementation for construction activities.

• Proposed Approach
  • Hierarchy:
    • Zero-emissions construction equipment and haul and material delivery trucks
    • Direct, on-site emission reductions
    • Emission reductions outside the area of the project for regional pollutants
    • Use emission reduction credits from other non-new source review programs
      • Emission reduction credits would be the least favorable approach for any project
      • Seek direct emission reductions prior to utilization of any off-site or indirect emission reduction opportunity (e.g., emission reduction credits)
EGM-03 Clean Construction Policy (Cont’d)

• Proposed Approach (Cont’d)
  • Off-Road
    • Use the cleanest commercially available off-road construction equipment. At minimum, all diesel-powered equipment must meet Tier-4 final standards unless technology is not commercially available
    • Generators – meet the 0.01 g/bhp-hr standard for PM, or equipped with BACT
  • On-Road
    • Use the cleanest commercially available vehicles. At minimum, all diesel-fueled vehicles at least 14,000 pounds must meet the 2010 engine standards
  • Use renewable diesel fuel for at least 90 percent of diesel fuel demand
  • Periodic technology assessment to identify and require implementation of newer and cleaner construction equipment and/or trucks that have become available over a project’s construction time period (e.g., through CARB’s Tier 5 for off-road and ACT and Low NOx Omnibus for on-road)
EGM-03 Clean Construction Policy (Cont’d)

• Best Management Practices/Design Considerations
  • Maintain an equipment inventory
  • Reduce idling time to 2 minutes
  • Maintain a buffer zone between truck traffic and sensitive receptors
  • Design site entrances and exits to limit idling of haul and material trucks
  • Construction staging areas located as far away as feasible from sensitive receptors
  • Keep check-in points inside a project site such that no haul and material delivery trucks are queuing outside
  • Designate haul truck trip routes to avoid sensitive land uses (e.g., homes and schools)
  • Schedule construction activities in close proximity to sensitive receptors to occur outside operational hours of those sensitive land uses
  • Minimize construction duration by 10% in disadvantaged community areas
MOB-01 Emission Reductions at Commercial Marine Ports
MOB-01 Emission Reductions at Commercial Marine Ports

• Source Category
  • All mobile sources related to port operations, including drayage trucks, ocean-going vessels, locomotives, cargo handling equipment, and harbor craft

• Background
  • 2016 AQMP Facility Based Mobile Source Measure for Marine Ports
    • Sought to obtain SIP credit for implementation of measures described in the 2017 San Pedro Bay Ports Clean Air Action Plan (CAAP) Update
    • May 2018 Board direction: Pursue Ports MOU and report back to Board
    • August 2021 Board direction: Continue exclusively pursuing MOU for another four months; if an MOU is not developed and fully executed within that time, begin internal development of a potential Indirect Source Rule (ISR). Begin external work on ISR after six months.
MOB-01 Emission Reductions at Commercial Marine Ports (Cont’d)

• Background (continued)
  • Port FBMSM included in AB 617 Community Emissions Reduction Plan (CERP) for Wilmington, Carson, West Long Beach

• Proposed Approach
  • Similar approach as 2016 AQMP: Evaluate opportunities for voluntary actions first, and if unsuccessful, pursue regulatory approach
  • Proposed measure expected to be influenced by current FBMSM underway from 2016 AQMP

• Emissions Reductions
  • To be determined
MOB-02 Emission Reductions at Rail Yards and Intermodal Facilities
MOB-02 Emission Reductions at Rail Yards and Intermodal Facilities

- **Source Category**
  - Rail yards and intermodal facilities are facilities where mobile sources and equipment are used for conveying goods

- **Background**
  - Proposed Rule 2306 is being developed and will partially implement MOB-02 by focusing on new intermodal facilities related to freight
  - Future rulemaking activities will focus on existing intermodal facilities
  - AB 617 Community Emissions Reduction Plan (CERP) goals for multiple communities

- **Proposed Approach**
  - Will be developed during the rulemaking process
  - Seeks implementation of the cleanest technologies

- **Emissions Reductions**
  - To be determined
MOB-03 Emission Reductions at Warehouse Distribution Centers
MOB-03 Emission Reductions at Warehouse Distribution Centers

• Source Category
  • Mobile emissions sources attracted to warehouses such as on-road trucks and cargo handling equipment

• Regulatory Background
  • Rule 2305 – Warehouse Indirect Source Rule adopted May 7, 2021
    • Applies to owners and operators of new and existing warehouses ≥ 100,000 square feet
    • Rule sunsets when 70 ppb ozone standards are met (state and federal)
  • Implements AB 617 CERP goals for multiple communities

• Proposed Approach
  • As program is implemented and compliance approaches are chosen by industry, emission reduction patterns will emerge. Historical data can then be used to evaluate potential future quantified SIP creditability
  • Evaluate whether Rule 2305 applicability should be expanded (e.g., smaller warehouses) and/or whether rule stringency should be increased in the future

• Emissions Reductions (from current rule)

<table>
<thead>
<tr>
<th>Year</th>
<th>2023</th>
<th>2031</th>
<th>2037</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx (tpd)</td>
<td>0.1-3.7</td>
<td>2.5-4.0</td>
<td>To be determined</td>
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MOB-04 Emission Reductions at Commercial Airports
MOB-04 Emission Reductions at Commercial Airports

• Source Category
  • Non-aircraft emissions sources related to commercial airports such as ground support equipment, shuttle buses, and heavy-duty trucks

• Regulatory Background
  • Facility Based Mobile Source Measures (FBMSM) for Commercial Airports was adopted on December 6, 2019.
    • Memoranda Of Understanding (MOUs) with five commercial airports
    • South Coast AQMD maintains enforceable commitment

• Proposed Approach
  • MOUs with commercial airports
  • Work with commercial airports to identify additional feasible measures through 2037

• Emissions Reductions

<table>
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<th>2031</th>
<th>2037</th>
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<tbody>
<tr>
<td>NOx (tpd)</td>
<td>0.52</td>
<td>0.37</td>
<td>To be determined</td>
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MOB-05 Accelerated Retirement of Older Light-Duty and Medium-Duty Vehicles
MOB-06 Accelerated Retirement of Older On-Road Heavy-Duty Vehicles
MOB-07 On-Road Mobile Source Emission Reduction Credit Generation Program
# On-Road Mobile Source Measures

<table>
<thead>
<tr>
<th>Control Measure</th>
<th>Title</th>
<th>Source Category*</th>
<th>Baseline Inventory (tpd)</th>
<th>Method of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOB-05^</td>
<td>Accelerated Retirement of Older Light-Duty and Medium-Duty Vehicles</td>
<td>LD/MD (≤ 8,500 lbs)</td>
<td>2018: NOx 52.4, VOC 65.0 2037: NOx 13.2, VOC 24.8</td>
<td>Replace Your Ride Program&lt;br&gt;• Up to $4,500 for ZEVs/PHEVs&lt;br&gt;• Up to $5,000 for DACs&lt;br&gt;• Up to $2,000 for chargers&lt;br&gt;• Scrappage of old vehicles required</td>
</tr>
<tr>
<td>MOB-06^</td>
<td>Accelerated Retirement of Older On-Road Heavy-Duty Vehicles</td>
<td>LHD/MHD/HHD (&gt;8,500 lbs)</td>
<td>2018: NOx 96.8, PM2.5 2.9 2037: NOx 43.2, PM2.5 1.7</td>
<td>Trade-Up Program&lt;br&gt;• Three-way exchange&lt;br&gt;• Scrappage of older trucks required&lt;br&gt;• Pilot project for drayage trucks underway</td>
</tr>
<tr>
<td>MOB-07</td>
<td>On-Road Mobile Source Emission Reduction Credit Generation Program#</td>
<td>MHD/HHD (≥14,001 lbs)</td>
<td>2018: NOx 83.0, PM2.5 2.5 2037: NOx 41.7, PM2.5 1.4</td>
<td>• Rule 1612 – Credits for Clean On-Road vehicles&lt;br&gt;• Rule 1612.1 – Mobile Source Credit Generation Pilot Program</td>
</tr>
</tbody>
</table>

*LD/MD – Light-Duty/Medium-Duty; LHD- Light Heavy-Duty; MHD – Medium Heavy-Duty; HHD – Heavy Heavy-Duty

^ Implement AB 617 Community Emissions Reduction Plan (CERP) goals for multiple communities

# Potential for achieving reductions ahead of CARB’s proposed ACF rule. ACF rule could potentially ensure emission reductions are permanent.
MOB-08 Extended Exchange Program
MOB-09 Further Emission Reductions from Passenger Locomotives
MOB-10 Off-Road Mobile Source Emission Reduction Credit Generation Program
# Off-Road Mobile Source Measures

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</thead>
</table>
| MOB-08          | Extended Exchange Program | Small Off-Road Engines/Larger Diesel Lawn and Garden Equipment | 2018 - NOx 20.5, VOC 63.5  
                 |                   |                              | 2037 - NOx 16.0, VOC 67.0 | • Electric Lawn Mower Rebate Program (up to $250)  
                 |                   |                              |                          | • Commercial Electric Lawn and Garden Equipment Exchange Program (up to 75% buy-down)  
                 |                   |                              |                          | • Battery Buy-Down Rebate (up to 75%) |
| MOB-09          | Further Emission Reductions from Passenger Locomotives | Passenger Locomotive Engines | 2018 - NOx 1.0, PM2.5 0.02  
                 |                   |                              | 2037 - NOx 0.5, PM2.5 0.01 | • Replace or repower locomotives with Tier 4 or cleaner locomotives/engines |
| MOB-10          | Off-Road Mobile Source Emission Reduction Credit Generation Program | Off-Road Construction, Industrial, Ground Support, Drilling Equipment | 2018 - NOx 35.6, PM2.5 1.8  
                 |                   |                              | 2037 - NOx 15.5, PM2.5 0.7 | • Rule 1620 – Credits for Clean Off-Road Mobile Equipment |
MOB-11 Emission Reductions from Incentives Programs
MOB-11 Emission Reductions from Incentives Programs

• Source Category
  • On-road and off-road mobile source vehicles and equipment

• Proposed Approach
  • Implementation of incentive programs to accelerate deployment of new, cleaner technologies
  • Coordinate and fund fueling/charging infrastructure

• Key Existing Incentive Programs
  • Carl Moyer - $650M; 8,700 vehicles/equipment since 1998
  • Prop 1B - $486M; 7,500 vehicles/equipment since 2009
  • Lower Emission School Bus - $325M; 5,200 vehicles since 2001
  • Community Air Protection Program
  • Volkswagen Environment Mitigation Trust Program

• Implement AB 617 Community Emissions Reduction Plan (CERP) goals for multiple communities

• Emissions Reductions
  • To be determined
MOB-12 Emission Reductions from Pacific Rim Initiative for Maritime (PRIMER)
MOB-12 Emission Reductions from Pacific Rim Initiative for Maritime (PRIMER)

• Source Category
  • Ocean-going vessels that frequently visit the San Pedro Bay Ports (SPBP) and other Pacific Rim ports

• Background
  • 2016 State Implementation Plan Measure to Incentivize Low Emission Efficient Ship Visits
    • Pursue partnerships with other jurisdictions and ports along the Pacific shipping corridor to develop a “green lane” concept with multiple small incentives for cleaner vessels
  • 2016 AQMP Facility Based Mobile Source Measure for Commercial Marine Ports
    • 2017 SPBP CAAP Update: potential to coordinate incentives with regulatory agencies and/or other ports on the same vessel service strings
MOB-12 Pacific Rim Initiative for Maritime Emission Reductions (cont.)

• Background (continued)
  • Measures included in AB 617 Community Emissions Reduction Plan (CERP) for Wilmington, Carson, West Long Beach

• Proposed Approach
  • Work with local authorities in Pacific Rim port regions to coordinate incentives for Tier II+ and Tier III OGVs
  • Demonstrate Tier II+ retrofit technologies for in-service vessel fleet
  • Work with the San Pedro Bay Ports to coordinate PRIMER with the current Green Ship Incentives and the 2017 CAAP measure to implement a Clean Ship Program

• Emissions Reductions
  • To be determined
MOB-13 Fugitive VOC Emissions from Tanker Vessels
MOB-13 Fugitive VOC Emissions from Tanker Vessels

• Source Category
  • Fugitive VOC emissions from tanker vessels during marine transit of crude oil and other petroleum products

• Regulatory Background
  • Rule 1142 covers loading, lightering, ballasting and housekeeping events for marine tanker vessels but emissions related to transit and unloading events are not subject to the regulation
  • Measure included in AB 617 Community Emissions Reduction Plan (CERP) for Wilmington, Carson, West Long Beach

• Estimated Emissions Inventory
  • 7.8 tpd VOC in 2018
MOB-13 Fugitive VOC Emissions from Tanker Vessels (Cont’d)

• Proposed Approach
  • Inspection, monitoring and reporting requirements
    • Inspect pressure vacuum (P/V) valves for proper seating before entering South Coast AQMD waters
    • Monitor cargo tanks pressure
    • Take Toxic Vapor Analyzer (TVA) readings for each P/V valve before entering the South Coast AQMD waters
    • Report any vapor release incidents or any leaks detected with TVA
  • Spray the decks with seawater to prevent vapor releases
  • Work with the industry to evaluate and identify lower emission P/V valves

• Emissions Reductions
  • To be determined
MOB-14 Rule 2202 / Telecommuting
MOB-14 Rule 2202 / Telecommuting

• Source Category
  • Employers with more than 250 employees required to mitigate commute trips into worksite:
    • Rule compliance options include:
      • Air Quality Investment Program (AQIP)
      • Emission Reduction Strategies (ERS)
      • Employee Commute Reduction Program (ECRP)

• Emissions Inventory

<table>
<thead>
<tr>
<th>Pollutant Inventory (tpd in Summer)</th>
<th>2018</th>
<th>2037</th>
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<tbody>
<tr>
<td>VOC-</td>
<td>51.9</td>
<td>20.1</td>
</tr>
<tr>
<td>NOx-</td>
<td>39.9</td>
<td>11.2</td>
</tr>
<tr>
<td>CO-</td>
<td>515.0</td>
<td>232.9</td>
</tr>
</tbody>
</table>

Totals for all light duty cars and trucks emissions in the basin. Emissions covered by the rule are only a portion of this total.
MOB-14 Rule 2202 / Telecommuting

• Proposed Approach
  • During COVID-19, many employers incorporated telecommuting practices
    • Effective way of eliminating emissions caused by employee commute trips
  • Rule 2202 currently allows credit for telecommuting under ECRP option
  • Future rule amendments may include:
    • Larger focus on telecommuting strategies
    • Provide additional incentives for employers to adopt telecommuting policies

• Emissions Reduction and Cost Effectiveness
  • TBD
MOB-15 Zero-Emission Infrastructure for Mobile Sources

• **Source Category**
  - Seek to assess and facilitate infrastructure needs for zero-emission on-road and off-road mobile sources

• **Background**
  - AB 2127 Report by Energy Commission found that ~157,000 50+kW stations will be needed statewide by 2030 for MD/HD fleet
  - AB 8 Report by CARB found that 1,000 H₂ stations will be needed statewide by 2030 to support 1 million fuel cell vehicles (mainly light duty)
  - Substantially more ZE infrastructure would be needed to achieve 2037 ozone standard
  - Measure would implement AB 617 Community Emissions Reduction Plan (CERP) goals for multiple communities

• **Proposed Approach**
  - Evaluate resource needs of zero emission infrastructure for mobile sources, including the cumulative needs for ZE technologies in stationary applications
  - Identify policy approaches, in coordination with other entities, that South Coast AQMD can pursue to rapidly increase availability and affordability of ZE infrastructure
Q & A and Public Comments

For ZOOM:
• Click on the “Raise Hand” button.

For TELEPHONE:
• Dial *9 on your keypad